4

PSSA EVALUATION

1   OBJECTIVES

The objective of the PSSA Evaluation step is to demonstrate that the PSSA process meets its overall objectives and requirements. This is carried out in three stages:

- Verification;

- Validation;

- Process Assurance.

The objective of **PSSA Verification** is to ensure that Safety Requirements meet Safety Objectives ("getting the output right").

The objective of **PSSA Validation** is to ensure that the outputs of the PSSA process are correct and complete ("getting the right output"), i.e. that:

- The Safety Requirements are (and remain) correct and complete;

- All safety-related assumptions are (and remain) correct and complete.

The objectives of **PSSA Process Assurance** are ("getting the process right and the right process"):

- To provide assurance and evidence that all PSSA activities (including PSSA Verification and PSSA Validation tasks) have been conducted according to the PSSA plan;

- To ensure that the PSSA process as described in the PSSA plan is correct and complete.

2   INPUT

- Information gathered or derived during the PSSA steps;

- Safety Plan and PSSA Plan;

- Outputs (including the final one) of the PSSA process.

3   MAJOR TASKS

3.1   PSSA Verification Task

The *PSSA Verification* tasks should include a review and analysis of the output of the PSSA ("getting the output right").

3.2   PSSA Validation Task

The PSSA validation tasks should include:

- Review and analyse the Safety Requirements to ensure their completeness and correctness;

- Review and analyse the description of the operational environment to ensure its completeness and correctness;

- Review, analyse, justify and document critical assumptions about the system, its operational environment and its regulatory framework to ensure their completeness and correctness;

- Review and analyse traceability between Safety Objectives and Safety Requirements;

- Review and analyse the credibility and sensitivity of Safety Requirements with respect to the Safety Objectives and assumptions.

3.3   PSSA Process Assurance Task

The PSSA Process assurance tasks should at least ensure in accordance with the PSSA Plan that:

- The PSSA steps are applied;

- Assessment approaches (e.g. success approach, failure approach, use of safety methods and techniques such as Fault-Tree, FMEA, CCA, RBD…) are applied;

- All outputs of the PSSA steps (including PSSA Validation, PSSA Verification and PSSA Process Assurance) are formally placed under configuration management;

- Outcomes of PSSA Validation and PSSA Verification activities are formally placed under configuration management;

- Any deficiencies detected during PSSA Verification or PSSA Validation activities have been resolved;

- The PSSA process would be repeatable by personnel other than the original analyst(s);

- The findings have been disseminated to interested parties;

- Outputs of the PSSA process are not incorrect and/or incomplete due to deficiencies in the PSSA process itself.

4   OUTPUT

The output of the PSSA Evaluation is the assurance and evidence collected during the PSSA Validation, PSSA Verification and PSSA Process Assurance tasks.

The PSSA Evaluation output comprises:

- Results of the PSSA Validation task: including the arguments for assurance and evidence of the completeness and correctness of Safety Requirements and assumptions;

- Results of the PSSA Verification task: including the information, collected during the various reviews of PSSA output, for assurance and evidence that Safety Requirements meet Safety Objectives;

- Results of the PSSA Process Assurance task: including the information collected during the various activities for assurance and evidence that the PSSA process as described in the PSSA Plan has been conducted and that PSSA process is correct and complete.

This page is intentionally left blank.