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Technical Specifications (In-Cash Procurement)

Technical Specification for Processes, methodology and Quality control of CAD Ref Config. Data

The purpose of this contract is to acquire services for: Documentation of Processes, Manual & Instructions CAD Production Methods and Processes Quality Control of CAD Reference Configuration Data

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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) – [Ref 1] that constitutes a full part of the technical requirements.

In case of conflict, the content of the Technical Specification supersedes the content of Ref [1].

2 Purpose

The purpose of this document is to specify Work Units (WU) and the related deliverables to support Design Office (DO) on activities in three categories, as outlined below:

2.1 Documentation of Processes, Manual & Instructions

The supported activities concern technical drafting, updating and refurbishing of documentation relating to DO's quality processes, mainly comprising:

- Procedures, processes and other documentation related to Management Quality Programme (MQP).
- CAD Manual
- Technical Document Family Cards related to CAD Data
- CAD Data checklists
- “How To Documents”

2.2 CAD Production Methods and Processes

The supported activities concern development of the methods and processes used to manage CAD production. The goal is to integrate CAD Production methods and processes with the needs of other IO Departments and task forces as well as decisions of IO management. Methods and process KPIs output may be used by ESD for reporting at all Project levels (Section/Division/Department/Domains)

2.3 Quality Control of CAD Reference Configuration Data

The supported activities concern the quality control and maintenance of the *Working Context* and *Approved Configuration* CAD data structures, which are the project reference for all users of ITER CAD data, to ensure use of a common 3D CAD environment.

3 Acronyms & Definitions

3.1 Acronyms

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

Abbreviation	Description
CAA	CAD Activities Section (of Design Office)
CAD	Computer-aided Design
CRO	Contract Responsible Officer

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GM3S	General Management Specification for Service and Supply
DA	Domestic Agency
DO	Design Office
IO	ITER Organization
KPI	Key Performance Indicator
PRO	Procurement Responsible Officer
MQP	Management Quality Program
QC	Quality Control
TRO	Technical Responsible Officer

3.2 Definitions

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

Domestic Agencies (DA): Stakeholders of the ITER project, including: European Union, India, Japan, the People's Republic of China, the Republic of Korea, the Russian Federation and the United States of America.

Design Office (DO): A unit within the IO with the overall responsibility to manage the CAD resources, CAD Production, CAD Infrastructure and Support Contracts to enable the project to perform its Engineering and CAD activities. It also has the mission to control CAD quality and efficiency of the design activities.

ITER Organization (IO): An international Organization and team located in Cadarache and responsible, in close partnership with the Domestic Agencies, for the construction, commissioning, operations and maintenance of the ITER facility. The IO is in particular responsible for the requirements definition, the design, the performance, the configuration management, the project schedule, the monitoring of the construction, the assembly the commissioning, and the operations of ITER. The IO is also responsible for establishing appropriate CAD infrastructure platform and design collaboration schemes between the IO , the Domestic Agencies and suppliers.

Contract Responsible Officer (IO-CRO): shall mean the IO staff person accountable for the full-cycle contract performance including initiating the procurement request according to the procurement plan(s), preparing the technical documentation, in collaboration with the Procurement Officer, supporting the tendering process, ensuring the overall quality of the input data prepared for the tender and for the contract, and being the IO's single point of accountability for the overall performance of the contract once placed.

Technical Responsible Officer (TRO): Any IO staff responsible to the technical definition and provision of input for any given Contract. He/she is responsible to technically validate the deliverable outputs provided by the Contractor under an associated Contract under his/her responsibility.

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Work Unit: It is a single repetitive and identical task that is used in order to define certain repetitive activities. The Technical Specifications can formulate several Work Unit Types and the Contractor shall assign a fixed cost to each type. The Work Units per se shall not be considered deliverables. One Work Unit or Several Work Units can be delivered as part of a Ticket or request to be completed as a task, the ticket is the formalization of the client's request.

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.

Ref	Title	IDM Doc ID	Version
1	General Management Specification for Service and Supply (GM3S)	82MXQK	0.0
2	MQP Document Change Control procedure	VDVFHY	
3	Iter CAD Manual	29FVC2	
4	Procedure for Management of Contextual CAD Data	EGPR3D	
5	Work Instruction for Enovia Management of Contextual CAD Data	EGZQWN	
6	CIS - Working Unit standardization	AVY4VG	
7	ITER Quality Assurance Program (QAP)	22K4QX	

4.2 Applicable Codes and Standards

N/A

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].

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The scope of work is described for each of the three areas of activity to be supported by the Contractor.

5.1 Duration of Services

The maximum expected duration for this activity is [T0 + 36] months.

T0 shall be the date of the Kick-off Meeting which shall take place within 4 weeks from the entry into force of the Contract (signature by both Parties).

5.2 Support of MQP Documentation maintenance

The contractor will support IO-DO to write new or update existing documents describing MQP Procedures and other processes. For each document there is a typical process with several distinct steps, as listed below and further detailed in the sections that follow:

- Assessment of a new document's technical scope or of the changes required to an existing document.
- Collection of Inputs and materials from configuration managers, disciplines experts, and other project interfaces, verifying the outcomes of the assessment previously made.
- Development of a document outline, followed by verification and validation by project interfaces and TRO
- Drafting or update of the documentation
- Organization and monitoring of the documentation reviews and approval through the applicable change process.

5.2.1 *Assessment of Document Changes*

Based on the input provided by the Technical Responsible Officer (TRO), the Contractor shall assess the changes needed in order to:

- Identify the mandatory topics of the document.
- Avoid redundancies or clashes between other documentation (both internal documentation of DO or other IO documentation).
- Propose the optimization of the procedure/process by recommending the addition, modification or deletion of topics.
- Propose methodologies to streamline the work.
- Check with the TRO that the above is coherent with other documentation in place by the project and assess the type of document (Process, procedure, work instruction how to, or other)

5.2.2 *Collection of Inputs and materials*

- Based on the analysis previously made, the contractor shall submit an interfacing plan identifying which matter requires input from, or needs to be checked by, which project entity. This plan shall be checked and may be enriched by the TRO.
- Once the plan is accepted by TRO, the contractor shall conduct interviews with the identified interfaces aiming at collecting the information and materials already existing within the project, as well as possibly identifying missing information. On certain topics, the TRO may decide to participate to the interviews.

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- The information and materials shall be gathered and organized in a form to be defined by the Contractor and accepted by the TRO. The form chosen for organization and structured management of inputs may be adapted according to the inputs received during the information gathering task. This adaptation is also part of the contractor's task

5.2.3 *Development of document outline*

- Based on the analysis and the collection of Inputs and materials previously made, the contractor shall develop a main outline of the document.
- This outline shall clearly list the titles of the main sections and sub-sections that should be part of the document, together with a bullet-style description of the important points in these sections.
- This outline shall identify the references to other relevant documentation, owned by IO DO or other project entities.
- If an existing document has been updated, the document outline shall highlight clearly the title of sections that have been modified and/or deleted.
- This subtask, by essence, should be an iterative process involving several reviews and refinement stages with the TRO and possible interfacing process owners.

5.2.4 *Drafting and update of the Documentation*

- Based on the previous sub-sections (5.2.1 to 5.2.3) the Contractor shall draft the targeted document;
- Each document shall be self-standing, with correct referencing to the other documents identified as following the activities defined in sub-sections 5.2.1 and 5.2.3
- The drafted document shall be structured based on the outline accepted by the TRO
- The document shall contain all mandatory topics previously assessed and agreed by the TRO.
- The document shall be compliant with the applicable ITER standards and templates (e.g, MQP standards and templates: [ITER_D_438T76 - MQP Document Template](#))

5.2.5 *Organization and monitoring of document reviews, subsequent updates*

Once the drafted document is deemed ready by the TRO, the Contractor will expedite the formal review process as follows

In the case of an MQP document:

- Launching the MQP review steps in line with the [MQP Document Change Control procedure \(VDVFHY\)](#), as delegate to the IO CAD process representative. These reviews might involve interfaces with the DA
- Monitoring the reviews and eventually integrating the reviewers' comments, therefore iterating the MQP document versions.

In the case of a non-MQP document:

- Launching the review and approval workflow in IDM; Collecting and consolidating reviewers comments (including organization of calls, meetings etc. as required to clarify the inputs); Iteration of the process to finalize the document Organizing meetings as required to clarify and consolidate

5.3 **Support of CAD Production Methods and Processes**

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The contractor will support the development and maintenance of processes and methods that are used to efficiently manage IO-DO's CAD Production activities. The support task shall comprise the following main activities:

5.3.1 *Collection and analysis of inputs:*

- Gathering of the latest project's inputs with potential impact on CAD Production processes, including:
 - Decisions of DO and other IO departments.
 - Requirements and priorities of task forces.
 - Requirements and priorities of the Construction team.
- Organization and analysis of inputs to assess potential impacts on CAD production.
- Formulating recommendations, including estimation of effort and schedule, for alignment of CAD production processes to the latest project requirements and priorities

5.3.2 *Adaptation of Processes and KPIs:*

- Creation of new or update of existing CAD Production methods and processes, aligned with the latest project priorities and decision, including creation or update of associated documents (e.g. CAD Manual, how-to, handbooks) or tools (e.g. Excel workbooks and macros; Dashboards and reports in Confluence or Sharepoint,..)
- Definition of new or update of existing KPIs to monitor CAD production situation and control the implementation of latest priorities and decisions
- Tracking, recording and reporting throughout all stages of implementation of new processes.
- Consolidation of data and KPI in an integrated, automatized and streamlined manner.
- Supporting the smooth implementation of new or updated CAD methods and processes by providing instruction and guidance to the designers concerned

5.3.3 *CAD production recovery plans (corrective actions)*

- Identification of existing CAD data and technical documentation in need of update or correction for compliance with latest project requirements
- Establishment of a recovery plan or corrective actions with involvement of relevant stakeholders and according to recovery priorities defined by the TRO
- Implementation of the recovery action plan by:
 - Dissemination of information and instructions to CAA designers Production engineers or other relevant users concerned.
 - Providing support and guidance to impacted stakeholders
 - Diagnosis and corrective action to solve issues arising during the implementation phase.
- Tracking, recording and reporting the status throughout implementation of the recovery plan.

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5.4 Support of Quality Control of CAD Reference Data

5.4.1 *Background of the task*

To facilitate integration of the ongoing design, IO provides design partners with two sets of **Contextual CAD data** for use as their 3D working environments:

Approved Configuration models	Representing the approved configuration baseline
Working Context models	Representing the status of ongoing controlled design work which is based on changes under Study or Pre-Implementation phase, and on progress in the maturity of a design

The models are organized in ‘branches’ of the ENOVIA V5 CAD structure. There are approximately 500 branches in total, with one branch of each type per system in every building represented in the Digital Mockup.

Ref [5] and [6] are the MQP Process and Working Instruction which describe the specific rules and responsibilities for managing the above data structures. Conformance of the data with these, and general CAD quality requirements (such as CAD Manual [3]) is ensured via various defined checks, including the use of some purpose-built IT reports and other IT tools.

5.4.2 *Scope of the contractor’s activities*

The scope of work is:

- To perform checking of the branches, and of associated contextual CAD models,
- against the requirements of [5] and [6], and other QA documents.
- To organize and report results.
- To define, monitor and follow-up on corrective actions
- To perform checking and testing of CAD tools and processes which consume or manage data from the branches (e.g. tagging, data approval, viewers...)
- To contribute to the maintenance and improvement of the QA processes and tools, (produce specifications and bug-reports; prepare test scenarios and associated data; perform tests and interact with IT on corrections and enhancements)
- To assist CAD data owners, by explanation/coaching in correct methodology, as well as hands-on update/correction of discrepant data.
- To assist users of tools and processes which consume data from the branches, typically through level 1 support tickets: (provide guidance on methodology; follow-up on bugs and errors; produce or update training materials)

6 Location for Scope of Work Execution

Contractor can perform the work at their own location.

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7 Work Description

7.1 Task Categories and Work Units:

Sections 7.2 – 7.4 list the various tasks to be undertaken by the contractor in the scope of this contract, with associated Work Units (WU) to be used to manage task deliverables and invoicing.

Estimated quantities of Work Units and explanation of WU codes are presented in Section 8

- On initialization of a new task, IO shall submit its request to the contractor with a declared category of Work Unit.
- The contractor shall comment immediately on the categorization made by IO. Five (5) working days after the Work Unit submission by IO and without documented justification by the contractor, the Work Unit is considered as accepted by the contractor, and the execution time-frame shall start.
- The deliverables of the task shall be made available to the IO immediately at the end of the execution time-frame.
- Before invoicing IO for a Work Unit, the contractor shall submit a summary of associated deliverables for acceptance by the CRO. Preparation of the deliverables report is not subject to a dedicated Work Unit.

The expected range of support tasks described below may not exhaustively cover all possible Work Unit sizes that may be assigned during the course of the contract.

For example, support tasks of size ‘XS’ are not typically foreseen in the context of CAD Production Process and Methods, therefore a Work Unit of this size is not listed in section 7.3. Nevertheless, the TRO may use it should he need to assign a task of corresponding size.

7.2 Support of MQP Documentation maintenance

7.2.1 *Assessment and Summary of document changes*

7.2.1.1 *Inputs*

- Description of the document’s functions / objective;
- Mandatory topic(s) to be included in the update;
- Necessary input such as reference documents related to topic and/or previous drafted documents.

7.2.1.2 *Description*

Identify and existing and newly identified QA documents (procedures, processes, How to, manuals and QA supporting documents (e.g. forms, templates); Classify the documents (e.g. normal procedure/process vs MQP procedure).

Mandatory fields like IDM link to the concerned QA document related IDM links to supporting documentation, classification, DO responsible person, reason for the development or update need of a QA document, priority and update status will be complemented with additional attributes when needed.

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7.2.1.3 Deliverables

A report, in MS Word format, describing the mandatory topics of the document; identified and documented interfaces with other IO processes and procedures; identified redundancies or clashes between other DO documentation; proposal of optimization, propose methodologies to streamline the work including a functional diagram / workflow.

7.2.1.4 Associated WU

- Type: Documentation : Engineering Expertise WU D2-XL
- Quantity: 1 to 2

7.2.2 Collection of Inputs and materials from Configuration managers, Disciplines experts, and other Project interfaces

7.2.2.1 Inputs

- Report produced as deliverable of the Assessment and Summary task (7.2.1)
- Main axis and particular points to be investigated with the interfacing entities;
- Nominative identification of the interfacing point;

7.2.2.2 Description

Collect information from the interfacing entities, including items (email, MoM, etc.) that record their endorsement of the provided information. Assemble and structure the information in a collaborative space so it can be used by all relevant DO members. Report on collected information to the task TRO. (If required, the contractor shall create the collaborative space in an Iter IT system designated by the TRO).

7.2.2.3 Deliverables

Report, in MS Word format, about the collected, structured and traced information and inputs, saved in the collaborative space designated for this task.

7.2.2.4 Associated WU

- Type: Documentation : Engineering Expertise WU D2-XL
- Quantity: 1 to 2

7.2.3 Development of document outlines

7.2.3.1 Description

The activity comprises development of a comprehensive document skeleton / outline in order to visualize the topics, requirements and associated documents to be referenced, including their sequence within the final document.

This outline shall have three main purposes:

- Serve as a tracking tool to maintain the traceability between the existing documentation and the new proposed structure;
- Identify the topics and structure that the document shall cover; and

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- At a simple glance provide an overall picture of interlinked references to other IO relevant documentation;

7.2.3.2 *Deliverable*

A document, in MS Word format, fulfilling the above requirements. This document will help the TRO to determine and structure the document layout, including the table of content and the identified reference documents.

7.2.3.3 *Associated WU*

- Type: Documentation : Engineering Expertise WU D2-XL
- Quantity: 1 to 2

7.2.4 *Drafting documentation*

7.2.4.1 *Inputs*

- Assessment report of the specific topic previously accepted by the TRO (7.2.1)
- Outline of the documentation accepted by the TRO (7.2.3)

7.2.4.2 *Description*

The activity consists in the technical drafting of the related documentation after the output of previous Sub-sections (7.2.1 to 7.2.3) have been accepted.

A typical document to be drafted is in the range of 10 to 20 pages. The complexity and level of detail can vary depending on the topic and number of interfaces; list of examples is provided in [Appendix 1](#)

7.2.4.3 *Deliverables*

A self-standing document, in MS Word format, based on the input of preceding tasks 7.2.1 and 7.2.3. The document shall comply with all requirements provided by TRO and take into account all other references and interfacing procedures in order to ensure coherence within all MQP and QAP associated documentation (Note: these identification of these references and interfacing procedures is a deliverable of the preceding tasks described in 7.2.1 and 7.2.3)

7.2.4.4 *Associated WU*

- Type: Documentation : Engineering Expertise WU D2-XL
- Quantity: 1 to 2

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7.2.5 *Organization and monitoring of the MQP reviews, subsequent updates (WU E5):*

7.2.5.1 *Description*

The activity consists in pushing an MQP document, produced as a deliverable of a the drafting task (7.2.4) and accepted by the TRO, through the MQP review workflow as stipulated in ref [2].

The activity also comprises subsequent iterations of reviews and updates, as required to implement reviewers' comments.

7.2.5.2 *Deliverables*

An approved MQP document together with its supporting MQP Change control process documentation: Essential data, evidences of interfaces reviews, Propagation plans, etc... see Ref [2].

Please note that in order to execute this task with an acceptable level of autonomy, the contractor will need training in IO MQP Change procedures.

7.3 CAD Production Process and Methods Support Tasks

7.3.1 *CAD Production Process and Methods monitoring or execution*

7.3.1.1 *Description*

This task category typically covers monitoring of the project environment and stakeholders, execution of simple processes or update KPI to align CAD production to latest priorities. The contractor shall

- Collect and analyse latest management decisions and issue logs; latest requirements of ENGN task forces; latest Construction requirements
- Establish global situation review by retrieving relevant database information
- Organize and analyse retrieved information, prioritize topics and decisions affecting CAD production, and report concisely to TRO.
- Execute repetitive Method & process tasks to align CAD production to latest requirements

7.3.1.2 *Examples*

Update a Newsletter; Deliver training to newcomers; Update information in DO SharePoint/confluence portal; Assist CAA section leader for section administration update; Update existing KPI & source database

7.3.1.3 *Associated WU*

- Type: Quality : Process monitoring WU Q2-L
- Quantity: 1

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7.3.2 *Creation of CAD Production Process, Methods or KPI*

7.3.2.1 *Description*

Based on a determined set of information and input from the TRO, the contractor shall:

- Produce and implement new method(s) and process(es) leading to successful update of CAD production deliverables according to one or more project decision, involving one or more stakeholders and dealing with one or more topic
- Create one or more new KPI defined by TRO

7.3.2.2 *Deliverables*

How-to; Training; Handbook; KPI in Confluence, SharePoint, Web-based app., Excel/PowerBI (in relation to a consolidated database)

7.3.2.3 *Associated WU*

- Type: Quality : Process monitoring WU Q3-XL
- Quantity: 1-4

7.3.3 *CAD Production Recovery Action*

7.3.3.1 *Description*

Based on a determined set of information and inputs from the TRO, the contractor shall:

- Identify CAD data and technical documentation requiring update in order to be aligned with latest project requirements
- Evaluate impact and report to TRO : cost, time, risks
- Implement a recovery plan comprising one or more actions, with involvement of one or more stakeholders

7.3.3.2 *Associated WU*

- Type: Quality : Process monitoring WU Q3-XL
- Quantity: 1-4

7.4 **CAD QC Data and Process Tasks:**

The contractor will review a set of context/config CAD data against selected quality criteria provided by the responsible officer IO RE. Checking may take into account issues of data

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structuring, lifecycle and other metadata.

he checking tools and the needed effort will depend on the category of the task:

7.4.1 *Minor CAD Data QC task:*

7.4.1.1 *Description*

This category will cover small tasks, answering to ad-hoc needs, such as adjustment of a previously agreed deliverable on request of the TRO or following up on a completed task at the request of a user.

7.4.1.2 *Examples*

Writing an email to answering a designers request for clarification about the results of a CAD quality check.

7.4.1.3 *Typical deliverables*

Email; Commented IOCAD ticket

7.4.1.4 *Associated WU*

- Type: Quality : CAD Data QC : Q1-XS
- Quantity: 1

7.4.2 *Small CAD Data QC task*

7.4.2.1 *Description*

This task category typically covers basic quality control tasks, done according to an established process and frequency. Checking usually involves use of web-based tools to extract and process data, and present results in tables or charts. The contractor's effort will be mainly to compile these results, highlighting discrepant data, and to distribute them to the CAD data owners, with minimum need for discussion or investigation.

7.4.2.2 *Examples*

Checking that none of the context branches in one or more Products contain data in a forbidden lifecycle status

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Correction or filling of metadata on a small quantity (<50 items) of CAD data in ENOVIA V5

7.4.2.3 *Typical deliverables*

Updates of Excel tables/charts; Email

7.4.2.4 *Associated WU*

- Type: Quality : CAD Data QC : Q1-S
- Quantity: 1

7.4.3 *Medium CAD Data QC task*

7.4.3.1 *Description*

Typically describing a check done according to an established process, periodically or ad-hoc. Extraction of the data may be done directly from ENOVIA, using VPM Navigator / LCA Classic, using web based tools or both. Minimum hands-on processing of the results may be required, using standard Excel functions (lists, filtering,...) or specific macros (provided by the TRO). It may be necessary to produce a short report, as a document or in an IT ticket. Interactions with data owners may be required to understand the causes, explain and resolve issues

7.4.3.2 *Examples*

Checking for unsynchronized conditions in structure-exposed data
Validation of the results produced by an ENOVIA report, by manual comparison with CAD data in ENOVIA

7.4.3.3 *Typical deliverables*

Updated Excel tables/charts; Word document; IT ticket

7.4.3.4 *Associated WU*

- Type: Quality : CAD Data QC: Q1-M
- Quantity: 1

7.4.4 *Large CAD Data QC task*

7.4.4.1 *Description*

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The task typically addresses an issue arising on production, with a level of complexity requiring investigation and analysis. Data needed for the checks may come from IT reporting tools, directly using VPM Nav/LCA Classic or looking to records of previous CAD configuration, such as CMAF. It may require deeper interactions with data owners or IT division, to understand causes, explain and resolve issues

Alternatively the Large task category can cover tasks of similar technical scope and complexity as the above Q1-M, but involving more processing steps or a larger dataset, requiring more effort.

7.4.4.2 *Examples*

Troubleshooting in case of inconsistencies between production CAD database and reporting tools; Checking coherence of all config. branches with current CMAF baseline

7.4.4.3 *Typical deliverables*

New or updated Excel workbooks, tables & charts, macros; Word documents, IT tickets

7.4.4.4 *Associated WU*

- Type: Quality : CAD Data QC: Q1-L
- Quantity: 1

7.4.5 *Major CAD Data QC task*

7.4.5.1 *Description*

The Very Large task category may concern definition or improvement of a checking process. In this case the contractor may be required to create/adapt and validate macros (Excel or Power BI), make tests and write test reports, update technical specifications or how-to documents, aligned with the new process.

Alternatively the Very Large task category may cover tasks similar to those described in the previous categories, with a larger technical scope of larger scale of checked data, requiring more effort.

7.4.5.2 *Typical deliverables*

How-to document; Technical specification; test report; Tables, charts, macros in Excel or Power BI; IT tickets

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7.4.5.3 Associated WU

- Type: Quality : CAD Data QC : Q1-XL
- Quantity: 1

8 Deliverables and Quantities

8.1 Work Unit Types and Codes

The table below shows the expected quantity of tasks in each category, with associated Work Units. WU codes are taken from ref [6] and are of the form:

[Deliverable Type][Sub-Type]-[Size]

For example: Q1-XL

Deliverable types relevant for this specification are:

Work Unit Type		Work Unit Sub-Type	
Code	Meaning	Code	Meaning
D	Documentation	2	consulting, engineering expertise
Q	Quality	1	CAD data QC and data recovery
		2	process monitoring (KPI, reporting,..)
		3	process creation and recovery

The Size of the ticket or work unit reflects the estimated effort for completion of the task. It is encoded as following:

Size	Estimated effort ('hour)
XS	1
S	4
M	8
L	16
XL	40

8.2 Deliverable Quantities

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WU Type	Task	Estimated Quantity over 36 months
D2-XS	<i>Documentation – consulting & expertise XS</i>	1
D2-S	<i>Documentation – consulting & expertise S</i>	1
D2-M	<i>Documentation – consulting & expertise M</i>	1
D2-L	<i>Documentation – consulting & expertise L</i>	1
D2-XL	Assessment and Summary of document changes	6
D2-XL	Collection of Inputs and materials	7
D2-XL	Development of document outline	8
D2-XL	Documentation drafting	15
D2-XL	Organization/monitoring of document reviews	7
Q1-XS	Minor CAD Data QC task	16
Q1-S	Small CAD Data QC task	24
Q1-M	Medium CAD Data QC task	38
Q1-L	Large CAD Data QC task	34
Q1-XL	Major CAD Data QC task	20
<i>Q2-XS</i>	<i>Quality – Process Monitoring XS</i>	1
<i>Q2-S</i>	<i>Quality – Process Monitoring S</i>	1
<i>Q2-M</i>	<i>Quality – Process Monitoring M</i>	1
Q2-L	Large CAD Production Process and Methods monitoring or execution task	97
<i>Q2-XL</i>	<i>Quality – Process Monitoring XL</i>	1
Q3-XS	<i>Quality – Process creation and recovery</i>	1
Q3-S	<i>Quality – Process creation and recovery</i>	1
Q3-M	<i>Quality – Process creation and recovery</i>	1
Q3-L	<i>Quality – Process creation and recovery</i>	1
Q3-XL	Creation of CAD Production Process, Methods or KPI	35
Q3-XL	CAD Production Recovery Action	14

9 Quality Assurance requirements

The Quality class under this contract is Design control – Class 2 and [Ref 1] GM3S section 8 applies in line with the defined Quality Class.

10 Safety requirements

No specific safety requirement related to PIC and/or PIA and/or PE/NPE components apply.

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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:

- KOM
- Close-out Meeting

11.2 Meeting Schedule

A weekly meeting will be held to monitor task status, progress and possible issues.

11.3 CAD design requirements

N/A

11.4 Other Requirements

Certain tasks will require proficiency in tools and processes, as described below:

11.4.1 MQP

- To execute this task with an acceptable level of autonomy, and to obtain the necessary database permissions, the contractor must be trained in IO MQP Change procedures.
- The task requires experience in technical writing in the quality assurance domain, including experience in application of quality standards and methodologies relevant to the nuclear industry.
- The contractor must have a demonstrated ability to write clear, accurate, and concise technical English, with attention to detail and the ability to spot errors and inconsistencies.
- Strong written and verbal English communications skills are required for collaboration with different teams and stakeholders.

11.4.2 Quality Control of CAD Reference Configuration Data

- Work related to data in the ENOVIA V5 production database will require the use of CATIA V5 and VPM Navigator, Some use of LCA Classic and Navisworks may also be required.
- Manipulation of CAD data in ENOVIA V5 will demand familiarity with ITER processes and advanced database permissions requiring the PBSA certification.
- Some checks require post-processing of data extracted from ENOVIA using Excel or Power BI. This will require at least an intermediate level of competence including manipulation of tables, formulae, pivot tables/charts and macros.

11.4.3 CAD Production Methods and Processes

- The task will require proficient use (including development of macros) of Excel and Power BI tools, integrated in databases (Sharepoint, Access) to manipulate large datasets, and produce KPI for weekly dissemination to stakeholders.

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- Activities in support of CAD Production planning will require proficiency in MS Project.
- A high level of engineering and project management skills is mandatory
- A good overview of CAD production tools (CATIA, AVEVA, SSD, SPX) and deliverables requirements (CAD manual and ISO standards) is required, but it is not required to manipulate CAD tools.

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12 Appendices

12.1 Appendix 1: List of MQP Document examples

1. [Certification and Assignment of CAD roles in the ITER CAD tools \(4EQUNW v3.0\)](#) (low complexity example)
2. [Procedure for Management of Contextual CAD Data \(EGPR3D v2.0\)](#) (medium complexity example)
3. [Procedure for CAD Work Planning, Specification and Control \(U34884 v1.4\)](#) (high complexity example)