

NCSX Preparation Plan for Performance Baseline Review
DRAFT of 5/15/03

Scope Item No. Primary Project Responsibility	Scope Item <i>Item Description (per DOE M 413.3-1, Sect. 9.4.3 or NCSX CDR Report)</i> Project Plan
1. W. Reiersen, WBS Managers R. Strykowski, A. von Halle	<p>Resource Loaded Schedule. <i>Item Description:</i> For selected Work Breakdown Structure elements (typically, those constituting significant cost and/ or risk), summarize the detailed basis for the cost estimate and schedule duration. Assess the method of estimation and the magnitude for each Work Breakdown Structure element reviewed. Identify and assess key cost and schedule assumptions and evaluate the reasonableness of these assumptions as related to the quality of the cost and schedule estimates. Identify specific work activity that constitutes project completion and whether these completion activities are sufficiently well defined. Include an assessment of whether the project completion activities are consistent with DOE guidance for work to be included/ excluded from the Project. Assess whether the project funding profile is consistent with the resource loaded schedule.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Present a proposed performance baseline at the PDR. • Technical baseline will be documented in the form of specifications and drawings, and explained in Design Basis Documents. The modular coils and vacuum vessel, the critical components, will be documented in more detail. (W. Reiersen, WBS managers). • Cost & schedule baseline will be documented in the form of estimates for each system and integrated in a resource loaded schedule. Budget profiles follow the NCSX Acquisition Execution Plan. (R. Strykowski) • Project completion activities will be documented in an Integrated System test Plan (A. von Halle)

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2. R. Strykowski H. Neilson	<p>Total Project Cost and Project Schedule. <i>Item Description:</i> Provide an independent evaluation of the Total Project Costs and overall Project Schedule. Discuss whether the Total Project Cost and schedule are reasonably consistent with similar DOE and/or other government/industry type projects. As part of this work, assess whether the Total Project Costs include all costs necessary for completion including startup and “hot” testing, as appropriate.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Project cost and schedule will include all activities from Title I design through First Plasma, including subsystem and integrated system testing. (R. Strykowski) • Document comparisons with NSTX and maybe ATF? (H. Neilson)
3. W. Reiersen R. Strykowski	<p>Work Breakdown Structure <i>Item Description:</i> Assess whether the Work Breakdown Structure incorporates all project work, and whether it represents a reasonable breakdown of the project work scope. Assess whether the resource loaded schedule is consistent with Work Breakdown Structure for the project work scope.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • The WBS Dictionary (updated if necessary) will be issued for the PDR. (W. Reiersen) • The resource loaded schedule is consistent with the WBS. (R. Strykowski)

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4. W. Reiersen R. Strykowski WBS Managers H. Neilson	<p>Risk Management <i>Item Description:</i> Determine if risks have been identified and properly classified as high, medium, and low. Assess whether appropriate risk mitigation actions have been incorporated into the baseline. Assess whether adequate contingency has been included in Total Project Costs and Schedule. Describe the approaches used to determine risk and assess adequacy.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Document risk identification and mitigation plans in Design Basis Documents and PDR presentations. Include the mitigation plans in the estimates. (W. Reiersen, WBS managers) • Estimate contingencies based on technical, cost, and schedule risk factors using high-medium-low scoring, and include in estimates. (R. Strykowski, WBS managers) • Issue a risk management overview document? (H. Neilson)
5. H. Neilson M. Williams	<p>Preliminary Design and Design Review. <i>Item Description:</i> Evaluate adequacy of preliminary design including adequacy of drawings and specifications, and assess whether they are consistent with system functions and requirements. Assess whether all safety Structures, Systems, and Components are incorporated into the preliminary design. Review results of the preliminary design review and assess whether additional work identified in the design review has been incorporated into the Performance Baseline.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Conduct a PPPL Preliminary Design Review as a pre-cursor to the Performance Baseline Review. (H. Neilson) • Issue draft PDR report and a briefing summarizing all significant findings and recommendations at the close of the review. Issue final report in time for the Performance Baseline Review. (M. Williams) • Issue response to PDR report and update baseline as necessary, in time for the Performance Baseline Review. (H. Neilson)

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6. W. Reiersen R. Simmons	<p>System Functions and Requirements. <i>Item Description:</i> Assess whether “design to” functions and requirements are reflected in the baseline, including safety and external requirements such as permits, licenses, and regulatory approvals. Evaluate whether system requirements are derived from and consistent with Mission Need.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Issue the System Specification (General Requirements Document) and selected Subsystem Specifications and Interface Control Documents for the PDR. (W. Reiersen, R. Simmons) • At a minimum, all systems will summarize their requirements in their DDDs and presentations.
7. J. Levine Closed?	<p>Hazards Analysis. <i>Item Description:</i> Evaluate the quality of the Hazard Analysis and assess whether all scope, schedule, and costs necessary for safety are incorporated into the baseline. Review the classification of SSCs as safety class or safety significant. Assess the Hazards Analysis process, including the use of internal and external safety reviews. Review any Defense Nuclear Facilities Safety Board and/or Nuclear Regulatory Commission interface and discuss the status of their involvement.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • The Hazard Analysis is complete. • All safety costs, both direct and indirect, are incorporated into the baseline.
8. J. Schmidt	<p>Value Management / Engineering. <i>Item Description:</i> Assess the applicability of Value Management/Engineering, and whether a Value Engineering analysis been performed with results being incorporated into the baseline. Also provide an assessment of the Value Engineering process for this project.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Document project’s approach to value management / engineering.

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9. R. Strykowski Closed?	<p>Project Controls / Earned Value Management System. <i>Item Description:</i> Assess whether all project control systems and reporting requirements will be in place prior to Critical Decision-2. For projects where Earned Value Management System is not required, assess the adequacy of an alternate project control system for monitoring and controlling project costs and schedules.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Document that the project’s EVMS was reviewed Feb. 27-28. Provide Committee Report and Project Response. • Document with examples, that the EVMS is in place and being used by the project.
10. R. Simmons	<p>Project Execution Plan. <i>Item Description:</i> Review the Project Execution Plan and determine if it reflects and supports the way the project is being managed, is consistent with the other project documents, and establishes a plan for successful execution of the project.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Prepare a draft PEP based on an update (expected to be modest) of the Preliminary PEP, incorporating new features of M413.3-1 as appropriate. • Circulate for comment among signatories and stakeholders, in time to incorporate their comments for the PDR. • Update as necessary after the PDR and circulate for signature. Will likely be in the signature loop at the time of the Performance Baseline Review.

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11. R. Simmons	<p>Acquisition Strategy <i>Item Description:</i> Review the Acquisition Strategy to determine if it is consistent with the way the project is being executed. The Review Team should evaluate any changes from Critical Decision-1 that may impact whether the current strategy represents best value to the government.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Document that the project is following the acquisition strategy documented in the Acquisition Execution Plan, with no material difference.
12. H. Neilson W. Reiersen M. Zarnstorff G. Pitonak	<p>Project Staffing. <i>Item Description:</i> Assess whether the project management staffing level is appropriate, and determine if appropriate disciplines are included in the Integrated Project Team. Identify any deficiencies in the Integrated Project Team that could hinder successful execution of the project.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Document project management and integration requirements in WBS 8 cost backup documentation. (H. Neilson, W. Reiersen, M. Zarnstorff). • Document IPT membership (G. Pitonak) <p><i>Proposed Resolution:</i> No further action needed. Close out at the EIR.</p>
Document	Detailed Resource Loaded Schedule
R. Strykowski	<i>Project Plan:</i> Will produce for the PDR. See Item #1.
Document	Detailed Cost Estimate
R. Strykowski	<i>Project Plan:</i> Will produce for the PDR. See Items #1 & #2.

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Documents W. Reiersen, R. Simmons	System Functions and Requirements Document (also referred to as the “Design-to” requirements or Design Criteria) <i>Project Plan:</i> The General Requirements Document and applicable Subsystem Specifications and Interface Control Documents. See Item #6
Documents H. Neilson M. Williams	Results of and Responses to Site Preliminary Design Review <i>Project Plan:</i> The PDR Committee will issue a rough draft of their findings at the PDR, and a formal report in time for the EIR. The project will develop a response plan to the PDR recommendations and, if appropriate, make adjustments to the performance baseline. See Item #5.
Document R. Simmons	Project Execution Plan <i>Project Plan:</i> Will produce a PEP and system engineering plans for the PDR. See Item #10.
Document J. Levine	Hazards Analysis <i>Project Plan:</i> Will produce for the PEP. See Item #7.
Document J. Schmidt	Risk Management Assessment <i>Project Plan:</i> Will address in design description documents. If appropriate, will pull together a high-level summary document. See Item #4.
Document R. Simmons	Acquisition Strategy <i>Project Plan:</i> Will provide copies of the AEP and document that we are following the strategy set forth in the AEP. See Item #11.

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CDR No. MGMT-4 A. von Halle	<p>Commissioning and Test Plan. <i>CDR Panel Report:</i> Develop a preliminary commissioning and test plan. This documentation should be prepared for CD-2.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • A preliminary commissioning and test plan will be prepared and will be reviewed at the PDR.
CDR No. CS-1 H. Neilson M. Williams	<p>Operating Cost Estimate <i>CDR Panel Report:</i> Prepare a preliminary annual NCSX facility operating cost estimate, based on the envisioned research program, that includes costs for planned diagnostics and upgrades, by CD-2.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • A preliminary estimate of annual operating costs will be prepared, taking into account efficiencies that result from operating NSTX together with NCSX.
CDR No. CS-2. L. Dudek W. Blanchard T. Stevenson S. Ramakrishnan	<p>Test Critical Legacy Equipment Items <i>CDR Panel Report:</i> Identify by CD-2 reused equipment that could have significant impact on cost and schedule if it is not functional when required by the project. This equipment should be tested as early as possible to identify cost and schedule impacts.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • Testing activities have been incorporated into the PDR preparation plans for WBS 2-6. • By the PDR, the most questionable items will be tested and the cost implications, if any, will be factored into the project's estimates.

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CDR No. CS-3. B. Nelson	<p>Accelerate Critical Activities to Reduce Schedule Risk <i>CDR Panel Report:</i> Implement measures by CD-2 to enable acceleration of the critical and near-critical path activities (primarily modular coil production and vacuum vessel production) to reduce schedule risk.</p> <p><i>Project Plan:</i></p> <ul style="list-style-type: none"> • The project schedule and assembly sequence are being developed with the aim of completing the project by June, 2007 while preserving adequate schedule contingency.