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## NSS Guideline for Instrument Construction Projects – Tollgate 2 Review Meeting

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	Name	Role/Title
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<b>Reviewer</b>	Oliver Kirstein, Peter Sångberg, Arno Hiess, Mark Hagen, Markus Strobl, Andrew Jackson, Esko Oksanen, Giuseppe Aprigliano, Clara Lopez, Shane Kennedy	
<b>Approver</b>	Andreas Schreyer	Science Director

## 1. General

The process ESS uses for running instrument construction projects [1] details a set of project reviews. These reviews help management to ensure that projects 1) are going to produce the desired result (world-class neutron scattering instruments); 2) are feasible and justifiable to our governing and advice-giving bodies; 3) have well defined budgets, schedules, and goals.

It is envisaged that three meetings will take place towards the end of Phase 1 Preliminary Engineering Design. In chronological order, these are the STAP meeting, scope-setting meeting [2] and the TG2 review meeting [3]. All of which are described on a higher level in NSS Guideline for Instrument Construction Projects - Tollgate 2 Review and Decision [3], which in turn is the overarching document of events and deliverables leading up to TG2.

This guideline document outlines the context, scope and outcome of the TG2 review meeting.

## 2. Preparatory Work

Tollgate 2 approves the final technical design concept, the scientific scope, the project budget, the schedule and the resource plan for the instrument construction project concluding phase1 (preliminary engineering design). It allows the project to move into phase 2 (detailed design)<sup>1</sup>.

A number of documents will be submitted to the TG2 review, as described in detail in [3]. These documents need to be submitted one month prior to TG2 review meeting. They will then be sent for internal review covering the following subject areas:

Subject Area	Reviewer
Shielding	Neutron Optics and Shielding Group
Neutron Optics	Neutron Optics and Shielding Group

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<sup>1</sup> ESS management is currently working on changing the current council approval procedures such that no further council approval will be required to move instruments into phase 2 (detailed design) after TG2.

Choppers	Neutron Chopper Group
Sample Environment	Scientific Activities Division
Detectors & Beam Monitors	Detector Group
Data Acquisition & Analysis	DMSC
Motion Control & Automation	Motion Control & Automation Group
Vacuum	Vacuum Group
Personnel Safety Systems	Protection Systems Group

Table 1 Internal Reviews

The internal reviewers will submit their findings to the TG2 review panel and the instrument team, at the latest 2 weeks before the TG2 review meeting.

### 3. TG2 Review Committee Members

The review committee should consist of 5 external and 4 internal members:

Internal: NSS project leader (chair), NSS lead instrument scientist, NSS lead instrument engineer, Instrument Technologies Division Head

External: 1 safety engineer, 2 project engineers, 2 STAP members

The project engineers and STAP members will be selected based on experience in delivering relevant instrument projects.

### 4. Agenda Outline

A 1-day meeting held in Lund. NSS project management organises the meeting and provides a secretary. The participants are the core instrument team, the review committee, the Director for Science, and representatives of the instrument partners as invited by the core instrument team.

Representatives of all groups providing internal reviews should be available to answer questions. Internal reviews which have highlighted problems should be briefly presented. The meeting, apart from the closed committee session(s), shall be open to observers.

#### Draft Agenda:

- Welcome (NSS management): objective of the meeting (20 minutes presentation + 20 minutes for questions)
- Presentations (core instrument team, supported as necessary by technical groups and partners): overview of content of TG2 documentation (40 minutes presentation + 120 minutes for questions)
- Presentations (internal reviewers): (10 minutes presentation + 20 minutes for questions for each review)
- Lunch
- Closed session (30 minutes)
- Discussion session (120 minutes)
- Closed session (30 minutes)
- Conclusions and summary (30 minutes)

#### 5. Tollgate 2 Review Outcome

The review panel will make a recommendation to the Director for Science, who will make a decision on moving the instrument project into phase 2, shortly after the TG2 review meeting<sup>1</sup>. Three outcomes are foreseen:

- A. The instrument project moves immediately into Phase 2.
- B. The instrument project moves into Phase 2, after addressing issues which have been raised at the TG2 review. No new TG2 review is needed, and a clear timeline will be communicated to the instrument team.
- C. The instrument team will continue in Phase 1 and prepare for a second TG2 review within six months of the original review. A second C result may result in a decision that the instrument team be disbanded and the project stopped.

#### Glossary

STAP    Scientific and Technical Advisory Panel

TG2     Tollgate 2

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References:

- 1      ESS-0051706 ESS Process for Instrument Design and Construction
- 2      ESS-0055681 NSS Guideline for Instrument Construction Projects – Scope Setting Meeting
- 3      ESS-0043330 NSS Guideline for Instrument Construction Projects – Tollgate 2 Review and Decision

**DOCUMENT REVISION HISTORY**

<b>Revision</b>	<b>Reason for and description of change</b>	<b>Author</b>	<b>Date</b>
1	First issue	Ken Andersen	2016-09-29