

The ESS Annual Review Committee Recognizes Progress Along with Challenges

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Annual Review. During four intense days, the members of the ESS Annual Review committee engaged with the organisation to reflect on the progress over the last year and give feedback on the project's goals and challenges moving forward.

LUND — The 3rd Annual Project Review was held at ESS for four days, from April 19-22. ESS hosted an external international panel of more than 30 experts. The goal of the assessment was to examine the project from technical, cost, schedule, and management perspectives.



ESS Director General Jim Yeck speaks during the closing session of the Annual Review.

PHOTO: ESS / Roger Eriksson

"The committee's impression of ESS was very good," said Review Committee Chair Prof. Dr. Marzio Nessi of CERN. "There has been a lot progress, and now it's no longer a greenfield site, but an established laboratory, which has all the functions that a laboratory must have. Some of the things should be better defined but all the functionalities, the metabolism of the laboratory is there."



The activities included a full schedule of plenary presentations, parallel sessions, and a tour of the ESS Construction site. The ESS management team presented the facility's scientific and technical objectives and the status of major sub-projects including the Accelerator, Target, Integrated Control Systems (ICS), Neutron Scattering Systems (NSS) and Conventional Facilities (CF). They also looked closely at In-Kind Coordination, Management & Project Support, and the construction schedule and preliminary plans for initial operations.

A key overview presentation addressed the on-going development of the integrated schedule, which provides the increased granularity needed to manage interfaces and potential bottlenecks. The ESS organisation and partners prepared for the review with a self-assessment of progress against the recommendations from last year.

"These reviews are an important management tool that provides an objective critique and targeted expert advice that helps us to deliver the ESS facility," said ESS Director General Jim Yeck. "The open dialogue with our partners, and transparency about our project status and performance, will help us address issues quickly and keep construction moving forward according to plans."

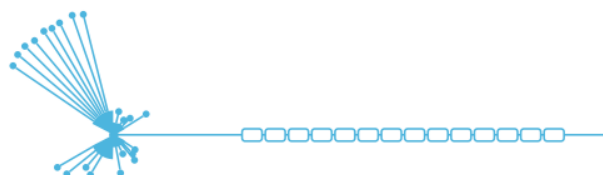


Review committee members engaged in Annual Review proceedings.

PHOTO: ESS / Roger Eriksson

Deep Dive into Project Scope and Schedule

During the three and a half days, the external reviewers split into 8 subcommittees according to focus areas. Each subcommittee took a critical look at major parameters important for the progress of the ESS project. Several observations and actionable recommendations stood out in their collective evaluation.



The Committee noted ESS has solid alignment with the requirements of the construction project and is making remarkable progress. The conclusion was based in part on the earned value of the ESS project, which today stands at 21% complete. The Committee also reported in its concluding presentation that, "Every subproject is making detailed plans for the installation, which should start this Autumn for the accelerator."

They found that technical integration and management in such a large project is a challenge and needs emphasis to facilitate ESS-wide goals and to mitigate risks across the ESS sub-projects.

The review panel noted the work and significant progress at ESS to firm up the NSS construction scope and engagement of partners. At the same time, there were questions about the total budget available for instruments and the schedule for the first suite of instruments. Another critical recommendation included ramping up activity for the NSS bunker design and requirements, which is on the critical path.

Scientist Dan Neumann from the NIST Center for Neutron Research (NCNR) in the United States chaired the NSS subcommittee. "The people at ESS are doing a great job, and they're very open about what their problems are," said Neumann. "A project of this scope always has issues, but they're really proactive and committed in trying to attack those problems to deliver the science in 2023."

The organisation's efforts to obtain the next level of regulatory permits with the Swedish Radiation Authority (SSM) was highlighted as a significant milestone and challenge. The strong progress on identifying In-Kind Partners was also noted frequently, but the reviewers also encouraged all the sub-projects to finalise the related In-Kind Agreements and suggested working more closely with partners on the local-level.

Moving Ahead

Several challenges remain, including high-level issues still to be resolved by the ESS governance, including further clarification of how the Value-Added Tax exemption is applied for all the ESS Member countries and how staff taxation might affect in-kind partners and the long-term prospects to attract staff.

The overall ESS schedule and milestone to deliver first beam on Target in 2019 "remains a challenge." In thanking the Committee for their effort evaluating ESS, Yeck indicated the management will examine the schedule closely so as not to make any naïve assumptions, but is not likely to make big changes at this point in the project.



“The review committee recognised a number of things we’re doing well, including the substantial technical progress on different fronts.” said Yeck. “There are areas yet to improve, and they recognise we’re capable of receiving and acting on constructive criticism, so now we’ll take in feedback and make improvements to our plans moving ahead.”

As outlined during the review, the start of the Initial Operations phase in 2019 concurrent with the on-going Construction phase will remain a top priority, with major events to include the formal handover of completed facility buildings from build partner Skanska to ESS, and the commissioning of the Accelerator, Target station, the NSS suite of instruments and connected labs.

Through 2016, ESS will focus on component installations in the Accelerator, optimising the Target schedule, and development and integration of the build plan for the 16 instruments. ESS will submit the second part of a sequential operating application to the Swedish regulatory authority SSM in May. An updated NSS budget proposal and instrument construction schedule, and the ESS project integration schedule—which currently includes more than 300 milestones that interlink over 3000 milestones in the subprojects—will be presented to the ESS ERIC Council for review in December this year.

The Annual Review Committee will submit a final written report within a month and ESS management has already started preparing a list of actions to follow-up on the feedback.

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