Instrument Safety Readiness Review for LoKI

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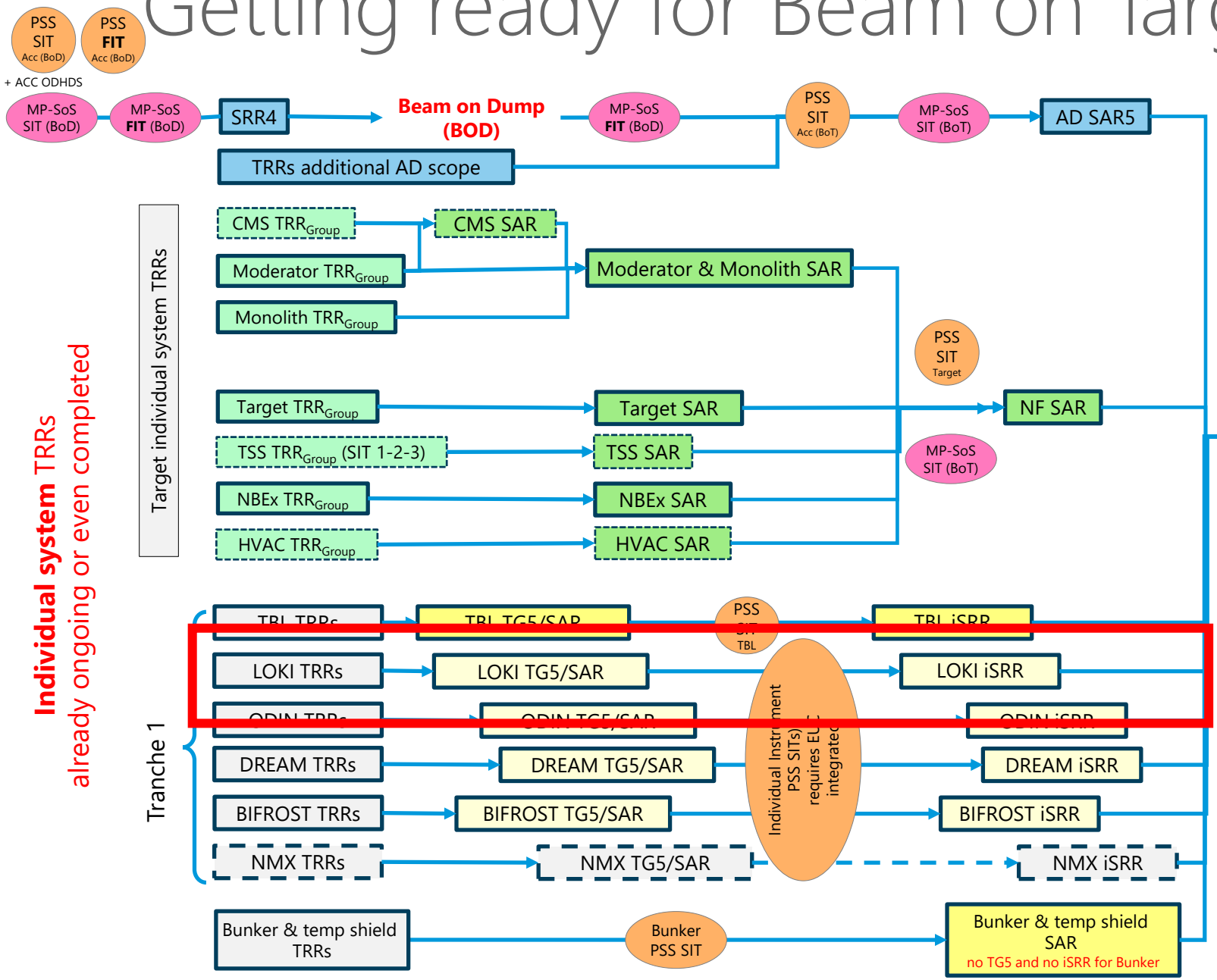
Getting ready for Beam on Target



FIT Final Integration Test
iSRR Instrument SRR (including safety systems)
SAR System Acceptance Review
SIT Site Integration Test
SRR Safety Readiness Review
TG5 Toll Gate 5
TRR Test Readiness Review

(*) Short period with 'Beam Commissioning to Dump' is planned after RBoT (but before BoT)

Slide by Thomas Hansson

Basic **TBL** pillars for iSRR

System of interest → Hazard identification → Implemented safety measures

Short summary of the TBL based on the previous SAR

Comprehensive Radiation Safety Assessment

- ESS-5692487 only a template
- ESS-5693466, Ch. 6
  → ESS-2972939 rev 14 section 5.2 & 6.2

TBL Instrument Hazard Analysis (conventional and radiological)

- ESS-3078238 rev 7
- ESS-5467337 Motion Risk

For general clarity:

- Radiation Protection = protecting people from radiation
- Radiation Safety = controlling the source of radiation

Safety measures (Engineered)

- Shielding
- Personnel Safety System
- REMS
- Fire protection
- ATEX zones for explosive atmospheres
- Controlled ventilation
- Safety valves for pressurised equipment
- ODH detection
- Etc.

Shielding & Activation

- ESS-1803667
- ESS-4222214
- ESS-5083798

Safety measures (Administrative)

- Roles & Responsibilities
- Training
- Operation & Safety procedures
- Etc.

Roles (some examples)

- MCR Shift leader / Operator
- Beam Commissioning Coordinator
- Instrument team
- Occupational Health & Safety
- Radiation Protection
- Electrical Operation Leader, ESL, etc

In addition

- System specific commissioning plan
- Verification *reports* **without** beam (instrument cold commissioning)
- Verification *plans* **with** beam (instrument hot commissioning) together with specifications of which 'safety requirements' that are / will be verified.

Procedures (some examples)

- ESS Local rules for safety
- Procedure for work orders
- Rules for interlocks
- Emergency procedures
- Establishment of Safe State

Courtesy of Thomas Hansson

Charge for Review Committee

1. Are the safety systems of the instrument installed and operational?
2. Are the safety systems of the instrument adequately documented?
3. Is all the shielding on the instrument installed and correctly configured?
4. Are the safety systems of the instrument ready for hot commissioning and operations?
5. Are the necessary operations procedures in place?
6. Complete iSRR/SAR report

Remarks

1. Agenda is based and adopted from the previous SRR at ESS
2. We evaluate safety aspects of readiness for the hot commissioning
3. We are not evaluating the operational readiness review for external users
4. List of reviewers was altered from SAR
5. Next meeting for ODIN will combine SAR/iSRR in one review
6. Updated template already reflects SAR and iSRR questions
7. Aim is to chess release SAR/iSRR report by next Monday

Rules

1. Only reviewers & observers are allowed to ask questions during the meeting (please, mute yourself on Zoom)
2. All others are welcome to ask questions during coffee breaks/lunch
3. Any feedback is welcome after the meeting
4. We are not discussing the technical readiness (subject of SAR)