Minutes of the NCSX-DOE IPT Meeting on November 5, 2002

On the teleconference: Warren Marton (DOE-OFES), Greg Pitonak (DOE-PG), Gene Nardella (DOE-OFES), Chuck Finfgeld (DOE-OFES), Jim Lyon (ORNL), Rich Hawryluk (PPPL), John Schmidt (PPPL), Hutch Neilson (PPPL), Wayne Reiersen (PPPL), Ron Strykowsky (PPPL), and Bob Simmons (PPPL).

Topics of Discussion:
(1) Overall Project Status - Warren Marton, Greg Pitonak, and Hutch Neilson (a) AEP was not signed at the time of this IPT meeting but has since been by Under Secretary Card.
(b) Now that AEP is signed, it is expected that CD-1 will be approved soon. (c) EIR - Hutch indicated that Greg has provided samples of good and bad EIRs, but Project is still somewhat in the dark relative to the expectations. Greg indicated that the choice of the AE to perform the EIR will probably determine the scope, however, he agreed that prior discussions with Jim Carney to work out a general scope of the EIR is a good idea. There was some discussion on the date of the EIR. The Project indicated that May is the earliest date (vs. the current tentative date of April) to permit sufficient design to proceed and enable the winding form and vacuum vessel prototype vendors to provide feedback on the manufacturing schemes and to update the cost and schedule estimate. OFES felt that a June date would still support the OFES budget cycle preparation activities => Warren will relay this information to Jim Carney and Bob will discuss Jeff Hoy's experiences and lessons learned when he sees him next week at the SNS review. ACTION: Project to review schedule implications of delaying the PDR/EIR, i.e., impacts on CD-2, CD-3, and overall cost and schedule.

(2) Project Status - Hutch Neilson and Wayne Reiersen (a) Hutch reminded everyone that the current "baseline" is the $73.5M total cost/June 2007 schedule. The baseline will be updated for the PDR/EIR to incorporated the effects of the Continuing Resolution, accounting changes (e.g., safeguards and security costs at PPPL) and any technical changes resulting from design and R&D activities. The Project has started developing an overall omnibus ECP that will address all these issues. (b) Procurement issues - The RFP for the prototype modular coil winding form has been issued and a telephone bidders conference is schedule for tomorrow, November 6th. Bids are due in early December and award is expected by the end of January. For the vacuum vessel prototype 20 degree segment, the RFP should be issued about November 15th and the bids will be due in early

January with award expected in February. A telephone bidders conference will be held in early December.
(c) Project Plans - the PDR for the VV/Modular Coils/Limiters will be held in the spring of 2003. The Project will be in a position at that time to proceed into final design for these components. A FDR is planned in the October 2003 time-frame, followed by the necessary DOE IPR and CD-3 approval to permit award of the VV and Modular Coils production units by the end of CY2003. The PDR for the conventional coils (TF/PF/External Trim Coils) will be held at the end of FY2003.
(d) Coil Geometry - a updated coil geometry has been recommended by physics. The design will be updated to reflect the new geometry while physics assessments proceed in parallel. An opportunity to relax some tolerances may exist.
(e) FONSI has been issued 3 months ahead of schedule. Good job to all (PPPL and DOE) personnel involved in achieving this significant milestone. (f) Technical Issues
a. Time constant in the modular coil support structure - the time constant was determined to be too long. The project added one poloidal break and insulating toroidal breaks to decrease the time constant. This decision was reflected in the procurement package.
b. Cooling of modular coil windings - the CDR had a formed Cu plate for cooling the windings. The Project has adopted adding cladding the "T" instead to improve tolerances. This decision has been factored into the procurement package.
c. Interference between modular coils and VV when assembling the three field periods - as a result of the rapid prototyping model, we discovered a interference when the 3 field periods are brought together for the CDR design. Solutions in the form of modifications to the joint geometry and assembly process are being examined.
(g) Financial Plan - the current financial plan adequately addresses the funding needs at both PPPL and ORNL through December. Further Fin Plan input for the January Fin Plan modifications will be needed, depending how long the CR continues. OFES said input for the January Fin Plan is due in late November. Hutch indicated that the project will be requesting moving $130K from the MIE Project/Adv Concept Dsn to Research Prep at PPPL and to do the reverse at ORNL. Project will finalize this and provide input to OFES as part of future Fin Plan modifications.

(3) CD-2 Deliverable Discussions - Greg Pitonak, Hutch Neilson, Bob Simmons, Wayne Reiersen, and Ron Strykowsky
1. Final Project Execution Plan - will be developed by the PDR. Expect to be significantly simplified since Project will have its plans in place by then. In addition, the new DOE

Project Management Manual (draft) significantly reduces the level of Under Secretary involvement => most NCSX decisions will fall below the threshold for Under Secretary involvement. 2. Detailed cost & schedule baselines (based on resource loaded schedules) - updated cost and schedule information will be developed for the PDR. This will be the basis for the EIR. 3. Complete preliminary design documents for major subsystems - plans in place to develop these documents. Greg reminded everyone that a Value Engineering theme will have to be addressed in these documents and in the PDR presentations.
4. Preliminary Design Review (PDR) & report - will work with Jim Carney to understand expectations long before the charter and team identity is determined.
5. External Independent Review (EIR) - EIR is done by an outside AE firm and is needed for CD-2. The IPR is an internal DOE review (perhaps a Lehman-type review) and is needed for CD-3. 6. Technology development (R&D) results and decisions for procurement - both winding form and VV prototype work will support the PDR. 7. Revised risk assessment and mitigation plans - the updated cost and schedule information will include the contingency/risk assessment like the CDR.
8. Final EA/FONSI - approved!
9. Systems Engineering Management Plan (SEMP) - update in process. A peer review is scheduled in mid-November.
10. Integrated Systems Test Plan - will be prepared by the PDR.
11. Certification of NCSX PCS - PPPL system already approved and will be used on NCSX. Because of this, it is anticipated that a brief certification review will suffice. Bob will contact Jim Krupnick of LBL to request his participation.

The next IPT meeting will be Tuesday, December 17th, at 11:00 am.

If you have any corrections, please contact me.

Summary by:
Bob Simmons