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25V4A4

VERSION CREATED ON / VERSION / STATUS
29 Jan 2021 / 1.7 / Approved

EXTERNAL REFERENCE / VERSION

Technical Specifications (In-Cash Procurement)

Technical specification - CAD QA/QC contract

Technical specification covering:

- CATIA/ENOVIA QA/QC & DB management tasks
- AVEVA E3D and diagrams QA/QC and DB management

Table of Contents

1	PURPOSE	3
2	SCOPE	3
2.1	THE ITER PROJECT	3
2.2	SCOPE OF THE CONTRACT	3
2.2.1	<i>CAD Scope</i>	3
2.2.2	<i>CAD context</i>	3
2.3	OUT OF SCOPE	3
3	DEFINITIONS	4
4	REFERENCES	4
5	ESTIMATED DURATION	4
6	LOCATION OF SERVICES	4
7	WORK DESCRIPTION	4
7.1	GENERAL	4
7.2	WORK-UNITS DESCRIPTION	5
7.2.1	<i>CATIA/ENOVIA/AVEVA QA/QC, DO processes related to DECO</i>	5
7.2.2	<i>CAD Collaboration</i>	12
7.2.3	<i>CAD catalogues production</i>	14
8	INPUT DATA	14
9	RESPONSIBILITIES	14
9.1	IO RESPONSIBILITIES	14
9.2	CONTRACTOR’S RESPONSIBILITIES	15
10	WORK MONITORING	16
11	ESTIMATED VOLUME OF DELIVERABLES (WORK-UNITS)	17
11.1	FIRM PART	17
11.2	OPTION 1	18
11.3	OPTION 2	19
11.4	OPTION 3	21
12	ACCEPTANCE CRITERIA	23
13	PAYMENT CONDITIONS, AND LIQUIDATED DAMAGES	23
13.1	PAYMENTS	23
13.2	LIQUIDATED DAMAGES	24
14	IO CAD REQUIREMENTS	25
15	SPECIFIC REQUIREMENTS AND CONDITIONS	25
15.1	RESOURCES AVAILABILITY:	25

15.2 CONFLICT OF INTEREST:	25
16 QUALITY ASSURANCE (QA) REQUIREMENT	26
16.1 OVERVIEW	26
16.2 TASK CLASSIFICATION	26
17 SAFETY REQUIREMENTS	26

1 Purpose

This technical specification defines the needs of ENG/DO in CATIA/ENOVIA/AVEVA mainly for QA and QC tasks as well as a limited implementation of DO processes such as CAD collaboration, storage in SMDD/PLM and Catalogues production.

The scope will be formalized using a Service Contract. The implementation of the tasks to be executed will be done using “Work – Units” (WUs) which will be explained in detail in Section 7.1

2 Scope

2.1 The ITER Project

The ITER project aims to demonstrate the scientific and technological feasibility of fusion power for peaceful purposes and to gain the knowledge necessary for the design of the next stage device.

The ITER project is organized as an international research and development project jointly funded by its seven Members; 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 Cadarache in southern France, which is also the location of the headquarters of the ITER Organization (IO).

During ITER construction, most of its components will be supplied “in-kind” by the ITER Members. These in-kind contributions are being managed through a Domestic Agency (one per ITER Member) located within the Member’s own territory.

The working language of the ITER Project is English.

More details about the Project Organization, The Domestic Agencies, the IO location and other different aspects of the Organization are available on the website: www.iter.org.

2.2 Scope of the Contract

The scope of the Contract is to provide contribution to the management of the IO CAD data, in particular with regards to the CAD databases (ENOVIA, AVEVA, and SMDD)

The contract use a Work-Units (WU) approach and include the following task types:

- CATIA/ENOVIA QA/QC and DB management tasks
- AVEVA E3D and diagrams QA/QC and DB management
- Implementation of DO processes (CAD catalogues and CAD Exchanges)

2.2.1 CAD Scope

The task deals with all IO CAD data. As a consequence the task will be performed directly in the IO’s databases.

2.2.2 CAD context

N/A

2.3 Out of Scope

N/A

3 Definitions

CCT : CAD Core Team

DO : Design Office

DA : Domestic Agency

DCIF : Design Collaboration Implementation Form

DECO : Design Coordinator

DET : Data Exchange Tasks

DER : Data Exchange Request

FR : Functional Reference

HIT : Holistic Integration Team

IDL : Integrated Data Loading

IO : ITER Organization

RO : Responsible Officer

SMDD: System for the Management of Drawings and Diagrams

WP : Work Package

WU : Work-Unit

- Shall: Mandatory requirement
- Should/May/Will: Recommendation or action which is advised but not required. “Will” is used for all actions to be performed by IO and/or the others.

4 References

See section 7.2

5 Estimated Duration

The overall duration of this Contract is 24 months from signature (T0) including 12 month as firm part and 3 times 4 months as options.

6 Location of Services

All the services shall be performed according to the new normal policy defined in IO, meaning a shared time between onsite and outside IO site, in order to ensure the same access to the database as the DECOs and ensure quick reaction time (blockers and critical tickets).

7 Work Description

7.1 General

This task will be implemented through Work-Units.

Each Work-Unit consists in a well-defined task, see 7.2, based on clear inputs and always leading to the same deliverable.

The Work-Units will be launched by DECOs or relevant DO RO/CCT through a JIRA ticket including required inputs.

Estimated Work-Units durations are only indicative, but are based on actual experience related to the average implementation time of the described tasks.

7.2 Work-Units description

This section defines only the possible Work-Units and consists of typical task descriptions.

The Work-units defined in the scope of this contract are as follows:

7.2.1 CATIA/ENOVIA/AVEVA QA/QC, DO processes related to DECO.

Indicative quantities are given in section 11.

The detailed processes related to the Work-units are described in the following documents:

[ITER_D_282BVV – ITER CAD Quick Reference Guide – CV5 EV5](#)

[ITER_D_2FBLRJ – CAD Data Promotion Checklist](#)

[ITER_D_2DWU2M – Procedure for the Management of CAD Work & CAD Data \(Models and Drawings\)](#)

[ITER_D_AC4CZT – How to use Mass Promotion tool with xls input](#)

[ITER_D_EFHRTC – How to Use the CONTEXT Branch Log E-Ticket](#)

[ITER_D_X97EWC - 01_Conversion_Team-How-To_V2](#)

[ITER_D_TL7SMR - AVEVA E3D- IO CAD guide](#), complemented by the HOW-TOs here: [03 E3D](#)

WU type	Name/Scope	WU Criteria	Input	Deliverables	Estimated duration (Hours)	Maximum time of delivery from raising ticket
A.1	CATIA/ENOVIA Cursory Check	Up to 5 Leaf Instances	B.o.M or Enovia tree or filter capture	- All reports according to the Promotion Check-list	1	4 hours
A.2	CATIA/ENOVIA Cursory Check	Between 6-15 Leaf Instances	B.o.M or Enovia tree or filter capture	- All reports according to the Promotion Check-list	4	1 day
A.3	CATIA/ENOVIA Cursory Check	Above 15Leaf Instances * Note: For more Leaf Instances, combination of WUs	B.o.M or Enovia tree or filter capture	- All reports according to the Promotion Check-list	8	2 days

A.4	AVEVA QA Check in E3D	Quality check in AVEVA E3D 1 unit – 1 zone	Input – zone in E3D or checking list by DECO	- Report to QA issues - Excel file for QA issues	0.5	0.5 days
A.5	2D-3D Coherency Check	Check coherency between P&ID and 3D model 1 unit – 10 pipes	Input – ISO drawing or zones in E3D	- PDF file with mark- up ISO - PDF file with mark- up PID	0.5	0.5 days
A.6	CATIA/ENOVIA Light check before promotion	1Unit 5 Leaf Instances	B.o.M or Enovia tree or filter capture	- Report based on shorten (up to 20 points) check-list, BoM (CADexchange profile)	0.5	4 hours
B.1	Promotion	Up to 10 Leaf Instances InDraft/Incheck /Approved (as one unit) – Using Mass production tool * Note: For more Leaf Instances, combination of WUs will be used	B.o.M or Enovia tree or filter capture	- All CAD part promoted - B.o.M (CAD exchange profile without issues) with status identification/ Enovia screenshot /filter capture/Instance Path	0.5	4 hours
B.2	Promotion	Up to 10 Leaf Instances InDraft/Incheck /Approved (as one unit) – Manual promotion (in case of failure of the mass production tool) * Note: For more Leaf Instances, combination of WUs	B.o.M/Enovia tree or filter capture	- All CAD part promoted - B.o.M (CAD exchange profile without issues) with status identification/ Enovia screenshot /filter capture/Instance Path	1.5	1 day
B.3	Remote Promotion	Up to 10 Leaf Instances InDraft/Incheck /Approved (as one unit) – Using Mass production tool * Note: For more Leaf Instances, combination of WUs	B.o.M or Enovia tree or filter capture	- All CAD part promoted - B.o.M (CAD exchange profile without issues) with status identification/ Enovia screenshot /filter capture/Instance Path	1	1 day

B.4	Remote Promotion	Up to 10 Leaf Instances InDraft/Incheck /Approved (as one unit) – Manual promotion (in case of failure of the mass production tool) * Note: For more Leaf Instances, combination of WUs	B.o.M/ Enovia tree or filter capture	- All CAD part promoted - B.o.M (CAD exchange profile without issues) with status identification/ Enovia screenshot /filter capture/Instance Path	3	2 days
C.1	Context branch update	Synchronization of leaf Instance with latest version 1 unit -5 Leaf Instances (Including unlock of another version) * Note: For more Leaf Instances, combination of WUs	B.o.M/ Enovia tree or filter capture or Instance Path	- Context branch updated - E-Ticket issued	0.1	4 hours
C.2	Context branch update	Update instance relocation, design change, synchronisation with any version (not latest). Maintenance Enovia branch to be consistent with In-work branch (Plant design) and PBS 1 unit -5 Leaf Instances * Note: For more Leaf Instances, combination of WUs	B.o.M/ Enovia tree or filter capture or Instance Path	- Context branch updated - E-Ticket issued	0,5	1 day
D.1	Context definition	N/A	Description of the task to be performed	- B.o.M of the required context, Enovia tree - Possible comments	1	1 day

D.2	3DXML context creation from ENOVIA	Creation of detailed 3dxml, data from ENOVIA/CATIA (including filtering) 1 unit – 50 Leaf Instances	Description of the zone (BLDG, level, list of PBSs,)	- Model saved in 3dxml format, - BOM, - instance paths	4	1.5 days
D.3	3DXML context creation from ENOVIA	Creation of detailed 3dxml, data from ENOVIA/CATIA without filtering	Leaf Instance Paths.txt, BOM	- Model saved in 3dxml format, - BOM	2.0	1.5 days
D.4	3DXML context in batch mode from ENOVIA	Creation of detailed 3dxml, data from ENOVIA/CATIA in batch mode 1 unit – 100 Leaf Instances	Leaf Instance Paths.txt (LIP)	- Model saved in 3dxml format, - BOM	1.0	0.5 day
D.5	3DXML context creation from ENOVIA	Creation of detailed 3dxml, data from ENOVIA/CATIA (including filtering) 1 unit – 5 Leaf Instances	Description of the zone (BLDG, level, list of PBSs)	- Model saved in 3dxml format, - BOM, - instance paths	0.5	0.5 days
D.6	3DXML context creation from AVEVA	Creation of detailed 3dxml, data designed in AVEVA (STEP-CATIA-3dxml) 1 unit – 1 Group Set up to 60 MB	Description of the zone (BLDG, level, list of PBSs)	- Model saved in 3dxml format	1.0	0.5 days
D.7	3DXML context creation from AVEVA	Creation of detailed 3dxml, data designed in AVEVA (STEP-CATIA-3dxml) 1 unit – 1 Group set more than 60 MB	Description of the zone (BLDG, level, list of PBSs)	- Model saved in 3dxml format	2.0	1 day
D.8	3DXML context creation from AVEVA with macro	Creation of detailed 3dxml, data designed in AVEVA with macro	Description of the zone (BLDG, level, list of PBSs)	- Model saved in 3dxml format	1.0	0.5 days

D.9	ENOVIA context update from AVEVA	Update of context model in ENOVIA-CATIA designed in AVEVA (STEP files) 1 unit – 1 zone up to 60 MB	BoM/Enovia tree or filter capture	- IN WORK branch updated - BoM	0.5	0.5 days
D.10	ENOVIA context update from AVEVA	Update of context model in ENOVIA-CATIA designed in AVEVA (STEP files) 1 unit – 1 zone more than 60 MB	BoM/Enovia tree or filter capture	- In WORK branch updated - BoM	1.5	0.5 days
D.11	CM update from AVEVA data	Configuration model update in ENOVIA/CATIA designed in AVEVA (native CATIA data) 1 unit – 1 iteration on 1 Group set	BoM/Enovia tree or filter capture, Group Set Name	- In WORK branch updated - BoM	2.0	0.5 days
D.12	CM update in AVEVA	CM update in AVEVA of data design in CATIA (Catalogue parts) (Eps, openings) 1 unit – 5 WPs	Input – BoM/ENOVIA tree, LIP or filter capture	- AVEVA data updated, - AVEVA BoM	2.0	0.5 days
E.1	“DECO” prep. Of CAD Exchange – Design data	1 unit = up to 10 WP	Description of the task to be performed	- TSO/TO performed - BoM (CAD exchange profile) of the data to be exchanged Mail with DET filled sent to CAD exchange	1	1 day
E.2	“DECO” prep. Of CAD Exchange – contextual data	1 unit = up to 10 WP	Description of the task to be performed	- BoM (CAD exchange profile) of the data to be exchanged Mail with DET filled sent to CAD exchange	0.5	1 day
F.1	Meeting attendance (as DECO representative)	Meeting below 1Hour	Invitation	- Minutes of meeting	1	N/A

F.2	Meeting attendance (as DECO representative)	Meeting between 1 and 2 hours	Invitation	- Minutes of meeting	2	N/A
G.1	CAD Data QA correction	Amount below 10 WPs (1 Unit) * Note: For more WPs, combination of WUs will be used	Enovia tree + Correction to be performed	- Corrections performed - .ppt highlighting corrections performed	2	1 day
G.2	CAD integration correction / update	For 1 area	Scope description clearly highlighting context and objectives	- Updated integration supported by report	8	2 days
G.3	Data collection, reporting and coaching	N/A	Scope description clearly highlighting context and objectives	- Report	40	6 days
G.4	AVEVA QA Correction for PIPE in E3D	Quality correction in AVEVA E3D for piping and on-line component, include process pipe, valve, instrumentation and other on line component 1 unit – 1 zone	Input – AVEVA QA report or Quality list by DECO	- Report of QA correction - Excel list for correction implementation	1	0.5 days
G.5	AVEVA QA Correction for EQUI in E3D	Quality correction in AVEVA E3D for equipment and related nozzles 1 unit – 1 zone	Input – AVEVA QA report or Quality list by DECO	- Report of QA correction - Excel list for correction implementation	0.5	0.5 days
G.6	AVEVA QA Correction for Support in E3D	Quality correction in AVEVA E3D 1 unit – 1 zone	Input – AVEVA QA report or Quality list by DECO	- Report of QA correction - Excel list for correction implementation	2	0.5 days

G.7	AVEVA Support Drawing Clean	Clean support drawing which generated by designer in AVEVA DRAFT MODULE 1 unit - 5 Support drawings	Input – Support drawing in AVEVA	- PDF file - Support drawing updated in AVEVA DRAFT MODULE	1	0.5 days
H.1	New ENOVIA Tree structure	Amount below 10 Leaf instances * Note: For more WPs, combination of Wus will be used	Enovia tree	- Updated Enovia tree/B.o.M	0.5	4 hours
K.1	SMDD input data QA check	Check the quality of document to be upload in SMDD 1 unit – 10 dwg	Input – Drawing, BoM	- BoM mark-up the errors	0.5	0.5 days
K.2	SMDD input data QA check and correction not using tools (macro / batch)	Check and correct the quality of document to be upload in SMDD 1 unit – 10 dwg	Input – Drawing, BoM	- BoM mark-up the errors - Cleaned BoM - Drawing	1	0.5 days
K.3	SMDD input data QA check and correction using tools (macro / batch)	Check and correct the quality of document to be uploaded in SMDD according to tools. 1 unit – 10 dwg	Input – Drawing, BoM	- Cleaned BoM - Drawing	0.5	0.5 days
K.4	Document upload in SMDD not using tools (macro / batch)	Upload the document in SMDD manually 1 unit – 10 dwg	Input – Drawing, BoM	- Drawing and BoM uploaded in SMDD and signed - Component inside BoM updated in SMDD	0.5	0.5 days
K.5	Document upload in SMDD using tools (macro / batch)	Upload the document in SMDD by using tools (bulk upload file) 1 unit – 3 batch	Input – Drawing, BoM	- Drawing and BoM uploaded in SMDD and signed - Component inside BoM updated in SMDD	0.5	0.5 days

7.2.2 CAD Collaboration

Indicative quantities are given in section 11.

The related DET procedure: [Procedure for the design office activities related to CAD Data Exchange Task \(2NCULZ\)](#)

The templates to be used:

DET template forms are available per organization:

[Data Exchange Task \(DET\) Template for CNDA \(QCJJC3\)](#)

[Data Exchange Task \(DET\) Template for EUDA \(QEYFY\)](#)

[Data Exchange Task \(DET\) Template for INDA \(QB542S\)](#)

[Data Exchange Task \(DET\) Template for IO \(QPY8YS\)](#)

[Data Exchange Task \(DET\) Template for JADA \(QCLB83\)](#)

[Data Exchange Task \(DET\) Template for KODA \(QD3URB\)](#)

[Data Exchange Task \(DET\) Template for RFDA \(QE6CMP\)](#)

[Data Exchange Task \(DET\) Template for USDA \(QEFEUP\)](#)

A how-to describes how to fill the form: [How to fill a DER – plus the DET process \(25MAL5\)](#)

WU type	Name/ Scope	WU Criteria	Input	Deliverables	Estimated duration (Hours)	Maximum time of delivery from raising ticket
I.1	16	<ul style="list-style-type: none"> - Low volume of data on asynchronous export - Low volume synchronous for both directions of the exchange - Async. Export where the dataset is provided by the requestor / DECO 	<ul style="list-style-type: none"> - DER acknowledgement including Exchange request input data. - DET Entry registered in the DET Logs 	<ul style="list-style-type: none"> - DET Logs updated with attributes and history - DET form completed with auxiliary documents - Archive of communications - DET BOMs, with comparison checks - zipped data set for the asynchronous exchange. 	3.5	3 days

<p>I.2</p>	<p>CAD exchange: DET execution – Cat.2</p>	<ul style="list-style-type: none"> - Mid-size volume of data on async. export - Large sync. context export/import - DET with data identification not supported by precise information 	<ul style="list-style-type: none"> - DER acknowledgement including Exchange request input data. - DET Entry registered in the DET Logs 	<ul style="list-style-type: none"> - DET Logs updated with attributes and history - DET form completed with auxiliary documents - Archive of communications - DET BOMs, with comparison checks - zipped data set for the asynchronous exchange. 	<p>11</p>	<p>3 days</p>
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7.2.3 CAD catalogues production

Indicative quantities are given in section 11.

Based on Tickets assign to contractor from the [3D Catalogue Request Tickets](#) , Produce or modify CATIA Plant Catalogue to fulfil ticket request.

Based on evolution or modification of the Plant CAD Standard Part contingency, Update the relevant documentation under [01 PLANT Catalogue Documentation](#) which include *description sheet* for each standard part family and catalogue browser for each discipline (ex: [Piping Equipment Catalogue Browser \(2EYYKE\)](#))

Associated user guides :

[00 – Standard components catalogue supply \(436B5D\)](#)

[01 – 3D Catalogue Request management \(439XB9\)](#)

[02 – Standard components CAD and documentation production \(2EWCHG\)](#)

[03 – Catalogue publication \(453QNZ\)](#)

WU type	Name / Scope	WU Criteria	Input	Deliverables	Estimated duration (Hours)	Maximum time of delivery from raising ticket
J.1	CAD Catalogue production	See tickets examples in Appendix A	CAD Catalogue ticket	- CAD Family of part and associated documentation created	24	10 days
J.2	CAD catalogue maintenance	See tickets examples in Appendix A	CAD Catalogue ticket	- CAD Family of part and associated documentation updated	4	5 days

8 Input Data

Input data are defined per type of Work-units in section 7.

9 Responsibilities

9.1 IO Responsibilities

IO shall assign one IO representative, to work as sole Contractor interface.

The IO representative will assess the performance and quality of the work.

The IO representative shall be responsible for checking the deliverables against requirements, schedule the processes (including CAD).

IO shall make available to the Contractor all technical data and documents which the Contractor requires to carry out its obligations pursuant to this specification in a timely manner. For delays of more than two weeks in making them available, the Contractor shall advise IO representative of the potential impact on the delivery of the Work Packages, to agree and define all the correction actions to take in place.

9.2 Contractor's responsibilities

The Contractor shall guaranty the efficient coordination of the services

The Contractor shall appoint a Single Point of Contract (SPOC) & 3 Team Leaders (a. CATIA/ENOVIA, b. AVEVA and c. Processes – See section 7) for the entire duration of the Contract.

The SPOC and the team leaders could be part of the team that is performing the services or dedicated resources appointed by the contractor.

In case of replacement, the contractor shall be responsible to:

- Guarantee a timely replacement of the resource with a profile of similar capabilities / skills;
- Guarantee an overlap of at least 2 months between the incumbent and the new resource.

These resources shall be the sole responsible for the communication between the IO TRO and the Contractor's staff related to the tasks to be performed, raise any issues encountered in the performance of the services and provide regular reporting on the overall execution services to the IO TRO.

For the rest of the resources performing the services, their contribution shall be for a maximum duration of three (3) years on IO's site, the contractor is solely responsible for their replacement guaranteeing the same level of skills as the replaced profile and a minimum overlap of 20 working days for hand over and transfer of knowledge.

The Contractor shall ensure that he complies with the provisions of the Contract in particular with the following:

- The Contractor shall guaranty that all input information provided to perform the task remain property of IO and shall not be used for any other activity than the one specified in this specification.
- The Contractor shall be in charge of the training & coaching of all its resources.
- The contractor shall provide an organization suitable to perform the work as describe in this specification, ensuring in particular the correct ramp-up during the overlapping period (Phase 1)
- The contractor shall work in accordance with the QA plan approved by IO;
- The contractor shall perform the activities accordingly to this specification taking into account all relevant additional documents and IO processes into account (hand books, export control, intellectual properties, ...); The Contractor shall be responsible to produce and manage, using the ITER software platform, all the documents listed in chapter 8.

Prior to the start of work on each activity, the Contractor shall review the input technical information provided to it by IO for completeness and consistency, and shall advise the IO representative of any deficiencies it may find. The contractor shall not be responsible for errors in the input technical information which could not be reasonably detected during such review; duration of this review will be agreed between Contractor and IO representative and will have no impact on the delivery schedule.

10 Work Monitoring

The Contractor will provide a monthly report of its activities highlighting in particular:

- Consumption of Work-units
- Average, shorter and longer time of implementation per type of Work-units
- Possible issues
- Possible proposals for improvements

Schedule is defined according to the requirements stated in section 10 and the individual requests of Work-units.

The Contractor has to maintain a detailed schedule of the Work-units launched and planned. This schedule should be permanently available and will be the basis for the TRO to define possible priorities

11 Estimated Volume of Deliverables (Work-Units)

11.1 Firm part

The table below provides the indicative quantities for the full 12 month period

WU type	Name/Scope	Estimated duration (Hours)	Maximum time of delivery	Indicative quantity
A.1	CATIA/ENOVIA Cursory Check	1	4 hours	100
A.2	CATIA/ENOVIA Cursory Check	4	1 day	10
A.3	CATIA/ENOVIA Cursory Check	8	2 days	5
A.4	AVEVA QA Check in E3D	0.5	0.5 days	60
A.5	2D-3D Coherency Check	0.5	0.5 days	60
A.6	Light check before promotion	0.5	4 hours	60
B.1	Promotion	0.5	4 hours	60
B.2	Promotion	1.5	1 day	2,239
B.3	Remote Promotion	1	1 day	60
B.4	Remote Promotion	3	2 days	100
C.1	Context branch update	0.1	4 hours	500
C.2	Context branch update	0.5	1 day	5,000
D.1	Context definition	1	1 day	2,500
D.2	3DXML context creation from ENOVIA	4	1.5 days	262
D.3	3DXML context creation from ENOVIA	2	1.5 days	20
D.4	3DXML context in batch mode from ENOVIA	1	0.5 day	500
D.5	3DXML context creation from ENOVIA	0.5	0.5 days	50
D.6	3DXML context creation from AVEVA	1	0.5 days	20
D.7	3DXML context creation from AVEVA	2	1 day	50
D.8	3DXML context creation from AVEVA with macro	1	0.5 days	20
D.9	ENOVIA context update from AVEVA	0.5	0.5 days	840
D.10	ENOVIA context update from AVEVA	1.5	0.5 days	60
D.11	CM update from AVEVA data	2	0.5 days	60
D.12	CM update in AVEVA	2	0.5 days	60
E.1	DECO preparation of CAD Exchange – Design data	1	1 day	100
E.2	DECO preparation of CAD Exchange – Context data	0.5	1 day	250
F.1	Meeting attendance (as DECO representative)	1	N/A	500
F.2	Meeting attendance (as DECO representative)	2	N/A	20
G.1	CAD Data QA correction	2	1 day	100
G.2	CAD integration correction / update	8	2 days	100
G.3	Data collection, reporting and coaching	40	6 days	25
G.4	AVEVA QA Correction for PIPE in E3D	1	0.5 days	100
G.5	AVEVA QA Correction for EQUI in E3D	0.5	0.5 days	40
G.6	AVEVA QA Correction for Support in E3D	2	0.5 days	40
G.7	AVEVA Support Drawing Clean	1	0.5 days	40

H.1	New ENOVIA Tree structure	0.5	4 hours	1,000
I.1	CAD exchange: DET execution – Cat.1	3.5	3 days	50
I.2	CAD exchange: DET execution – Cat.2	11	3 days	50
J.1	CAD Catalogue production	24	10 days	30
J.2	CAD catalogue maintenance	4	5 days	21
K.1	SMDD input data QA check	0.5	0.5 days	10
K.2	SMDD input data QA check and correction not using	1	0.5 days	32
K.3	SMDD input data QA check and correction using tools	0.5	0.5 days	30
K.4	Document upload in SMDD not using tools (macro /	0.5	0.5 days	20
K.5	Document upload in SMDD using tools (macro / batch)	0.5	0.5 days	20

Should the Task quantities listed above and the associated deliverables be adjusted in content and priority, ITER and the Contractor shall arbitrate together in order to reach appropriate measures. The changes and decisions shall be recorder and formalized (e.g. using minutes of meetings).

All documents shall be submitted in English.

11.2 Option 1

The table below provides the indicative quantities for the full 4 month period

WU type	Name/Scope	Estimated duration (Hours)	Maximum time of delivery	Indicative quantity
A.1	CATIA/ENOVIA Cursory Check	1	4 hours	45
A.2	CATIA/ENOVIA Cursory Check	4	1 day	5
A.3	CATIA/ENOVIA Cursory Check	8	2 days	2
A.4	AVEVA QA Check in E3D	0.5	0.5 days	17
A.5	2D-3D Coherency Check	0.5	0.5 days	17
A.6	Light check before promotion	0.5	4 hours	17
B.1	Promotion	0.5	4 hours	17
B.2	Promotion	1.5	1 day	1050
B.3	Remote Promotion	1	1 day	27
B.4	Remote Promotion	3	2 days	45
C.1	Context branch update	0.1	4 hours	228
C.2	Context branch update	0.5	1 day	2285
D.1	Context definition	1	1 day	1150
D.2	3DXML context creation from ENOVIA	4	1.5 days	110
D.3	3DXML context creation from ENOVIA	2	1.5 days	9
D.4	3DXML context in batch mode from ENOVIA	1	0.5 day	220
D.5	3DXML context creation from ENOVIA	0.5	0.5 days	22
D.6	3DXML context creation from AVEVA	1	0.5 days	9

D.7	3DXML context creation from AVEVA	2	1 day	22
D.8	3DXML context creation from AVEVA with macro	1	0.5 days	9
D.9	ENOVIA context update from AVEVA	0.5	0.5 days	380
D.10	ENOVIA context update from AVEVA	1.5	0.5 days	27
D.11	CM update from AVEVA data	2	0.5 days	27
D.12	CM update in AVEVA	2	0.5 days	27
E.1	DECO preparation of CAD Exchange – Design data	1	1 day	45
E.2	DECO preparation of CAD Exchange – Context data	0.5	1 day	115
F.1	Meeting attendance (as DECO representative)	1	N/A	230
F.2	Meeting attendance (as DECO representative)	2	N/A	9
G.1	CAD Data QA correction	2	1 day	45
G.2	CAD integration correction / update	8	2 days	45
G.3	Data collection, reporting and coaching	40	6 days	12
G.4	AVEVA QA Correction for PIPE in E3D	1	0.5 days	45
G.5	AVEVA QA Correction for EQUI in E3D	0.5	0.5 days	20
G.6	AVEVA QA Correction for Support in E3D	2	0.5 days	18
G.7	AVEVA Support Drawing Clean	1	0.5 days	18
H.1	New ENOVIA Tree structure	0.5	4 hours	460
I.1	CAD exchange: DET execution – Cat.1	3.5	3 days	22
I.2	CAD exchange: DET execution – Cat.2	11	3 days	23
J.1	CAD Catalogue production	24	10 days	14
J.2	CAD catalogue maintenance	4	5 days	10
K.1	SMDD input data QA check	0.5	0.5 days	10
K.2	SMDD input data QA check and correction not using	1	0.5 days	15
K.3	SMDD input data QA check and correction using tools	0.5	0.5 days	15
K.4	Document upload in SMDD not using tools (macro /	0.5	0.5 days	10
K.5	Document upload in SMDD using tools (macro / batch)	0.5	0.5 days	10

Should the Task quantities listed above and the associated deliverables be adjusted in content and priority, ITER and the Contractor shall arbitrate together in order to reach appropriate measures. The changes and decisions shall be recorder and formalized (e.g. using minutes of meetings).

All documents shall be submitted in English.

11.3 Option 2

The table below provides the indicative quantities for the full 4 month period

WU type	Name/Scope	Estimated duration (Hours)	Maximum time of delivery	Indicative quantity
A.1	CATIA/ENOVIA Cursory Check	1	4 hours	45

A.2	CATIA/ENOVIA Cursory Check	4	1 day	5
A.3	CATIA/ENOVIA Cursory Check	8	2 days	2
A.4	AVEVA QA Check in E3D	0.5	0.5 days	17
A.5	2D-3D Coherency Check	0.5	0.5 days	17
A.6	Light check before promotion	0.5	4 hours	17
B.1	Promotion	0.5	4 hours	17
B.2	Promotion	1.5	1 day	1050
B.3	Remote Promotion	1	1 day	27
B.4	Remote Promotion	3	2 days	45
C.1	Context branch update	0.1	4 hours	228
C.2	Context branch update	0.5	1 day	2285
D.1	Context definition	1	1 day	1150
D.2	3DXML context creation from ENOVIA	4	1.5 days	110
D.3	3DXML context creation from ENOVIA	2	1.5 days	9
D.4	3DXML context in batch mode from ENOVIA	1	0.5 day	220
D.5	3DXML context creation from ENOVIA	0.5	0.5 days	22
D.6	3DXML context creation from AVEVA	1	0.5 days	9
D.7	3DXML context creation from AVEVA	2	1 day	22
D.8	3DXML context creation from AVEVA with macro	1	0.5 days	9
D.9	ENOVIA context update from AVEVA	0.5	0.5 days	380
D.10	ENOVIA context update from AVEVA	1.5	0.5 days	27
D.11	CM update from AVEVA data	2	0.5 days	27
D.12	CM update in AVEVA	2	0.5 days	27
E.1	DECO preparation of CAD Exchange – Design data	1	1 day	45
E.2	DECO preparation of CAD Exchange – Context data	0.5	1 day	115
F.1	Meeting attendance (as DECO representative)	1	N/A	230
F.2	Meeting attendance (as DECO representative)	2	N/A	9
G.1	CAD Data QA correction	2	1 day	45
G.2	CAD integration correction / update	8	2 days	45
G.3	Data collection, reporting and coaching	40	6 days	12
G.4	AVEVA QA Correction for PIPE in E3D	1	0.5 days	45
G.5	AVEVA QA Correction for EQUI in E3D	0.5	0.5 days	20
G.6	AVEVA QA Correction for Support in E3D	2	0.5 days	18
G.7	AVEVA Support Drawing Clean	1	0.5 days	18
H.1	New ENOVIA Tree structure	0.5	4 hours	460
I.1	CAD exchange: DET execution – Cat.1	3.5	3 days	22
I.2	CAD exchange: DET execution – Cat.2	11	3 days	23
J.1	CAD Catalogue production	24	10 days	14
J.2	CAD catalogue maintenance	4	5 days	10
K.1	SMDD input data QA check	0.5	0.5 days	10
K.2	SMDD input data QA check and correction not using	1	0.5 days	15

K.3	SMDD input data QA check and correction using tools	0.5	0.5 days	15
K.4	Document upload in SMDD not using tools (macro /	0.5	0.5 days	10
K.5	Document upload in SMDD using tools (macro / batch)	0.5	0.5 days	10

Should the Task quantities listed above and the associated deliverables be adjusted in content and priority, ITER and the Contractor shall arbitrate together in order to reach appropriate measures. The changes and decisions shall be recorder and formalized (e.g. using minutes of meetings).

All documents shall be submitted in English.

11.4 Option 3

The table below provides the indicative quantities for the full 4 month period

WU type	Name/Scope	Estimated duration (Hours)	Maximum time of delivery	Indicative quantity
A.1	CATIA/ENOVIA Cursory Check	1	4 hours	45
A.2	CATIA/ENOVIA Cursory Check	4	1 day	5
A.3	CATIA/ENOVIA Cursory Check	8	2 days	2
A.4	AVEVA QA Check in E3D	0.5	0.5 days	17
A.5	2D-3D Coherency Check	0.5	0.5 days	17
A.6	Light check before promotion	0.5	4 hours	17
B.1	Promotion	0.5	4 hours	17
B.2	Promotion	1.5	1 day	1050
B.3	Remote Promotion	1	1 day	27
B.4	Remote Promotion	3	2 days	45
C.1	Context branch update	0.1	4 hours	228
C.2	Context branch update	0.5	1 day	2285
D.1	Context definition	1	1 day	1150
D.2	3DXML context creation from ENOVIA	4	1.5 days	110
D.3	3DXML context creation from ENOVIA	2	1.5 days	9
D.4	3DXML context in batch mode from ENOVIA	1	0.5 day	220
D.5	3DXML context creation from ENOVIA	0.5	0.5 days	22
D.6	3DXML context creation from AVEVA	1	0.5 days	9
D.7	3DXML context creation from AVEVA	2	1 day	22
D.8	3DXML context creation from AVEVA with macro	1	0.5 days	9
D.9	ENOVIA context update from AVEVA	0.5	0.5 days	380
D.10	ENOVIA context update from AVEVA	1.5	0.5 days	27
D.11	CM update from AVEVA data	2	0.5 days	27
D.12	CM update in AVEVA	2	0.5 days	27
E.1	DECO preparation of CAD Exchange – Design data	1	1 day	45

E.2	DECO preparation of CAD Exchange – Context data	0.5	1 day	115
F.1	Meeting attendance (as DECO representative)	1	N/A	230
F.2	Meeting attendance (as DECO representative)	2	N/A	9
G.1	CAD Data QA correction	2	1 day	45
G.2	CAD integration correction / update	8	2 days	45
G.3	Data collection, reporting and coaching	40	6 days	12
G.4	AVEVA QA Correction for PIPE in E3D	1	0.5 days	45
G.5	AVEVA QA Correction for EQUI in E3D	0.5	0.5 days	20
G.6	AVEVA QA Correction for Support in E3D	2	0.5 days	18
G.7	AVEVA Support Drawing Clean	1	0.5 days	18
H.1	New ENOVIA Tree structure	0.5	4 hours	460
I.1	CAD exchange: DET execution – Cat.1	3.5	3 days	22
I.2	CAD exchange: DET execution – Cat.2	11	3 days	23
J.1	CAD Catalogue production	24	10 days	14
J.2	CAD catalogue maintenance	4	5 days	10
K.1	SMDD input data QA check	0.5	0.5 days	10
K.2	SMDD input data QA check and correction not using	1	0.5 days	15
K.3	SMDD input data QA check and correction using tools	0.5	0.5 days	15
K.4	Document upload in SMDD not using tools (macro /	0.5	0.5 days	10
K.5	Document upload in SMDD using tools (macro / batch)	0.5	0.5 days	10

Should the Task quantities listed above and the associated deliverables be adjusted in content and priority, ITER and the Contractor shall arbitrate together in order to reach appropriate measures. The changes and decisions shall be recorder and formalized (e.g. using minutes of meetings).

All documents shall be submitted in English.

12 Acceptance Criteria

The overall implementation of these services is described under: [ITER_D_XZFZFY - How To - Use of Transversal Plateaus](#)

All deliverable shall be reviewed in the IO system:

- JIRA for tickets:
<https://jira.iter.org/secure/RapidBoard.jspa?rapidView=10063&projectKey=CEQAC>
- IDM for relevant output
- ENOVIA for relevant output

An IDM/DWM folder to store the input and related output will be specified at the kick-off of each activity.

The process of acceptance is driven by IO internal process of approval, until this process is completed, modifications can be requested of the Contractor. The IO approval process involves all the interfacing system concerned.

The form of deliverable is according to the formalized in Section 11. Any deviations, if not previously agreed, may lead to the deliverable being refused.

A BOM of the CAD data produced and used as context in the frame of Task (when required) shall be delivered by the contractor identifying the delivered life cycle state of the data.

The Acceptance of the CAD data will be performed by the IO-DO in accordance with the promotion process ([Procedure for the Promotion of CAD Data from In-Work to Draft Status \(28LVHH\)](#)) and the criteria as defined in CAD Requirements & Deliverables Relative to Functional Design Milestone (P49NTN).

The maximum time for IO acceptance / comments is 20 working days after the storage (+IDM email) of the deliverables Acceptance Sheet in IDM. After this period if no action has been performed by the IO, the deliverable shall be considered as accepted.

Non-CAD deliverables (graphics, Powerpoint Documents, etc) will be reviewed upon delivery by the IO RO/RE and will be accepted if compliant with the requirements advised by the RO at the start of the task, all these document shall follow a IDM workflow.

In case of non-compliance / conformity of a deliverable or a set of deliverables, the Contractor shall correct them and re-submit them for review and acceptance; resubmission shall be at contractor's cost.

13 Payment Conditions, and Liquidated Damages

13.1 Payments

Payments will be subject to the completion of the Work Units requested to the Contractor in any given month. At the end of the month, the contractor shall deliver an Acceptance Delivery Sheet listing all completed Work Units, this list will constitute the basis of the invoice.

13.2 Liquidated damages

The contract shall be implemented using Work Units launched by the IO Design Office. The Contractor’s performance shall be assessed on their ability to solve the Work units during the implementation and delivery times as per sections 7.2.1, 7.2.2 and 7.2.3 of this document.

The Contractor’s performance shall be assessed every month based on the abstract of the IO’s internal ticket system. IO will compare the tickets launched solving time against the actual tickets solved time for the given month via the reporting of the ticket system (the link to the ticket system shall be provided at Contract Signature).

Failure to deliver the completed ticket within the maximum time of delivery as per Sections 7.2.1, 7.2.2 and 7.2.3 of the Technical Specification shall result in the application of Liquidated Damages (LD) as follows:

WU type	Name/Scope	Estimated duration for completion of WU (Days)	Max. time for delivery of completed WU (Days)	Application of liquidated damages of 25% if WU not delivered by (Days)	Application of liquidated damages of 50% if WU not delivered by (Days)
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14 IO CAD requirements

The Contractor shall ensure that all designs, CAD data and drawings delivered to IO comply with the [Procedure for the Usage of the ITER CAD Manual \(2F6FTX\)](#).

The reference scheme is for the Contractor to work in a fully synchronous manner on the ITER CAD platform (see detailed information about synchronous collaboration in the [Specification for CAD data Production in ITER direct contracts \(P7Q3J7\)](#).

This implies the usage of the CAD software versions as indicated in [CAD Manual 07 - CAD Fact Sheet \(249WUL\)](#) and the connection to one of the ITER project CAD data-bases. Any deviation against this requirement shall be defined in a Design Collaboration Implementation Form (DCIF) prepared and approved by DO and included in the all-for-tender package. Any cost or labour resulting from a deviation or non-conformance of the Contractor with regards to the CAD collaboration requirement shall be incurred by the Contractor itself.

[CAD Requirements & Deliverables Relative to Functional Design Milestone \(P49NTN\)](#) introduces CAD methodologies and details on required CAD deliverables for deliverable based Task aiming at Functional Design stage completion. **The non-respect of these requirements can lead to withhold of deliverable acceptance.**

On the top of the software listed in the documents above, the contractor shall be able to perform activities using the following software:

- CATIA Equipment and system modules
- SSD
- AVEVA suite (E3D, Diagrams and AVEVA ENG)
- SpaceClaim
- AutoCAD

15 Specific requirements and conditions

The contractor shall ensure:

15.1 Resources availability:

The main part of the contractual scope is related to CATIA / ENOVIA, and due to the criticality of the tasks and the expertise required contractor shall be able to provide:

- Minimum 4 PBSAs as part of the main team
- Minimum 1 DESA with more than 6 months experience as DESA as back-up

Aiming at covering the AVEVA QA/QC actions, the contractor shall be able to provide:

- Minimum 1 user with 1 years' experience in AVEVA E3D
- Minimum 1 user with 6 months' experience in AVEVA Diagram

15.2 Conflict of interest:

- As part of the tasks consists of CAD data checking on behalf of IO, the contractor shall not be involved in any other CAD activity for the IO.
- The contractor selected will be disqualified from any other CAD task for the IO.

16 Quality Assurance (QA) requirement

16.1 Overview

The Contractor should have ISO 9001 accredited quality system. Otherwise the Contractor shall have QA Program approved by the IO.

The general requirements are detailed in [ITER Procurement Quality Requirements \(ITER_D_22MFG4\)](#).

Prior to commencement of the work, a Quality Plan which complies with [Procurement Requirements for Producing a Quality Plan \(ITER_D_22MFMW\)](#) shall be submitted to IO for approval with evidence of the above. The Contractor's Quality Plan shall describe the organisation for tasks; roles and responsibilities of workers involved in; any anticipated sub-contractors; and giving details of who are the independent checkers of the activities.

Where any deviation is requested or non-conformity has happened from the Technical Specification, Contractors Deviations and Non Conformities the [ITER Requirements Regarding Contractors Deviations and Non Conformities \(ITER_D_22F53X\)](#) shall be followed.

Documentation developed as the result of this task shall be retained by the Contractor of the task for a minimum of five (5) years and then may be discarded at the direction of the IO.

IO will monitor implementation of the Contract's Quality Plan. Where necessary, IO will assess the adequacy and effectiveness of the quality system specified in the Quality Plan through surveillance or audit. Where condition adverse to quality is found during monitoring, IO may request to the Contractor to take corrective action.

The use of computer software to perform a safety basis task activity such as analysis and/or modelling, etc. shall be reviewed and approved by the IO prior to its use, in accordance with [Quality Assurance for ITER Safety Codes \(ITER_D_258LKL\)](#). Where applicable, [Software Qualification Policy \(KTU8HH v1.2\)](#) shall be taken into consideration to ensure quality and integrity of software prior to application.

16.2 Task classification

Quality Class for this Activity according to [Quality Classification Determination](#): QC3

17 Safety requirements

ITER is a Nuclear Facility identified in France by the number-INB-174 (“Installation Nucléaire de Base”).

For Protection Important Components and in particular Safety Important Class components (SIC), the French Nuclear Regulation must be observed, in application of the Article 14 of the ITER Agreement.

In such case the Suppliers and Subcontractors must be informed that:

- The Order 7th February 2012 applies to all the components important for the protection (PIC) and the activities important for the protection (PIA).
- The compliance with the INB-order must be demonstrated in the chain of external contractors.
- In application of article II.2.5.4 of the Order 7th February 2012, contracted activities for supervision purposes are also subject to a supervision done by the Nuclear Operator.

For the Protection Important Components, structures and systems of the nuclear facility, and Protection Important Activities the contractor shall ensure that a specific management system is implemented for his own activities and for the activities done by any Supplier and Subcontractor following the requirements of the Order 7th February 2012 [20] (Please refer to [ITER_D_4EUQFL - Overall supervision plan of external interveners chain for Protection Important Components, Structures and Systems and Protection Important Activities](#)).