



SSA EVALUATION

1 OBJECTIVES

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

- Verification;
- Validation;
- Process Assurance.

The objective of **SSA Verification** is (“getting the output right”) to ensure that the Safety Assurance & Evidence demonstrate that the Safety Requirements are met by a review and analysis of the results of the SSA.

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

- The Safety Assurance & Evidence are (and remain) correct and complete;
- All safety-related assumptions are (and remain) correct and complete.

The objectives of **SSA Process Assurance** are (“getting the process right and the right process”):

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

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

2 INPUT

- Information gathered or derived during the SSA steps;
- Safety Plan and SSA Plan;
- Outputs (including the final one) of the SSA process.

3 MAJOR TASKS

3.1 SSA Verification Task

The objective of **SSA Verification** is (“getting the output right”) to ensure that the Safety Assurance & Evidence demonstrate that the Safety Requirements are met, Safety Objectives are satisfied, assumptions are correct and risk is acceptable by a review and analysis of the results of the SSA.

3.2 SSA Validation Task

The SSA validation tasks should include:

- Review and analyse the Safety Assurance & Evidence 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 Assurance & Evidence and Safety Requirements, Safety Objectives, assumptions and risk;
- Review and analyse the credibility and sensitivity of Safety Assurance & Evidence with respect to Safety Requirements, Safety Objectives, assumptions and risk.

3.3 SSA Process Assurance Task

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

- The SSA steps are applied;
- Assessment approaches (e.g. success approach, failure approach, use of safety methods and techniques) are applied;

- All outputs of the SSA steps are formally placed under a configuration management scheme;
- Outcomes of SSA Validation and Verification activities are formally placed under configuration management;
- Any deficiencies detected during SSA Verification or Validation activities have been resolved;
- The SSA process would be repeatable by personnel other than the original analyst(s);
- The findings have been disseminated;
- Outputs of the SSA process are not incorrect and/or incomplete due to deficiencies in the SSA process itself.

4

OUTPUT

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

The SSA Evaluation output comprises:

- Results of the SSA Validation task: including the arguments for assurance and evidence of the completeness and correctness of Safety Assurance & Evidence and assumptions;
- Results of the SSA Verification task: including the information, collected during the various reviews of SSA output, for assurance and evidence that Safety Assurance & Evidence demonstrate that Safety Requirements are met;
- Results of the SSA Process Assurance task: including the information collected during the various activities for assurance and evidence that the SSA process as described in the SSA Plan has been conducted and that SSA process is correct and complete.

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