

## MQP Guidance Note

# Guideline for Identification of the Protection Important Activities (PIA)

This document gives the methodology to identify the Protection Important Activities (PIA) for ITER (INB no. 174) and their associated defined requirements. The main list of PIA, defined by IO is given in List of the Protection Important Activities (PIA) for ITER (INB no. 174) (PSTTZL).

Approval Process			
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Previous Versions Reviews	Zhao Z.	01 Jul 2016:recommended v1.3	IO/DG/RCO/QAA
Approver	Elbez-Uzan J.	01 Aug 2016:approved	IO/DG/RCO/SD/EPNS
Document Security: Internal Use RO: Fabre Nadine			
Read Access	GG: MAC Members and Experts, GG: STAC Members & Experts, AD: ITER, AD: IO_Director-General, AD: EMAB, AD: OBS - Quality Assurance and Assessment Division (QAA) - EXT, AD: OBS - Quality Assurance and Assessment Division (QAA), AD: Auditors, AD: ITER Management Assessor, project administrator, RO, AD:...		

<i>Change Log</i>			
<b>Guideline for Identification of the Protection Important Activities (PIA) (SBYJXD)</b>			
<i><b>Version</b></i>	<i><b>Latest Status</b></i>	<i><b>Issue Date</b></i>	<i><b>Description of Change</b></i>
v1.0	Approved	20 Nov 2015	
v1.1	Signed	15 Jan 2016	Update of the table of content.
v1.2	Approved	01 Feb 2016	Addition of precision
v1.3	Approved	30 Jun 2016	- New § "responsibilities - Precision of the refinement of the PIA and related Defined Requirements.
v1.4	Approved	19 Jul 2016	Typographical corrections

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## 1 Purpose

The purpose of this document is to give the methodology to identify the Protection Important Activities (PIA) for ITER (INB no. 174) and their associated defined requirements.

## 2 Scope

This document applies to all phases of the ITER Project.

## 3 Definitions and acronyms

The definitions and acronyms used in this document are those of [Nuclear safety common definitions \(RLZXMV\)](#).

## 4 References

- [1] Order dated 7 February 2012 *relating to the general technical regulations applicable to INB*, called « INB Order » ([ITER\\_D\\_7M2YKF](#))
- [2] Preliminary Safety Report (*Rapport Préliminaire de Sûreté* - RPrS) ([ITER\\_D\\_3ZR2NC](#))
- [3] Demand of Authorization of Creation DAC ind 3.0 (English) ([ITER\\_D\\_73Y8FV](#))
- [4] Procedure for the Safety Review of Regulatory Files ([ITER\\_D\\_48VD6T](#))
- [5] List of the Protection Important Activities (PIA) for ITER (INB no. 174) ([ITER\\_D\\_PSTTZL](#))
- [6] Propagation of the Defined Requirements for Protection Important Components Through the Chain of External Interveners ([ITER\\_D\\_BG2GYB](#))
- [7] Overall Surveillance Plan of External Interveners Chain for Protection Important Components, Structures and Systems and Protection Important Activities ([4EUQFL](#))

## 5 Responsibilities

In application of the article 2.5.2 of the INB Order, the **Nuclear Operator (IO-CT)** is responsible to define the PIA and associated Defined requirement.

IO has defined generic high-level PIA and associated Defined requirement in *List of the Protection Important Activities (PIA) for ITER (INB no. 174)* [5].

All refined PIA and refined Defined Requirements identified in the design of the system (cf. § 7) that are proposed by external interveners shall be approved by IO-SRO.

## 6 Methodology for identification of the PIA

The Protection Important Activities are identified by the nuclear operator. The list of the Protection Important Activities is based on the chapter 10 of the RPrS [2] and the application of the INB Order [1] which applies to all the lifecycle of a nuclear facility.

For each specific SSC identified as PIC, the definition of the specific PIAs takes into account the common PIAs [5] which can be found at each phase of the lifecycle.

Then, specific PIAs for each lifecycle of the INB are identified as answering to one or more of the questions below. If the answer is yes to at least one of the questions, the activity is a PIA:

- 1) Is the analysed activity related to a safety function or a protection important component?
- 2) May this activity have an impact on the characteristics of the PIC?
- 3) May this activity change the results of a safety analysis?
- 4) May this activity have an impact on the “ITER Authorization Basis” which includes in particular the DAC files [2] [3], ITER Decree, associated ASN decisions, Technical Prescriptions and applicable French regulation as defined in [4].

## 7 Main PIAs list and refined PIAs lists

The overall list of PIA for ITER facility is provided in *List of the Protection Important Activities (PIA) for ITER (INB no. 174)* [5], based on activities that were already identified in the Preliminary Safety Report [2] for SIC for the lifecycle phases.

The PIAs in this list are generic, and need to be refined as sub-PIA's for a dedicated system or component, in order to be consistent with the level of detail needed at each level; this is particularly true for operational level such design, manufacturing, fabrication and/or assembly.

This refinement of the definition of the PIA (and related Defined Requirements) is normally performed in several steps:

- For systems (or PBS) with a surveillance plan written in compliance with [7], the annex 2 of the surveillance plan provides a more detailed list of PIA, applicable for that specific system. Since it is applicable for a whole system/PBS, the PIAs and associated Defined Requirements are still quite generic.
- During the design and development phases, each PIA may be divided in more refined sub-PIAs, which are not necessarily listed in the present document, but which must also answer to the 4 questions above and be analyzed case by case. The associated Defined Requirements may also be refined and divided, provided they remain compliant with the generic Defined Requirement.
- At manufacturing and/or fabrication/assembly level, the activities or operations are in most of the cases defined by procedures and/or standards; but the procedures and/or standards do not establish by themselves if the activities are Protection Important Activities or not. Consequently, at each stage, the contractors must analyze if the operation is (or not) a PIA. This is notably done in the MIP, where the activities listed in the MIP are classified “PIA” or “non-PIA” by the contractors; this classification is later checked by the SRO, representative of the nuclear operator, who is finally responsible of deciding whether or not an operation is a PIA.

In any case, the PIA and associated Defined Requirements shall be included and propagated in the contracts along the whole chain of external interveners, with the appropriate level of detail.

## **8 Verification of the implementation of the defined requirement**

As requested by the INB Order, the compliance of the PIA with their defined requirements is checked:

- Through the IO surveillance, performed in application of the article 2.2.2.
- Through the technical controls performed on each PIA, in application of the article 2.5.3.
- Through the IO inspections, performed in application of the article 2.5.4, notably to spot check the technical controls.