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MQP Level 2

Design Interface Control Procedure

The purpose of this document is to define the process to identify interfaces, define the interface requirements, develop interface solutions, and control the related interface documentation.

Approval Process			
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Change Log			
Design Interface Control Procedure (28VNJG)			
Version	***Latest Status***	***Issue Date***	***Description of Change***
v1.0	Approved	10 Oct 2007	This procedure describes the methods and procedures for the preparation and management of System Interface Control Document and for the management of the interfaces of each ITER system throughout the life cycle of the project.
v1.1	In Work	29 Apr 2008	This procedure describes the methods and procedures for the preparation and management of System Interface Control Document and for the management of the interfaces of each ITER system throughout the life cycle of the project.
v1.2	Signed	07 Jul 2008	This procedure describes the methods and procedures for the preparation and management of System Interface Control Document and for the management of the interfaces of each ITER system throughout the life cycle of the project.
v1.3	Approved	08 Dec 2008	
v1.4	Signed	25 May 2010	Changed procedure title and modified templates for ICD and IS Added the process for modifying ICT and clarified templates of ICD and IS Added requirements for tracking the design interfaces Simplified the procedural requirements.
v1.5	In Work	24 Jun 2010	Changed procedure title and modified templates for ICD and IS. Added the process for modifying ICT and clarified templates of ICD and IS. Added requirements for tracking the design interfaces. Simplified the procedural requirements. Corrected typographical errors.
v1.6	In Work	09 Jul 2010	Simplifed overall process flow for creation and withdraw of interfaces
v2.0	In Work	20 Sep 2010	The standard templates for ICD and IS are separeted from the procedure in order to simpltfy the preapration of the documents. The links for thr templates are shown in the procedure.
v2.1	Signed	08 Oct 2010	Incorporate the comments of DIP expert for managing the Internal interface.
v3.0	Approved	01 Apr 2011	Revised for incorporate to clarify relationship among ICD, IS, IP and IR. to simplify process and definitions. to define the requirements for developing the milestones with maturity of ISs.
v3.1	In Work	01 Jun 2012	- Clarify the definition of IR(Interface Requirement) - Section 3. - Modify review and approval process according to QA comments.- Section 5.
v3.2	In Work	07 Jun 2012	- Clarify the definition of IR(Interface Requirement) - Section 3. - Modify review and approval process according to QA comments.- Section 5. - To comply with the IO official template for MQP proecedure.
v3.3	Signed	21 Jun 2016	1. Converted in the MQP procedure template 2. Added the requirement that every Applicable Document referred in ICD and IS must have the version number 3. Added the requirement of consistency between ICD and IS 4. Refined the rules for ICD/IS/IDS numbering and naming 5. Clarified and refined the roles and responsibilities in the interface work process 6. Added the requirement for ICD/IS/IDS uploading process 7. Clarified and refined the process and roles for ICD/IS/IDS review 8. Added a new interface document type 'Interface Data Sheet' (which is already used in some Interface document) 9. Clarified the concept Interface Data Maturity 10. Refined some Definitions of terms

v3.4	Revision Required	22 Jun 2016	Clarified the Purpose of this procedure. The other change description is the same as v3.3
v3.5	Approved	05 Aug 2016	Updated to reflect the reviewers' comments (add the rules which really missing or need to be refined): 1. added the requirements about 'incomplete items that require further evaluation, review, or approval' 2. added the requirements about 'verifying IR' 3. added the requirements about when the ICD and IS shall be generated 4. refined the 'Definition of Interface Development Plan' 5. refined the titles and numbering level of Chapter 4 and Chapter 5, and add a new term 'Lead Interface RO' 6. refined the fonts, bullets and margin of paragraphs
v3.6	Signed	20 Jul 2017	The main changes include: To use the new approved MQP template v2.5 To add SIS as mandatory reviewer for every ICD/IS To add AM as mandatory reviewer for every ICD/IS To add DA reviewer for ICD/IS which impact DA PA(in case that the DA is in charge of the design activities) To add SRO as mandatory reviewer of ICD only for PIC and PIA To put ICD/IS under configuration control To move CMD co-author to reviewer for every ICD/IS To add staged approach requirement To add requirement on GBS number for IS To add requirement on PBS identifier for IS To add requirement on PA or design contract number for IS To clarify the requirement of maturity status To clarify the consistency between ICD and IS To add requirement that all IR of one interface point should put in one IS To add requirement of IDD To use the MS-Visio to make the flow chart To add the procedure tree structure To refine some words expression
v3.7	Approved	23 Aug 2017	1. Corrected the QAP version to 8.5 2. Added terminology of 'Design Developer' 3. Refined the IDD Requirements about 'Frozen'
v3.8	Approved	22 Oct 2018	according to approved MQP Doc request https://user.iter.org/?uid=X9WRAT, minor changes as follows: §3.1 Definition: - Addition of the definition of "Interface Point" for clarification among Interface Control stakeholders - Clarification on the definition of « IDD » §5.4 Requirements for the IS Development, Approval and Release (Point 9) - Addition of a requirement to add CMM reference in IS (answer to Panel Recommendation #1) §6.2.7 Interface maturity assessment before Manufacturing - New chapter (answer to Panel Recommendation #2)
v4.0	Signed	27 Nov 2019	New revision as per as per MQP doc Request - 2FGGTK (Re-Org needs Cat

			A and B). Main changes: - New overall document structure (taken into account the introduction of a complementary Level 3 Working Instruction) - Revision of the roles and responsibilities (introduction of the SIRO) - Introduction of the Interface Compliance Matrix
v4.1	Signed	04 Dec 2019	Implementation of reviewers comments.
v4.2	Approved	09 Dec 2019	Update as per comment on v4.1 (modification of chapter 6.1.5)
v5.0	Revision Required	08 Sep 2020	As per approved MQP doc request https://user.iter.org/?uid=3JBVDM there are no changes to the document but this review is to have DAs in the loop for impact assessment and make the documents Annex A PA AD through the MPA.
v5.1	Approved	13 Mar 2021	Chapter 4 : Addition of missing link to reference [6] Addition of reference [9] Chapter 6.1.3: Clarification that the Interface Requirements shall be fully defined at PDR Chapter 6.1.5: Clarification on configuration control of IS in the Technical Baseline and in PA Baselines Chapter 6.1.6: Clarification of the objectives of PDR in terms of Interface Control Chapter 7.2: Addition of a requirement (#5) related to the expected maturity of Interface Requirements at PDR Addition of a requirement (#7) related to CMM reference in IS Chapter 8: Modification of role “Interface ROs” to “PBS Interface TROs”
v5.2	Approved	08 Nov 2024	As per CCXW2M the changes are: - Several minor grammatical corrections across the document - Chapter “3.1 Definitions”: modification of the acronym for Interface Point (from IFP to IP) - Chapter “8 Roles and Responsibilities”: alignment with the new organization (new teams), change of approver for IS/ICD/ICM (from PFI Head to SIS Section Leader), clarification of the DA PBS RO reviewer role for IS
v5.3	Approved	16 Dec 2024	As per exchange CV9XNB the changes are: - Correction of typo linked to the reorganization (CIO -> CID in chapter 6.1.2, 6.1.4 and 6.1.6) - Clarification of the role and definition of the Interface Definition Document (IDD) in chapter 3.1, 6.1.4 and 6.2.3 - Removal of the SRO as mandatory reviewer of the ICD as per ITER_D_9JWFAZ - Adaptation of the SRO role in the review of project documents (chapter 8) - Removal of the Project leader of the Interfacing PBS as mandatory reviewer of the ICM (chapter 8)

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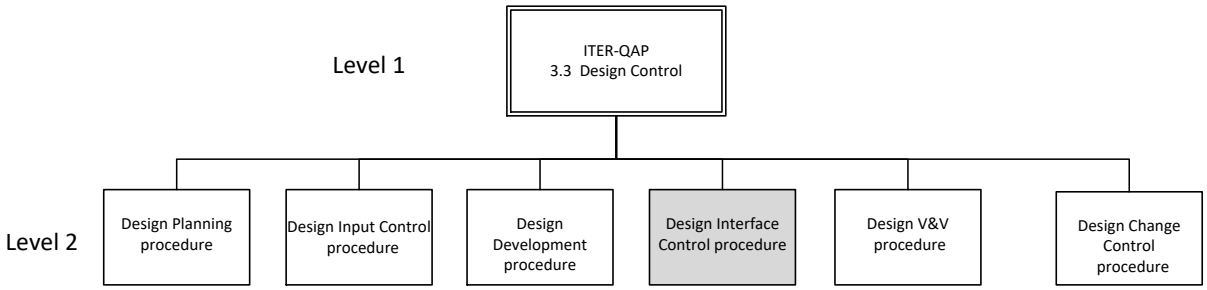
1 Purpose

The purpose of this MQP Level 2 procedure is to define the process to identify interfaces, define the interface requirements, develop interface solutions, and control the related interface documentation.

This procedure is a part of the Design Control Process and complies with the requirements stated in Chapter 3.3.4 Design Control of the parent document Quality Assurance Program [1].



2 Scope

This procedure is intended for managing any design interfaces (i.e. interfaces impacting the design of the systems) between different PBS nodes as shown in Figure 1. This procedure shall be used whenever the design of two interconnected systems is done in concurrent engineering by the two PBS nodes. In particular this procedure applies if the two interfacing PBS nodes are designed by two different design groups (e.g. 2 different sections or projects in the ITER Organization, or different PA's or contractors).

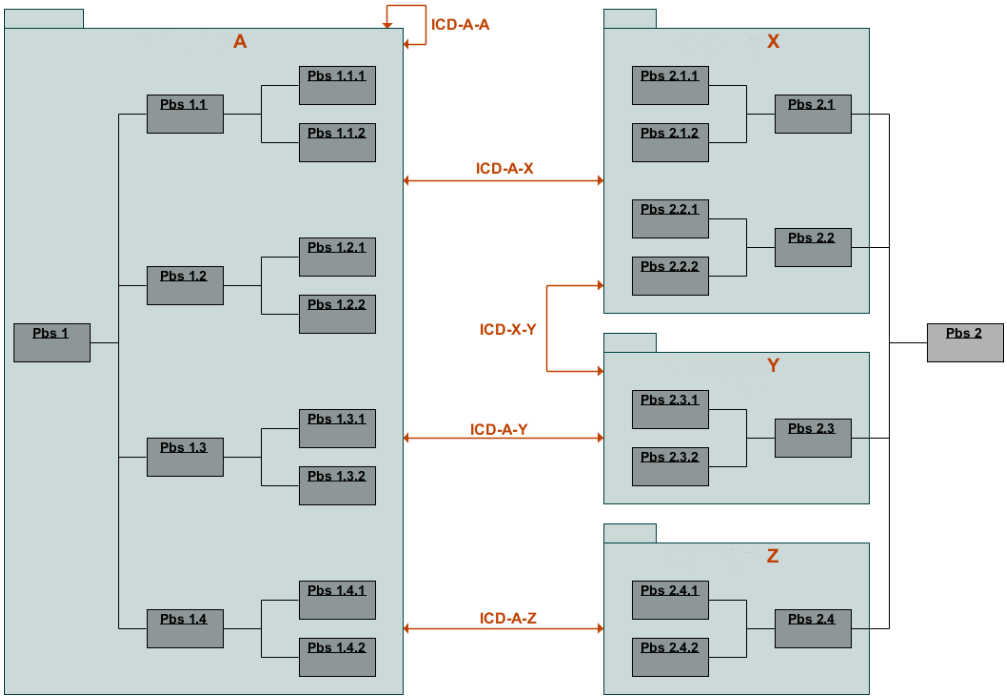


Figure 3.1-1 – Illustration of Interfaces between and within PBS nodes

3 Definitions and Acronyms

3.1 Definitions

1) **Product:** In this document, a Configuration Item, a System, sub-system or a component (a PBS node at any level).

2) **Interface:** The functional/logical relationship and physical characteristics required to exist between two or more products, one of which (or both) depends on to fulfil its functions or satisfy a constraint.

3) **Interface Point (IP):** a contact point between two interdependent interface stakeholders to which Interface Requirements apply. Groups of IPs may be considered and identified when the IPs share the same Interface Requirement types and the same Interface Development Plans.

4) **Interface Requirement (IR):** an interface requirement is a requirement to be respected by the two interfacing products in order to develop compatible design on both side of the interface. Interface requirement is cited in an Interface Sheet and is a set of parameters and values (with tolerances or margins) to be respected by the two interfacing products.

5) **Interface Control Document (ICD):** a document which contains the list and description of all identified Interfaces between a pair of interfacing products (the groups of IPs), the list of all related Interface Sheets and their associated Interface Development Plans.

6) **Interface Sheet (IS):** document recording the Interface Requirements at the Interface Points between two interfacing products.

7) **Interface Definition Document (IDD):** IDD is a generic term to identify design documents which implement interface requirements on one side of the interface. These design documents are produced by the Design Developer of one side of the interface during the design lifecycle of its product: production (and identification of IDD) is one of the step of the Interface definition (to be identified in the Interface Development Plan).

8) **Interface Compliance Matrix (ICM):** a document used to monitor and assess the evolution of the IR implementation into the system design and the justification of the achievement of the IR objective.

9) **Design developer (or Designer):** the entity in charge of the design activity (e.g., the IO or a DA in case of a Functional Specification or Detail Design PA)

3.2 Acronyms

CMAF	Configuration Model Approval Form
CMM	Configuration Management Model
CCB	Configuration Control Board
CID	Central Integration Division
DH	Division Head
DA	Domestic Agency
GBS	Geographical Breakdown Structure
ICD	Interface Control Documents
ICM	Interface Compliance Matrix
IDD	Interface Definition Document
IP	Interface Point
IR	Interface Requirement
IS	Interface Sheet
PA	Procurement Arrangement
PBS	Plant Breakdown System
PIA	Protection Important Activity
PIC	Protection Important Component
RO	Responsible Officer
SID	Science and Integration Division
SIRO	System Integration Responsible Officer
SIS	System Integration Section
SL	Section Leader
SRD	System Requirement Documents
SRO	Safety Responsible Officer
TRO	Technical Responsible Officer
UID	Unique Identifier

4 References Documents

[1] ITER_D_22K4QX - ITER Quality Assurance Program (QAP) v8.5
[2] ITER_D_2832CF - Design Review Procedure
[3] ITER_D_2EXFXU - Sign-Off Authority for Project Documents
[4] ITER_D_VH9352 - Commissioning Management Procedure
[5] ITER_D_X8KGJE - Working Instruction for Preparing Commissioning Plans and Test Procedures
[6] ITER_D_3L775F - Working Instruction for Interface Management
[7] ITER_D_33RGW2 - Standard Template for Interface Sheet
[8] ITER_D_3N88A7 - Standard Template for Interface Control Document
[9] ITER_D_2W4F7A - Procedure for the Preparation, Review, Approval, Award and Amendment of Procurement Arrangements

5 Purpose of the Interface Management

Interface Management activities (including Interface Control activities), are conducted to ensure the proper operation of systems that interface with one another.

Interface management is a set of activities integrated into the systems engineering process where:

- Responsibilities for the development of an interface shall be defined.
- All system interfaces shall be identified.
- Necessary interface requirements shall be clearly and completely defined
- Interfacing systems shall be designed to the same requirements
- Incompatibility issues shall be identified and resolved
- Changes made in one area of the system shall be checked for compatibility with other associated areas.

During the product development process, both Interfaces Requirements and Interfaces Definitions (design solution) go through several levels of maturity. The amount of control of both the interface requirements and definition shall increase as the interfacing products are being developed.

6 Interface Management Principles

6.1 Interface Management Process

6.1.1 Process Overview

The Figure 6.1-1 below provides an overview of the Interface Management main steps.

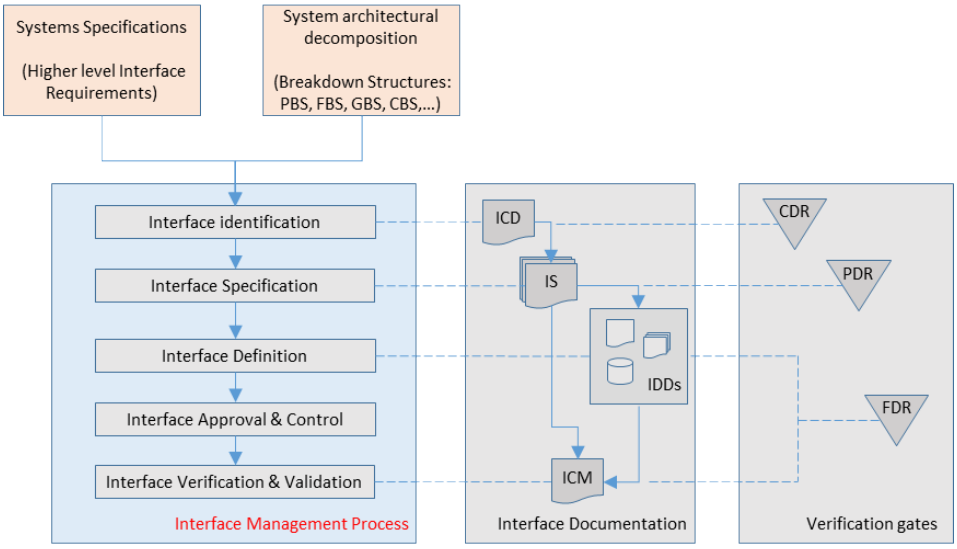


Figure 6.1-1: Overview of the Interface Management Process

Each step is detailed in the following paragraphs.

6.1.2 Interface Identification

The identification of the interfaces between systems begins during the development of the SRDs and is based on the Functional Analysis, on the System architecture definition and on the Configuration Items definition. Under the control of the Central Integration Division (CID), this is performed in the conceptual phase of the design to identify all other systems with which the system/structure to be developed have potential interfaces. This results in the creation and development of **Interface Control Documents** (ICD) between two interfacing systems, usually at the highest level of the Configuration Item (CI) hierarchy (at the same level than the SRDs). In the ICD, Interfaces are identified and **Interface Sheets** (IS) listed. The interface identification then carries on in each IS where all **Interface Points** between the two interfacing systems shall be identified and listed with their associated Interface Requirements (to the extent allowed by the maturity of both systems and depending on the nature of the interface points).

This step is performed starting from the conceptual design phases but shall be reviewed (and updated if necessary) in advance of each design phase in order to ensure an exhaustive identification of all Interface Points with respect to the most up to date design of both interfacing systems.

6.1.3 Interface Specification

Interface requirements specification is the process in which requirements for the identified interfaces are elicited and specified. The interface requirements on the identified interface are derived from the higher-level systems requirements baseline (mainly SRDs) and functional, physical and logical architectural decomposition (FBS, PBS, GBS, CBS trees). An Interface Requirement defines the functional and physical requirements and constraints that exist at a common boundary between two elements (configuration items, systems or components).

This step starts from the conceptual phase of the design and continues during the following design phases.

The output of the interface requirements specification process is documented in Interface Sheets (IS).

When both systems are designed concurrently, the Interface Requirements represents the agreement of the Design Developers of each interfacing systems on the requirements and/or constraints to be met at the Interface Points. This will evolve and refine over time as the design matures, but the Interface Requirements shall be fully defined at the start of the Final Design of the most advanced system. Therefore, the maturity of the IS shall be assessed before the Preliminary Design Review and updated if necessary in order to have them fully up to date and approved in the PDR input package.

When one system is considered as already existing (FDR passed, design completed, and manufacturing activities already begun), the Interface Requirements are driven by the design of the existing system. The IR are then mostly already defined in design documents of the existing system. The interfacing system is then bound (once the IS is approved) to comply with the design of the existing system. At this stage, a change to the Interface Requirements recorded in the IS can still occur in exceptional cases. However, since such a change might usually imply a major cost and schedule impact (change in the design of an existing system), it must be authorized at the appropriate level of authority (up to the DG, following the CCB-II assessment).

6.1.4 Interface Definition

Interface definition is the process of developing a design solution compliant with the applicable interface requirements that ensures compatibility between the involved products at the Interface Point.

The definition of an interface is the result of the design activities performed by the Design Developers of the two sides of the Interface Point, under coordination and control by the CID who is responsible for the interface as a whole.

The definition of the product at the Interface Point is provided by the Design Developer in the form of Design Documents (drawings, diagrams, calculation note, 3D models…) which are then considered as the Interface Definition Documents (IDD) for this Interface Point.

6.1.5 Interface Control (Configuration Control)

ITER Technical Baseline

IS and ICDs are made part of the ITER Technical Baseline (i.e. they are made **applicable**) as the design of the interfaced systems evolves. In addition to this, the IS become **Configuration Relevant documents** for the ITER Technical Baseline when the design definition of the interface is produced. The detailed rules are given below:

1. ICDs are made **applicable** at the latest at the CDR of the most advanced system
2. IS that specify design requirements are made **applicable** at the PDR of the first system that must respect these requirements
3. All IS are made **applicable**, and put **under configuration control** at the latest at the FDR of the most advanced system"

PA Baseline

For Functional Specification PA (and Detailed Design PA), IS are Applicable Documents listed in the Annex B (as they contain requirements to be implemented in the design).

As such, once the PA is signed and the PA Annex B baselined, an update of an IS that is considered applicable to the PA shall be notified to the DA through a **PA Change Notice** (PA-CN) in accordance with the Procedure for the Preparation, Review, Approval, Award and Amendment of Procurement Arrangements [9]. From there, the PA-CN is either accepted as is by the DA, or if it has potential impacts (on cost and/or schedule), the PA-CN is escalated to a PCR to claim for RF with justification.

Note: As the number of IS applicable to a given PA can be high, and to limit the number of PA-CN, it is highly recommended to group the update of several IS (if necessary) into one PA-CN. To do so, before submitting a PA-CN for an IS update, an overall assessment on all ISs applicable to that PA shall be performed (by the IO PA TRO, supported by the PBS TRO and SIRO) to identify potential need for update on other ISs.

6.1.6 Interface verification and validation

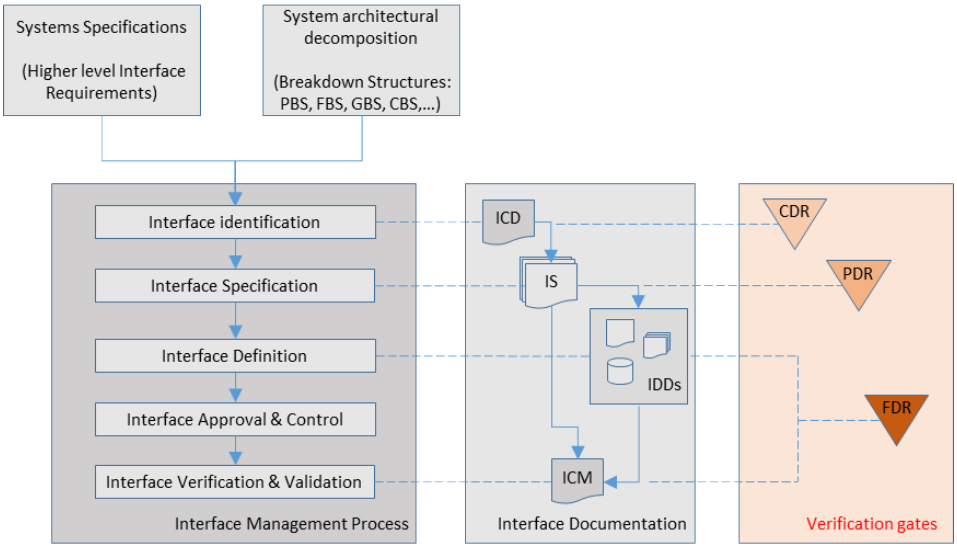


Figure 6.1-2: Interface Verification Gates

The verification process consists of four main activities:

1. Early verification of the completeness of the interfaces identification for a given System (including interfaces arising during design, manufacturing, construction, operation, maintenance…),
2. Early verification of compatibility of the ICD/IS with the interface requirements and higher-level systems requirements, resulting in an agreement between the two concerned systems on the nature, description and definition of the interface at the boundary between the two systems. This results in the signature by both parties of the ICD and the IS (part of the approval process)
3. Stand-alone demonstration of the compliance of one side of the interface with the detailed interface requirements documented in the IS. This is performed at the FDR using the ICM which links the IDDs (from the Design documentation package submitted by the Design Developer at the FDR) with the applicable IR.
4. Joint verification of the interface in terms of functions and performances, during the integration of the concerned systems, considering the verification requirements from higher levels. This is performed under the coordination of CID, with support from the Design Developers of the interfacing systems

Interface Verification is implemented through the System Design Reviews. In accordance with the Design Review Procedure [2], the objectives of the SDR in terms of Interface Control are the following:

- At the Conceptual Design Review (CDR): check that boundaries of the systems have been established, interfaces are properly and exhaustively identified (check the Interface Identification).
- At the Preliminary Design Review (PDR):
    - check that interfaces are fixed and that systems requirements are properly propagated into interface requirements in ICD and IS (check Interface Specification).

  - check that the Interfaces Requirements that are necessary to perform, or that have an impact, on the Final Design activities are fully defined (exhaustive and with appropriate maturity).
- At the Final Design Review (FDR): assess (by giving evidence through the ICM submitted at the FDR) that the proposed design outputs meet the design input requirements, and in particular the interfaces requirements documented in ICD and IS (check Interface Definition).

Interface Validation activities are integrated in the overall requirements management related to the preparation of System Commissioning Plans and Commissioning Test Procedures, in compliance with the Commissioning Management Procedure [4] and its related Working Instruction [5].

6.2 Interface Documentation

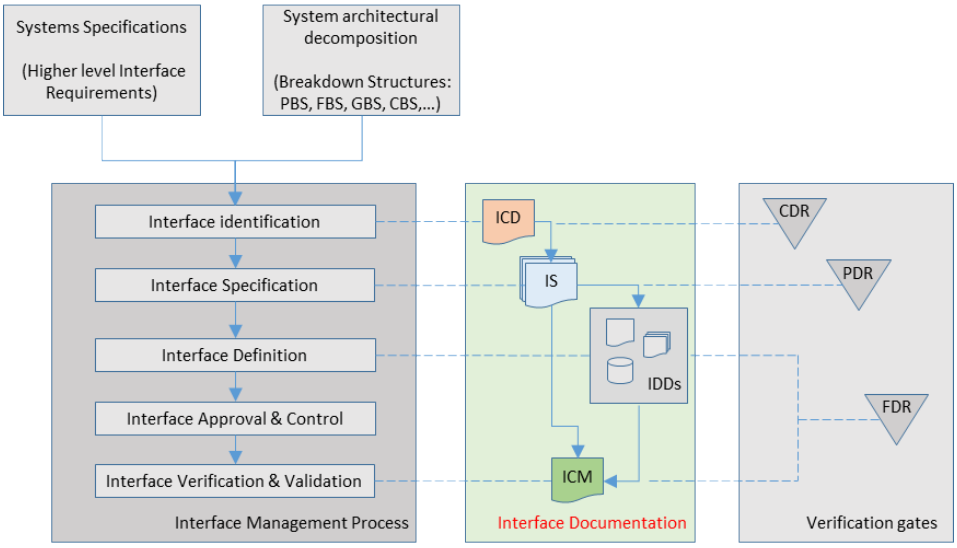


Figure 6.2-1: Overview of the Interface Documentation

Detailed instructions and requirements for the development of the Interface documentation are defined in a dedicated Working Instruction for Interface Management [6] and the related documents templates [7] [8].

6.2.1 Interface Control Document

The ICD is the core document to record the interfaces identification (see chapter 6.1.2). It is a living document (up to the FDR) which is populated and updated during the interface lifecycle. The ICD contains the definition of the interface documentation structure between the two products and contains then the list and description of all IS expected between the two products.

The ICD contains also the plan for the development of the Interface Sheets (containing the Interface Requirements at the Interfaces) and the responsibilities (requester/provider). This plan shall clearly state for each IS:

- What information/data is expected (with which level of accuracy)
- Who requests the information/data and who will provide it
- When the information/data is needed (associated to Design Phases)

- Why the data is needed (for which usage)

For the case of "One to Multiple" interfaces (interfaces involving one system on one side, the Service Provider, and several other systems on the other side, the Clients), the one-to-one ICDs can be replaced by a single ICD between the "Service Provider" and all the Clients. This ICD (initiated by the "Service Provider") shall describe the process and plan of data exchange with the clients (schedule for the expected IS delivery from the Clients).

6.2.2 Interface Sheet

The IS is the core document to record the interface specification (see chapter 6.1.3). The IS identifies (directly in the IS or in a referenced document or tool) the list of interfacing components (with functional reference number) and the full set of Interface Requirements at the Interface Points.

The IS applies to the entire interface (both sides of the interface). For each Interface Requirement, applicability for all involved actors shall be specified (i.e. one side or both sides of the interface).

The IS shall be a simple document containing only the required information (components identification, requirements, responsibilities…), with no unnecessary descriptions (which should belong to the System Design Description documents).

6.2.3 Interface Definition Document

Are considered as IDDs all the design documents that capture the design solution (interface definition, see chapter 6.1.4) which implements the Interface Requirements (recorded in the IS) on one side of the interface. They are unilateral design documents produced by the Design Developer of one side of the interface during the design lifecycle of its product. The identification of a design document being an IDD for a specific Interface Requirement is done in the ICM.

The role of the IDD is to:

- enable/facilitate the interface verification activities, i.e. the activities necessary to verify that the selected interface design solution (interface definition) complies with its requirements. The IDDs are the evidences used in the ICM to justify the correct implementation of the IR;
- allow separating the configuration control of the interface requirements and of the associated design solutions through the steps of evolution of both requirements and solutions;

Note: if the implementation of an Interface Requirement in the design of one side of the interface impose new requirements or constraints on the other side of the interface (narrowing down the "design space" of the interfacing Design Developer), then the Interface Requirements shall be updated in the Interface Sheet.

6.2.4 Interface Compliance Matrix

The ICM is a tool aiming at supporting the interface verification activities (see chapter 6.1.6). Similar to the Design Compliance Matrix for the requirements specified in the System Requirement Documents, the ICM enables the monitoring and assessment of the evolution of the IR implementation into the system design and the justification of the achievement of the IR objective.

The ICM lists all IR from the list of (approved) IS for a given scope of work submitted to a Final Design Review and records the status of the IR implementation and its justification achievement by linking the IR to specific IDDs (see chapter 6.2.3). Approved up-to-date ICMs shall be used to support the FDR process [2].

The ICM is also used to communicate the adopted design decisions of one side of the interface to the other (through the review of the ICM by the ROs of the interfacing systems).

7 Requirements

7.1 Interface Control Document requirements

1) The breakdown of the interface documentation into several IS shall take into consideration:
   - The Design lifecycle of the two interfacing products
     - ➢ It is recommended that the scope of the IS corresponds to the scope of the Design Reviews of the two interfacing systems to allow a better control of the interface specification and a better control of the compliance of the design with its Interface Requirements.

   - The contractual breakdown of the two products (Procurement Arrangements):
     - ➢ It is recommended that one IS doesn't cover more than two PAs (one on each side of the interface) to facilitate the interface requirements propagation into the design through the PAs.

2) All planned ICD shall be generated and approved before the first Design Review of either of the interfacing PBS.

3) For each ICD, the required interface information, requirements and data contained in each IS should be listed and refined step by step according to the logic of the different design or project maturity stage and status.

4) ICD shall be updated whenever a new interface is identified (which belong to the scope of the ICD) and which is not covered by any existing IS.

7.2 Interface Sheet requirements

1) The IS scope shall comply with its definition in the corresponding ICD.

2) The IS shall list all involved PBS (up to level 3) and the related involved PA (in relation to the PBS and/or interfacing components).

3) The IS shall list all Interfacing Points identifying both interfacing components with their Functional References, to the extent allowed by the maturity of both systems and depending on the nature of the interface. Interface Points shall be univocally identified through specific UID whenever necessary (see [6]).

4) The IS shall contain the Interface Requirements at each Interface Points between the two interfacing products. Each IR shall be identified with a unique identifier (UID) to facilitate the verification activities in the ICM (see [6]).

5) The IR shall be defined with the appropriate level of accuracy and maturity before the Preliminary Design Review of the system(s) for which the IR is applicable (to allow the start of Final Design activities).

6) The IS can refer to external documents (Technical Specifications, Guidelines, Standards, Design Handbooks, Databases, Data Collections…) which contain binding information and data which are then considered as Interface Requirements. These documents shall be referenced in the IS as Applicable documents (with UID and version) and the applicability to one or both interfacing products clearly stated. If only a part of the documents is binding, this should be clearly stated.

7) If the CMM contains information to be considered as an Interface Requirement for one or the two interfacing systems (for instance location of components to be connected via cables and impacting PBS44 cable trays routing), then the CMM shall be referenced as Applicable documents (CMAF with UID and version).

8) The applicability of the IR to the PAs shall be unambiguous (either by a direct statement for each IR, or by a clear identification of the PAs scope on the IP covered by the IS).

9) The IS shall describe which configuration according to the staged approach it refers to, and if temporary items are required.

10) When applicable the IS (including IS metadata) shall include the GBS identifier (building or area/level/room) for physical interface point.

8 Roles and Responsibilities

The tables below present the main responsibilities for the implementation of the interface management activities covered in this procedure (the tables identify in particular the mandatory reviewers, but additional reviewers could be added if deemed necessary):

Interface Control Document	
Role	**Responsibilities**
SIRO ***(SID/CID/SIS)***	The SIRO is the "Custodian" of the ICD: responsible for issuing, maintaining and distributing the ICD. • **Author** (or co-author) of the ICD • Define the list of reviewers (together with the Interface ROs) for the ICD (possibility to add optional reviewers in addition to the mandatory ones defined below) • Support the Interface ROs in the breakdown of the IS (recorded in the ICD) • Support the Interface ROs in the definition of the IS Development Plan • Maintain the coherency between the ICD and the related IS
PBS Interface TROs (or designated representatives) ***(Construction Project)***	• **Co-authors** (or author) of the ICD • Support the SIRO for the definition of the list of reviewers • Define the breakdown of the IS (recorded in the ICD) • Define the IS Development Plan
Project Leaders ***(Construction Project)***	• **Reviewers** of the ICD • Check that all interfaces between the two systems have been identified and captured • Assess the IS Development Plan (realistic, achievable and consistent with the Design Plan)
System Integration Section Leader ***(SID/CID/SIS)***	• **Approver** of the ICD

Interface Sheet	
Role	**Responsibilities**
SIRO ***(SID/CID/SIS)***	The SIRO is the "Custodian" of the IS: responsible for issuing, maintaining and distributing the IS. • **Author** (or co-author) of the IS • Define the list of reviewers (together with the Interface ROs) for the IS (possibility to add optional reviewers in addition to the mandatory ones defined below) • Ensures the compliance of the IS with the interface management process defined in this procedure • Ensures that the interface management process defined in this procedure is executed timely • Supports the Interface ROs in the identification and referencing of all Interface Points • Ensures that the content and level of details of the IS is compliant with the expectations of both systems with respect to their Design maturity • Ensures that the Interface Requirements are agreed between the two Interface ROs • Ensures the compliance of the Interface Requirements with the functional and physical integration
PBS Interface TROs (or designated representatives) ***(Construction Project)***	The two Interface TROs (one per interfacing systems) are the main responsible of the technical definition of the Interface Requirements. • **Co-authors** (or author) of the ICD and IS • Support the SIRO for the definition of the list of reviewers • Identify the Interface Points between the two systems • Specify the Interface Requirements at the Interface Points • Ensures that the Interface Requirements are compatible with the current (or expected) design of their systems
Project Leaders ***(Construction Project)***	• **Reviewers** of the ICD and IS • Assess the compliance of the IR with physical and functional integration • Check the interface responsibilities • Check the technical content of the IS: validity, correctness, integrity of interface data, technical feasibility, margins,…
DA PBS RO ***(Domestic Agencies)***	• **Reviewer** of the IS in case the IS is applicable to a DA PA (part of the PA Annex B).
System Integration Section Leader ***(SID/CID/SIS)***	• **Approver** of the IS

Interface Compliance Matrix	
Role	**Responsibilities**
SIRO ***(SID/CID/SIS)***	The SIRO is the "Custodian" of the ICM: responsible for issuing, maintaining and distributing the ICM. • **Author** (or co-author) of the ICM • Define the list of reviewers (together with the Interface ROs) for the ICM (possibility to add optional reviewers in addition to the mandatory ones defined below) • Ensures the compliance of the ICM with the interface management process defined in this procedure • Ensures that the interface management process defined in this procedure is executed timely • Record and maintain in the ICM the evidence of the compliance of the Design with the Interface Requirements for each System Design Review
PBS Interface TRO of the Primary System (or designated representatives) ***(Construction Project)***	The Interface RO of the Primary System (the system concerned by the FDR to which the ICM is presented) is the main responsible of the compliance of the design with the Interface Requirements. • **Co-authors** (or author) of the ICM • Support the SIRO for the definition of the list of reviewers • Provide at each Design Gate the evidences that the (baselined) Interface Requirements have been properly implemented (by identifying IDDs)
Project Leader of the Primary System ***(Construction Project)***	• **Reviewer** of the ICM
System Integration Section Leader ***(SID/CID/SIS)***	• **Approver** of the ICM

The Interface Management Engineer (SID/CID/SIS) will support all stakeholders in the implementation of the activities of this Procedure.