NCSX Fabrication Project
Work Breakdown Structure (WBS) Dictionary
Project Management and Integration (WBS 8)

Revision 0

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Work Breakdown Structure (WBS) Dictionary
Project Management and Integration (WBS 8)

WBS Element: 8	WBS Level: 2
WBS Title:	**Project Management and Integration**
Description:	This summary-level WBS element consists of all the non-hardware-related activities necessary to develop requirements and manage the NCSX Project such as project management, systems engineering, environmental and safety/QA management, and, project physics. It also includes planning and performing the final integrated systems testing leading to first plasma.

WBS Element: 81	WBS Level: 3
WBS Title:	**Project Management and Control**
Description:	This WBS element includes the overall project direction, oversight, and administrative support, including budgeting, cost control, scheduling, and procurement activities. These are in direct support of the NCSX fabrication project. In addition, PPPL collects direct allocations charged to the NCSX Project and Program. The direct allocation charges are to cover the allocated charges for the Computer Division's support and maintenance of the VAX, UNIX and CADD computer systems and desktop computer support here at PPPL and the diagnostic and rf development activities at PPPL.

WBS Element: 82	WBS Level: 3
WBS Title:	**Project Engineering**
Description:	This WBS element includes the engineering management, systems engineering, design integration, and systems analysis activities required for the design and construction of the NCSX Project.

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WBS Element: 83	WBS Level: 3
WBS Title:	**Environmental and Safety/QA Management**
Description:	This WBS element includes all the ES&H and Quality Assurance/Quality Control support of the design and construction process. Since these activities cut across all WBS elements, the effort is defined and collected here. It includes the following activities: • Construction Safety; • Electrical Safety; • Radiation Safety; • NEPA & Safety Assessment Review & Coordination; • Industrial Hygiene & Safety; • Quality Assurance; and • Quality Control of the procurement and construction processes. These personnel are funded under the general indirect costs pool via the G&A rate rather than by direct project funds. NCSX intends to use Defense Contracts Management Agency (DCMA) personnel as field QA inspectors at supplier sites. This service was formerly provided at no cost to the National Laboratories, but is now an indirect charge to the Project. Each DCMA assignment (unique company and subcontract) is defined by a letter of delegation from PPPL providing subcontract information and defining the services desired in fairly general terms. One provision is that the DCMA representative must provide trip reports describing what was accomplished and what is planned next so that PPPL stays aware of progress and is able to intervene when necessary. The formal delegation letter will also provide a maximum number of hours based on estimated visits needed and a requirement that DCMA contact PPPL for approval to continue when an established expenditure percentage of the maximum hours have been reached.

WBS Element: 84	WBS Level: 3
WBS Title:	**Project Physics**
Description:	This WBS element includes the project physics activities in direct support of the NCSX fabrication project. Since these activities cut across all WBS elements, the effort is defined and collected here. It includes the following activities: • Physics requirements and interface definition; • Physics models and codes to facilitate the physics design and analyses of options; and • Physics analyses of options.

WBS Element: 85	WBS Level: 3
WBS Title:	**Pre-Operational and Integrated Systems Testing**
Description:	The NCSX device will have to undergo a series of pre-operational and integrated systems test to demonstrate that it is ready for operation. This WBS element covers the planning, coordination, procedurization, and execution of the Integrated System Tests, which consist of first energization of all of the magnet coil systems and first plasma. Costs for operating and staffing the facility for these tests are included. Prior Preoperational Tests are assumed covered by the individual WBS elements.