R. Garoby

13/03/2015

**Introduction and questions to the TAC for its 11th meeting**

**on April 1-2, 2015**

Since the last TAC meeting in November 2014, the ESS project has continued to progress at a healthy pace, and most noticeably:

- for the Accelerator, prototype klystrons from 3 companies have finally been ordered, the contract for the cryoplant has been signed and remarkable results have been obtained with the prototype spoke cavities at IPNO.

- for the Target, the final configuration for the neutron moderators and reflectors has been adopted and the allocation of work packages to in-kind partners has continued to progress.

 - for the ICS, the contractors for EPICS software development have been selected, the PLC vendor will be selected at the end of April and the scope and strategy for MPS have been agreed with the Accelerator team.

The Engineering Tools and Associated processes are being improved, following the recommendations from the review organized on November 24-26. Significant efforts are being invested in the preparation of the detailed in-kind agreements to allow design and construction work for Accelerator, Target and ICS to proceed according to schedule.

In parallel, Civil Construction is advancing according to schedule.

During its 11th meeting, the Committee will have the opportunity to visit the construction site. The follow-up of its previous recommendations will be detailed and the requests for information formulated during the previous meetings will be addressed during the presentations.

Our first question to the Committee is therefore:

*Have the recommendations and concerns of the previous TAC meeting been addressed adequately?*

More specifically, we would like the ESS Technical Advisory Committee to address the following questions:

- concerning the **Accelerator**:

*a1) Is the plan for designing/prototyping and constructing the room temperature part of the linac satisfying ? Is the schedule feasible / How could it be improved?*

*a2) Is the plan for designing/prototyping and constructing the elliptical cavities linac sufficiently advanced to permit timely construction? How could it be improved?*

*a3) Is the plan for the RF sources properly addressing all the needs? Is the schedule feasible / How could it be improved?*

- concerning the **Target**:

 *t1) Are the new design developments for the following systems sound and do they represent a reasonable balance between system performance and other parameters, e.g. manufacturability, operability, maintainability, cost, schedule, and flexibility?*

* + *moderator and reflector*
	+ *neutron beam extraction from monolith*
	+ *helium purification*

 *t2) Are the proposed safety classification and TSS approaches sensible and likely to define a path towards safe operation of the ESS Target Station?*

*t3) Comments on progress towards completion of Preliminary and Final Designs in all areas are most welcome.*

- concerning the **Integrated Control System**:

*c1) Is the subject of Machine Protection satisfyingly addressed? Are the technical solutions proposed for implementing the MPS appropriate?*

The Committee is encouraged to provide also suggestions/comments and recommendations on any other subject it would find relevant.

A preliminary version of the Committee report is expected at the end of the meeting, in the afternoon of Thursday 2, April. The final report is expected two weeks later.