

NCSX IPT Meeting Minutes

The minutes from the NCSX IPT meeting of Tuesday, Feb 6, 2007 at 11:30am are as follows:

Attendees: DOE-PSO: J. Makiel, L. Dietrich, G. Pitonak

DOE HQ: B. Sullivan, K. Chao

ORNL: J. Lyon

PPPL: R. Templon, J. Malsbury,
J. Levine, H. Nielson, R. Hawryluk

1. DOE News (Barry/Kin/Greg/Hutch)

a) The next SC Project Review will begin on July 10th. This Review will propose an updated 'estimate-to-complete' and Project re-baseline proposal. Comments as follows:

- It is anticipated that the SC Review committee will examine the project on July 10th and 11th. A more detailed review by OECM (or OECM's support contractor) will take place during the same week.
- In preparation for OECM's portion of the review, the NCSX Project Team all necessary supporting project documentation available 1 month prior to the Review and include the following:
 - Basis for estimate;
 - Schedule to complete;
 - Cost to complete;
 - Technical description of work remaining;
 - Organizational chart.
- Kin anticipates that the upcoming OECM review will be similar to the last OECM review. Kin will coordinate the upcoming Review with Brian Kong (OECM).
- After completing the on-site Review, comments and findings generated by OECM are usually provided to the Project Team for response. If all goes well, an ESAAB will be convened and chaired by the Deputy Secretary in mid-September.
- It is understood that any augmentation to the Project's current budget authority will likely occur in FY09. A proposed schedule of events will be drafted by Greg to support the FY09 budget formulation process in September. [Update: Greg has drafted a schedule of events with a list of necessary documentation request and provided a draft to the IPT committee for review].

- b) Due to the prolonged Continuing Resolution, the NCSX Project may need to 'borrow' funds to support the planned work. The Chicago Operations Office will be asked to arrange the necessary financial shift to support April and May. It may be too late to change March's allocation. PPPL will let Greg know what the Project's needs are.
- c) Barry will coordinate the next SC Watch List Briefing.

2. Safety Management (Jerry)

- a) There are no notable safety related issues within the NCSX Project;
- b) The employee feedback process is working well at PPPL. Employees are encouraged to identify any issues, especially safety related issues, for resolution or improvement;
- c) An Activity Certification Committee (ACC) review was successfully performed on the 3rd (new) winding station and Field Period Assembly Station #2. Improvement to the general lighting in the NCSX Fabrication Facility was noted, and space management issues were discussed;
- d) The close-out for the PPPL site wide ISM re-verification is underway. The Chicago Operations Office (CH) will not be sending further examiners to PPPL for the close-out.

3. SC Project Review (Jeff)

In addition to the discussions concerning the next SC Project Review/OECM Review, as outlined in paragraph 1(a) above, the following actions are required in response to the last Review in December:

- a) A final report was issued by DOE and provided to the NCSX Project Team. Jeff will formally send a letter to the Project Team requesting a plan to address the findings/recommendations;
- b) One SC Review Report finding/recommendation is to establish a technical peer review to determine if additional cold testing of completed modular coils is required. Jeff will coordinate the Peer Review with Wayne and the appropriate technical members of the SC Project Review team.

4. Project technical progress (Hutch)

The following provides a brief status on the major components:

MC Winding

- a) B-4 was delivered. This is the 13th casting;
- b) B-1 and B-2 are being wound;
- c) A-3 was VPI-ed. This is the 8th coil to be VPI-ed;
- d) Dimensional issues with the B-type castings were discovered at PPPL which requires shimming of the winding pack to achieve a current center within tolerance. The NCSX Project Team is working with Major Tool to determine the cause.

MCWFs

The following is the status of MCWFs in vendor production:

- a) Thirteen modular coil winding forms have been delivered to date. The next winding form will be B-5 which is in the final inspection stage at Major Tool.
- b) A delegation visited Major Tool to review contract status. Major Tool's contract is in the 'home stretch' and anticipated to be completed by June.

In summary:

- 0 in foundry phase
- 5 in machining phase
- 13 delivered
- 18 total

Field Period Assembly

The Field Period (FP) Assembly effort continues as follows:

- a) FP #1 completed installation of the magnetic loops and is documenting the final configuration. Mounting saddles for the heating and cooling tubes are underway. An issue regarding the location of the saddles in areas of high curvature has been resolved;
- b) FP#2 nearing completion of stud welds for heating and cooling tubes.

TF Coils

- a) The TF Coil contract with Everson Tesla Inc (ETI) continues. The first TF coil has been wound with copper conductor;

- b) A dimensional control issue exists involving 'spring back' along the straight leg of the coil upon removal from the winding mandrel. ETI has devised a plan to use additional fixtures during the molding process to maintain the coil's shape;
- c) It continues to be anticipated that the TF coil's delivery date will slip further than previously reported. Delivery will begin around April 11th. The TF coils are not a critical path item. No cost issues by ETI have been noted.

Other activities

- a) Design activities continue with the following:
 - coil assembly drawings;
 - modular coil interface;
 - field period assembly stations including assembly fixtures.
- b) It was also noted that completed drawings for the B-type coils must be issued to support winding activities within the NCSX Fabrication Facility. Further delay may impact the project.
- c) An FDR was performed on the strain gages which are now of a fiber optic design for cryogenic and high magnetic field use. It was determined that the manufacturer's gage factor may be off and the project will need to perform its own calibration.

5. Procurement (Rod)

- a) Procurement continues to support both major and minor material contracts including EIO/MTM and Everson Tesla Inc as discussed above;
- b) There is a modest amount of small parts to support coil and field period assembly work. However, there are sufficient parts in stock at this time;
- c) Procurement is supporting a contract to perform a specialized surface treatment for the coil-to-coil interface.

6. Review of critical issues (Hutch)

- a) There are no Category I critical issues;
- b) Open Category II critical issues are:
 - Modular coil winding form costs - contract proceeding as planned;

- Modular coil winding cost - to be addressed by ECP53 discussed in paragraph 9 below;
- Parts for modular coil assembly - evaluation of gages complete and moving to procurement of gages and other small parts;
- Clamp design - design complete and in procurement;
- Modular coil joint design - test and assembly trials underway;
- Readiness for Field Period Assembly - continues as 'open'

7. Planning for the next 6 months

The planned activities for the next six months are essentially the same as reported at the last IPT meeting. The planned activities will be consistent with proposed ECP53.

Upcoming Level II milestones are as follows:

- Last MCWF delivered by Sep 07: On-track (anticipated delivery June 07)

8. Project performance through Dec

- a) January data is not available yet. The following project cost performance data thru the end of December as per ECP52:

SPI=.99

CPI=.97

Incremental CV for Dec = \$500K

CV (cum to date) = \$2.1M

Management Reserve = \$1.3M

9. ECP status (Hutch)

The following are current and anticipated Engineering Change Proposals (ECPs) that require DOE approval:

- a) ECP52 re-planned activities in FY07 and is the current ECP which the Project is tracking against;
- b) Proposed ECP53 will increase budget to support coil winding and field period activities in FY07. The increase will be offset by reduced workscope in AC power systems, and control systems. The offset will also include a favorable site G&A rate change and reimbursement of work that will now be funded by GPP. A preliminary draft ECP was reviewed by Jeff and Jeff is awaiting the final draft which will include more detail on the developmental trials in support of Field Period Assembly. [Update: a final ECP53 was provided to Jeff for approval].

10. Planned IPT meetings (and other events) are as follows:

TBD Peer Review for Cold Testing of Modular Coils
Feb 27th Next NCSX IPT meeting at 11:30am
July 10-12..... Next NCSX SC Project Review/OECM Review