

Initial Operations Plans for the ESS

Tuesday 16 September 2014 14:30 (20 minutes)

The European Spallation Source (ESS) is planned to be the world leading source of slow neutrons for neutron scattering experiments in physics, chemistry, materials and engineering sciences etc. The facility will aim at a two orders of magnitude performance improvement compared to present facilities in Europe and has a scope of a 5 MW, 2 GeV proton Linac for long (ms) pulses, a Target Station for neutron production and set of 22 Instruments for scientific experiments. ESS is planned to be built in the period 2014-2019, with hot commissioning of the Linac during 2019, producing the first neutrons at the end of that year, and expecting to provide 1 MW of power for neutron production at the end of 2021, with only a part of the superconducting Linac installed. After installation of the remaining part of the Linac, the power would ramp up during the initial operation phase, reaching 5 MW by 2025. During this period, the neutron instruments will be installed and commissioned. The initial scientific experiments are planned for 2021, starting with 2-3 instruments in 2021, increasing to 6-7 in 2022. The Steady-state operation of the ESS facility will start in 2026, with routine operations and commissioning of the final public instruments, to reach the baseline suite of 22 neutron instruments in 2028. This paper presents the plans currently being developed at ESS in order to provide a successful transition from construction to steady state operations focusing in particular on the steps required for a high availability of the installation and the delivery of scientific performance to the users. Another important aspect in the operation of ESS is the energy concept, with the challenge to reduce the energy use of the facility, using energy from renewable sources and recycling the heat produced during operation.

Presenter: MUNOZ ALFONSO, Marc (European Spallation Source (ESS))

Session Classification: R&D for Optimizing Costs of Operation