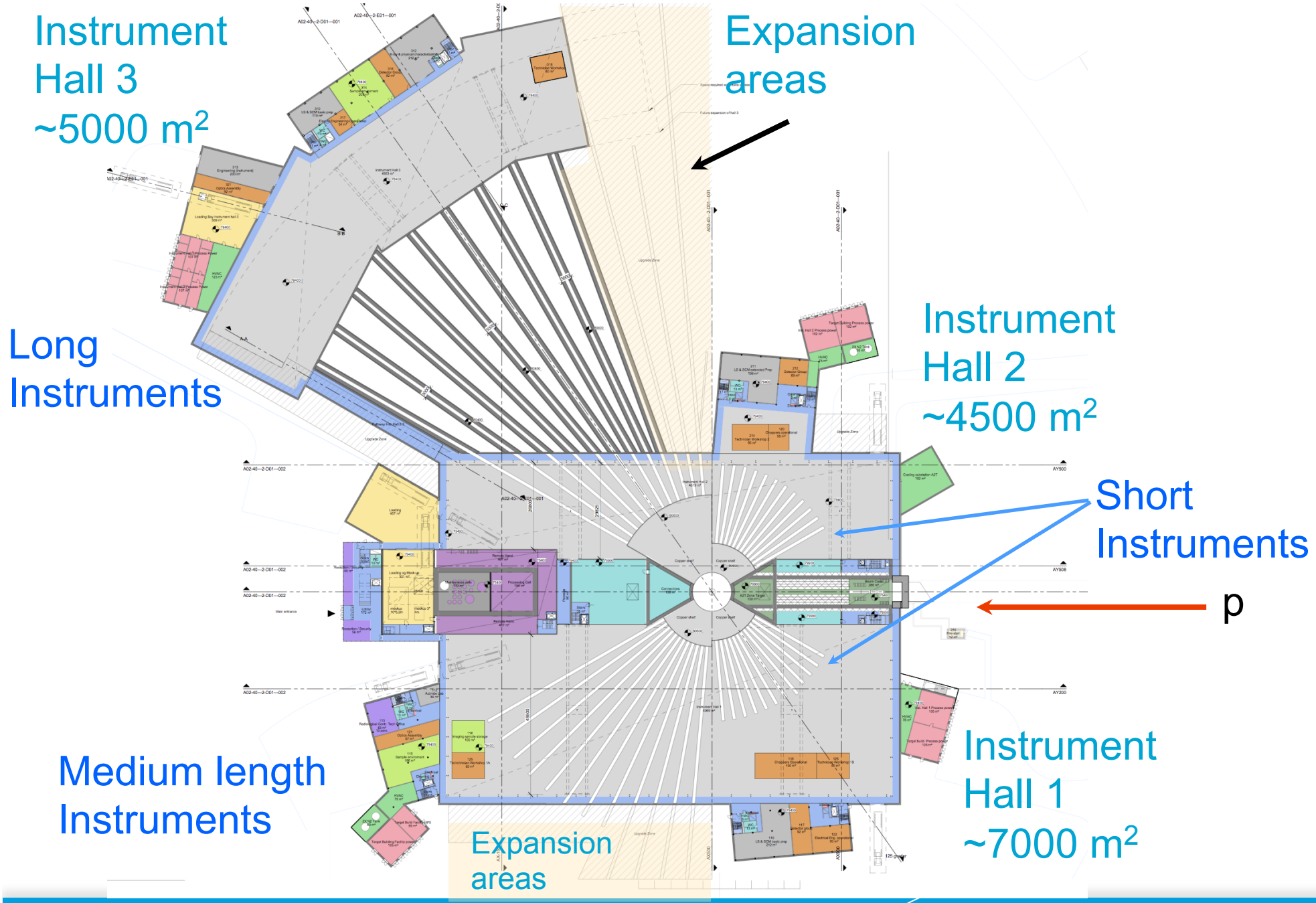
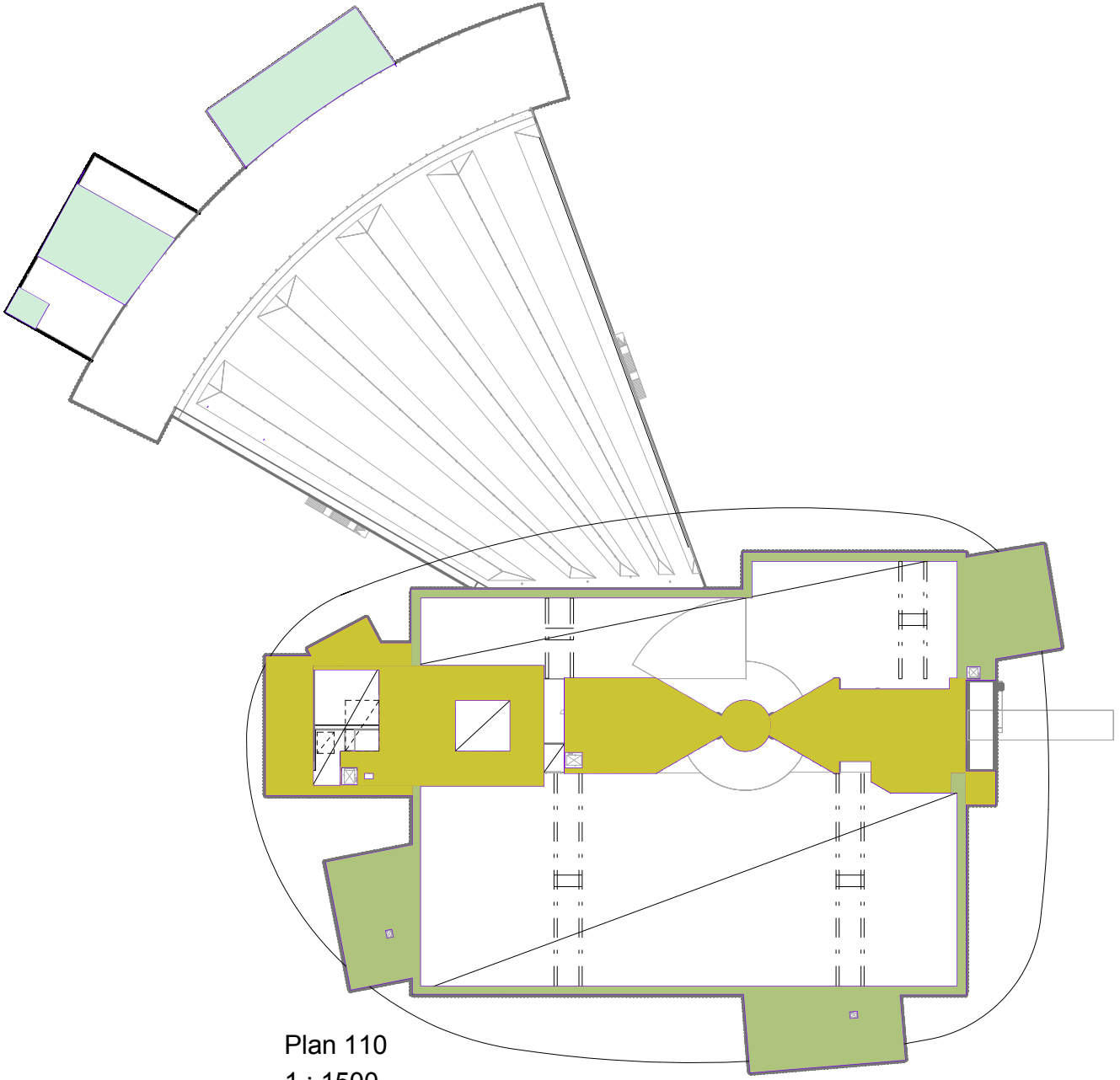
EUROPEAN
SPALLATION
SOURCE

Instrument Construction and the Role of the STAP

Ken Andersen

SANS STAP Meeting
17 September 2014

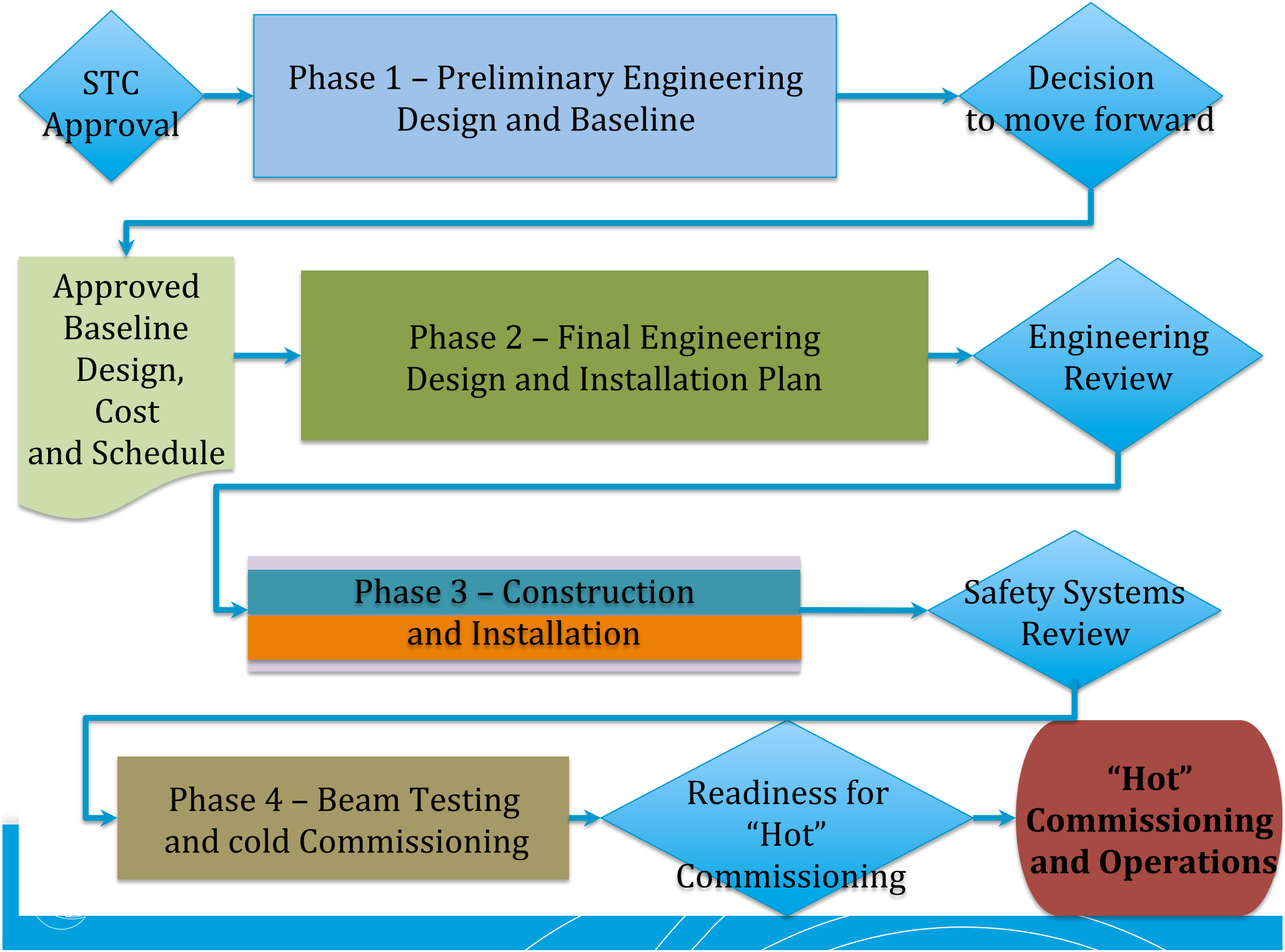

Instrument Hall 3 ~5000 m²
Expansion areas
Long Instruments
Instrument Hall 2 ~4500 m²
Short Instruments
p
Medium length Instruments
Instrument Hall 1 ~7000 m²
Expansion areas



Plan 110
1 : 1500

STAP role

- During concept development
  - advise on the instrument design
  - advise on the infrastructure needs
  - review the instrument proposal
- During instrument construction
  - advisory body: collaborative and independent
  - represented in toll-gate review committees
  - STAP gives advice, ESS takes responsibility for decisions
  - advice on: scientific scope, functional requirements, technical choices, infrastructure, software, early science programme
  - some overlap with TAPs
  - meetings synchronised with instrument project progress
  - overview of all projects within instrument class


STC Approval
Phase 1 – Preliminary Engineering Design and Baseline
Decision to move forward
Approved Baseline Design, Cost and Schedule
Phase 2 – Final Engineering Design and Installation Plan
Engineering Review
Phase 3 – Construction and Installation
Safety Systems Review
Phase 4 – Beam Testing and cold Commissioning
Readiness for "Hot" Commissioning
"Hot" Commissioning and Operations

Tollgate 2

- Forces the team to assemble all the information
- Ensures critical thinking about how to move forward
- Gives management the information needed to make decisions about
  - SCOPE
  - BUDGET
  - SCHEDULE

Tollgate 2 Review

- Review board:
  - Experienced Neutron Instrument Project Engineer
  - STAP member
  - Industrial and nuclear safety engineer
  - construction expert

TG 2 Science and Operational Questions

- Does the scope description match the scientific requirements?
- Will the instrument meet its stated performance parameters?
- Will the instrument meet the needs of its science case?
- Does the layout of the instrument appear to support the operation and use of the instrument?
- Does this instrument meet the users' needs for infrastructure, sample handling, sample manipulation, etc. ?
- Can it be operated safely?
- Do the proposed sample environments and user support facilities meet the needs of the users and match the science case for the instrument?
- Does the draft commissioning plan sufficiently evaluate the instrument and prove that the instrument works as proposed?

TG 2 Engineering and Project Questions

- Is the proposal feasible to build?
- Has the team identified all of the appropriate interfaces?
- Has the team implemented the ESS engineering and technical standards where adequate and is it ready to follow ESS processes?
- Are the cost and duration estimates reasonable?
- Has the team planned appropriately for the risks, both technical and otherwise?

Tollgate 2 Review Recommendation

- The instrument project should move into the final engineering design phase with no changes to what was presented.
- The instrument project should move into the final engineering design phase with a list of changes to what was presented.
- The instrument project is not ready for the final engineering design phase.

Tollgate 2 Decision

- Review board recommendation goes to Rob and Ken
- We pass the recommendation with our own comments to Oliver and Dimitri
- Oliver and Dimitri make a recommendation to the Steering Committee