

NCSX Preliminary Design Cost Estimate Summary Form (Attachment 1a)

SUMMARY DESCRIPTION

WBS Number: 6	Title: Site and Facility Modifications
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<u>Description</u>	
<p>NCSX operations are divided into six phases:</p> <ol style="list-style-type: none">1. Initial Operation2. Field Line Mapping3. Initial Ohmic4. Initial Auxiliary Heating5. Confinement and Beta Push6. Long Pulse	
<p>The NCSX Fabrication Project includes Site and Facilities equipment required through the Initial Ohmic Phase of operation (that is, Phases 1, 2, and 3).</p>	
<p>All equipment in the Fabrication Project will be installed prior to first plasma (that is, the start of Phase 1 – Initial Operation).</p>	
<p>Included in the Fabrication Project are all the engineering and physics design efforts starting with the preliminary design phase (Title I) and ending with completion of the Fabrication Project, all the necessary Research and Development (R&D) to support the design effort, all component fabrication, assembly, and installation activities, and all system level commissioning and testing. Also included in the Fabrication Project is the removal and storage of legacy equipment from PBX-M that will be re-used on NCSX. Integrated systems testing of the entire NCSX device is covered in Pre-Operational and Integrated Systems Testing (WBS 92).</p>	
<p>This summary-level WBS element consists of the site and facilities needed to support the NCSX experimental program. The NCSX device will make maximum use of existing PPPL systems and facilities. This WBS element includes:</p> <ul style="list-style-type: none">• Water Cooling Systems (WBS 61);• Cryogenic Systems (WBS 62);• Utility Systems (WBS 63);• PFC/VV Heating and Cooling Systems (WBS 64);• <i>Facility Systems Integration (WBS 65 – No Longer Used)</i>; and• Room Temperature Coil Cooling Systems (WBS 66).	
<p><u>Description of Existing Equipment/Facilities to be Reused:</u> Extensive reuse of existing C-site facilities and components and areas is contemplated, albeit with some major modifications.</p>	
<p><u>Description of Major Modifications Required to Existing Equipment/Facilities:</u> Major modifications to the existing C-site facilities are anticipated. Much of this work will be funded under PPPL infrastructure improvements and the remainder will be funded directly by the project.</p>	

Date: 9/17/03