

NCSX		<u>NATIONAL COMPACT STELLARATOR EXPERIMENT</u>	
		PROCEDURE: NCSX-PROC-004 Revision 2	Page 1 of 4
Title NCSX Work Authorization	Initiated by: NCSX Systems Engineering Support Manager	Effective Date: April 21, 2005	
Concurrence by: NCSX Quality Assurance Manager	Concurrence by: PPPL Head, Engineering & Technical Infrastructure	Concurrence by: NCSX ES&H Manager	
	Approved by: NCSX Engineering Manager	Supersedes: Revision 1 August 5, 2004	

Record of Revisions

Revision	Date	Description of Changes
0	10/31/2003	Initial Issue
1	8/5/2004	Clarified how NCSX will comply with PPPL WP and Design Review process.
2	4/21/2005	Added record of revisions table. Changed to a simplified flow chart format. Clarified how NCSX will authorize work using the PPPL WP and Job in Primavera (P3).

Applicability

This procedure is applicable to the entire NCSX Project. PPPL Engineering Procedure ENG-032, *Work Planning Process* describes the processes and procedures by which work planning shall be conducted. *The NCSX Project is committed to following the procedures and process of ENG-032 with the only minor adjustment being that a job number (if already existing or new one) will be added to the WP to establish the correspondence between the PPPL WP and the NCSX Job(s).*

Introduction

The NCSX Systems Engineering Management Plan (NCSX-PLAN-SEMP) provides the project's approach to work planning and authorization. There are two key items that make up the necessary documentation package for work planning for the NCSX Project. These are the:

- **Work Planning (WP) Form** - PPPL Engineering Procedure ENG-032 provides guidance on preparing WP forms. *The NCSX Project will follow ENG-032.* This document can be found on the PPPL web at: <http://workplanning.pppl.gov> . The WP is the key work planning document for all phases of projects designed and constructed at PPPL. It documents the work planning logic in the form of a checklist of activities and deliverables that need to be completed in preparation for the next formal design review (preliminary or final), on-site fabrication activities (including R&D activities), and field

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assembly and installation activities. For the NCSX Project, the appropriate Job(s) number should be indicated on the WP to facilitate correlation of the WP to NCSX Job and to ensure that each WP has a detailed Job associated with it. The NCSX Engineering Web page contains a table that identifies each and every WP with a particular or several Jobs. The NCSX Engineering Web page can be found at:

< http://ncsx.pppl.gov/NCSX_Engineering/ >

- **Job(s)** – As indicated in the SEMP, the NCSX Project utilizes the Primavera (P3) resource loaded schedule as its job that will authorize work to proceed and detail the activities necessary to accomplish assigned task.

Referenced Documents

NCSX Systems Engineering Management Plan (NCSX-PLAN-SEMP)
PPPL Procedure ENG-032, “Work Planning”

Key Terminology

- Cognizant Engineer/Individual – as defined in ENG-032, this is the individual assigned for performing the work. For the NCSX Project, this generally corresponds to the Job Manager.
- Responsible Line Manager (RLM) – as defined in ENG-032, this is the manager responsible for the work and the process leading to the performance of the work. For the NCSX Project, this generally corresponds to the cognizant Project Engineer (i.e., Stellarator Core Project Engineer, Ancillary Systems Project Engineer, Power and Heating Systems Project Engineer, or Machine Assembly and Installation Project Engineer). The RLM, if different from the cognizant Project Engineer, reports to the cognizant Project Engineer.

Procedure

A. Procedure for NCSX WP Package Development, Review, and Approval

This procedure establishes the procedure for development, review, and approval of work planning packages for the NCSX Project.

The Head of the Engineering and Technical Infrastructure Department has designated certain managers to be Responsible Line Managers (RLM). The list of approved RLMs is contained on the PPPL Engineering Department Web Page (<http://engineering.pppl.gov/>). For each WP for the NCSX Project, the NCSX Project has designated specific RLMs for different aspects of the NCSX work scope. The approved WP represents an agreement between the appropriate NCSX RLM and the Job Manager that the work activity has been adequately defined and that appropriate controls have been implemented.

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Job Manager generates the electronic Work Planning (WP) form per ENG-032 and submits to the RLM. The WP should:

- Define the scope of the task/job;
- Identify the design reviews needed; and
- Identify the engineering and safety controls need to be reflected in the task/job

NOTE: The NCSX guideline is one (1) WP per NCSX Job.

RLM reviews WP and:

- Iterates with the Job Manager until satisfied that all WP requirements have been identified; and then
- Approves WP in the PPPL WP database and notifies Job Manager.

Job Manager develops a Job Plan that identifies:

- Work activities required to accomplish the task/job;
- Specific deliverables to be provided by this task/job;
- Schedule dependencies of each activity in the task/job; and
- Resource requirements needed to accomplish the task/job (e.g., man-hours for laboratory labor and direct M&S costs in dollars).

When completed, forwards Job Plan to the NCSX Project Control Manager.

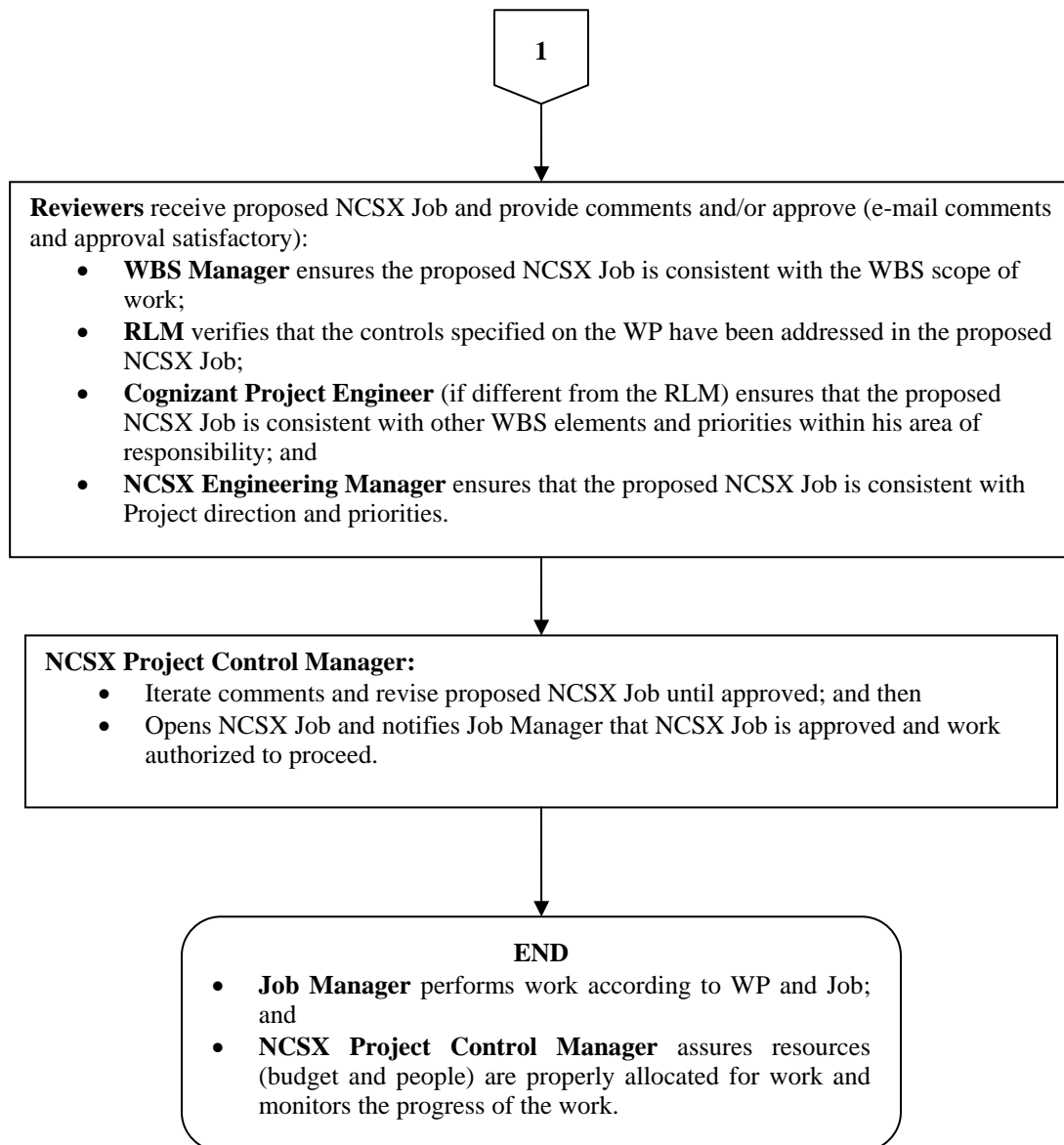
NCSX Project Control Manager develops a resource loaded NCSX Job in Primavera (P3) database using the Job Plan data and:

- Submits for review by the WBS Manager, the RLM, the cognizant Project Engineer, and the NCSX Engineering Manager; and
- Identifies budget available for the job.

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