

National Compact Stellarator Experiment

NCSX

DOCUMENTS & RECORDS PLAN

NCSX-PLAN-DOC-DraftC

January 22, 2002

Prepared By: _____
W. Reiersen, NCSX Project Engineer

Approved by: _____
G.H. Neilson, NCSX Project Manager

RECORD OF REVISIONS

Revision	Date	Originator	Description of Change
Draft A	12/01	Reiersen	Initial draft developed for comment
Draft A2	1/02	Simmons	Updated to include record retention requirements
Draft B	1/22	Reiersen	Updated to include comments by Reiersen and Malsbury
Draft C	1/23	Reiersen	Updated to incorporate comments by Simmons and Malsbury

THIS IS AN UNCONTROLLED COPY OF A CONTROLLED DOCUMENT. CHECK THE NCSX WEB SITE TO ASSURE THAT IT IS CURRENT. THE ORIGINAL SIGNED DOCUMENT IS ON FILE AT NCSX.

Table of Contents

1	PURPOSE	1
2	DEFINITIONS	1
3	RELATED DOCUMENTS	2
4	RECORDS RETENTION REQUIREMENTS	2
5	DOCUMENTS AND RECORDS	3
5.1	Project Definition Agreements	4
5.2	Plans	5
5.3	Requirements Documents	7
5.4	Memoranda.....	9
5.5	Quality Assurance Records	9
5.6	Training Records.....	10
5.7	Procurement Deliverables	10

1 PURPOSE

This document defines the official documents and records for the design, fabrication, and construction stages of the NCSX Project, including commissioning prior to first plasma. This document defines the purpose, content, format, approval level, records retention requirements, and file/document naming convention for each document and record. This document meets the requirements of PPPL Policy P-050, Quality Documents and Records, and GEN-023, Records Management.

Provisions for the retention, protection, preservation, revision, traceability, accountability, and retrievability of these documents and records are described in the NCSX Data Management Plan (NCSX-PLAN-DMP) and the NCSX Configuration Management Plan (NCSX-PLAN-CMP).

This document does not apply to drawings. For a discussion of drawing retention and control, please refer to the NCSX Data Management Plan (NCSX-PLAN-DMP).

2 DEFINITIONS

Document	Recorded information that describes, specifies, reports, certifies, requires, or provides information, data or results. A document is not a record until it meets the definition of record.
Calculations	Results obtained from mathematical processes used in design, operation, etc.
Guides	A document that provides additional information to NCSX project staff. Examples might be users' guides or documents that describe possible techniques for analysis.
Procedure	A document that provides an orderly, detailed method of accomplishing tasks within the applicable Laboratory and NCSX guidelines and with established responsibilities and actions.
Record	A completed document or other media that provides objective evidence of an item, service, or process.
Standard	A document that defines the minimum quality and performance outcome of a process.

3 RELATED DOCUMENTS

The following are related documents:

- a. NCSX Project Execution Plan (NCSX-PLAN-PEP)
- b. NCSX Configuration Management Plan (NCSX-PLAN-CMP)
- c. NCSX Data Management Plan (NCSX-PLAN-DMP)

4 RECORDS RETENTION REQUIREMENTS

The contract between Princeton University and the Department of Energy requires that a records management and retention program be established and implemented at PPPL that meets the requirements of DOE O 200.1. Procedure GEN-023 provides the overall laboratory plan for complying with this requirement. The purpose of this section is to identify key NCSX documents and how they fit into the overall scheme. This section focuses on documentation relevant to the design and documentation of NCSX. Documentation associated with other stages, such as operations or decommissioning and dismantlement will be identified in later versions.

The design and requirements documents and records that define and substantiate the design, fabrication, modification, and operation of the NCSX device or define and document the management approaches and procedures that govern how the Project is managed, typically include the following:

- Specifications and engineering drawings that define the configuration baseline
- NEPA) documentation
- Safety Analysis Document
- Cost and schedule documents
- Change control documents
- Formal Project plans and procedures
- Project Control System description
- Procurement documentation

In accordance with applicable DOE guidelines and PPPL Procedure GEN-023, Table 4-1 defines retention requirements by DOE record type.

Table 4-1 Document retention requirements

Type of Record	NCSX Record Key	DOE Record Type (GEN-023)	Retention Requirement (GEN-023)
Initial planning documents	DC1	14	Until project completion
NEPA documentation and other permits	DC2	O	10 years – need DOE approval to dispose of
Other technical information and/or data prepared for outside (of DOE) agencies	DC3	O	10 years – need DOE approval to dispose of
Design requirements documents	DC4	A16	Cut off at end of each FY. Destroy after 10 years
Project design documentation records	DC5	14	Until dismantlement or disposal
Project management records	DC6	16	1 year after project completed
Miscellaneous records supporting, but not required for project record purposes	DC7	14	Until project completion or superseded

5 DOCUMENTS AND RECORDS

A list of official documents and records is provided in this section. This list represents an initial definition of those documents currently envisioned during the conceptual design and initial part of the preliminary design phases. Other documents will be defined and added as the project progresses.

For each document or record, the following is given:

- a. Purpose - This gives the purpose of the document. If relevant, this also defines the circumstances under which the document may serve as an official NCSX record.
- b. Preparation and Approval - This defines the individuals responsible for preparing and approving the specified document. **The individual with approval authority is responsible for identifying all appropriate personnel who should formally review the document. The individual responsible for preparing the document is also responsible for distributing the document to the reviewers; for responding to the reviewers' comments; and for identifying unresolved issues to the individual with approval authority.** The NCSX philosophy is to limit the number of approvals within the NCSX Project to as few as possible. Revisions are uniquely identified and undergo the same approval process as the original document.
- c. Format - This indicates where the required format for the document is specified. Documents that are unique, i.e. only one is expected to be generated for the project, may have no specified format. The format selected should be that most appropriate to the document.

- d. Naming Convention - This specifies both the identifier for the document and the name of the file containing the document.
- e. Document Retention Classification – The document retention classification is defined for each document. Retention requirements are specified by document retention classification in Section 5.

The NCSX Project will store all pertinent design and management documents electronically in accordance with processes defined in the NCSX Data management Plan (NCSX-PLAN-DMP) and the NCSX Configuration Management Plan (NCSX-PLAN-CMP) and subordinate procedures. Project participants will have access to these documents through the Internet.

The following items apply to all NCSX documents and records, as relevant:

- a. For documents or records with the characters "wbs#" in the name specified in Appendix I, substitute the two digit level 3 WBS identifier of the subject matter. If the subject matter is applicable to multiple WBS sub-elements, the first digit in the WBS entry should be the level 2 WBS identifier and the second digit should be "x", e.g. "7x" if applicable to multiple sub-elements within WBS 7.
- b. The "rev#" in the naming convention refers to the revision number and must be two digits, e.g. "00", "01". This allows the proper sorting of file names. During the initial development of a document, revisions should be consecutively identified as Draft A, Draft B, etc. The first approved version will be identified as Revision 00.
- c. For documents or records with the characters "xx-yymmdd-name-zz" in the name:
 - xx - two digit (Level 3) WBS identifier of subject matter,
 - yymmdd - six digit date in the format year, month, day
 - name - name of author (e.g. GHN, limited to a maximum of 7 characters)
 - zz - two digit sequential number assigned by the author under that WBS element (numbers restart at 1 daily)

5.1 Project Definition Agreements

Project Execution Summary/Statement of Work - unique document

Purpose	Defines the agreement between DOE and the NSTX Program Manager with regard to the NSTX mission, technical objectives, major milestones, cost objective, and project scope.
Preparation, review, and approval	Prepared by: NCSX Project Manager Approved by: PPPL Director, DOE Project and OFES Program Managers
Format	--
Naming convention	NCSX-PLAN-PES-rev#
NCSX record key	DC1

Advance Acquisition Plan - unique document

Purpose	Describes the acquisition strategy and business plans to be used in the execution of the NCSX Project
Review and Approval	Prepared by: NCSX Project Control Manager, NCSX Project Engineer, PPPL Procurement Manager, and NCSX Project Manager Approved by: DOE NCSX Program Manager
Format	--
Naming Convention	NCSX-PLAN-AAP-rev#
NCSX Record Key	DC1

5.2 PlansProject Execution Plan (PEP) - unique document

Purpose	Describes management methodology to be applied during the design and fabrication stages of the NCSX project.
Review and Approval	Prepared by: NCSX Project Control Manager Approved by: NCSX Project Manager, PPPL Director, and DOE Project Manager
Format	--
Naming Convention	NCSX-PLAN-PEP-rev#
NCSX Record Key	DC1

Project Documents & Records Plan - unique document

Purpose	Describes the official documents and records of the NCSX project. (This document)
Review and Approval	Prepared by: NCSX Project Engineering Head and NCSX QA Manager Approved by: NCSX Project Manager
Format	--
Naming Convention	NCSX-PLAN-DOC-rev#
NCSX Record Key	DC1

Quality Assurance Plan - unique document

Purpose	Provides matrix of PPPL quality requirements to implementing procedures
Review and Approval	Prepared by: NCSX QA Manager Approved by: NCSX Project Manager, PPPL Engineering Department Head, PPPL QA Manager, and PPPL Director
Format	--
Naming Convention	NCSX-PLAN-QAP-rev#
NCSX Record Key	DC1

Systems Engineering Management Plan (SEMP) - unique document

Purpose	Describes engineering management methodology and systems to be applied during the design and fabrication stages of the NCSX project.
Review and Approval	Prepared by: NCSX Project Engineer Approved by: NCSX Project Manager
Format	--
Naming Convention	NCSX-PLAN-SEMP-rev#
NCSX Record Key	DC1

Initial Experimental Plan - unique document

Purpose	Provides an overview of the planned phases of NCSX operation
Review and Approval	Prepared by: NCSX Physics Head Approved by: NCSX Project Manager
Format	--
Naming Convention	NCSX-PLAN-EXP-rev#
NCSX Record Key	DC1

Configuration Management Plan - unique document

Purpose	Provides a description of the processes that will be used to effect configuration management on the NCSX Project
Review and Approval	Prepared by: NCSX Project Engineer Approved by: NCSX Project Manager
Format	--
Naming Convention	NCSX-PLAN-CMP-rev#
NCSX Record Key	DC1

Data Management Plan - unique document

Purpose	Provides a description of the processes that will be used to effect document and drawing control on the NCSX Project
Review and Approval	Prepared by: NCSX Project Engineer Approved by: NCSX Project Manager
Format	--
Naming Convention	NCSX-PLAN-DMP-rev#
NCSX Record Key	DC1

Interface Control Management Plan - unique document

Purpose	Provides a description of the processes that will be used to effect interface control on the NCSX Project
Review and Approval	Prepared by: NCSX Project Engineer Approved by: NCSX Project Manager
Format	--
Naming Convention	NCSX-PLAN-ICMP-rev#
NCSX Record Key	DC1

Test and Evaluation Plan - unique document

Purpose	A Test and Evaluation Plan (TEP) establishes how integrated system testing will be performed and managed. The TEP will include an overview and schedule of the integrated system test program and the purpose, scope, and objective of each system test; test configurations; and test responsibilities.
Review and Approval	Prepared by: NCSX Construction Manager Approved by: NCSX Project Engineer
Format	--
Naming Convention	NCSX-PLAN-TEP-rev#
NCSX Record Key	DC1

5.3 Requirements DocumentsGeneral Requirements Document - unique document

Purpose	The General Requirements Document (GRD) is a system (top) level specification which states the technical and mission requirements for the entire system (WBS Level 1), allocates requirements to functional areas (WBS elements), document design constraints, and defines interfaces between or among functional areas
Review and Approval	Prepared by: Project Engineer Approved by: Project Manager
Format	ENG-006 or equivalent Project standard
Naming Convention	NCSX-GRD- rev#
NCSX Record Key	DC4

Development Specifications - many documents

Purpose	Development specifications are documents below the system (top) level that state performance, interface, and other technical requirements in sufficient detail to permit design, engineering for service use, and evaluation. Development specifications are intermediate, between the system specification and product specification(s).
Review and Approval	Prepared by: Cognizant WBS Manager Approved by: Project Manager (or designee)
Format	ENG-006 or equivalent Project standard
Naming Convention	NCSX-BSPEC- wbs#-spec#-rev# (Document names assigned by cognizant WBS Manager per prescribed convention)
NCSX Record Key	DC5

Product Specifications - many documents

Purpose

Product specifications are applicable to production items below the system (top) level. All procurements below the system level should be based on product specifications. Product specifications may be oriented towards procurement of a product through specification of primarily functional (performance) requirements or primarily fabrication (detailed design) requirements.

A product *functional* specification states (a) the complete performance requirements of the product for the intended use, and (b) the necessary interface and interchangeability characteristics. It covers form, fit, and function. Complete performance requirements include all essential functional requirements under service environmental conditions or under conditions simulating the service environment. Quality assurance provisions for hardware include one or more of the following inspections/tests: qualification evaluation, pre-production, periodic production, and quality conformance.

A product *fabrication* specification states (a) a detailed description of the parts and assemblies of the product, usually by prescribing compliance with a set of drawings, and (b) those performance requirements and corresponding tests and inspections necessary to assure proper fabrication, adjustment, and assembly techniques. Tests are normally limited to acceptance tests in a shop environment.

Review and Approval

Prepared by: Cognizant WBS Manager

Approved by: NCSX Project Manager (or designee)

Format

ENG-006 or equivalent Project standard

Naming Convention

NCSX-CSPEC- wbs#-spec#-rev# (Document names assigned by cognizant WBS Manager per prescribed convention)

NCSX Record Key

DC5

Process Specifications - many documents

Purpose

This type of specification is applicable to a process which is performed on a product or material. Examples of processes are: heat treatment, welding, plating, and marking. Process specifications cover manufacturing techniques which require a specific procedure in order that a satisfactory result may be achieved. Where specific processes are essential to fabrication or procurement of a product or material, a process specification is the means of defining such specific processes.

Review and Approval

Prepared by: Cognizant WBS Manager

Approved by: NCSX Project Engineer

Format

ENG-006 or equivalent Project standard

Naming Convention

NCSX-DSPEC- wbs#-spec#-rev# (Document names assigned by cognizant WBS Manager per prescribed convention)

NCSX Record Key

DC5

Material Specifications - many documents

Purpose	This type of specification defines the required qualities or condition of raw or semi-fabricated material (e.g., electrical cable, copper tubing) used in fabrication
Review and Approval	Prepared by: Cognizant WBS Manager Approved by: NCSX Project Engineer
Format	ENG-006 or equivalent Project standard
Naming Convention	NCSX-ESPEC- wbs#-spec#-rev# (Document names assigned by cognizant WBS Manager per prescribed convention)
NCSX Record Key	DC5

5.4 Memoranda

Memoranda - many documents

Purpose	General means of providing information that does not fit into one of the other established documentation/record types.
Review and Approval	Prepared by: Assigned responsible individual Approved by: None
Format	--
Naming Convention	xx-yymmdd-name-zz
NCSX Record Key	Determined by the content of the memorandum in accordance with Table 4-1

5.5 Quality Assurance Records

Quality Assurance Records - many documents

All records are maintained and controlled per Quality Assurance internal document, QP-002, Quality Assurance Records.

Record Type	Purpose	Applicable Procedure
Audit/Surveillance	Document results of audits and surveillances on NCSX, the findings, and the corrective action taken to resolve the findings.	QA-002
Risk Acceptance Plan	Documents inspection plan for an activity.	QA-004
Nonconformance Report	Documents nonconformances and their resolution. The definition of nonconformance from QA-005 is: "Any deficiency in characteristic, documentation, design, function, or procedure that renders the quality of an item or activity unacceptable or indeterminate."	QA-005

<p>THIS IS AN UNCONTROLLED COPY OF A CONTROLLED DOCUMENT. CHECK THE NCSX FILE SHARE SERVER TO ASSURE THAT IT IS CURRENT. THE ORIGINAL SIGNED DOCUMENT IS ON FILE AT NCSX.</p>

5.6 Training Records

Training Records - many documents

Record Type	Purpose	Applicable Procedure
Course Content	Document content of training programs.	TR-001, Laboratory Training Program
Training attendance and completion	Document the individuals who completed each training program.	Same

5.7 Procurement Deliverables

Purpose	<p>This includes records provided to NCSX by a supplier as a result of contractual requirements. They provide evidence of the quality of procured items. Examples of such records are:</p> <ul style="list-style-type: none"> Manufacturing, Inspection, and Test (MIT) Plan Reliability and Maintainability Documents Workmanship Standards Completed Release for Shipment Form Process History, which includes Certificates of Compliance, Material Certifications, Planning & Control Documents, Inspection Reports, Test Reports, Supplier NCRs, and Personnel Qualifications and Certifications Quality Assurance Plan Quality Assurance Program Manuals
Review and Approval	<p>Prepared by: Supplier Approved by: Supplier or NCSX, as specified in the contract</p>
Format	Supplier specified
Naming Convention	---
NCSX Record Key	DC7