

A NOVEL CONCEPT FOR THE ESS TARGET STATION HOT CELLS

Tuesday, September 23, 2014 2:00 PM (30 minutes)

The European Spallation Source (ESS), Lund, Sweden will be a 5MW long pulsed neutron research facility with planned commissioning in 2019. A connected hot cell facility will deal with the large, heavy and complex radioactive components as they reach their lifetime limit after service in the neutron research facility. The hot cell will be unique in its design for this specific reason. A special precondition for ESS, being a green field facility, is that there is neither a heritage nor any logistical constraints, which is often the case for existing facilities.

The ESS will be operational for around 45 years once commissioned and the hot cell facility will be operative during the complete operational phase of ESS as well as being an important part of the decommissioning of ESS. This requires the design to have a very high degree of flexibility in order to adapt to changes of target station component designs as well as changes of the functional requirements for the hot cells themselves.

As one alternative to the baseline hot cell design, the novel design concept presented in this paper incorporates the above mentioned complexities as well as the ALARA concept, BAT (best available technique), operator ergonomics and also includes a high level of modularity which in turn facilitates future updates and technologies as well as increases redundancy and availability. In contrast to the baseline design, the novel design relies heavily on cameras and robotic systems in lieu of traditional through-the-wall telemanipulators and windows.

Primary author: Mr GÖHRAN, Magnus (Work Package Manager)

Presenter: Mr GÖHRAN, Magnus (Work Package Manager)

Session Classification: Remote Handling

Track Classification: Remote Handling