

Minutes of the NCSX-DOE IPT Meeting on January 15, 2003

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

Topics of Discussion:

(1) DOE Status - Warren Marton and Greg Pitonak (a) The CR has been extended to the end of January. No firm projections on what will happen then. For planning purposes, the Project continues to assume a March 1st Project Start. The current "baseline" is the \$73.5M total cost/June 2007 schedule. The baseline will be updated for the PDR/EIR to incorporate 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. Generally, the Project has continued to optimize the conceptual design, including some new concepts and evaluation of some additional details. The value of these efforts to the Project is a confirmation of performance improvements, refinement of risks, and greater visibility of costs.

(b) The guidance for the FWP from DOE should be issued within the next several weeks. PPPL should update the overall funding project profile (as compared to that in the AEP) => less MIE project funds in FY2003 due to CR and more funds needed in FY2004 and out years? (c) Warren questioned whether there were sufficient funds remaining in the PPPL and ORNL contracts in light of the extension of the CR. Both Hutch and Jim indicated that they believed that there were sufficient funds to last through February, but would confirm this. ACTION: Ron Strykowski and Jim Lyon confirm adequacy of funding and get back to Warren.

(2) Project Status - Hutch Neilson

(a) Technical progress - Hutch indicated that the design update is proceeding based on the M50 coil design adopted just before the holidays. He confirmed that the M50 design would be the basis for the PDR. The advanced conceptual design is progressing well with internal project reviews of key issue areas (e.g., poloidal break, Cu cladding, tolerances, etc.) scheduled within the next several weeks. (b) Prototype Contracts - The proposals for the modular coils winding form prototype have been received - a total of 5 proposals were received and a great deal of evaluation and interaction with the bidders has occurred. It is anticipated that the two modular coil contracts will be ready to be placed in late January. The vacuum vessel proposals are due in

late January. DOE has requested an issue paper from the Project indicating the need to award these prototype contracts before the end of the CR. It is anticipated that a draft will be provided later this week.

(3) NCSX Review Discussions - Warren Marton, Hutch Neilson, and Greg Pitonak (a) PDR - Hutch has coordinated the dates of the PDR to be the week of June 23rd - nominally June 24-27. Warren has discussed with Dan Lehman whether his group wants to take the lead in organizing this review and Dan has indicated that he would not become actively involved until such time that the Project is ready to start construction. Accordingly, OFES organize the review charter and members in consultation with the Project and PG like we did for the PVR. John reminded all that the internal PPPL requirements for PDRs will also have to be satisfied and that this will have to be taken into account in the makeup and conduct of the PDR. While the PDR will technically focus on the VV and modular coils, the entire updated cost and schedule estimates will also be addressed in preparation for the EIR. (b) EIR and CD-2 - The Project is tentatively planning for the EIR in July and CD-2 in August. Due to the continuing CR, the OECM schedule for EIRs may be slipping. ACTION: Greg and Warren interact with OECM to ensure that a summer EIR date is scheduled. (c) PCS Review - Greg is coordinating with DOE and other potential reviewers. Current thinking is sometime in late February or early March (work around FWP schedule).

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

If you have any corrections, please contact me.

Summary by:  
Bob Simmons

**NCSX Project Review Plan**  
Rev. Jan.15, 2003.

Note: Assumes Project Start on March 1, 2003.

<b>Milestone</b>	<b>PDR</b>	<b>EIR</b>	<b>CD-2</b>	<b>FDRs</b>	<b>CD-3</b>
<b>When</b>	June 24-27, 2003	July, 2003	August, 2003 (allows for EIR follow-ups and ESAAB members to review EIR report)	MC: Nov., 2003 VV: Dec., 2003	November, 2003
<b>Who runs it</b>	OFES (W. Marton)	DOE-OECM Liaison: SC-CMSD	SC-OFES	Project	SC-OFES
<b>Review Team Members</b>	Fusion engineers & DOE	Jupiter or LMI	ESAAB members	Fusion engineers	ESAAB members
<b>Main Objective</b>	<ol style="list-style-type: none"> <li>1. Validate MC &amp; VV design maturity sufficient to proceed with development of build-to specs.</li> <li>2. Review updated C&amp;S estimate for entire project.</li> </ol>	Validate that there is sufficient confidence in the estimates (i.e., sound technical basis and plans) and mgt. systems to establish performance baseline.	DOE Approval of the performance baseline. DOE approval to continue with FD and initiate critical fabrication activities.	Validate that technical specs and estimates are sufficient to issue for fabrication.	DOE approval to proceed with all fabrication activities.
<b>Desired Output</b>	<p>Report that concludes:</p> <ul style="list-style-type: none"> <li>• MC &amp; VV design is sound, satisfies requirements. Plans are sound. Proceed with final design.</li> <li>• CDR issues have been resolved as appropriate.</li> <li>• C&amp;S estimates for all systems have a sufficiently sound basis (well beyond conceptual design) for performance baseline.</li> </ul>	<p>Report that concludes:</p> <ul style="list-style-type: none"> <li>• Estimates are sound, based on: <ul style="list-style-type: none"> <li>– Appropriate technical reviews conducted.</li> <li>– Risks identified, mitigation plans incorporated.</li> <li>– Execution plans sound.</li> </ul> </li> <li>• NEPA requirements satisfied.</li> <li>• Ready for CD-2.</li> </ul>	<p>Approval of performance baseline.</p> <p>Approval to continue with FD and initiate critical fabrication activities.</p>	<p>Reports that conclude:</p> <ul style="list-style-type: none"> <li>• VV &amp; MC procurement packages (e.g., specs, MIT plans) are sound.</li> <li>• In-house R&amp;D plans, fabrication and assembly specs, and MIT plans are sound.</li> <li>• Estimates are well bracketed, based on design and R&amp;D input.</li> <li>• Ready for CD-3.</li> </ul>	<p>Approval to fabricate modular coils and VV.</p>

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Milestone	PDR	EIR	CD-2	FDRs	CD-3
<b>Required Input</b>	Design package: <ul style="list-style-type: none"> <li>• Design documents for VV &amp; MC.</li> <li>• Interface documents demonstrating that VV &amp; MC boundary conditions are established.</li> <li>• Analyses demonstrating that design satisfies all requirements and boundary conditions.</li> <li>• Risk assessment and mitigation plans.</li> <li>• Plans and estimates to complete the design, fabrication, inspection, and testing.</li> <li>• Manufacturability R&amp;D input supporting the estimates.</li> <li>• Resolution of CDR issues commensurate with design stage.</li> <li>• Documentation of design, cost, &amp; schedule for all systems.</li> </ul>	PDR inputs & outputs, including: <ul style="list-style-type: none"> <li>• Design documents for VV, MC, and their interfaces.</li> <li>• Risk assessment and mitigation plans.</li> <li>• Technology development (R&amp;D) results and procurement decisions.</li> <li>• Report from the PDR.</li> </ul> Resource-loaded schedule, with technical basis documentation: <ul style="list-style-type: none"> <li>• Updated system estimates.</li> <li>• Risk-based contingency analysis.</li> </ul> Documentation of readiness to proceed with other critical fabrication tasks, e.g. power cables, test cell mods.           ISTP (how detailed?)           Management plans: <ul style="list-style-type: none"> <li>• Final PEP.</li> <li>• SEMP.</li> </ul> Final EA/FONSI.	Positive report from the EIR / C&S Review.		