

# NCSX IPT Meeting Minutes

The minutes from the NCSX IPT meeting of Wednesday, July 19, 2006 at 1:00PM are as follows:

**Attendees:** DOE-PSO: J. Makiel, L. Dietrich

DOE HQ: B. Sullivan, S. Barish

ORNL: n/a

PPPL: W. Reiersen, R. Templon, H. Neilson,  
J. Levine, J. Malsbury

## 1. DOE News (Barry)

- a) Dr. Decker (DOE SC-2) requested, via email to Barry, for an impact analysis of the workscope adjustments that have been made to the NCSX Project to date. A detailed report of 'NCSX Scope Reduction Since CD-2', dated June 27, 2006, was provided to Dr. Decker via OFES.
- b) A letter, from J. Faul to R. Goldston, dated July 13, 2006, requests a plan for:
  - 1. Cost control measures;
  - 2. An updated estimate-at-completion (EAC) for the NCSX Project;
  - 3. Contingency assessment, and;
  - 4. Cost estimate for work removed from the project since CD-2.

The NCSX Project Team agreed that a September 15<sup>th</sup> reply date is acceptable.

## 2. Safety Management (Jerry)

- a) The PPPL ISM re-verification was performed the week of June 12<sup>th</sup> with a focus on NCSX activities. PPPL continues to address the "opportunities for improvement" made by the ISM Review Team regarding the preparation of Job Hazard Analysis and Lock Out/Tag Out.

## 3. Lehman Review (Jeff)

- a) A letter was sent by Jeff as the FPD to the NCSX Project Team that requested a disposition plan for the recommendations made by the SC Project Review Team during the May 2006 Lehman review. Two recommendations of note will be addressed by July 31<sup>st</sup> response as follows:

- Evaluate the need for additional winding station capability. The NCSX Team is strongly considering expansion to the winding line. The lack of available budget this year will most likely push the implementation into next fiscal year.
- Evaluate the need for cold testing of the type A and B modular coils. The NCSX Team is evaluating this recommendation. However, the engineering results from the C-1 cold coil test may also confirm the design parameters of the type A and B coils, and further cold testing may not be cost effective to perform.

b) The next Lehman Review is scheduled for December 12-13 at PPPL.

#### **4. Project technical progress (Hutch/Wayne)**

The following provides a brief status on the major components:

##### MC Winding

- a) The C-1 MC: The C-1 electrical fault was determined to be in the lead block assembly of the coil and is accessible for repair. Repairs are underway. Subsequent coils will be modified to prevent this issue from reoccurring;
- b) The C-2 MC: The C-2 was VP warm tested, and awaits de-molding and final clamps;
- c) The C-3 MC: The C-3 will undergo VPI later this week;
- d) The C-4 MC: The C-4 is completing final chill plate installation and will begin bag mold;
- e) The C-5 MC: The C-5 is undergoing conductor winding;
- f) The A-1 MC: The A-1 is ready to begin cladding;
- g) The A-2 MC: Received and in queue for winding operations.

##### MCWFs

The following is the status of MCWFs in vendor production:

- a) All remaining modular coil winding forms are either in machining operations, or await machining operations. The foundry phase of the EIO contract is complete and is a significant milestone;
- b) With the commencement of work on the type B forms, Major Tool and Machine has now addressed all three coils types;

- b) Delivery of the remaining modular coil winding forms is anticipated to meet project needs. Also, delivery sequence of winding form types will support the first field period assembly operation at PPPL in FY07.

In summary:

0 in foundry phase  
11 in machining phase  
7 delivered  
18 total

### VVSA

The VVSA effort continues as follows:

- a) VVSA #1 continues to undergo in-house dimensional verification and 'best fit' analysis. Verification is taking longer than anticipated due to learning curve of measuring equipment and software. But experience gained will support VVSA work as well as other assembly processes in the Project. Also, minimal manpower is assigned to this task because the focus continues to be on manning winding operations which are a critical path activity;
- b) The 2<sup>nd</sup> segment fabrication is completing operations at Major Tool & Machine. Delivery is planned for the week of July 24<sup>th</sup>;
- c) The 3<sup>rd</sup> segment continues fabrication. Delivery was planned for August 15<sup>th</sup>, but this date will slip into September. Out of tolerance issues, as similar to VVSA#1, are being remedied by Major Tool. However, delivery is anticipated by the end of this fiscal year. Also, the 3<sup>rd</sup> VVSA is well off the critical path.

### TF Coils

- a) The TF Coil contract with Everson Tesla Inc. is underway. Key activities are: braze testing, conductor bend testing, and the subcontracted fabrication of tooling (i.e., the winding mandrel).
- b) The wedge supports appear to have the material procurement issue resolved. A source for the stainless steel has been found that will meet the Project's specifications. This issue will delay PPPL's receipt of the first coil assembly, but the slip will be recovered by the third coil. The coils are not a critical path item.

### Other activities

- a) Due to budget constraints in FY06, some design activities will be pushed into FY07. These activities include the design of the base support and central solenoid, as well

as, continued design work on the half period fixture, coil structures and vacuum vessel lateral supports. Also, other FY07 planned design activities will move back including the design of the PF coils and trim coils.

## **5. Procurement (Rod)**

- a) Procurement continues to support both major and minor material contracts including EIO, Major Tool & Machine and Everson Tesla Inc as discussed above.

## **6. Review of critical issues (Hutch/Wayne)**

- a) There are no new Category I critical issues.

## **7. Planning for the next 6 months (Hutch)**

The focus will continue to be on the receipt of MCWFs and winding of modular coils as a critical path activity.

Other planned activities are:

- Continue fabrication, and receipt, of vacuum vessel segments;
- Commence field period assembly with Prep Station #1 as resources allow;
- Monitor and oversee TF coil vendor fabrication;
- Increase technician staffing to support increasing activity in the Coil Winding Facility, Autoclave, and eventual Field Period Assembly operations. 4 more technicians have been added to the Project;
- Continue with design support.

## **8. Project performance through June (Ron)**

The following project performance items were discussed with data thru the end of June:

- SPI =.99:
  - Receipt of VVSA from MTM behind schedule;
  - Type C MC assembly drawings need to be completed;
  - MC hardware orders still need to be filled;
  - Winding operations behind (critical and non-critical winding processes).
- CPI=.97
  - Increased modular coil winding operation cost;
  - Increased modular coil cold testing cost.
- Project costs to date are ~\$53M. Budget to go is ~\$39.4M (includes contingency).

- ECP #45 released \$549K to offset a portion of past cost variances for work (risk) that was considered retired. Contingency continues at \$8.17M or 26.2% of remaining funds;
- ECP#45 also reduced workscope and re-planned work within the NCSX Project. As a result, the schedule contingency has increased from 5 months to 6 months along the project's critical path.
- Very low carryover is anticipated at the end of this fiscal year. Of the \$19.95M of available budget, only about \$400K will be carried over. There are concerns that a potential and prolonged continuing resolution may adversely impact the project in FY07.

**9. ECP status**

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

- a) ECP 45, as discussed in paragraph 8, was approved by DOE-FPD;
- b) ECP 49 is being drafted to request the risk retirement of \$290K of work. Ron and Jeff will meet to go over the request.

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

July 26<sup>th</sup> ..... NCSX Quarterly TeleVideo  
 July 27<sup>th</sup> ..... NCSX Monthly Watch List Report  
 Aug 8<sup>th</sup> ..... Next IPT Meeting  
 Sep 15<sup>th</sup> ..... Response to CV and Contingency Usage Letter  
 Dec 12-13..... Next NCSX Lehman Review