NCSX
Data Management Plan

NCSX-PLAN-DMP-02

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NCSX DATA MANAGEMENT PLAN

Record of Revisions

Revision	Date	Description of Changes
0	5/9/2003	Initial issue
1	2/3/04	Revised to incorporate observations 8a-8e concerning handling and storage of legacy drawings per PPPL Audit # 0308 and NCSX Audit #0314. Also incorporated NCSX team review comments. Changes to Revision 0 underlined.
2	4/21/2005	Clarified relationship between PPPL Ops Center and the NCSX Data Records System and added discussion on deviations and NCRs. Incorporated comments on the Manufacturing Web and deviations and non-conformances.

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1 INTRODUCTION

1.1 Purpose

The purpose of this Data Management Plan (DMP) is to describe the process by which documents for the National Compact Stellarator Experiment (NCSX) Project will be stored and managed. The vast majority of project documents will be created, stored, and be accessible electronically. These electronic records are subject to the same degree of configuration and revision control as those hard copy records stored in the PPPL Operations Center. In addition, in order to maintain the records current, the electronic records on the NCSX Project Web are automatically backed up periodically (at least weekly) by the PPPL Data Management and Retrieval Systems (NetBackup). Since these records are subject to the same degree of rigor in maintaining them current, those records stored electronically on the ***NCSX electronic sites are considered to be remote locations of the PPPL Operations Center.*** During the design and construction phase, these files (which do not duplicate files and records stored in the PPPL Operations Center) will be maintained by the NCSX Project. Early in the Operations Phase of NCSX, it is anticipated that these files and records will be transferred to the Operations Center for control.

In instances where the electronic storage of project documents is not practical (e.g., supplier submittals, Work Planning Forms, Job Hazard Analyses, etc.), hard copies will be provided to the PPPL Operations Center for storage. If feasible, the cover page, first page, or other identifying sample of the hard copy will be scanned and stored electronically with the appropriate annotation made in the electronic file as to the source repository.

Electronic data will be stored in nine sites – six Web sites accessible through the Internet, two sites on the PPPL File Transfer Protocol (FTP) server, and an Oracle database that can be accessed using Pro/INTRALINK software from Parametric Technologies Corporation (PTC), the maker of Pro/Engineer software. A listing of the nine sites and their customers, custodians, document types, and access restrictions is provided in Table 1.1-1. The custodians are the personnel solely responsible for the content and maintenance of the data storage site (web or FTP server) and there is only one custodian (plus the single "back-up" person identified as the designee in case of absence of the custodian) per storage site. In instances where there are controlled documents involved (e.g., the Engineering Web, the Pro/INTRALINK database, etc.), the custodian also becomes the electronic document manager.

Table 1.1-1 Sites for Data Storage and Retrieval

Storage Location	Documents	Customer	Custodian	Access
Project Web	General project information, external design review data, physics meeting records, PAC meeting records, publications, and the project directory	General public, project participants	Project Manager*	Global
Procurement Web	All documentation required for potential suppliers to develop proposals for pending RFQ/RFPs.	Potential Suppliers	PPPL Procurement	Global
Manufacturing Web	This open access site contains project documentation of interest to potential suppliers before any procurement process has started..	Potential Suppliers	WBS Managers	Global
Engineering Web	All other project documentation including cost and schedule information, design criteria, internal design review data, engineering and project meeting minutes, memoranda, analysis reports, controlled documents not otherwise posted, and work plans	Project participants	Engineering Manager*	Project
Operations Center	Hard copy documents not readily converted to electronic copy are stored in the Operations Center (e.g., NCRs, vendor submittals, completed WPs, etc.)	Project participants	Operations Center Supervisor	Project
Pro/INTRALINK Database	CAD drawings and models for project use	Project participants	Design Integration Manager	Project (INTRALINK software required)
PPPL Drafting Center	Hard copy legacy drawings.	Project participants	PPPL Drafting Supervisor	Project
Project FTP Server	Large data files primarily used in physics analyses	Physics and engineering analysts	Engineering Manager*	Global
Supplier FTP Server	Supplier information for existing contracts: specifications, models and drawings, SOW, etc.	Suppliers with Contracts	Design Integration Manager	Global
* Or designee				

Table 1.1-1 above identifies specific custodians by position. The specific storage site custodian may, at his or her discretion delegate read-write authority to portions of the site to others. This should be limited, however, to ensure proper configuration control. For example, the Engineering Manager is designated the custodian for the Engineering Web Page, but the he has delegated responsibility for certain portions of the Engineering Web Page to the Systems Engineering Support Manager (e.g., electronic signatures, plans and procedures, interfaces, and the WBS). Likewise, the Engineering Manager is also designated the custodian of the Manufacturing Web Page. However, since it is critical to maintain the proper configuration control connections between the subcontracts and the data posted on the Manufacturing Web Page, responsibility for maintaining the individual sections of the Manufacturing Web Site will be delegated to the individual subcontract technical managers. These technical representatives are most familiar with the status of

their respective subcontracts and are therefore responsible for ensuring that the subcontracts and data posted on the Manufacturing Web Site are entirely self-consistent. NCSX Procedure NCSX-PROC-006 outlines the requirements and processes the subcontract technical representative must go through to ensure consistency between the subcontract and the technical documentation being used by the subcontractor. Vendor-related information posted on either the Supplier FTP or NCSX Manufacturing Web sites will contain the appropriate disclaimer statements relative to use of this information as per the samples shown in NCSX Procedure NCSX-PROC-006.

In addition, there are several databases, files,or drawings that are not readily available for general public or project access. These include:

- The cost and schedule database. All source cost and schedule data is maintained in the Primavera Project Planner (P3) database. This is a restricted site that reflects all input data from the project relative to the cost and schedule baselines. The P3 database is controlled and maintained by the NCSX Project Control Manager. Cost and schedule charts and tables from this database is forwarded to and posted on the NCSX Engineering Web.
- The Non-Conformance Report (NCR) database. NCRs are the responsibility of QA. QA has a database that is used to generate and track these NCRs. The signed copies, maintained by QA in paper format, are the official records of the NCR system. The QA RAP/NCR database provides for tracking and a less formal backup of the paper records. Copies of approved NCRs are available in pdf format from QA., however, the output files are also available to project personnel upon request.
- The Job Hazard Analysis (JHA) forms are maintained and filed by the PPPL Industrial Safety Office. Copies are available to project personnel upon request.
- Operations Center – although an electronic record/catalogue of what is stored in the Operations Center will be maintained on the Operations Center web page, the actual physical copy records (e.g., vendor submittals, WP documentation, Job Hazard Analyses, field procedures, etc.) will be stored in the Operations Center. The Operations Center Supervisoris responsible for maintaining an accurate log on the Operations Center web site, however, the responsibility for providing material to the Operations Center remains with the cognizant engineer, Procurement Technical Representative, or WBS Manager as appropriate.
- Legacy Drawings – notwithstanding the PPPL transition from hard copy to electronic drawings, there exist a large number of legacy vellum and other hard copy medium drawings that document legacy equipment and systems. NCSX will make significant use of legacy equipment and systems. These drawings shall retain their original numbers and be maintained in the PPPL Drafting Center. The PPPL Drafting Supervisor shall maintain control of these hard copy drawings.

As a general rule, all documents will only appear on one storage site and links may be established to gain access to that document from other storage sites for convenience. The one major exception to this rule involves documents intended for supplier use. With respect to suppliers, the “approved” documents are those specifically referenced in the contracts with them. The Procurement Web, Manufacturing Web and Supplier FTP

storage sites are the sole source of access and information by suppliers. However, it should be noted that duplicate files are also maintained as part of the project files on both the Engineering and Pro/INTRALINK storage sites. It is also conceivable, that a later version of the particular document and/or drawing or model will be available on the project-only access sites than on the supplier-access sites until such time that the respective contracts are modified to reflect the latest information. The project-only access sites (e.g., Engineering Web, Pro/INTRALINK database, Project FTP server, etc.) will always contain the latest master versions of the respective documents.

From a project management perspective, there are three NCSX project baselines – technical, cost, and schedule. These three baselines are fully integrated since they are derived from the same configuration. The combination of technical, cost, and schedule baselines forms the basis for project work authorization and management. While this DMP will primarily focus on the management and retrieval of documentation that describes the physical and functional configuration of the Project's technical baseline, it will also addressed the storage and retrieval of non-technical, but controlled documentation such as project plans and procedures.

1.2 Applicable Documents

This Data Management Plan (DMP) draws on the documents listed below. Documents referenced are the latest issues of the:

NCSX Documents

- Project Execution Plan (NCSX-PLAN-PEP)
- Systems Engineering Management Plan (NCSX-PLAN-SEMP)
- Work Breakdown Structure (WBS) Dictionary (NCSX-WBS)
- Quality Assurance Plan (NCSX-PLAN-QAP)
- Document and Records Plan (NCSX-PLAN-DOC)
- Configuration Management Plan (NCSX-PLAN-CMP)
- Interface Control Management Plan (NCSX-PLAN-ICMP)
- NCSX Procedure on Electronic Signatures (NCSX-PROC-005)
- NCSX Procedure on Maintaining the Manufacturing Web Site and the Supplier FTP Server (NCSX-PROC-006)
- NCSX Procedure on Release, Approval, and Revision of ProE/INTRALINK Fabrication Models and Drawings (NCSX-PROC-007)
- NCSX Procedure on Requests for Deviation (NCSX-PROC-009)
- NCSX ProE/INTRALINK Users Guide

The NCSX Project is committed to following all applicable PPPL plans and procedures unless specifically modified by NCSX- specific plans and procedures.

2 MANAGING THE TECHNICAL DOCUMENTATION

2.1 Definition of Technical Documentation

The NCSX technical documentation describes the physical and functional configuration of the Project's technical baseline. This includes models and drawings, whether created in Pro/Engineer or in other project-approved drawing software packages, technical specifications, Interface Control Documents (ICDs), the impact of approved Requests for Deviations (RFDs) and Non Conformance Reports (NCRs) on drawings, hardware, cost, and schedules, etc. In addition, there are other technical supporting documentation, such as memoranda and analyses that are not under configuration control, but nonetheless describe the basis for the controlled technical documentation.

Statements of Work (SOW) are not considered technical documents, but rather are contractual documents that provide guidance to prospective and successful bidders on the general contractual performance requirements expected. However, in some instances the decision will be made by the project to convey necessary technical information in lieu of developing a specification.

NCSX will primarily utilize three sites for managing controlled technical information. These are the Pro/INTRALINK database, the Engineering Web, and the Drafting Center hard copy legacy drawings. The Pro/INTRALINK database is the repository for the storage and retrieval of the all NCSX models and drawings, whether approved and controlled or in a "work-in-progress" status. All other technical documentation (e.g., specifications, analyses, technical memoranda, etc.) is contained on the Engineering Web. However, as noted above, other specific PPPL technical documentation pertaining to NCSX such as Non-Conformance Reports (NCRs), Work Planning (WP) forms, and Job Hazard Analysis (JHA) forms may or may not be stored in an electronic format and are controlled and maintained by separate PPPL entities. There are other specific sites (e.g., Manufacturing Web, PPPL FTP Server, Supplier FTP Server, and the Procurement Web) that may include duplicate copies of the controlled documentation for specific use and purpose, but the Pro/INTALINK database and the Engineering Web are the primary sites for technical information. As necessary, links to the other supporting sites may be established to facilitate use and access. NCSX will make significant use of legacy PPPL equipment and systems. The legacy drawings are primarily only maintained in hard copy format. These drawings will be maintained by the PPPL Drafting Supervisor in the PPPL Drafting Center.

It is conceivable over the lifetime of the NCSX Project that electronic software advances may make the current standards of Microsoft Office and Pro/E and/or AutoCAD obsolete. This may necessitate converting project files to a format compatible with the new standards. This will require development and implementation of a specific conversion plan.

2.2 Control and Management of Model and Drawing Records

2.2.1 Electronic Models and Drawings

The vast majority of NCSX models and drawings will exist in electronic form. The project's drawing software package standards are Pro/Engineer (2D or 3D) for mechanical systems and AutoCAD drawings for electrical systems. Mechanical models and drawings of the test cell, ancillary equipment and services will be generated using Pro/Engineer as the first choice system in order to facilitate the building of assemblies and to establish a single, unified database defining the NCSX facility. Electrical drawings (2D) will be generated using AutoCAD or Pro/Engineer (if appropriate) or other Project-approved software package. The Pro/INTRALINK database of CAD models and drawings represents the physical attributes of the NCSX technical baseline. The NCSX Project's design configuration is progressively described in greater detail as it proceeds through the design process.

The Engineering Manager may, on an exception basis, approve the use of other drawing software packages, but the project's Pro/Engineer model will then have to be modified to accurately define the component envelope and placed in the full Pro/Engineer assembly model. Models and drawings will be managed using the Pro/INTRALINK software from PTC. The NCSX ProE/INTRALINK Users Guide and NCSX Procedure on electronic model and drawing control (NCSX-PROC-007) provide the details of the preparation, review, approval, and changes of electronic models and drawings. The NCSX electronic model and drawing processes ensures that the Pro/INTRALINK system serves as the NCSX Project's primary electronic file system for controlled and in process models and drawings. As necessary, appropriate links to supporting technical documentation that is stored on other web sites will be made. All approved and controlled models and drawings will also be maintained in this database such that the Pro/INTRALINK database will be the repository for project personnel to access the latest controlled and approved production models and drawings, even if only annotated to reference approved Requests for Deviation (RFDs) on Non-Conformance Reports (NCRs). For R&D items and/or for prototypical items that will not be used on the NCSX device, the RLM may decide not to update the documentation (e.g., specs, models and drawings, etc.). However, to maintain the integrity of these files, only a limited number of personnel will be provided "write" access to modify these controlled files.

The Pro/INTRALINK Data Management System is closely linked to the NCSX Configuration Management Program. In the developmental stage of the design, Pro/INTRALINK provides a flexible environment to iterate the drawings and models that represent the evolving nature of the technical baseline. A broader discussion of the drawing release process is contained in the Pro/INTRALINK Users Guide and in NCSX-PROC-007. Once a drawing or model is placed under configuration control, the process for changing drawings and models that define the physical and functional configuration of the technical baseline is then controlled by the configuration control processes outlined in the NCSX Configuration Management Plan (CMP).

2.2.2 Legacy Drawings

The NCSX Project will utilize a significant amount of PPPL legacy equipment and systems. The drawings are primarily only available in hard copy vellum or other physical medium. They will be maintained in this format and be utilized by NCSX, maintaining the original numbering system. Several important cautions must be observed when utilizing these drawings:

- As part of the preparations of C-Site to accommodate the NCSX device, a significant amount of demolition and modifications to existing PPPL systems and infrastructure was accomplished. Prior to utilizing existing legacy drawings, the WBS Manager must first assure that the current legacy drawings accurately reflect the current as-built status of those systems. If not accurate, the decision needs to be made as to whether or not to modify existing legacy hard copy drawings or to create new drawings in an electronic format.
- Prior to discarding legacy hard copy drawings for legacy systems removed or modified in preparation for the NCSX, knowledgeable personnel from the NCSX Project and the PPPL Engineering Department need to review the drawings to determine their disposition and/or the need to modify existing drawings or to create new drawings for use on NCSX.

2.2.3 CAD Drawing Systems

The NCSX configuration management provides for a precise identification of technical, cost, and schedule baselines to establish the bases for performance measurement as well as tracking changes to those baselines. The Pro/INTRALINK database establishes the framework to document the technical baseline attributes described and documented in CAD models and drawings, specifications, and other controlled technical documentation.

A standardized drawing numbering scheme has been established for the NCSX Project. Specific guidance is provided in the Pro/INTRALINK Users Guide and NCSX-PROC-007, however, in general the NCSX drawing numbers will take a form that follows the NCSX WBS structure.

- Assigning drawing numbers will be the responsibility of the WBS manager in charge of a WBS design activity. The design process established in using

Pro/INTRALINK requires the engineer or designer working in a design area to "lock" the models and drawings being worked on so that other users cannot inadvertently make changes to the design as it is being developed. Using the WBS drawing tree structure and Pro/INTRALINK, an engineer or designer can go into the Pro/INTRALINK database \the next available number within the NCSX folder he is working in when a drawing is started

2.2.4 Drawing Control Process

At any time in the design evolution process, there may exist a series of developmental baselines representing various design studies and evolution. Within the Pro/INTRALINK environment, a defined set of "release" levels are available for a drawing or model to progress through from development to fabrication. For the NCSX Project, six release levels have been defined and are illustrated in Table 2.2-1. The NCSX" release" scheme provides a great deal of flexibility in dealing with design assessments and "release" promotions during the design review process. As with those models and drawings that represent the established technical baseline, a unique name and numbering scheme must be utilized for each of these developmental baselines. When a model or drawing is in this developmental status, a number of operations can be performed: create, view, modify, move to a different folder location, rename, check out objects to workspace and interrogate. Baseline parameters can be set as: read only; read and add; read, add and delete.

Work in Progress
Conceptual Design (CD)
Preliminary Design (PD)
Prototype (P)
Final Design (FD)
Fabrication

Table 2.2-1 NCSX Drawing/Model Release Levels

It is not necessary that an object pass though each release level. As a general rule, each of the "standard" release levels supporting the design process and evolution (e.g., Conceptual Design, Preliminary Design, and Final Design) is accomplished in preparation for a design review. In preparation for a Conceptual Design, Preliminary Design, or Final Design Review, the set of applicable drawings will be promoted to the appropriate level consistent with the upcoming design review. If a drawing is impacted by comments/CHITs received at the design review, it will be demoted back to "work in Progress" status until such time that the comments/CHITs have been satisfactorily resolved. Once a drawing has successfully completed a Design Review and all comments have been incorporated, it will again be promoted to the appropriate design level and this level of promotion will be frozen, forming part of the technical baseline that will not be changed. As the drawing is modified in preparation for the next design review, it will be demoted back to a "Work in Progress" status until such time that it is ready for the next design review. - This same process applies to promotion to higher-level release levels such as Final Design and Fabrication.

When a drawing or model is proposed for promotion, this will trigger a review process that will eventually culminate in the processing of an Engineering Change Proposal (ECP) that will eventually result in the updating of the technical, cost, and schedule baselines. Promotion of a drawing or model from Final Design Release to Release for Fabrication will invoke a new rigor of checking and design. The exception to this "standard" sequence addresses those drawings that are used for the development of prototypes. Prototype drawings are only used whenever it is anticipated that the design concept is not close to final and that changes are likely. If, however, the prototype is anticipated to represent the first production unit, then prototypes will also follow this sequence.

Each Pro/INTRALINK folder will have a predefined set of release procedures that identifies who can approve an object to allow it to pass to the next release level. The WBS Manager or Cognizant Engineer directly involved with the component design process will determine when a model or drawing should be proposed for promotion and whether the full release scheme should be followed or if a subgroup for the WBS section under his/her responsibility will suffice. The NCSX project release procedure starts with the designer (or drafter) promoting the object followed by sequential approvals made by the Cognizant Engineer, the responsible WBS manager, Design Integration manager and finally the responsible Project Engineer.

2.2.5 Model and Drawing Storage

All CAD models and drawings, and the native CAD data files, will be stored within the governing INTRALINK WBS folder under which the data was developed. All models and drawings that describe the approved technical baseline will be stored in the approved technical baseline folder in a PDF format. Models and drawings in a developmental baseline status will also be stored in a PDF format as each release level is achieved. The released drawing folder will have restricted write access with an unrestricted read access.

2.2.6 Changing Models and Drawings

Until a drawing or model is approved and released for fabrication, the revision level (e.g., Revision 0) will not be advanced. Rather, in accordance the ProE/INTRALINK processes, only the version number will be advanced. The same degree of discipline will be applied when promoting and/or demoting drawings and models to ensure that the latest released version is available on the Pro/INTRALINK database. Changes to approved and released fabrication drawings will be made in a manner that follows the NCSX Configuration Management Plan (CMP).

2.3 Other Technical Documents

2.3.1 General

Technical project documents identified as controlled documents (e.g., specifications, ICDs, etc.) and not designated as QA-related records such as NCRs, will reside in a web-based environment as they are being developed, existing as drafts for project review and mark-up. QA-related records such as NCRs will be maintained will be maintained in the

QA/NCR database. WBS-specific procurement and process specifications, including duplicate statements of work (to those maintained in the PPPL Procurement files), assembly procedures and testing procedures, will be stored in the parent WBS folder. Other technical documents that support the controlled technical documents will be maintained on the appropriate web page and links established to the Engineering Web page http://ncsx.pppl.gov /NCSX_Engineering/ .

2.3.2 Specifications

Specifications are requirements documents. As described in the Systems Engineering Management Plan (NCSX-PLAN-SEMP), specifications may fall into two categories; developmental or product specifications. If the specification is specific to a single WBS element (e.g., procurement or process specification), the specification will be stored in the parent WBS folder on the Engineering Web page http://ncsx.pppl.gov/NCSX_Engineering/ . However, if the specification is non-WBS-specific, then it is stored in the Project Oversight and Support folder. Examples of some specifications that will be developed for the NCSX Project include the following:

- NCSX General Requirement Document (NCSX-ASPEC-GRD)
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- NCSX Structural and Cryogenic Design Criteria Document
- NCSX Grounding Specification for Personnel and Equipment Safety
- NCSX Development Specifications (BSPECs)
- NCSX Product/Procurement Specifications (CSPECs)
- NCSX Process Specifications (Assembly and Testing Procedures)

2.3.3 Interface Control Documents (ICDs)

Interface definitions between two WBS system components will be defined in an Interface Control Document (ICD). The Interface Control Management Plan (NCSX-PLAN-ICMP) provides the process details for identifying, numbering, and managing interfaces between separate WBS elements with separate WBS Managers (primary interfaces) and those interfaces entirely within a single WBS element or between two WBS elements, but with the same WBS Manager (secondary interface).

Primary interfaces will be documented in Interface Control Documents (ICDs). The decision on the format of an ICD is left up to the responsible WBS Manager. However, all primary interfaces should be documented in some technically controlled document, be it an ICD or in a drawing. If the decision is made to prepare an ICD, they will be prepared and identified in accordance with the instructions contained in procedure NCSX-PROC-003, NCSX Interface Control. An interface may define a written agreement between WBS systems or define a physical boundary, mating surface geometry or attachment details that exist between two adjoining WBS components.

2.3.4 Deviations and Non Conformances

2.3.4.1 Deviations

A deviation is a specific written authorization to depart from a particular requirement(s) of the item's current approved technical documentation. A Request for Deviation (RFD) must be submitted and granted prior the start of the first manufacturing step that incorporates the proposed deviation. A RFD shall be submitted by the manufacturing organization (project or supplier) in either a letter or tabular format and will contain specific required information as defined in the NCSX Request for Deviation Procedure (NCSX-PROC-009).

A RFD shall be processed and adjudicated under the ECP process defined in NCSX Configuration Management Plan (NCSX-PLAN-CMP) and accompanying NCSX Configuration Control Procedure (NCSX-PROC-002). Until the RFD is approved, the item may not deviate from the technical requirements.

2.3.4.2 Non-Conformances

Non-conformances are similar to deviations in the intent to document departures from the technical performance or design requirements. Non-conformance requests shall be used to document departures from technical performance or design requirements that were not documented via a RFD (e.g., after the start of a specific manufacturing step). PPPL QA Procedure QA-005, "Control of Nonconformances," provides the guidance on the preparation, processing, and approval of Non-Conformance Reports (NCRs). As indicated in the NCSX Configuration Management Plan (NCSX-PLAN-CMP), if the project decides to not update the design documentation to as-built configuration, it is acceptable to make notations on individual production models and drawings to indicate approved Requests for Deviation (RFD) and/or NCRs. For R&D and prototypical items that will not be utilized on the experiment, the RLM may decide that technical documentation (e.g., specs, models and drawings, etc.) need not be updated or annotated.

2.3.5 Supporting Design Documentation

2.3.5.1 Memoranda and Calculations/Analyses

Memoranda and calculations/analyses will be stored on the appropriate web site (e.g., the Engineering Web Page http://ncsx.pppl.gov/_NCSX_Engineering/ for memoranda and the FTP server for large data calculation/analysis files). These documents will strored on these servers by the initiating author.

2.3.5.2 E-mails

In the electronic age, many design basis decisions and supporting technical bases are documented in e-mails. The e-mails related to specific design decisions and/or supporting technical bases will be stored in a separate set of electronic files. Appropriate e-mails will be forwarded to the Systems Engineering Administrator for filing by the initiating author.

3 MANAGING OTHER PROJECT DOCUMENTATION

3.1 Cost and Schedule Documentation

The cost and schedule baselines will reside on the Primavera Project Planner (P3) database maintained by the NCSX Project Control Manager. PDF files of the most recent cost and schedule baselines will be posted on the Engineering Web Page http://ncsx.pppl.gov/NCSX_Engineering/ when the technical, cost, and schedule baselines are updated. As indicated in this DMP and the Configuration Management Plan (CMP), the technical, cost, and schedule baselines can only be changed by an ECP once the initial set of baselines is established at the start of preliminary design.

3.2 Plans and Procedures

The NCSX Project Execution Plan ((NCSX-PLAN-PEP) identifies the list of project-specific plans to be developed and controlled under configuration control. These will be prepared and approved in accordance with the review and approval hierarchy specified in the NCSX Document and Records Plan (NCSX-PLAN-DOC). Proposed changes or drafts to new plans will be maintained on the NCSX Engineering Web Page http://ncsx.pppl.gov/NCSX_Engineering/ until such time that they are approved and placed under configuration control. Once that happens, they will be placed in the Engineering Web as part of the controlled project files. Since the project plans cut across all WBS elements, these are stored in the Project Oversight and Support folder.

The major exception to handling and control of NCSX generated procedures are “run” procedures developed for field activities (e.g., manufacturing, etc.). Although these procedures will be generated and signed electronically and stored on the NCSX Engineering web, the original hard copy versions will be transferred to the Operations Center so that they are readily available for field personnel. Accordingly, those copies on the NCSX Engineering Web are considered convenience copies only.

3.3 Miscellaneous Documents

3.3.1.1 WBS Dictionary

The NCSX Work Breakdown Structure (WBS) Dictionary (NCSX-WBS) is also a controlled document that is under configuration control. The WBS Dictionary is stored on the NCSX Engineering Web page http://ncsx.pppl.gov/NCSX_Engineering/ .

3.3.1.2 Procurement Documentation

The PPPL Procurement Department is responsible for maintaining all records related to procurements. Notwithstanding this, appropriate copies of Statements of Work and other procurement-related technical documentation will also be maintained in either the Pro/INTRALINK database for drawings or the NCSX Engineering Web page http://ncsx.pppl.gov/NCSX_Engineering/ .

3.3.1.3 Training Records

Specific individual on-site personnel training records will be maintained by the PPPL Human Resources Department.