

外部委託業者の募集

References: IO/25/OT/10031160/CPT

"Diagnostic I&C Quality Control and Configuration Management "

(計測 I&C 品質管理と構成管理)

IO 締め切り 2025 年 3 月 10 日(月)

○はじめに

この事前情報通知 (PIN) のは、供給契約の審査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。この文書の目的は、作業範囲と入札プロセスに関する技術的内容の基本的な概要を提供することです。

○背景

ITER プロジェクトは、欧州連合 (EU) (EURATOM を代表とします)、日本、中華人民共和国、インド、韓国、ロシア連邦、米国の 7 カ国が共同出資する国際的な研究開発プロジェクトで、ITER 機構 (IO) の本部 (HQ) があるヨーロッパ、フランス南部のサン・ポール・レ・デュランスで建設されています。

ITER プロジェクトの組織面および技術面の詳細については、www.iter.org を参照してください。

○作業範囲

現在の入札プロセスは、計測 I&C 品質管理サービスおよび構成管理サービスの契約を締結することを目的としています。ITER 機構内では、計測プログラムがこの契約の実施を担当します。

供給者は、この契約に関して、計測システムの I&C 品質管理サービスおよび I&C 構成管理サービスを提供するためのエンジニアリング契約のみを担当します。以下の活動が予定されています：

- I&C 設計文書の品質管理
- I&C 詳細設計の品質管理
- 計測 COTS (市販の汎用) デバイスの管理
- I&C データベース管理
- I&C ハードウェア構成管理
- I&C ソフトウェア構成管理
- I&C 製造のフォローアップ

この契約は、製品がこの技術仕様で定義された技術的要件を満たすことを保証します。

○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)

事前情報通知は公開入札プロセスの第一段階です。IO は、国内機関に対して、今後の入札に関する情報を公開し、企業、機関、その他の団体に入札の機会を事前に知らせるよう正式に招待します。

関心のある入札者は、下記の調達スケジュールに記載された期限までに、関心表明書（添付資料 I）を電子メールで返送するようお願いします。

➤ ステップ 2-入札への招待 (ITT) :

「事前通知 (PIN)」の公開後 14 日以内に、入札招待 (ITT) が広告されます。この段階では、PIN を確認した興味のある入札者が入札文書を入手し、入札指示に従って提案書を準備し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に優れた技術評価委員会によって評価されます。入札者は、技術的範囲および入札招待 (ITT) に記載された基準に基づき、作業を実施するための技術的適合性を示す詳細を提供しなければなりません。

➤ ステップ 4-落札

サービス契約は、入札招待 (ITT) に記載された評価基準および方法論に基づき、最良の費用対効果に基づいて授与されます。

○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
IOWeb ページと DA との連絡により 事前指示書 (PIN) の発行	2025 年 2 月 24 日
関心表明フォームの提出	2025 年 3 月 10 日
IPROC での提案リクエスト (REP) の発行	2025 年 3 月 17 日
IPROC で入札提出	2025 年 4 月 19 日
入札評価と契約授与	2025 年 5/6 月
契約調印	2025 年 5/6 月

○契約期間

予想される契約期間は、36 か月です。契約の最終調印日前までの作業はありません。

○経験

契約者は以下を提供することが期待されています：

- 大規模科学プロジェクトの計測および制御に関する実績：大規模科学プロジェクトのための I&C システムの設計、実装、製造、テストに関する豊富な経験。
- 品質管理に関する実績：I&C システムの品質管理および構成管理における資格と過去の経験。
- CODAC コアシステムおよび/または EPICS フレームワークの知識：ソフトウェアの品質および構成を監視するために必要な、プラントシステム向けの CODAC ソフトウェアアーキテクチャに関する十分な知識。
- ITER 計測用のハードウェアコンポーネントに関する知識：高速コントローラー（PXIe、cRIO、uTCA）、低速コントローラー（Siemens PLC）、COTS デバイス（およびそれらを CODAC に統合する方法）。
- I&C データベースおよび構成ツールの経験：I&C 設計活動のためのデータベースの使用に熟練（Enterprise Architect）、在庫管理、ソフトウェアバージョン管理（SVN/Bugzilla/JIRA）。
- I&C 計測システムに関する知識：計測科学者と連携して、I&C システムに必要な入力データを収集する能力。
- I&C 製造：I&C キュービクル内での電子コンポーネントの組み立てと、フランス規格および欧州指令に従った内部配線に関する過去の経験。

○候補

参加は、個人またはグループ/コンソーシアムに参加するすべての法人に開放されます。法人とは、法的権利及び義務を有し、ITER加盟国内に設立された個人、企業又は機構をいいます。

法人は、単独で、またはコンソーシアムパートナーとして、同じ契約の複数の申請または入札に参加することはできません。共同事業体は、恒久的な、法的に確立されたグループ又は特定の入札手続のために非公式に構成されたグループとすることができます。

コンソーシアムのすべての構成員（すなわち、リーダーと他のすべてのメンバー）は、ITER 機構に対して連帯して責任を負います。

コンソーシアムとして許可されるために、その点で含まれる法人はコンソーシアムの各メンバーをまとめる権限をもつリーダーをもたなければなりません。このリーダーはコンソーシアムの各目メンバーのために責任を負わなければなりません。

指名されたコンソーシアムのリーダーは、入札段階でのカバーレター(入札への招待)で、コンソーシアムのメンバーの構成を説明する予定です。その後、候補者の構成は、いかなる変更もITER機構に通知することなく変更してはなりません。かかる認可の証拠は、すべてのコンソーシアムメンバーの法的に授権された署名者が署名した委任状の形式で、しかるべき時期にIOに提出しなければなりません。

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「**Diagnostic I&C Quality Control and Configuration Management**」をご参照ください。】

ITER 機構のウェブサイト

<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

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PRIOR INDICATIVE NOTICE (PIN)

OPEN TENDER SUMMARY

IO/25/OT/10031160/CPT

for

Diagnostic I&C Quality Control and Configuration Management

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 the Diagnostic I&C Quality Control and Configuration Management.

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 for Diagnostic I&C Quality Control service and Configuration Management services. Within the ITER Organization, The Diagnostic program will be in charge of implementing this Contract.

The Supplier is responsible for this Contract exclusively for the engineering contract to provide I&C quality control services and I&C configuration management services for Diagnostic systems. The following activities are foreseen:

- Quality control of the I&C Design documentation
- Quality control of the I&C detail design
- Diagnostic COTS devices management
- I&C database management
- I&C Hardware configuration management
- I&C Software configuration management
- I&C manufacturing follow-up.

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 I) 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)	24 February 2025
Deadline for Submission of Expression of interest form	10 March 2025
Request for Proposals (RFP)- Invitation to Tender (ITT) advertisement	17 March 2025
Clarification Questions (if any) and Answers deadline	19 April 2025
Answers to Clarifications	21 April 2025
Tender Submission in IPROC	28 April 2025
Tender Evaluation & Contract Award	May/June 2025
Contract Signature	May/June 2025

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 36 months. No work shall commence before the date of final signature of the Contract.

8 Experience

The Contractor is expected to provide the following:

- **Proven Expertise in Instrumentation and Control for Large science project:** Extensive experience of designing, implementing ,manufacturing and testing of I&C systems for Large Science Project
- **Demonstrated Experience in Quality management:** Qualification and previous experience in quality management and configuration control of I&C system.
- **Knowledge of CODAC Core System and/or EPICS framework :** Good knowledge of the CODAC Software architecture for Plant Systems to be able to monitor the Software quality and its configuration
- **Knowledge of Hardware components used for ITER Diagnostic:** Fast controller (PXIe, cRIO, uTCA), Slow controller (Siemens PLC), COTS device (and their integration into CODAC).
- **Experience with I&C databases and configuration tools** Proficient in the use of databases for I&C design activities (Enterprise Architect), Inventory Management, Software version management (SVN/Bugzilla/JIRA).
- **Knowledge of I&C Diagnostic systems** Ability to interact with Diagnostic scientists to gather input data required for I&C systems.
- **I&C manufacturing :** Previous experience in the assembly of electronic component in I&C cubicles and the internal wiring following French norm and European Directives.

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.

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/10031160/CPT**

DESIGNATION of SERVICES: **Diagnostic I&C Quality Control and Configuration Management**

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:

Technical Specifications (In-Cash Procurement)

**Technical Specification for an Open tender about
Diagnostic I&C quality Control and configuration
management**

The objective of this engineering contract is to provide I&C quality control services and I&C configuration management services for Diagnostic systems. The following activities are foreseen: Quality control of the I&C Design documentation Quality control of the I&C detail design Diagnostic COTS devices management I&C database management I&C Hardware configuration management I&C Software configuration management I&C manufacturing follow-up

SERVICE

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1 Preamble

This Technical Specification is to be read in combination with the General Management Specification for Service and Supply (GM3S) – [RD1] that constitutes a full part of the technical requirements.

In case of conflict, the content of the Technical Specification supersedes the content of [RD1].

2 Purpose

The objective of this engineering contract is to provide I&C quality control services and I&C configuration management services for Diagnostic systems. The following activities are foreseen:

- Quality control of the I&C Design documentation
- Quality control of the I&C detail design
- Diagnostic COTS devices management
- I&C database management
- I&C Hardware configuration management
- I&C Software configuration management
- I&C manufacturing follow-up

3 Acronyms & Definitions

3.1 Acronyms

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

Abbreviation	Description
CBS	Control Breakdown System
CLM	Component Lifecycle Management
COTS	Component Off the Shelf
CRO	Contract Responsible Officer
DA	Domestic Agency
EA	Enterprise Architect
FDR	Final Design Review
FAT	Final Acceptance Test
FBS	Function Breakdown System
GM3S	General Management Specification for Service and Supply
HW	Hardware
IO	ITER Organization
I&C	Instrumentation and Control
NCR	Non-Conformity Report
PRO	Procurement Responsible Officer
SDD	Self-Description Data
SVN	SubVersion
SW	Software
SXP	See Electrical Expert

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3.2 Definitions

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

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.

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.

4.1.1 Procurement documents

[RD1] General Management Specification for Service and Supply (GM3S) [[82MXQK](#)]
v1.4

4.1.2 Diagnostic and CODAC Guideline documents

[RD2] 01_Diagnostics Plant IandC Design Process (SRS and SDS) with link to templates and examples [[JQLRRK](#)]
[RD3] I&C cubicle internal configuration [[4H5DW6](#)]
[RD4] 03_Functional Breakdown for Diagnostics Plant IandC [[LAJF9S](#)]
[RD5] 04_State_Machine_Design_Guideline [[UKHVM5](#)]
[RD6] 08_Plant IandC Design Guideline - Requirement Management [[UNL5VW](#)]
[RD7] Diagnostics Plant IandC Use Cases Guideline and Example [[X7VG4C](#)]
[RD8] Diagnostics Plant IandC variable Naming Guideline [[X7R88V](#)]
[RD9] EA Project Structure for Diagnostics Plant IandC [[6UER9M](#)]
[RD10] 03_Diagnostic I&C System Manufacturing Specification template (I&C SMS) [[6375ZU](#)]
[RD11] 00 CODAC Catalogue of I-n-C products - Fast Controllers v3.0 [[8DDBQ3](#)]
[RD12] ITER catalogue for I&C products - Slow controllers PLC [[333J63](#)]

4.2 Applicable Codes and Standards

This is the responsibility of the contractor to procure the relevant Codes and Standards applicable to that scope of work.

The following electrical norm shall be used for the HW Quality control

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- NF C 15-100
- LV directives

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 [RD1].

The scope of this contract is to provide the following services:

- Quality control of the I&C Design and detailed design documentation
- I&C configuration management
- I&C manufacturing coordination

The Scope of Work is focused on the SRO Diagnostic I&C systems.

Name of System	PBS 2	CBS 2	DA	Cubicles
55.A0 Magnetics System, Electronics and software	55.A0	D1-H1	EU	17
55.A8 FOCS	55.A8	D1-H3	IO	2
55.B4 Neutron Flux Monitors (NFM)	55.B4	D1-I4	CN	4
55.B8 Neutron Activation System (NAS)	55.B8	D1-I6	KO	2
55.BC Divertor Neutron Flux Monitors (DNFM)	55.BC	D1-I9	RF	4
55.BV In Vessel Neutron Calibration	55.BV	D1-ID	IO	1
55.C1 Thomson Scattering LIDAR (Core)	55.C1	D1-J1	EU	14
55.C2 Edge Thomson Scattering (ETS)	55.C2	D1-J2	JA	15
55.C5 Toroidal Interferometer/Polarimeter (TIP)	55.C5	D1-J4	US	14
55.C6 Poloidal Polarimeter (PoPola)	55.C6	D1-J5	JA	15
55.D1 Bolometry System	55.D1	D1-K1	EU	10
55.E2 H-Alpha & Visible Spectroscopy	55.E2	D1-L2	RF	6
55.E3 VUV Main Plasma Survey	55.E3	D1-L3	KO	1
55.E4 Divertor Impurity Monitor (DIM)	55.E4	D1-L4	JA	8
55.E5 Core Imaging X-Ray Spectrometer (CIXS)	55.E5	D1-L7	US	1
55.E6 Visible Spectroscopy Reference System	55.E6	D1-L6	IO	3
55.E7 Radial X-ray Camera (RXC)	55.E7	D1-L8	CN	2
55.E8 Neutral Particle Analysers (NPA)	55.E8	D1-L9	RF	5
55.ED XRCS Survey	55.ED	D1-LE	IN	2
55.EE Hard X-ray Monitor (HXRM)	55.EE	D1-LF	IO	1
55.EG Divertor VUV Spectrometer	55.EG	D1-LH	KO	1
55.EH VUV Edge Imaging	55.EH	D1-LI	KO	1
55.F1 Electron Cyclotron Emission (ECE-US)	55.F1	D1-M6	US IN	3
55.F2 Reflectometry Low Field Side (RLFS)	55.F2	D1-M2	US	10
55.F9 Reflectometry High Field Side (RHFS)	55.F9	D1-M4	RF	12
55.FA Density Interferometer Polarimeter (DIP)	55.FA	D1-M5	IO	5
55.G1 Vis/IR (Midplane)	55.G1	D1-N1	EU	6
55.G2 Thermocouple Outer Target	55.G2	D1-N2	IO	3
55.G3 Pressure Gauges	55.G3	D1-N3	EU	8
55.G4 Residual Gas Analyzers (RGA)	55.G4	D1-N4	US	6
55.G6 IR Thermography	55.G6	D1-N5	JA	2
55.G7 Langmuir Probes (DLP)	55.G7	D1-N6	CN	25
55.G9 Dust Monitor	55.G9	D1-N8	IO	4

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Name of System	PBS 2	CBS 2	DA	Cubicles
55.GA Vis/IR (Upper)	55.GA	D1-N9	US	11
55.GB In-vessel ECH detectors	55.GB	D1-NA	IO	2
55.GC Tritium Monitor	55.GC	D1-NB	IO	4
55.GE Divertor Flow Monitor	55.GE	D1-NE	IO	3
55.GF TF Mapping	55.GF	D1-NF	IO	2
55.GT Tokamak Structural Monitoring System	55.GT	D1-NT	IO	0
55.L0	55.L0	D2-L0	IO	1
55.NE.X0 Ex-vessel Electrical Systems	55.NE	D2-N0-NEX0	IO	14
55.NE.X0 Upgrade - ELV PSU	55.NE.U	D2-N0-NEX0.U	IO	14
55.Q0 Port Instrumentation	55.Q0	D2-Q0	IO	1
55.Q0 upgrade	55.Q0.U	D2-Q0.U	IO	1
55.U0	55.U0	D2-U0	IO	2
57 IVVS	57	D1-ND	EU	

5.1 Scope of work #1 – Quality control

5.1.1 Description

Diagnostic I&C system shall follow the guideline provided in [RD2] and all related satellite documentation. They shall also follow the Plant Control Design Handbook (PCDH). The contractor shall define and apply quality control procedure to ensure that the design documentation do follow the guidelines and handbook.

The quality control shall cover at least the following aspects:

- I&C architecture is properly considering :
 - o Hardware catalogue items
 - o CODAC network
 - o Approved COTS device
 - o Performance requirements
- Cubicle configuration:
 - o Aligned with the I&C architecture
 - o In line with recommendation from I&C Internal cubicle configuration [RD3]
- Signal Chain:
 - o All devices are properly assessed and used in the signal chain
 - o All Measurement parameters are well covered
 - o All functions identified in the signal chain are found in the FBS
- Signal list:
 - o All components are properly listed
 - o List of components are aligned with the cabling diagram
- Software:
 - o Software architecture in line with the requirements
 - o Software user manual is sufficient
- Requirement management:
 - o Ensure all along the lifecycle of the I&C system that the I&C requirement are well considered by the plant I&C designers.

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- Ensure at Diagnostic level (CBS level 1 D1) that the requirements are well considered by analysing the CBS level 1 functions necessary to fulfil these requirements.

Quality control procedures shall be prepared by the contractor after a thorough analysis of the Design guidelines, the PCDH and the Internal Cubicle Configuration.

Quality Inspection shall take place regularly to ensure that the DA and IO Contractors follow the guidelines.

The contractor shall provide support in identifying quality issues, but also in solving these issues by improving the design methodology. For quality issues on delivered items, the contractor shall also manage the NCR process.

Finally, the contractor shall develop and implement a lesson learned program to communicate with all the I&C designer the lessons learned by other Plant I&C designer.

5.1.2 Expected Deliverables:

Ref	Title	Description	Expected Milestone
D1.1	Quality Procedures	Deliverables listing all the Quality procedures prepared by the contractor	M#01
D1.2	Quality Report #1	Deliverables listing : <ul style="list-style-type: none"> - the results of the inspections - the actions taken to solve quality issues - NCR - Lesson learned 	M#02
D1.3	Quality Report#2	Deliverables listing : <ul style="list-style-type: none"> - the results of the inspections - the actions taken to solve quality issues - NCR - Lesson learned 	M#04
D1.4	Quality Report#3	Deliverables listing : <ul style="list-style-type: none"> - the results of the inspections - the actions taken to solve quality issues - NCR - Lesson learned 	M#06

5.1.3 Service Duration

The maximum expected duration for this activity is 36 months.

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5.2 Scope of work #2 I&C configuration management

5.2.1 Description

Diagnostic I&C systems are developed by DA and IO Contractors according to the Design methodology [RD2]. All along the lifecycle of the Plant I&C system, a strict configuration management shall be applied.

The contractor shall take the responsibility to track, monitor and correct the configuration of all Diagnostic I&C systems.

The following services shall be provided:

- COTS device configuration :

Diagnostic plant system shall preferably use the Hardware from the CODAC Catalogue [RD11],[RD12] but need also to use Component Off the shelf devices (COTS) for the functions of the diagnostic. As many diagnostic share similar functionalities, it is expected that COTS devices shall be re-used as much as possible by similar systems.

The use of COTS devices by systems shall be properly tracked and configured.

- I&C database configuration

During the lifecycle of the plant system, several tools and databases are used. The contractor shall ensure that all databases are well synchronized among each other.

- Enterprise Architect (EA) : Single point of Design up to FDR. To be maintained all the lifecycle
- SXP : Wiring diagram shall be provided using See Electrical Expert Tool and therefore the final Bill of Materials is done using this tool
- SDD/ PSP/CLM : CODAC tool required to be used for the Plant system implementation
- SVN : Final repository

- Hardware configuration

During plant I&C design the contractor shall control the proper model and version of the HW selected in the Plant I&C design. The contractor shall support IO in the HW procurement process. They shall:

- Issue Bill of Material,
- Contact supplier to provide quotation,
- Follow and track the HW procurement status
- Perform the delivery inspections
- Ensure the proper dispatch of the HW and the storage

Once the cubicle assembly starts, the contractor shall ensure that the Hardware configuration is always maintained.

- Software configuration

Software development and implementation is a long process in which the configuration is a key aspect. The contractor shall ensure that the Software configuration is properly managed:

He shall provide means to control that :

- Each SW developer use and maintain its Software development and Inspection plan
- Check the versioning of all the SW packages
- Plan the CODAC version updates
- Ensure communication between Plant I&C designer within Diagnostic and Codac Integration responsible

- Interface configuration (Network)

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Plant I&C system are interfaced with Central CODAC infrastructure with several network. Each controller shall be identified, and a proper IP address shall be provided. The contractor shall ensure that each controller from each Plant I&C system has been properly addressed.

The configuration management activities shall be recorded on a regular basis using the IO available IT Tools (SharePoint, Confluence, IDM).

Regular report shall be provided as deliverable to summarize all the existing configuration management activities

5.2.2 Expected Deliverables:

Ref	Title	Description	Expected Milestone
D2.1	Configuration Report #1	Deliverable listing the following activities : <ul style="list-style-type: none"> - COTS device list - Databases management - Hardware configuration - Software configuration - Network configuration 	M#02
D2.2	Configuration Report #2	Deliverable listing the following activities : <ul style="list-style-type: none"> - COTS device list - Databases management - Hardware configuration - Software configuration - Network configuration 	M#04
D2.3	Configuration Report #3	Deliverable listing the following activities : <ul style="list-style-type: none"> - COTS device list - Databases management - Hardware configuration - Software configuration - Network configuration 	M#06

5.2.3 Service Duration

The maximum expected duration for this activity is 36 months.

5.3 Scope of work #3 I&C manufacturing coordination

5.3.1 Description

Most of the IO-CT Diagnostic I&C cubicles will be manufactured in Corbieres I&C lab. Several technicians will work on the I&C cubicle manufacturing while other cubicles will remain as prototype. In order to maintain a high quality of manufacturing, the contractor shall provide the following services of manufacturing coordination :

- Maintain inventory of Hardware components, including small material such as terminal block, wiring and other electrical appliances.
- Assist IO to procure the required HW.

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- Manage the access and the priority of work for all technicians and Corbieres lab users
- Coordinate the manufacturing database (MDB). Validate the Hold Point,
- Organize Electrical Inspection with Third Party
- Coordinate the required space for all cubicles, in line with the Cubicle delivery schedule to IO
- Manage transport of cubicles from Corbieres to IO (and to Corbieres when necessary)
- Organize test campaign for Prototypes and FAT
- Support remote SW developer for SW implementation in the Hardware in Corbieres
- Execute test plans provided by the System responsible.

All activities will be recorded through the IO IT Tools (SharePoint, Confluence, and IDM). Regular report shall be provided as deliverable to summarize the work done for the milestone.

5.3.2 Expected Deliverables:

Ref	Title	Description	Expected Milestone
D3.1	Manufacturing coordination report #1	Deliverable tracking the manufacturing coordination activities for : <ul style="list-style-type: none"> - 55.EE HXRM - 55.E6 VSRS 	M#01
D3.2	Manufacturing coordination report #2	Deliverable tracking the manufacturing coordination activities for : <ul style="list-style-type: none"> - 55.EE HXRM - 55.E6 VSRS - 55.G2 Thermocouple - 55.FA DIP 	M#03
D3.3	Manufacturing coordination report #3	Deliverable listing the following activities : <ul style="list-style-type: none"> - 55.G2 Thermocouple - 55.FA DIP - 55.GC Tritium monitor - 55.GE Boundary Imaging system - 55.G9 Dust Monitor 	M#05

5.3.3 Service Duration

The maximum expected duration for this activity is 36 months.

6 Location for Scope of Work Execution

Contractor will get office space and I&C workspace in the Corbieres I&C lab. Corbieres lab is an official IO building, and the contractor will be able to access ITER site for visits to IO stakeholder when necessary.

The task 1 and 2 do not require 100% of time to be spent in Corbieres facility. For the task 3 a 100% presence is required.

Address : Corbieres Building 1, ECO parc chemin de la Gare

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7 IO Documents

All documents to be provided have been identified in chapter 4.1

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.

The complete list of deliverables is available hereafter with associated due dates:

Milestone	Ref	Title	Expected date (T0+x) *
Milestone 01 (M#01)	D1.1	Quality Procedures	T0+6 months
	D3.1	Manufacturing coordination report #1	
Milestone 02 (M#02)	D1.2	Quality Report #1	T0+12 months
	D2.1	Configuration Report #1	
Milestone 03 (M#03)	D3.2	Manufacturing coordination report #2	T0+18 months
Milestone 04 (M#04)	D1.3	Quality Report#2	T0+24 months
	D2.2	Configuration Report #2	
Milestone 05 (M#05)	D3.3	Manufacturing coordination report #3	T0+30 months
Milestone 06 (M#06)	D1.4	Quality Report#3	T0+36 months
	D2.3	Configuration Report #3	

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

The due dates have been estimated for an estimated workload of :

	Year 1	Year 2	Year 3
Task 1	40% ppy	40% ppy	40% ppy
Task 2	40% ppy	30% ppy	30% ppy
Task 3	20% ppy	30% ppy	30% ppy

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 QC3, [Ref 1] GM3S section 8 applies in line with the defined Quality Class.

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10 Safety requirements

The scope under this contract do not include any PIC, PIA and/or PE/NPE components.

11 Special Management requirements

Requirement for [RD1] 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:

- Kick-off meeting
- Milestones
- Close-out

11.2 Work Monitoring

Contractors shall use their work monitoring template provided that all items identified in [RD1] are all covered.

11.3 Meeting Schedule

The main contractor responsible shall be present and lead the weekly follow-up meeting. Participation to Diagnostic I&C monthly meeting is also required.

11.4 CAD design requirements

This contract does not imply CAD activities.