

Charge Document for the Personnel Safety System 1 Preliminary Design Review

Preliminary Design Review (PDR)
18 September 2019, Lund, Sweden

Charge for the PDR

Purpose of this PDR

The purpose of this PDR is:

- To confirm that all actions and recommendations from the Pre-Start Review have been addressed and that all open questions required for the PSS1 safety analysis are answered.
- To confirm that the overall safety requirements, initiating events, safety functions, and safety integrity requirements are well understood, defined and documented;
- To confirm that preliminary design and concepts of operation sufficiently cover the overall safety requirements (high-level system requirements).

The PDR also covers planning for future PSS1 activities.

Supporting documentation

The expected outputs of safety analysis and preliminary design, which should be presented and reviewed in this PDR, will be documented in the following documents:

- Initiating Events Analysis for PSS1
- SIL Determination for PSS1
- Concepts of Operations for PSS1
- Safety Requirements Specification PSS1
- SIL Verification for PSS1 (draft)

PDR committee and presenters

The PDR committee consists of:

- Timo Korhonen, ICS - Chief Engineer (chair)
- Thilo Friedrich, ICS - Systems Engineering and Engineering Process Coordinator/Engineer
- Edgar Sargsyan, AD - Section Leader for Front End & Magnets Section
- Lali Tchelidze, AD - Section Leader for Operations Section
- Michael Plagge, ESH - Occupational Health & Safety Engineer

Document Type	Agenda	Date	Sep 10, 2019
Document Number	ESS-1526946	State	Preliminary
Revision	1 (1)	Confidentiality Level	Internal

- Lena Johansson, ESH - Senior Radiation Protection Expert
- Ari Benderly, ESH&Q - Senior Security Officer

Presenters:

- Stuart Birch, ICS - Senior Engineer, Personnel Safety Systems
- Morteza Mansouri, ICS - Lead integrator Engineer for safety critical systems
- Denis Paulic, ICS - Deputy Group Leader for Protection Systems Group on behalf of Fan Ye (PSS Safety Engineer, Isograph Expert from ESC, UK)
- Annika Nordt, ICS - Group Leader for Protection Systems Group

Committee Charge

The supporting documentation will be provided to the committee 5 days in advance, on the review Indico page, which will also contain the agenda and presentations:

<https://indico.esss.lu.se/event/1304/>

- 13:00 Committee discussion (closed)
- 13:15 Follow up from the PSS1 Pre-Stat Review
- 13:45 Concept of operations for PSS1
- 14:25 Coffee break
- 14:40 PSS1 safety analysis
- 15:10 Planning and deadlines for PSS1
- 15:30 Committee deliberations (closed)
- 16:10 Closeout

The committee is asked to consider the following questions:

1. Have all action items from the Pre-Start Review been resolved properly to allow preparation of this PDR?
2. Are all or a sufficient coverage of requirements, safety objectives and specifications within the scope of this PDR documented and understood?
3. Have all initiating events been identified and sufficiently evaluated in the initiating events analysis?
4. Have all safety requirements from the NCL risk assessment been addressed in the PSS1 safety analysis and covered by the identified safety instrumented functions (SIFs)?
5. Are there any concerns on the presented set of identified SIFs and Event Tree Analysis (ETA) diagrams for PSS1?
6. Have all operating concepts for PSS1 been addressed and are they properly documented?
7. Are PSS1 interfaces with NCL hazardous equipment and other relevant NCL systems clear and mature enough for this stage of the project?
8. Is the Layer architecture for PSS1 clear and mature enough for this stage of the project?
9. Does the presented planning for PSS1 follow the Accelerator commissioning planning and deadlines for the SSM deliverables?
10. Are there any outstanding agreements to be made or other actions necessary to allow the PSS team to transition to detailed hardware and software design?

Document Type	Agenda	Date	Sep 10, 2019
Document Number	ESS-1526946	State	Preliminary
Revision	1 (1)	Confidentiality Level	Internal

The results of the review should be summarized in a short report, outlining the answers to the above review questions and whether the review is considered passed, passed with action items, or failed.

The report may also provide findings, comments, and recommended actions. Actions should be clearly categorized as one of the following:

- Shall be addressed before PDR is considered closed
- Shall be addressed prior to the CDR