TAC11 Report Establishes New Benchmark for ESS Technical Progress

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REPORT FROM THE COMMITTEE. A whole new raft of committee members attended their first European Spallation Source Technical Advisory Committee meeting, TAC11, over the first two days of April, giving the project a fresh perspective from the best in the business.

LUND — There were eight new members on the 21-member European Spallation Source (ESS) Technical Advisory Committee (TAC) for its 11th meeting, which took place April 1-2. The 19 attendees, organised into Accelerator, Target and Integrated Control System (ICS) groups, prepared a detailed report on the state of the ESS technical project. TAC Chair Dr. Philippe Lebrun of CERN presented the Committee’s latest project recommendations to the ESS Steering Committee (STC) in Budapest the following week.

Work Package reports from ESS
In response to the Committee’s requests and recommendations from the November 2014 TAC10 meeting, summary reports from ESS were presented on the status of all Accelerator, Target and ICS work packages. The groups broke into parallel sessions to discuss the development of specific facility components such as the subsystems of the accelerator’s room-temperature front end, the elliptical cavities linac, ICS’s Machine Protection System,
and the moderator-reflector system for the ESS target, among many other technical and managerial aspects of the project. Additionally, a site visit was organised to give the committee a clear view of the construction and civil engineering progress for the project as a whole.

**People and Partners lead to progress**
Parallel development, installation and testing of technical components will be an enormous challenge for the ESS project, requiring the on-site support of many qualified people, along with the coordination of multiple in-kind partners across Europe. Ongoing progress in staffing and project management was noted by the committee, and recommendations were made to continue pushing on both these fronts.

The successful recruitment of personnel across the Technology Directorate over the last few months was emphasised as a key to the project’s forward progress. The establishment of industrial contracts for important early components such as klystrons and the accelerator cryoplant, as well as decisions made on multiple technical options, like the critical moderator-reflector system baseline, were linked to the steady growth of the staff in Lund.

The quality work at ESS partner institution IPN-Orsay, in France, was highlighted by the committee as particularly good news for the project. The group at IPN-Orsay are designing and delivering the Accelerator’s 13 superconducting spoke cavities, complex units that will constitute the “spine” of the ESS linac.

The committee’s report also noted the degree of difficulty in managing multiple in-kind partners across the technical areas of the project, and emphasised the necessity of deploying standard engineering and project management tools among all in-kind partners.

**Dr. Philippe Lebrun of CERN, chair of the ESS Technical Advisory Committee.**

PHOTO: Anna Pantelia/CERN
Ambitious schedule hinges on In-Kind Contributions

Signing of in-kind agreements between ESS and its partner institutions was noted by the TAC as crucial to keeping the technical project on schedule. Additionally, integrating the ESS project schedule into work package activities by ESS partners was also deemed an essential step forward, something expected to be reinforced by the coming agreements.

Dr. Lebrun, the TAC chair, reported back to the STC a week later at its meeting in Budapest with these and many other recommendations for improving technical design and project planning. Noting the significant increase in activity and documentation of the ESS technical project, the committee will extend the length of its 12th meeting, scheduled for October 14-16, 2015, by half a day.

The TAC is comprised of 21 external experts from around the world, and current and former members and their affiliations can be found on the ESS website.

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