

Objectives and introductory guidance for 1MW Pulse Spallation Neutron Source Technical Advisory Committee (N-TAC)

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@Japan Atomic Energy Research Institute, Tokai Research Establishment

- **Organization:**
 - under the International Advisory Committee (IAC) of the High Intensity Proton Accelerator Project (J-PARC)
- **Organizer:** Project Director, Prof. Shoji. Nagamiya

Objectives of N-TAC

With regard to importance technical challenges, the project recognizes indispensable merits to have a technical review of the design by professional scientists comprising international specialists world wide, giving critical advice on how to meet the goal for the completion of the 1MW pulse spallation neutron source, JSNS.

The project organizes an international advisory committee to have substantial **review and advice on the technical design issues** of the neutron source in terms of overall performance, technical soundness, timeframe, budgetary rationality, and other important points.

Comments, advises, and recommendations which will be generated in the N-TAC, are to be factored into the design and construction scheme of the 1MW pulse spallation neutron source.

Advisory Committee Members

- G. Bauer (Juelich, FZJ, ESS) : Overall
- J. Carpenter (ANL, IPNS) : Cold Moderator System
- T. Broome (RAL, ISIS) : Spallation Target, Remote Handling
- T. McManamy (ORNL, SNS) : Neutron Station, Mechanical Components
- H. Heyck (PSI, SINQ) : Safety, Waste, Ancillary System,
Conventional Facilities
- H. Kurishita (Tohoku Univ. IMR) : Material Issues

Issues for Review and Advice

**Spallation Neutron Target Design,
Cold Moderator System,
Radiation Shielding, Neutron Shutter,
Structure of the Station including Proton Beam Window,
Safety and Conventional Facility Layout.
User Environment (not a major issue, but information
should be given for the facility related evaluation.)
Overall consistency of the design
Project Management**

** Specific points are given later in the technical presentations.*

Procedure of the N-TAC

The project team will present current designs of the JSNS 1MW spallation source.

Overall schedule, budgetary condition, manpower, technical support structure, are to be presented.

Design concept and detailed technical consideration are given following the general conception.

Through the interaction with the project team and based on the presentations, the committee is requested to provide critical review and advise in terms of adequacy of technical approach along with overall project progress.

Every comment is of importance to make right brush-up of the JSNS design or redirection of technical design for major components.

Expected Products of N-TAC

The review should focus on whether the systems are technically feasible, competitive, and cost effective along with the project management relevant to technical designs.

The safety aspect should also be stringently stressed in the review.

Based on the discussion, documents, and materials to be presented during the meeting by the project team, the committee is requested to write up a report of the technical review results with emphasis on the advice to the project team, preferentially within the meeting period, at latest, within a couple of weeks after the meeting.

The project team will respect the comments of N-TAC and where deemed appropriate the result should be factored into the further design of the JSNS.