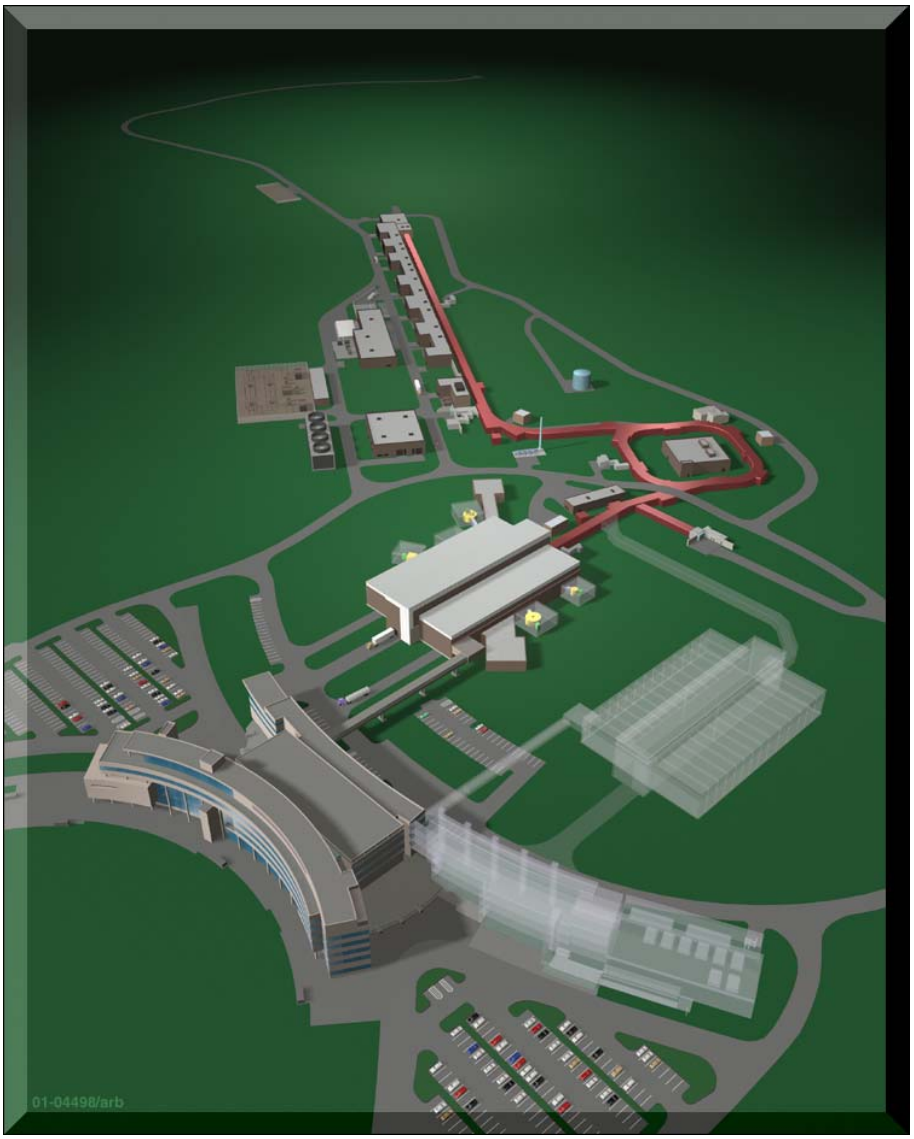
SNS-102010200-PC0002-R03

Configuration Management Plan



A U.S. Department of Energy Multilaboratory Project

SPALLATION NEUTRON SOURCE

Argonne National Laboratory • Brookhaven National Laboratory • Thomas Jefferson National Accelerator Facility • Lawrence Berkeley National Laboratory • Los Alamos National Laboratory • Oak Ridge National Laboratory

SNS

January 2002

SNS 102010200-PC0002-R03

CONFIGURATION MANAGEMENT PLAN

Date Published: December 2001

Prepared for the
U.S. Department of Energy
Office of Science

UT-BATTELLE, LLC
managing
Spallation Neutron Source activities at
Argonne National Laboratory
Brookhaven National Laboratory
Thomas Jefferson National Accelerator Facility
Lawrence Berkeley National Laboratory
Los Alamos National Laboratory
Oak Ridge National Laboratory
under contract DE-AC05-00OR22725
for the
U.S. DEPARTMENT OF ENERGY

SNS 102010200-PC0002-R04

CONFIGURATION MANAGEMENT PLAN

December 2001

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SNS Deputy Project Director

1/4/02
Date

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LIST OF FIGURES

ACRONYMS

ANL	Argonne National Laboratory
BCP	baseline change proposal
BES	Office for Basic Energy Sciences
BNL	Brookhaven National Laboratory
CCB	change control board
CFR	*Code of Federal Regulations*
CMP	*Configuration Management Plan*
CSTA	cost, schedule, technical assessment
DCC	Document Control Center
DCD	design criteria document
DCN	document change notice
DOE	U.S. Department of Energy
EIS	environmental impact statement
ES&H	environment, safety, and health
ICD	interface control document
IDD	interface definition document
IPS	Integrated Project Schedule
JLab	Thomas Jefferson National Accelerator Facility
LANL	Los Alamos National Laboratory
LBNL	Lawrence Berkeley National Laboratory
MPM	Micro-Frame Project Manager
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Operations
PCR	project change request
PEP	*Project Execution Plan*
QA	quality assurance
SNS	Spallation Neutron Source
SRD	system requirements document
STL	senior team leader
TEC	total estimated cost
TPC	total project cost
WBS	work breakdown structure

1. BACKGROUND AND INTRODUCTION

1.1 GENERAL OVERVIEW OF THE SNS PROJECT CONFIGURATION MANAGEMENT PLAN

The Spallation Neutron Source (SNS) project is a U.S. Department of Energy (DOE) Strategic System project that is being carried out as a partnership among six DOE national laboratories to design and build a world-class user facility for research in neutron science. The national laboratories in the SNS partnership are Argonne (ANL), Brookhaven (BNL), Thomas Jefferson (JLab), Lawrence Berkeley (LBNL), Los Alamos (LANL), and Oak Ridge (ORNL). This partnership approach is being used to effectively take advantage of each laboratory's specific technical expertise to provide the best possible facility to the neutron research community. The SNS *Project Execution Plan* (PEP) provides policy guidance for the overall planning and execution approach being used on the project and invokes this *Configuration Management Plan* (CMP) as the vehicle for maintaining the technical, cost, and schedule baselines for the facility. This CMP provides overall guidance to the participating partners on how the complex technical interfaces associated with the design and operation of the facility will be managed and maintained. Fig. 1.1 depicts the principle implementing elements of the SNS Configuration Management Program.

1.2 DESIGN AUTHORITY

The design authority for the project is the organization having overall responsibility for ensuring that the design of the facility meets critical operational and safety requirements associated with the project. This authority resides with the Level 3 Change Control Board (CCB). (See Section 2, "Organization and Approach.") This senior management team has established a proven program of using the peer review process to effectively capture the expertise of the scientific community in the design and operation of the facility. (See Section 5, "Peer Review Process.")

Each participating laboratory has design authority responsibility for the respective design activities associated with their subsystem of the facility. The following table lists the design authority relationship for the respective components of the facility:

FACILITY COMPONENT	DESIGN AUTHORITY
Front-end facility	LBNL
Linac	LANL
Superconducting linac	JLab
Ring and transfer systems	BNL
Target systems	ORNL
Instrument systems	ANL
Conventional facilities	ORNL/Knight Jacobs

1.3 COLLABORATIVE NATIONAL LABORATORY PROJECT ORGANIZATION RELATIONSHIPS

Each of the partner laboratories has expertise in its respective areas of research. It is imperative that the SNS project maintains this competitive position in the research community. Maximum freedom is being established to allow for independence and accountability of the respective design process within the respective partner laboratory organization. This is being done to facilitate optimum performance by the respective organizations and subsequent infusion of the highest level of expertise by the scientific

community in the design of the facility. A diagram depicting these organizations and the critical interface relationships that must be managed is shown in Fig. 1.2.

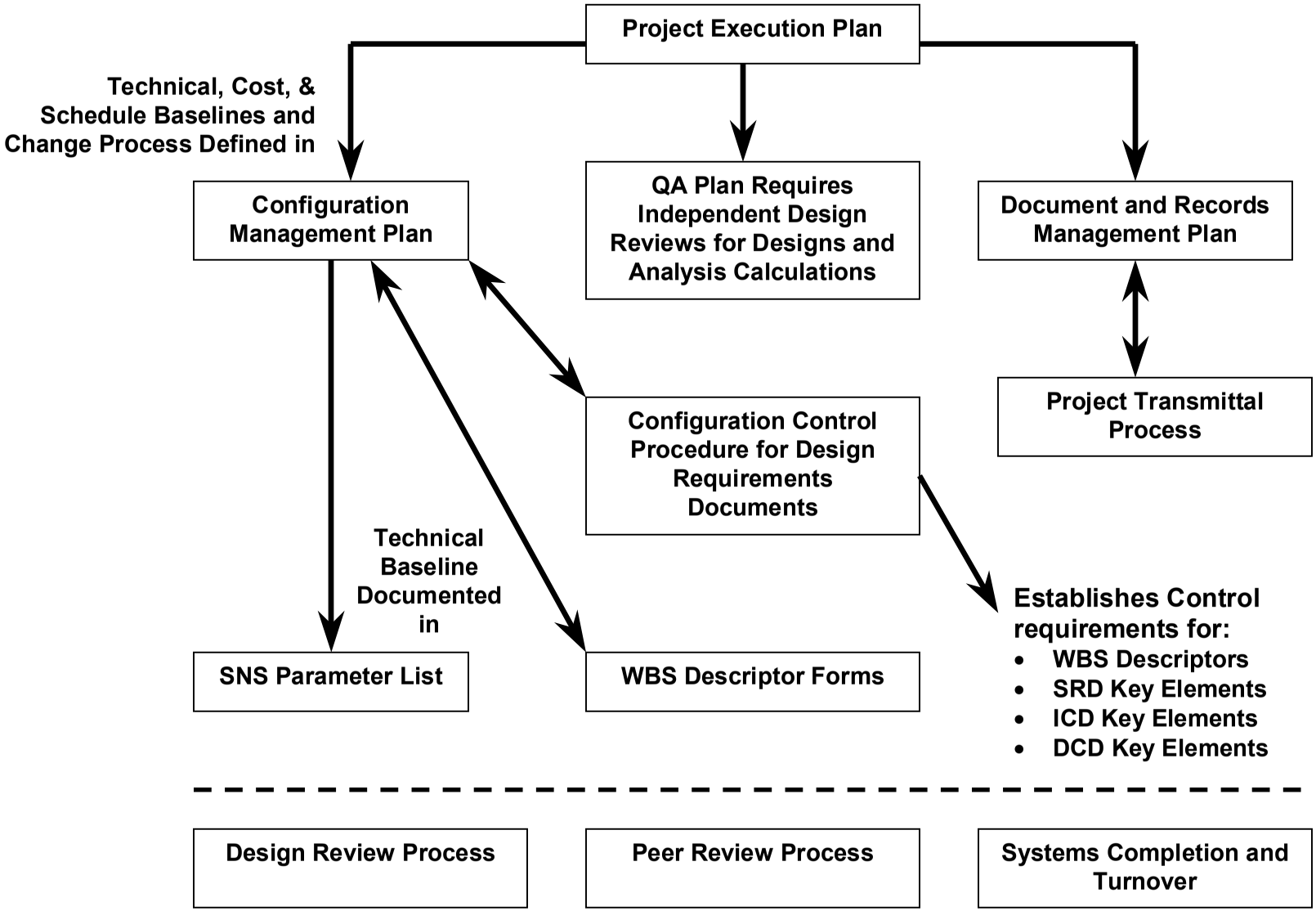


Fig. 1.1. Principle elements of the SNS Configuration Management Program.

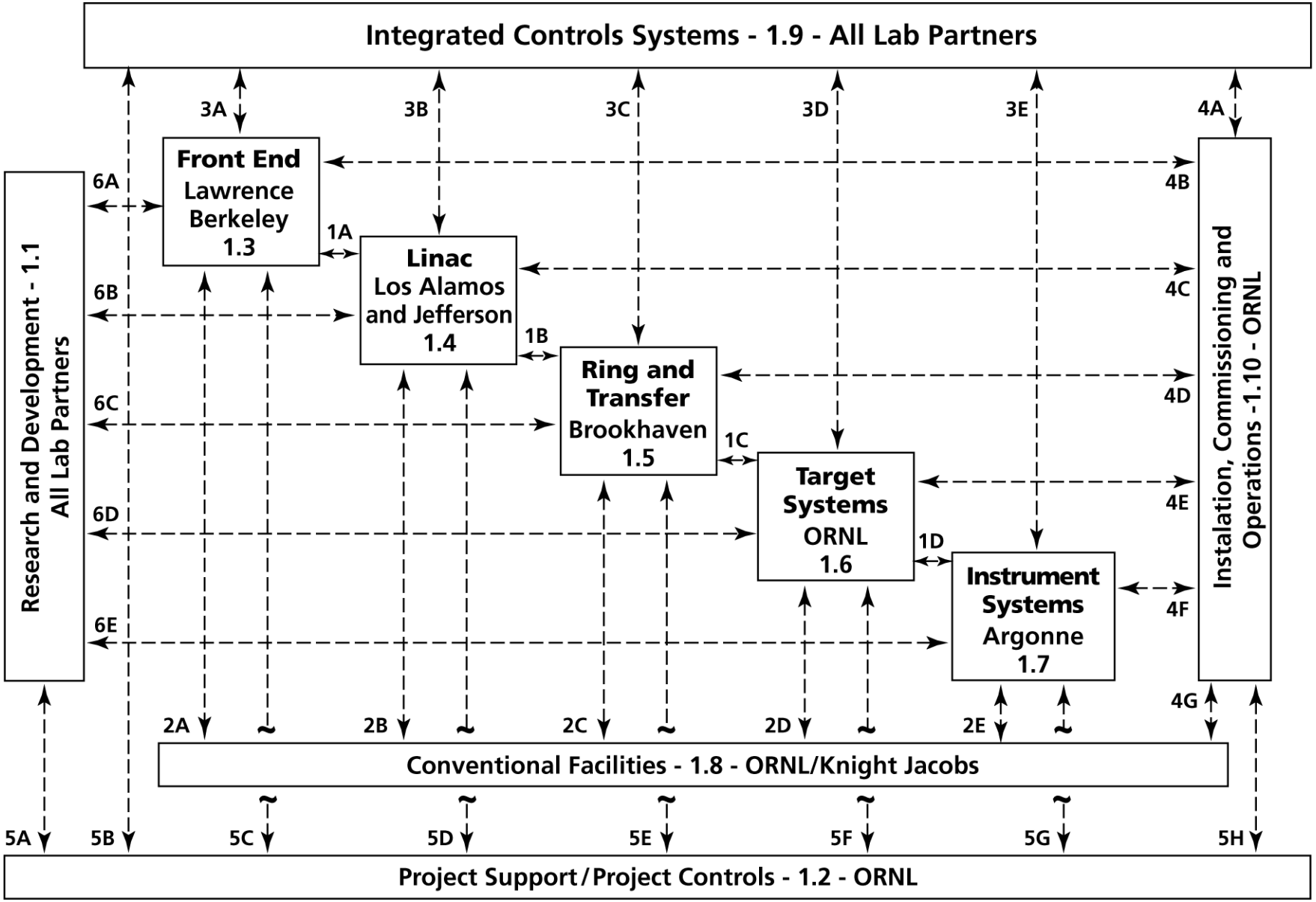


Fig. 1.2. Principle SNS technical and management interface relationships.

1.4 CRITICAL INTERFACE MANAGEMENT PROCESS

A comprehensive set of interfacing procedures has been developed to ensure that the respective elements of the facility interface, connect, and operate properly when they are installed at the site. These procedures provide a detailed technical description of the interfacing components of the facility. A list of these design requirements documents is listed in Section 2.3.

This set of interfacing documents, along with project management practices, establishes the means for coordination between the respective design entities. The procedures will allow the design and construction of the facility to proceed at an optimum cost and schedule.

2. ORGANIZATION AND APPROACH

2.1 RESPONSIBILITY

The design authority for the project resides with the Level 3 CCB. Implementation of design changes and responsibility for accuracy of the documentation for the facility resides with the SNS project director's technical organization. Selected administrative support functions are provided by the baseline change manager. Figure 2.1 illustrates the areas of responsibilities of the baseline change manager, Document Control Center (DCC), and Project Controls organizations.

2.2 OBJECTIVES

SNS configuration management supports all SNS functional groups, in particular, all partner laboratories in their configuration management/configuration control programs. The objectives of SNS configuration management include the following:

A. Ensure that integrity and continuity of changes are documented and recorded within the structure of technical, cost, and schedule baselines.

B. Provide identification, control, and status reporting necessary to assist management in achieving timely system readiness, visibility, traceability, and field support.

C. Provide managers at all levels with sufficient information for making appropriate, timely decisions throughout the life of the project.

D. Ensure that the evaluation of proposed configuration changes is timely and includes a thorough consideration of the change's total impact on technical, cost, schedule, operational capability, and support documentation.

2.3 TECHNICAL BASELINE DOCUMENTATION

The *SNS Parameters List,* SNS 100000000-PL0001, and the complete set of issued *SNS WBS* (Work Breakdown Structure) *Descriptors*, SNS 100000000-BL0002, document the technical baseline for the SNS, and together, define all the work to be performed on the SNS. The division directors and senior team leaders are responsible for maintaining the *SNS WBS Descriptors* and the *SNS Parameters List*. The descriptors are prepared at a level (generally Level 4) that is required to define the work to be done. Level 3, 2, and 1 summaries are also included. Only Levels 1, 2, 3, and 4 are placed under configuration control. Lower levels (level 5 and below) may be prepared, but these are not controlled by the configuration management system.

System Requirements Documents—SRDs provide a comprehensive description of the technical attributes and design basis for major SNS systems or facilities, generally at WBS Level 2. They are the key design basis documents that provide the framework for how each partner design will be developed. They include a functional description of the major system or facility broken down by WBS element and outline the design criteria documents, which will provide additional supporting details to the SRD. They also include a technical description of the design requirements for the associated building or component.

Design Criteria Documents—DCDs establish the very detailed design basis criteria associated with the subsystems, components, and elements of the facility. A family of DCDs is developed for each SRD, providing expanded design criteria and requirements details at the lowest project technical baseline levels. Interface requirements regarding other project partners are also provided to ensure that the

framework for design integration is developed, scrutinized, and reviewed at the lowest levels of design activity.

Interface Control Documents—ICDs define the technical requirements to maintain the technical interface between the highly sophisticated interactions of the subsystems of the facility. These technical documents include a functional description of each section, a description of the technical requirement maintained at the interface, as well as design requirements associated with the subsystem. Interface requirements regarding other project partners are provided to ensure that the framework for design integration is developed, scrutinized, and reviewed at the lowest levels of design activity.

Interface Definition Documents—IDDs provide system-level technical interface requirements and design authority definitions that must be managed between the various SNS project partners. In many ways, they serve a similar function as the SRDs and address design basis interface management outside each partner's "design authority box." IDDs also define what lower-level interface requirements will be defined in the supporting details of ICDs.

Table 1 provides a list of SRDs, DCDs, ICDs, and IDDs.

Table 1. Design basis documents (SRDs and DCDs) and design interface management documents (IDDs and ICDs)

Lead Lab	Title
WBS 1.3 Front-End Facilities	
LBNL	SRD-WBS 1.3 Front-End Facilities
LBNL	DCD-WBS 1.3: Design Criteria Front End
WBS 1.4 Linear Accelerator	
LANL	SRD WBS 1.4 Linear Accelerator
LANL/JNL	SRD WBS 1.4.? Superconducting Cryogenic Facility
LANL	DCD-WBS 1.4.1.1: RF[a] Power
LANL	DCD-WBS 1.4.1.2: HV[b] Power Conditioning
LANL	DCD-WBS 1.4.1.3: RF Controls
LANL	DCD-WBS 1.4.2.2: DTL[c] Structure
LANL	DCD-WBS 1.4.2.3: DTL Magnets
LANL	DCD-WBS 1.4.2.4: DTL Vacuum System
LANL	DCD-WBS 1.4.2.5: DTL Water Systems
LANL	DCD-WBS 1.4.2.6: DTL Mechanical Systems
LANL	DCD-WBS 1.4.4.2: CCL[d] Structure
LANL	DCD-WBS 1.4.4.3: CCL Magnets
LANL	DCD-WBS 1.4.4.4: CCL Vacuum System
LANL	DCD-WBS 1.4.4.5: CCL Water Systems
LANL	DCD-WBS 1.4.4.6: CCL Mechanical Systems
LANL	DCD-WBS 1.4.5.1: MEBT[e] Chopper
LANL	DCD-WBS 1.4.5.2: Diagnostics
JLab	DCD-WBS 1.4.? Superconducting Cryogenic Facility
WBS 1.5 Ring	
BNL	SRD-WBS 1.5 Ring and Transfer System
BNL	DCD-WBS 1.5.1: DCD HEBT[f]
BNL	DCD-WBS 1.5.2: DCD Injection Systems
BNL	DCD-WBS 1.5.3: DCD Magnet Systems
BNL	DCD-WBS 1.5.4: DCD Power Supply System
BNL	DCD-WBS 1.5.5: DCD Vacuum System
BNL	DCD-WBS 1.5.6: DCD RF System
BNL	DCD-WBS 1.5.7: DCD Ring System Diagnostic Instrumentation

Lead Lab	Title
BNL	DCD-WBS 1.5.8: Collimator and Shielding
BNL	DCD-WBS 1.5.9: Extraction System
BNL	DCD-WBS 1.5.10: RTBT[g] System
WBS 1.6 Target Systems	
ORNL	SRD-WBS 1.6 Target Systems
ORNL	DCD-WBS 1.6.1: Target Assemblies
ORNL	DCD-WBS 1.6.2: Moderator Systems
ORNL	DCD-WBS 1.6.3: DCD Reflector Assemblies
ORNL	DCD-WBS 1.6.4: DCD Vessel System
ORNL	DCD-WBS 1.6.5: DCD Target Station Shielding
ORNL	DCD-WBS 1.6.6: DCD Target Utility Systems
ORNL	DCD-WBS 1.6.7: DCD Remote Handling System
ORNL	DCD-WBS 1.6.8: Target System Controls
ORNL	DCD-WBS 1.6.9: DCD Beam Dumps
ORNL	DCD-WBS 1.6.10: DCD Accelerator and Target Station Neutronics and Shielding Analysis
WEBS 1.7 Experimental Facilities	
ANL	SRD-SNS Instrument Data Acquisition System
ANL	SRD-SNS Instrument Neutron Guide Systems
ANL	DCD for Microvolt Backscattering Spectrometer
ANL	DCD for Magnetism Reflectometer
ANL	DCD for Liquids Reflectometer
ANL	DCD for Instrument #4
ANL	DCD for Instrument #5
ANL	DCD for Instrument #6
ANL	DCD for Instrument #7
ANL	DCD for Instrument #8
ANL	DCD for Instrument #9
ANL	DCD for Instrument #10
WBS 1.8 Conventional facilities	
ORNL	SRD WBS 1.8: Land Improvements, Building Package, and Site Utilities
ORNL	SRD WBS 1.8: Utility Building
ORNL	SRD WBS 1.8: Front End, Linac, and Klystron Facilities
ORNL	SRD WBS 1.8: Ring, HEBT, and RTBT
ORNL	SRD WBS 1.8: Target
ORNL	DCD WBS 1.8.1: Land Improvements and Site Utilities
ORNL	DCD WBS 1.8.2: Utility Building
ORNL	DCD WBS 1.8.3: Front End, Linac, and Klystron Facilities
ORNL	DCD WBS 1.8.4: Ring, HEBT, and RTBT
ORNL	DCD WBS 1.8.5: Target Building and Dumps
ORNL	DCD WBS 1.8.6: Central Lab and Office Building
ORNL	DCD WBS 1.8.7: Superconducting Cryogenic Facility
WBS 1.9 Integrated Control System	
ALL	SRD WBS 1.9: Integrated Control System
ALL	SRD WBS 1.9.2: Timing System
ALL	SRD WBS 1.9.2: Equipment Protection
ALL	SRD WBS 1.9.9: Personnel Protection
ALL	SRD WBS 1.9.1: Signal and Device Naming
ALL	SRD WBS 1.9.1: Cabling
ALL	DCD-WBS 1.9: Controls Design Criteria Document
ORNL	IDD Conventional Facilities to Technical Systems
LBNL/ORNL	ICD Front-End Facilities/Conventional Facilities
LANL/ORNL	ICD Linac/Conventional Facilities
BNL/ORNL	ICD Ring/Conventional Facilities

Lead Lab	Title
ORNL	ICD Target Systems/Conventional Facilities Target Building
ORNL	ICD Target Systems/Conventional Facilities Beam Dumps
ANL/ORNL	ICD Instrument Systems/Conventional Facilities
ORNL/LANL	IDD Instrument & Controls System to Technical Systems & Conventional Facilities
LBNL/ALL	ICD Front-End Facilities/Integrated Control System
LANL/ALL	ICD Linac/Integrated Control System
BNL/ALL	ICD Ring/Integrated Control System
ORNL/ALL	ICD Target Systems/Integrated Control System
ANL/ALL	ICD Instrument Systems/Integrated Control System
ORNL	IDD Technical System to Technical System
LBNL/ORNL	ICD Front End Facilities-Linac Systems
LANL/BNL	ICD Linac/Ring
BNL/ORNL	ICD Ring/Target
LANL	ICD HEBT/Beam Dump
BNL	ICD Ring Injection/Beam Dump
BNL	ICD Ring Extraction/Beam Dump
ORNL	ICD Target Systems/Instrument Systems
ALL	IDD R&D[h] to Technical System
ALL	ICD R&D – Superconducting Cryogenic Facility
ORNL	SRD Testing & Operations
ORNL	ICD Testing & Operations – Conventional Facility
ORNL	ICD Testing & Operations – Front End
ORNL	ICD Testing & Operations – Linac
ORNL	ICD Testing & Operations – Ring
ORNL	ICD Testing & Operations – Target
ORNL	ICD Testing & Operations – Experiment Systems
ORNL	ICD Testing & Operations – Global Instrumentation & Controls
ORNL	ICD Testing & Operations – Superconducting

[a]RF—Radio frequency.
[b]HV—High voltage.
[c]DTL—Drift tube linac.
[d]CCL—Coupled-cavity linac.
[e]MEBT—Medium-energy beam transport.
[f]HEBT—High-energy beam transport.
[g]RTBT—Ring-to-target beam transport.
[h]R&D—Research and development.

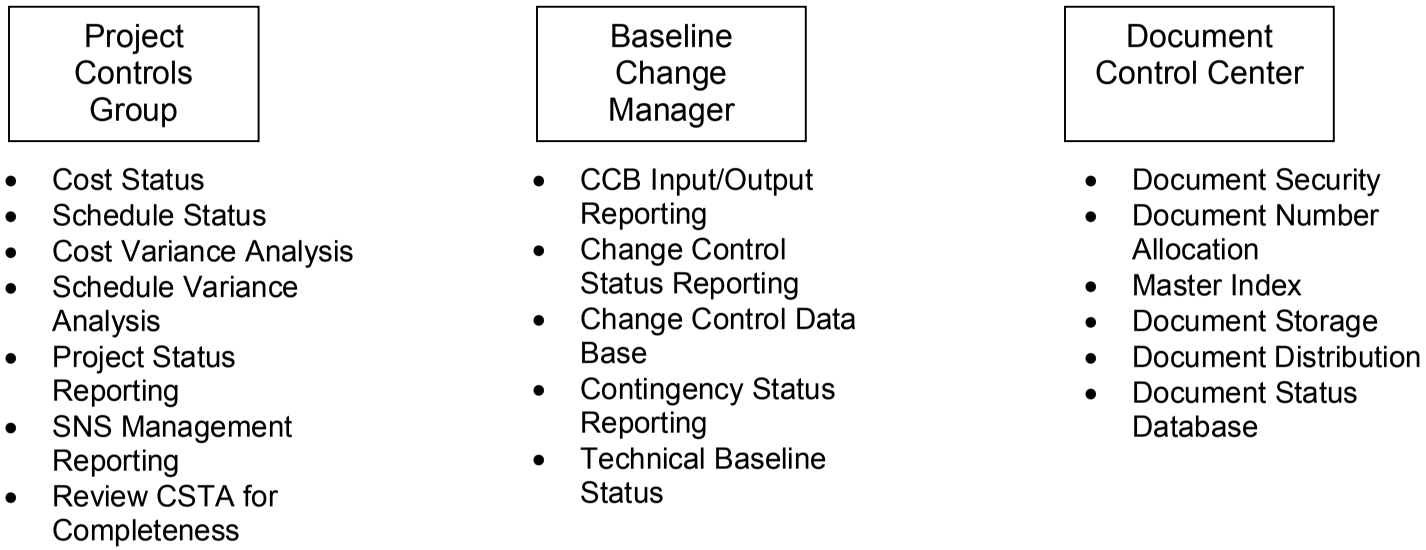


Fig. 2.1. Baseline change manager, Project Controls, and DCC responsibilities.

2.4 COST BASELINE

The cost baseline for the SNS is contained in the Micro-Frame Program Manager (MPM).

2.5 SCHEDULE BASELINE

The schedule baseline for the SNS is the detail integrated project schedule in Primavera.

3. BASELINE CHANGE CONTROL MANAGEMENT

3.1 CONFIGURATION MANAGEMENT PLAN

The SNS CMP outlines the process and procedure for managing the approved project baselines for the technical design basis, cost, and schedule. Management and control of the technical requirements and design parameters for SNS involve critical issues and constitute the majority of coverage provided in the CMP. Management of the entire project technical baseline (CCB Level 3) is the responsibility of the deputy project director. The CMP also delineates how the SNS change control system will work to administer and record changes to all three project baselines.

3.2 CHANGE CONTROL RESPONSIBILITY AND PROCESS

The management information and project controls manager is responsible for administrative operation and coordination of the overall baseline change control system in support of all SNS project participants. Reporting to the management information and project controls manager, the baseline change manager provides administrative control and support for processing all SNS project change requests (PCRs). This Web-based electronic process begins upon submission of draft PCRs and continues through various reviews to the final approval of the PCRs. Baseline change proposals (BCPs), which require DOE review and approval, are processed outside the electronic system. Each subproject will have its own change process coordinator, who will interface with the Project Office's baseline change manager.

The project controls manager is responsible for implementing approved cost and schedule baseline changes to the official SNS project baseline documents and files.

The project director, his direct reports, and the senior team leaders (STLs) are responsible for implementing all approved baseline technical/design basis changes to the official SNS project technical baseline documents and supporting technical design documents and files at all locations.

Section 9 provides details concerning the processing, review, and approval of various classes of PCRs. Technical changes that affect other design authorities require a PCR for approval to change affected baseline documents, regardless of the cost threshold involved.

4. DESIGN REVIEW PROCESS

Design reviews will be conducted for all major project systems, subsystems, and components. The reviews will provide for cross-discipline communication and will ensure that the designs are functional, feasible, and meet the cost and operational objectives of the facility. Three levels of review should be considered: during the conceptual, preliminary, and final design phases, with increasing level of detail incorporated in the review process as the design progresses through its completion cycle. A typical design review will consider the following elements:

- Purpose of the review
- Assumptions
- Design requirements
- Interface requirements
- Design criteria
- Description of the item
- Engineering analysis
- Reliability and maintenance
- Hazards/safety analysis
- Cost
- Schedule
- Manufacturing/procurement plan
- Installation plan
- Documentation
- History
- Previous action items
- Quality Assurance (QA) plan
- Acceptance criteria (in the case of a final design review)
- Bid package (in the case of a final design review)

Results of the reviews will be documented and archived as part of the design basis for the facility.

Depending on the nature of the proposed change, the responsible technical lead may elect to use additional levels of design review to validate the change with the best available expertise. These additional levels of review could include interdisciplinary reviews, supervisory reviews, and management reviews.

5. PEER REVIEW PROCESS

To allow for incorporation of developments and advancements in the scientific area of consideration, it is important to maintain an active program of interfacing with the scientific community. This will ensure that during the construction period of the project advancements in technologies used on the project will be incorporated into the design of the facility.

The peer review meeting process is the approach used to facilitate infusing the expertise of the scientific community to review, evaluate, and consider beneficial alternatives to the design and construction of the facility. Typically, major changes affecting the experimental elements of the facility would be subjected to a peer review evaluation. This process is an important aspect of the project's development and is essential to ensuring that the project's design is current to today's standards. This interaction further secures and establishes the integrity of the design and operation following completion of construction activities as a result of endorsement by the scientific community. A brief description of this process follows.

As deemed necessary by the project director, leaders of the scientific community representing research, industry, and academic fields are invited to participate in a peer review meeting to discuss and appropriately challenge the technical merits of a proposed change (PCR). A senior technical manager associated with the project chairs the meeting. A formal agenda is published and maintained throughout the review process. The STL from the area requesting the review presents the change proposal in sufficient detail to allow the reviewers to provide their input and feedback. All appropriate aspects of the proposal are discussed, including design feasibility, feasibility of construction, and functionality. At the conclusion of the presentation, the committee provides specific direction to the project team in terms of feasibility, cost effectiveness, and function. This direction is documented in the minutes of the meeting and is maintained in the records management system as part of the design basis documentation for the facility.

6. SNS QUALITY ASSURANCE PLAN

The *SNS Quality Assurance Plan* (SNS 102040000-QA0001-R01) provides overall quality requirements for the design, construction, and operation of the facility. This plan implements the ten-point criteria found in Title 10, Section 830.12 of the *Code of Federal Regulations* (10 CFR Pt. 830.12), covering the following aspects of the facility:

- QA program requirements
- Personnel training and qualification
- Quality improvement
- Procurements and records
- Work process
- Design
- Procurement
- Inspection and acceptance testing
- Management assessments
- Independent assessments

This CMP is established consistent with the *SNS Quality Assurance Plan*. The plan requires identification of nonconforming conditions and deviations and requires them to be dispositioned before operation of the facility.

7. SYSTEM COMPLETION AND TURNOVER

The system completion and turnover milestone represents a significant aspect of the configuration management process. At this milestone, major aspects of operational integration and preoperational testing are complete and documents required for operation have been identified. Documentation packages, including test data, installation records, as-built drawings, quality control records, acceptance testing reports, and operation manuals, are provided to support commissioning of the system.

8. DOCUMENTATION AND RECORDS CONTROL

8.1 RECORDS MANAGEMENT PROCESS

The SNS Project Office is responsible for establishing the records management system, which will document configuration of the facility during construction and operational phases of the project. This documentation must reflect the actual configuration of the buildings, equipment, and software at the time of turnover for operation. Continued maintenance of a subset of this documentation is necessary to support the safe and reliable operation of the facility after commissioning.

The project will have the following requirements concerning maintenance of "as-built" documentation for the facility:

- Maintain integrity and consistency of design requirements, physical configuration, and project documentation throughout the life of the SNS project.
- Provide for reconstitution of the SNS project design capability at any stage in the life cycle of the project to meet environment, safety, and health (ES&H), maintenance, and operating requirements.
- Provide for material conditioning and aging management capabilities of SNS physical structures and other equipment throughout the life of the project to meet ES&H, maintenance, and operating requirements.

The SNS project has established a Document and Records Management Program to accomplish the preceding requirements. The SNS Records Management Program is similar to the ORNL Site Records Management Program and is documented in Procedure SNS-IO-P01, "Creating, Distribution and Management of SNS Records." Modeling the SNS Records Management Program after the ORNL site program saved costs associated with redundant records storage facilities and with training personnel involved with facility management.

Procedures associated with the SNS Records Management Facility provide instructions for unique numbering of drawings and documents and for handling controlled records.

8.2 DOCUMENT REVIEW AND APPROVAL PROCESS

Closely related to the records management process described previously is the documentation review and approval process. This is an electronic distribution vehicle used to disseminate technical information to the reviewing parties, allowing return comments via e-mail. Application of this process has allowed for effective transmittal of complex technical information to a large group of people and accomplishes extensive reviews in a minimum amount of time.

The process uses standard reviewer action codes to allow reviewers to quickly and efficiently characterize what is needed from them and disposition the items in a minimum amount of time. These codes include the following:

A – Approved for use

P – Procurement

DC – Design complete

CC – Certified for construction

SA – Approval or concurrence

RV – Review and comment

KR – Key reviewer

IO – Information only

A final feature being effectively used to communicate reviews and facilitate the technical interfaces across the partnering laboratories is videoconferencing. This feature incorporates the latest tools and technologies to facilitate design and construction of the facility.

9. BASELINE CHANGE CONTROL

9.1 CHANGE CONTROL PROCESS

PCRs should be limited to those necessary to correct deficiencies, affect cost and/or schedule benefits, or significantly improve technical performance. A change request can be initiated by anyone associated with the project. The change process should begin only after the initiator has determined the impact of the change on all subprojects and discussed this with his or her next level of supervision. Two possible courses of action exist: (1) a PCR for the recommended change is prepared and forwarded to the Level 3 task leader, STL, division director, etc., for action, or (2) a request is prepared to perform a study to determine whether the baseline change is warranted. In the latter case, the process for approving the study resembles the change control process except that the authorizing person for the study is the sponsor. The sponsor will be the manager one level below the person authorized to approve the PCR. For example, if the project director would be the final signature authority for the change request, then a division director can authorize the study. If the final signature is the division director, then the study can be authorized by the STL, and so on. Funding for the study will be obtained (1) from within existing annual funding package allocations or (2) a PCR will be prepared to obtain the funds. After the study is complete and it is determined that the change should be recommended, a PCR will be prepared and the CCB review process implemented.

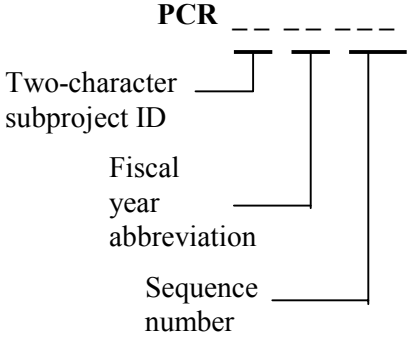
The change control process begins with the initiation of a PCR form (Fig. 9.1) and a cost, schedule, technical assessment (CSTA) form (Fig. 9.2), and, when appropriate, a document change notice (DCN) (Fig. 9.3). On these forms, the initiator identifies the affected documentation; outlines the reasons for the change; quantifies the technical, cost, and schedule impacts; and describes the change in detail. The responsible manager(s) must agree to the PCR, CSTA, and DCN before submittal. To simplify the change control process, a Web-based application has been developed that is available to all partner laboratories and provides on-line capabilities for form completion, notifications when approvals are needed, and electronic approval capabilities. Instructions for using this system are included in Appendix A.

The PCR form allows for review of all changes by the full CCB or the board's chair, including "out of scope" technical changes as well as cost and schedule changes. Both positive and negative changes will be addressed in this same manner.

Figure 9.4 provides a summary diagram of the SNS project change control process. Figure 9.5 provides additional details concerning process steps, requirements, functions, and responsibilities.

9.1.1 PCR/CSTA Processing

Numbers for PCRs will be electronically assigned by the Web-based configuration management system. PCR numbering is as follows:



Subproject IDs:

PS	Project Support
FE	Front End
LI	Linac
RI	Ring
TG	Target
IS	Instruments Systems
CF	Conventional Facilities
CO	Global Controls
OP	Preoperations (Operations)

Example:

PCR LI 00 001

This would be the first PCR for the linac subproject in FY 2000.

The status of PCRs is tracked by the change coordinator at the appropriate site. After approval by the appropriate manager, changes are incorporated in the project's baselines.

9.1.2 Document Change Notice

The DCN form (Fig. 9.3) is used to change any existing baseline document for the SNS project (drawing, specification, statement of work, etc.) or to create new documentation that is needed because of the PCR. New documents that are created during the normal process of design, research, and development, etc., do not require a DCN. Instructions for filling out the DCN form are included in Appendix A.

Table 9.1 lists the SNS baseline documents. The SNS DCC retains the current copy.

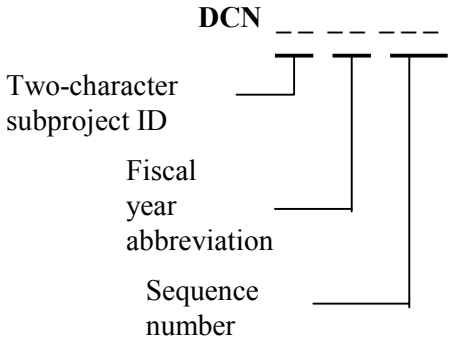
Table 9.1 Baseline Documents[a]

PEP, Appendix C[b]
SNS Parameters List
SNS WBS Descriptors
SNS Quality Assurance Plan
Preliminary Safety Analysis Report
Preliminary Safety Assessment Document
Final Safety Analysis Report
Final Safety Assessment Document
System requirements documents
Interface control documents
Design criteria documents
Drawings and specifications

[a]A document becomes a part of the SNS baseline only after approval by the cognizant authority.

[b]All portions of the PEP except Appendix C are controlled by DOE.

Numbers for DCNs will be electronically assigned by the Web-based configuration management system and will be consistent with the PCR that necessitated the DCN. DCN numbering is as follows:



Subproject IDs:

PS	Project Support
FE	Front End
LI	Linac
RI	Ring
TG	Target
IS	Instruments Systems
CF	Conventional Facilities
CO	Global Controls
OP	Preoperations (Operations)

SPALLATION NEUTRON SOURCE

PROJECT CHANGE REQUEST (PCR)

Date:	**WBS NO :**	**PCR** **PCR TITLE:** test
WBS DESCRIPTION: Spallation Neutron Source Project		

DESCRIPTION OF CHANGE Reason for Change (Check All That Apply) ☐ TECHNICAL ☐ SCHEDULE ☐ COST

EXPLANATION OF CHANGE:
(PROVIDE A BRIEF REASON FOR THE CHANGE) DIRECTED CHANGE **YES** ☐ **NO** ☐

DETAIL DESCRIPTION:
(USE ATTACHED CONTINUATION SHEET AND/OR ATTACH ADDITIONAL INFORMATION SKETCHES. ETC. , AS NEEDED)

URGENT: **YES** ☐ **NO** ☐

List Other WBS numbers & DCN's Affected:	ES&H CONCURRENCE	ORIGINATOR	CONFIGURATION MANAGEMENT CONCURRENCE	CCB-5
	SIGNATURE / DATE	SIGNATURE / DATE	SIGNATURE / DATE	SIGNATURE / DATE

DOE APPROVAL: | | **REQUIRED** | | **NOT REQUIRED**	CCB-4 SIGNATURE / DATE
CLASS OF CHANGE: **CLASS 0** | | **CLASS 1A** | | **CLASS 1B** | | **CLASS 2** | | **CLASS 3A** | | **CLASS 3B** | | **CLASS 4** | | **CLASS 5** | |	CCB-3B SIGNATURE / DATE
PCR DISPOSITION | | **ACCEPTED** | | **NOT ACCEPTED** Implementation Date Rev Number	CCB-3A SIGNATURE / DATE

Fig. 9.1. PCR form.

SPALLATION NEUTRON SOURCE Page 2

PROJECT CHANGE REQUEST CONTINUATION SHEET

Date:	WBS Description:
WBS NO. (One Number Only	PCR NO.
List Other PCR's Affected:	
Description of Change (CONTINUE)	
Explanation Description	

Fig. 9.1. (continued).

SPALLATION NEUTRON SOURCE

COST, SCHEDULE, TECHNICAL ASSESSMENT (CSTA)

DATE:	WBS NO. (One Number Only)	PCR NO.:
WBS DESCRIPTION:		ASSOCIATED PCR NUMBER

ANALYSIS OF CHANGE:

TECHNICAL (Include Interfaces with Other Elements)

DETAILED COST ESTIMATE OF CHANGE:

Total Cost Change in Kilodollars: Type of Cos

Funding Spread (BA) by FY

FY01:	FY02:	FY03:	FY04:	FY05:	FY06:
0.00	0.00	0.00	0.00	0.00	0.00

ANALYSIS OF SCHEDULE IMPACT OF CHANGE
(INCLUDE IMPACT ON MILESTONES)

(ADD ADDITIONAL SHEETS AND OTHER INFORMATION AS REQUIRED)

IMPACT IF NOT APPROVED

ORIGNATOR	PROJECT CONTROLS CONCURRENCE	SENIOR TEAM LEADER APPROVAL
SIGNATURE / DATE	SIGNATURE / DATE	SIGNATURE / DATE

Fig. 9.2. CSTA form.

SPALLATION NEUTRON SOURCE Page 2

COST, SCHEDULE, TECHNICAL ASSESSMENT CONTINUATION SHEET

DATE:	PCR No.:
TECHNICAL (Include Interfaces with Other Elements)	
DETAILED COST ESTIMATE OF CHANGE:	
ANALYSIS OF SCHEDULE IMPACT OF CHANGE (INCLUDE IMPACT ON MILESTONES)	
IMPACT IF NOT APPROVED	

Fig. 9.2. (continued).

SPALLATION NEUTRON SOURCE Page 1

DOCUMENT CHANGE NOTICE (DCN)

DCN: ASSIGNED BY DOCUMENT CONTROL CENTER			DATE test		
DOCUMENT TITLE	TYPE	NEW DRAWING(S)	NEW DOCUMENT(S) REVISION(S)	COMPLETE DOCUMENT NUMBER (ASSIGNED BY DCC)	ASSIGND BY DCC

TYPE CODES:	SOW - Statement of Work	Drawings	A - Architectural	L - Interface (s)
	TS - Technical		E- Electrical	M - Mechanical
	Specification		P- Piping	P - Parts Listing
			I - Instrumentation	SIZE: A - E

Designer	Engineer	Backup Location

REASON(S) FOR CHANGE(S) (Provide as many details as possible):

ASSOCIATED PCR NUMBER (When Applicable)	ASSOCIATED BCP NUMBER (When Applicable)	ORIGINATOR SIGNATURE/DATE

NOTE: All required signatures must be obtained prior to requesting Document Numbers.

COMPLETE ONLY FOR REVISED DOCUMENT(S)/DRAWING(S)	REVISED DOCUMENTS(S) CLASS 0 - 4	REQUIRED FOR CLASS 0 -3
GROUP LEADER SIGNATURE/DATE	DIVISION DIRECTOR APPROVAL SIGNATURE/DATE	PROJECT DIRECTOR APPROVAL SIGNATURE/DATE

Fig. 9.3. DCN form.

SPALLATION NEUTRON SOURCE Page 2

DOCUMENT CHANGE NOTICE CONTINUATION SHEET

DCN: DATE

ASSIGNED BY DOCUMENT CONTROL CENTER

DOCUMENT TITLE	TYPE	NEW DRAWING(S)	NEW DOCUMENT(S) REVISION(S)	COMPLETE DOCUMENT NUMBER (ASSIGNED BY DCC)	ASSIGND BY DCC

TYPE CODES:	SOW - Statement of Work	Drawings	A - Architectural	L - Interface (s)
	TS - Technical		E- Electrical	M - Mechanical
	Specification		P- Piping	P - Parts Listing
			I - Instrumentation	SIZE: A - E

REASON(S) FOR CHANGE(S) (Provide as many details as possible):

Fig. 9.3. (continued).

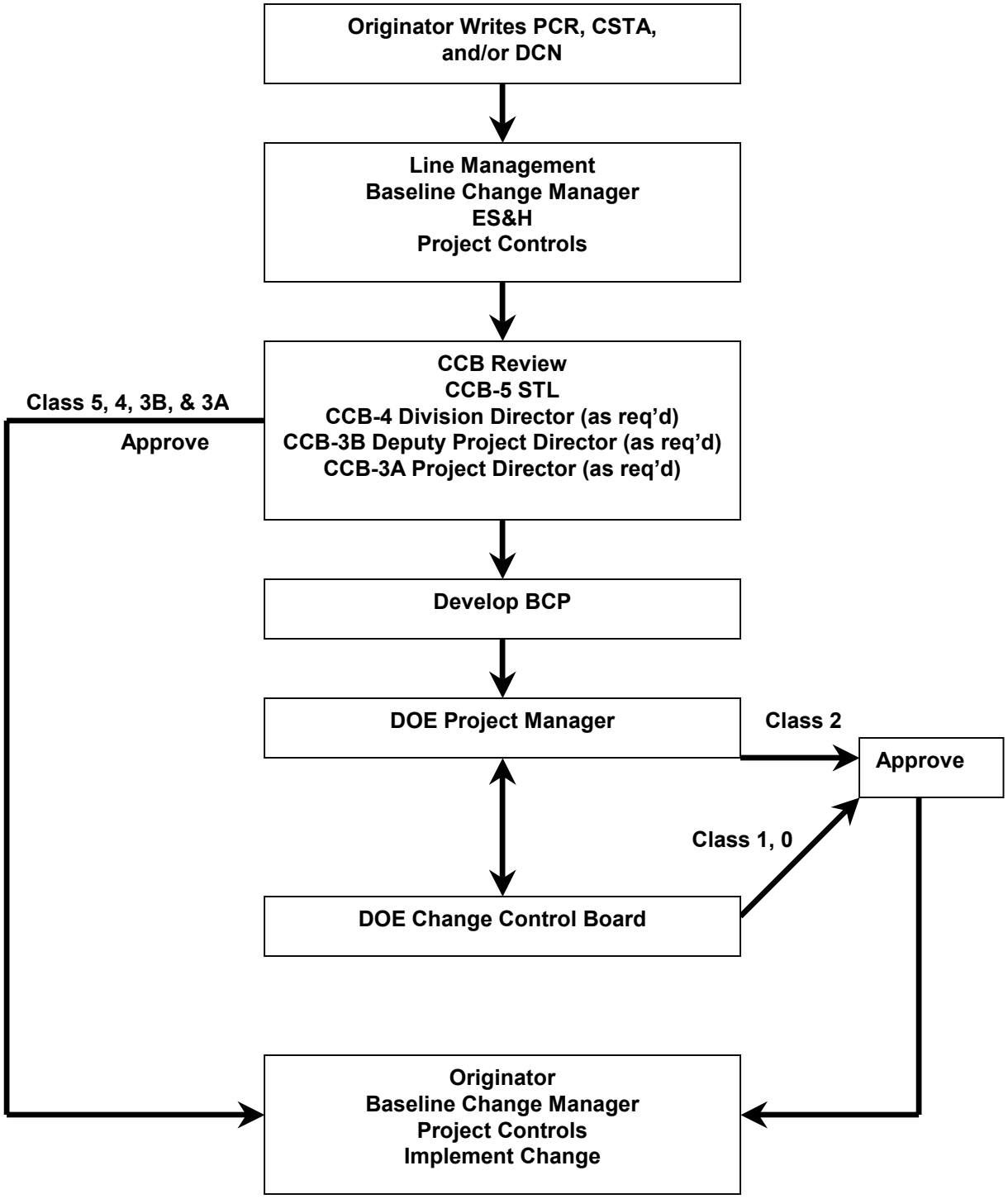


Figure 9.4. Change control process.

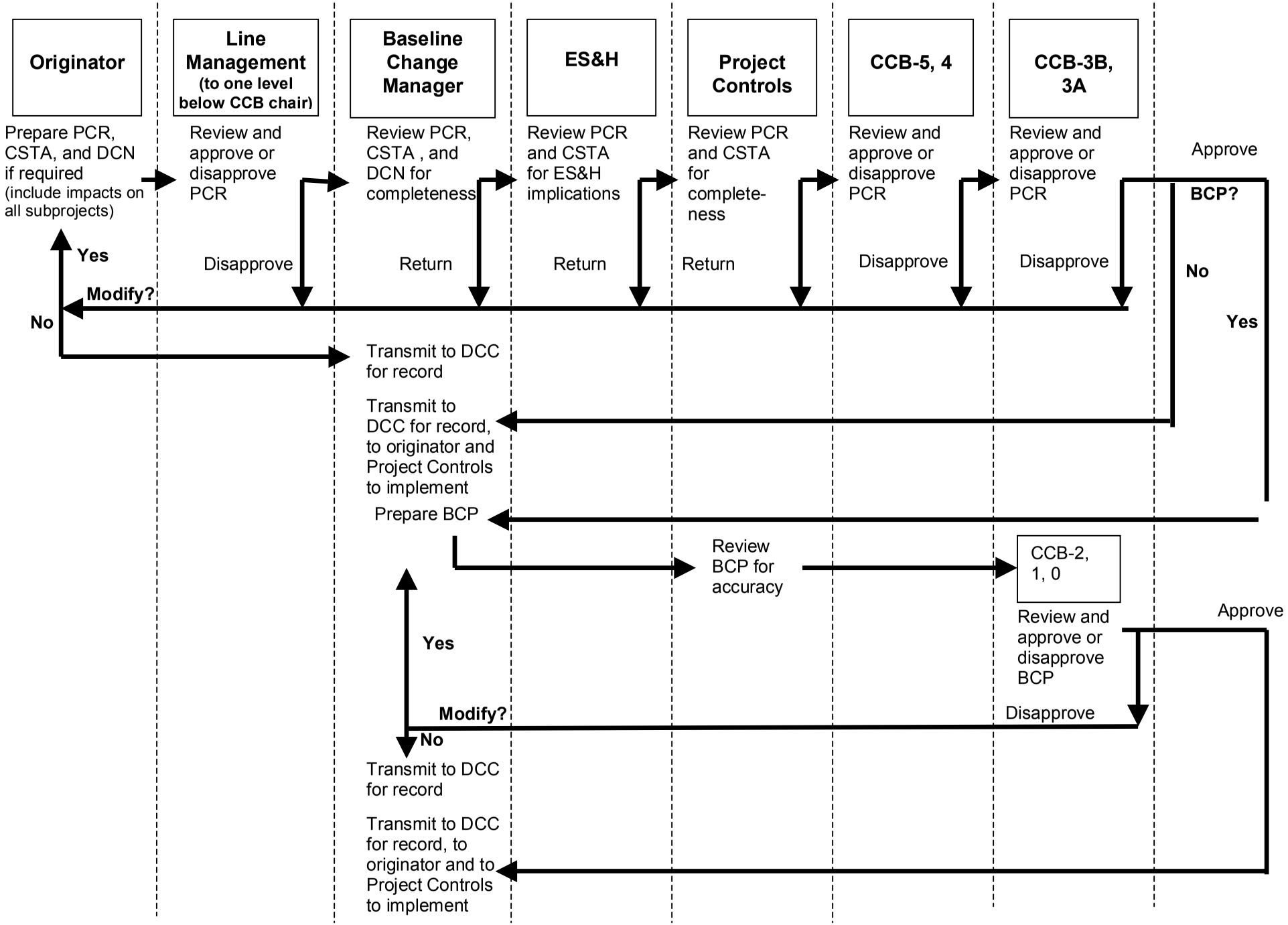


Fig. 9.5. Change control responsibilities.

9.1.3 Change Control Boards

The SNS configuration management and control processes use a graded approach, employing change criteria for cost, schedule, and technical baseline information. Changes with greater potential for impact require higher approval authority or CCB action. The CSTA form described previously is used by the appropriate CCB to assist in the evaluation of the worthiness of the PCR.

CCB members individually and collectively assist and advise the chair and meet at the chair's request to review and approve or disapprove PCRs. The process involves using the change control criteria of Table 9.2 to determine which CCB is most applicable. The change control thresholds for the DOE CCBs 0, 1, and 2 were established in the PEP. CCBs will be chaired as follows:

- The SNS deputy project director will chair CCB-3B. Members of the board will be the associate project directors, ES&H manager, QA manager, and others as deemed appropriate.
- The division directors will chair CCB-4 boards. Members of the boards will be the responsible STLs and support staff deemed appropriate by the division director.
- CCB-5 boards will exist for WBS elements 1.3 through 1.9 and will be chaired by their responsible STL. Membership will be responsible WBS Level 3 task leaders and others that the STL names as appropriate.

Each CCB will have a secretariat who does the following:

1. Ensures that the PCR package is completed.
2. Distributes copies of the PCR and supporting documentation to the CCB members for premeeting review and comment.
3. Schedules the CCB meeting.
4. Prepares and distributes meeting minutes.
5. Submits records of all CCB actions, including the original PCR packages with financial and/or schedule impacts and CCB meeting minutes to the baseline change manager. These records are then maintained by the SNS DCC.

The baseline change manager also serves as the CCB-3B secretariat, documents and tracks all project changes, and publishes project-wide change control and contingency status reports.

9.1.4 Classes of Change

Changes are classified according to the CCB that must act to approve the requested change. Table 9.2 includes the change thresholds for the change classes described subsequently. The highest change control class that applies to any of the three categories (cost, schedule, and technical) is to be applied for a requested change. That is, if the proposed change causes the Class 3 cost threshold to be exceeded, a Class 4 technical threshold to be exceeded, and a Class 5 schedule threshold to be exceeded, the change is a Class 3 change.

9.1.4.1 Class 0 Change

Class 0 changes require approval of the SNS acquisition executive, the secretary of energy. Cost, schedule, and technical thresholds for this class of change are defined in the PEP baseline document.

9.1.4.2 Class 1A Change

Class 1A changes require approval of the director of the DOE Office of Science. Cost, schedule, and technical thresholds for this class of change are defined in the PEP, Appendix A.

9.1.4.3 Class 1B Change

Class 1B changes require approval of the associate director of the DOE Office for Basic Energy Sciences (BES). Cost, schedule, and technical thresholds for this class of change are defined in the PEP, Appendix A.

9.1.4.4 Class 2 Change

Class 2 changes require approval of the DOE-Oak Ridge Operations (ORO) SNS project manager. Cost, schedule, and technical thresholds for this class of change are defined in the PEP, Appendix B.

9.1.4.5 Class 3A Change

Class 3A changes require approval of the SNS project director (CCB-3A). The cost threshold for this class of change is contained in Table 9.2. Class 0, 1A, 1B, and 2 changes must have approval/ concurrence of the SNS executive director before being submitted to DOE.

9.1.4.6 Class 3B Change

Class 3B changes require approval of the SNS deputy project director (CCB-3B). The cost threshold for this class of change is contained in Table 9.2. Class 0, 1A, 1B, and 2 changes must have the approval/concurrence of the SNS project director before being submitted to DOE.

9.1.4.7 Class 4 Change

Class 4 changes require approval of an SNS division director (CCB-4). Cost, schedule, and technical thresholds for this class of change are contained in Table 9.1.

9.1.4.8 Class 5 Change

Class 5 changes require approval of an SNS STL (CCB-5). Cost, schedule, and technical thresholds for this class of change are contained in Table 9.2.

9.2 CHANGES THAT REQUIRE DOE APPROVAL

If a change requires DOE approval, a BCP form (Fig. 9.6) will be prepared by the baseline change manager and be submitted to DOE.

9.3 TECHNICAL CHANGES NOT IMPACTING COST AND SCHEDULE BASELINES

Minor technical changes may be implemented under the authority of the STL if they do not impact the *SNS WBS Descriptors*, do not impact the cost and schedule baselines, and have no impact beyond the boundaries of the respective laboratory design authority making the change. These changes are intended to be minor in scope and are usually document “change only” changes that have no impact on the operation of the facility.

Table 9.2. Configuration management change thresholds				
Change Class	**Responsibility for Approval**	**Technical Baseline/Impact**	**Cost Baseline/Impact**	**Schedule Baseline/Impact**
0	Secretary of energy	Accelerator-based neutron-scattering facility providing: ≥1MW proton beam power on target Site: Oak Ridge, Tennessee Threshold: -Any change to Class 0 scope -Siting change requiring a supplemental environmental impact statement (EIS)	Total project cost $1,411.7M Threshold: changes to the total project cost (TPC)	1. Critical Decision 1 Mission need. (8/96A) 2. Critical Decision 2 Baseline approval (12/97A) 3. EIS record of decision (6/99A) 4. Critical Decision 4 Acceptance/completion (6/06) Threshold: changes ≥6 months
1A	Director, DOE Office of Science	Approximately 5-10 research instruments for research applications Threshold: any change to Class 0, or 1A scope	TEC = $1,192.7M TPC = $1,411.7M Threshold: changes to total estimated cost (TEC) or TPC	Schedule milestones as contained in the PEP, Appendix A, Section 8 Threshold: ≥3 months to level 0 and 1A or 1B milestones

Table 9.2. Configuration management change thresholds				
Change Class	**Responsibility for Approval**	**Technical Baseline/Impact**	**Cost Baseline/Impact**	**Schedule Baseline/Impact**
1B	Associate director, BES	1. 1×10^{13} protons per pulse 2. 5×10^{-3} neutrons per steradian solid angle per incident proton measured viewing ambient moderator face Threshold: Changes impacting Level 0 or 1A and B scope	Cost baseline data as specified in the PEP, Appendix A, Section 8 Threshold: the smaller cumulative change of ≥$50M or 50% to each WBS Level 2 cost	Schedule milestones as contained in the PEP, Appendix A, Section 8 Threshold: ≥3 months to level 0 and 1A and 1B milestones
2	DOE-ORO project manager	1. Preliminary and final safety documents 2. QA plan Threshold: any change to these documents	Cost baseline data as specified in the PEP, Appendix B, Section 8 Threshold: the smaller of ≥$10M or 50% cumulative change at WBS Level 2	Schedule milestones as specified in the PEP, Appendix B, Section 8.3 Threshold: >3 months to milestones

Table 9.2. Configuration management change thresholds				
Change Class	**Responsibility for Approval**	**Technical Baseline/Impact**	**Cost Baseline/Impact**	**Schedule Baseline/Impact**
3A	Project director		MPM Threshold: Any change requiring contingency allocation of >$5M	
3B	Deputy project director (CCB-3)	1. *Parameters List* 2. *WBS Descriptors* 3. PEP, Appendix C 4. Changes that would affect the EIS 5. WBS Level 3 structure 6. Master Site Plan Threshold: any change	MPM Threshold: Any change requiring contingency allocation up to $5M Cumulative unrecoverable cost increases >$500K Cumulative cost savings >$500K Any transfer of scope and budget from one WBS Level 2 to another	IPS Detailed IPS Threshold: Changes to any activities or milestones

Table 9.2. Configuration management change thresholds				
Change Class	**Responsibility for Approval**	**Technical Baseline/Impact**	**Cost Baseline/Impact**	**Schedule Baseline/Impact**
4	Division director (CCB-4)	1. Selected drawings that impact WBS Level 2 interfaces 2. ICDs 3. DCDs 4. SRDs Threshold: any change		
5	STL (CCB-5)	1. WBS structure below WBS Level 4 Threshold: any change	MPM Threshold: Changes not affecting cost such as changes in resource type or phase code	

ORO Spallation Neutron Source Project
Baseline Change Proposal Form

Baseline Change Proposal (BCP)	
1. Processing Designation: _____ Urgent _____ Routine	**2. Baseline Type:** Cost: _____ Schedule _____ Scope: _____
3. BCP Approval Authority Level 0 Level 1 Level 2 Level 3	**Point of Contact:** HQ: J. C. Hoy ORO: L. K. Price Contr.: T. E. Mason
4. ORO BCP #: **BCP Title:** **WBS#:**	**5. Date Initiated**
6. Description of Change and Affected Areas:	
7. Justification for Change: Directed: Yes [ ] No [ ]	
8. Amount of Time Required for Implementation: **Impact of Non-Approval**:	

Fig. 9.6. BCP form.

ORO Spallation Neutron Source Project
Baseline Change Proposal Form

BCP#:

9a. Impact on Cost Baseline Change in Total Estimated Cost (TEC) (including Contingency):_____ Revised Total Project Cost (TPC) (including Contingency):_____ Contingency used:_____	**9b. Describe Cost Impact** (for additional information see "Table 1")
10. Funding Source and Impacts on Funding and Contracts	
11. Impact on Schedule (Baseline Milestones) [for additional information see Block 13a (page 4)]	
12. Impact on Scope (e.g., WBS, Project Execution Plan, QA Plan, Project Management Plan, Design Manual)	
13. Programmatic/Other Impacts (including mitigating or corrective action as appropriate) **Affected Documents:**	

Fig. 9.6. (continued).

ORO Spallation Neutron Source Project
Baseline Change Proposal Form

BCP#:

14. ORO SNS CCB (Level 2) Action:

____ Approved (Level 2 BCP Only)
____ Disapproved
____ Endorsed

Level 2 CCB Chairman Date

15. DOE/SC CCB Action (Level 1B)

____ Approved (Level 1B BCP Only)
____ Disapproved
____ Endorsed (Level 1A)

Level 1B CCB Chairperson Date

16. DOE/SC CCB Action (Level 1A)

____ Approved (Level 1A BCP Only)
____ Disapproved
____ Endorsed

Level 1A CCB Chairperson Date

17. DOE ESAAB CCB Action (Level -0-)

____ Approved (Level 0 BCP Only)
____ Disapproved

Level 0 CCB Chairperson Date

Fig. 9.6. (continued).

ORO Spallation Neutron Source Project
Baseline Change Proposal Form

BCP#:

Table 1
Baseline Change Proposal Supplemental Sheet

9b. Description of Cost Impact:

Cost Baseline (BCWS): ($ in millions)

	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY2005	FY 2006		Total
Baseline									
Proposed									
Change									

Budget Source ($ in millions):

	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY2005	FY 2006		Total
Mgmt. Res.									
Contingency									

Total Project Cost (TPC) ($ in millions)	Baseline DOE BCP-01-0AB (xx/yy)	Change	Proposed Baseline BCP-01-0AC (dd/zz)
WBS			
1.2 Project Support			
1.3 Front End			
1.4 Linac			
1.5 Ring and Transfer System			
1.6 Target Systems			
1.7 Instrument Systems			
1.8 Conventional Facilities			
1.9 Integrated Control Systems			
TEC w/o Contingency			
Contingency			
Total Estimated Cost			
1.1 Research & Development			
1.10 Pre-Operations			
Prior Years Cost			
Other Project Costs			
Total Project Cost, TPC			

11a. Impact on Schedule Baseline: **Impact on Schedule Milestones?** Yes [ ] No [ ]

Fig. 9.6. (continued).

10. CONTINGENCY

10.1 GENERAL

In July 1999 the SNS baseline was established. The basis of the estimate is documented in the SNS cost estimate database and includes actual costs through April 1999, estimated cost to complete, and a recommended contingency allowance (%) for each WBS Level 4 element of the project.

The contingency allowance considered cost, schedule, and technical risks and uncertainties that existed in the project elements. After the application of the recommended contingency allowances to the WBS Level 4 estimated costs, an additional management contingency was added by the SNS project director to arrive at the final contingency amount for the project.

The DOE-ORO project manager makes funds available to the SNS project by issuing a directive. The annual directive request will include a request for all available funds to be dispersed to the project.

10.2 CONTINGENCY MANAGEMENT PROCESS

Requirements:

1. Directives will be issued by DOE at WBS Level 1 and will include line item, operating expense, and capital equipment funds.
2. The initial directive modification each year will transfer all available funds in a given year to SNS.
3. Contingency is managed as a central fund at the Project Office. All changes to baseline costs, both increases and decreases, must be traceable through the PCR process so that the history of contingency applications can be fully ascertained (Fig. 10.1). The baseline change manager is responsible for maintaining these records.
4. Contingency estimates are included within the project's TEC and are considered part of that cost.
5. Contingency funds are intended to cover the existing scope of the project's technical baseline.

Figure 10.2 provides an overview of this process.

SNS Contingency Status Record				Based on As-spent, $K			TEC CONTINGENCY BALANCE: Actual Year $K		
				Baseline Change			Contingency Change		
Entry No.	PCR NUMBER	WBS NUMBER	DESCRIPTION	PRESENT ESTIMATE	REVISED ESTIMATE	CHANGE IN ESTIMATE	PRESENT CONTINGENCY	CONTINGENCY CHANGE	REVISED CONTINGENCY
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

Fig. 10.1 SNS contingency status record.

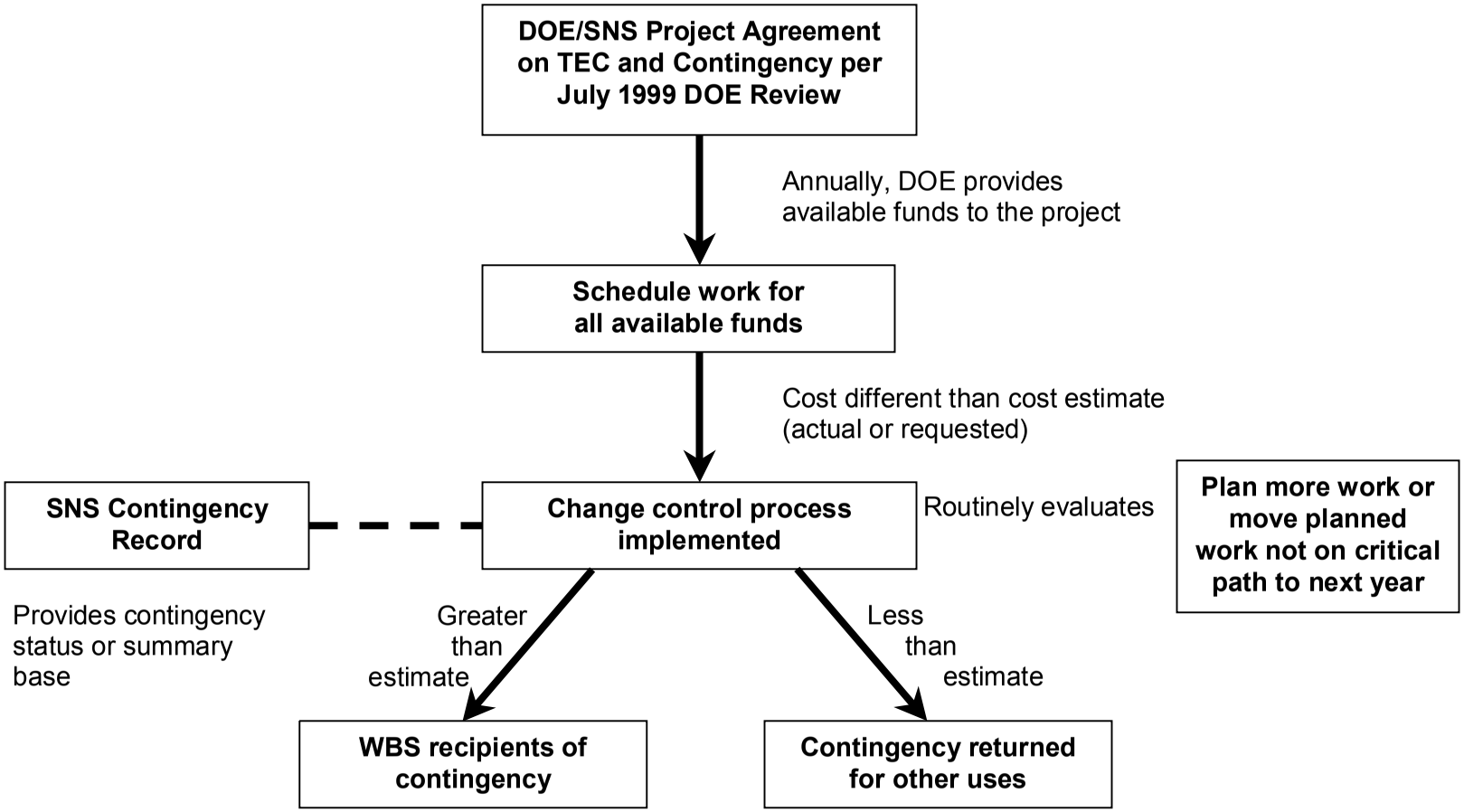
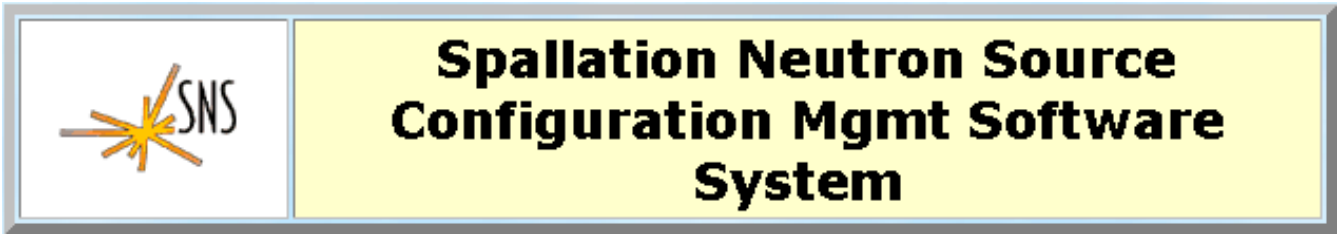


Fig. 10.2. SNS contingency control process.

APPENDIX A

USER INSTRUCTIONS FOR THE SNS WEB-BASED CONFIGURATION MANAGEMENT SOFTWARE SYSTEM



USER INSTRUCTIONS FOR THE SNS WEB-BASED CONFIGURATION MANAGEMENT SOFTWARE SYSTEM

Date: November 2001

Prepared by the
Oak Ridge National Laboratory
Oak Ridge, TN 37831-6307
Managed by
UT-Battelle, LLC
for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-00OR22725

TABLE OF CONTENTS

1.0 Introduction

The Spallation Neutron Source (SNS) Configuration Management Software System provides the SNS project with an automated system to control, track, document, and verify changes to the technical, cost, and scheduled baselines. This system is based on and implements the business rules stated in the SNS Configuration Management Plan that can be viewed from the application.

2.0 System Access

The system is a web-based application and requires a browser such as Netscape or Explorer to execute. The recommended browser is Netscape Communicator version 4.5 or higher. Clicking on the following url will bring up the system.

http://shawnee.sns.ornl.gov/snsprod/mainmenu.asp

Note: This application will not run properly if you do not have cookies enabled in your browser. See Help in your browser's menu.

This system has three levels of user access, General User, Approver, and Configuration Manager.

The general user does not require secure access to the system. These users are restricted to entering, editing, and searching change records. To upload files to the server (as attachments), a user must have UCAMS or FACEBASE access. Approval and Configuration Management options are not available to these users.

Approver access requires that the user have UCAMS or FACEBASE access and be designated by the SNS Configuration Manager as approvers. The UCAMS and FACEBASE systems provide the user with a password that is required to display the approver screens and access the commands. Approvers have general user access as well as the capability to approve existing change records. They do not have access to the Configuration Management screens and commands.

In order to access the Configuration Manager screens and commands the user must have a UCAMS password and be designated by the SNS Configuration Manager as a configuration manager. In addition to the general user and approver options, these users have the capability to access the configuration management option screens and commands.

The SNS Configuration manager has the authority and responsibility to control access to this system. Any requests for approver or configuration manager access should be made to the SNS Baseline Change Manager or alternative contact.

3.0 Main Menu

To access the system simply click on the url and the following screen is displayed.

This screen provides the following commands.

Project Change Request (PCR) – Allows users to create, copy, search, or edit project change request records.
Cost, Schedule, Technical Assessment (CSTA) – Allows users to search cost, schedule, technical assessment records.

Document Change Notice (DNC) – Allows users to search document change notice records.

Track Submitted Documents – Allows users to view all PCRs with a status of "PENDING".

PCR Status Report- Allows users to view all PCRs with all dates associated with the PCR.

Approvals – Allows users to view and approve PCR records that require their approval.

Reports – Allows users to view and print reports.

Configuration Manager Options – Allows users with configuration manager level access to execute system maintenance commands and to approve PCR records.

WBS Descriptors – Allows users to view, create, or edit WBS Descriptor records.

Implementation Date/Rev. Number – Allows approved users to update PCRs with Implementation Date and Revision Number data.

Configuration Management Plan – Allows the user to view the SNS Configuration Management Plan.

Configuration Management Plan - Printable PDF (Face Base login) – Allows users with Face Base access to view the Adobe Portable Document Format (pdf) version of the Configuration Management Plan.

Configuration Management Plan User Guide- Allows users to view this document online.

SNS HomePage – Returns the user to the SNS Home page.

The sections that follow describe each of these commands in greater detail.

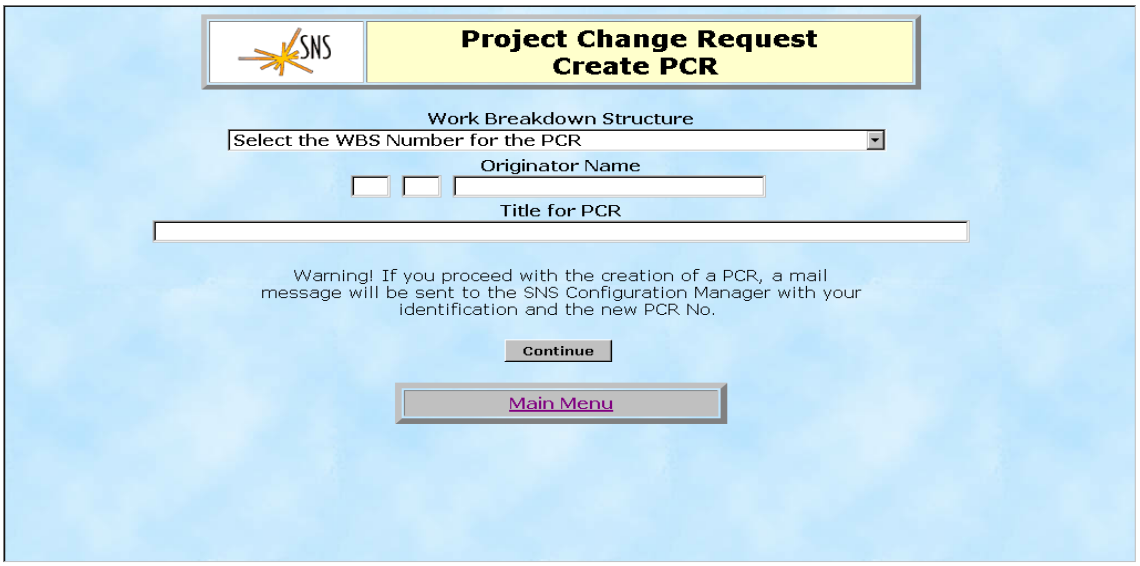
4.0 Project Change Request (PCR) Menu

Selecting Project Change Request from the main menu displays the following screen.

This screen allows the user to Create New PCRs, Copy Existing PCRs, or Search/Edit PCRs that have been created.

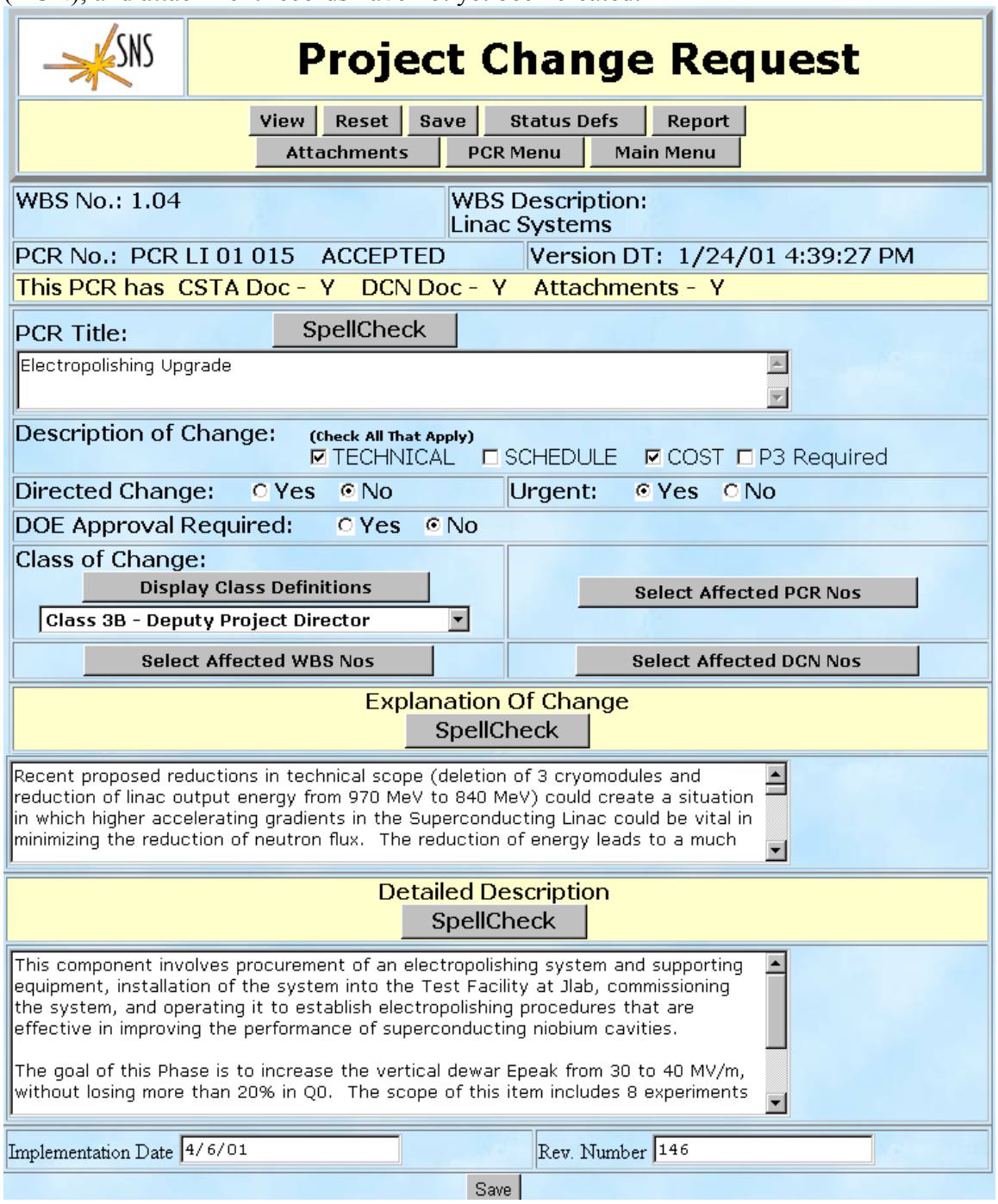
4.1 Create New

The Create New screen allows the user to select a level 3 or 4 Work Break Down Structure (WBS) number for the PCR that is created. This WBS number should be the main number that will be affected by the PCR. A list of WBS numbers is provided from a drop-down menu when the down arrow of the field is clicked. The originator's initials and last name is entered. Then a title is entered for the PCR. A descriptive title will enable the user to identify the record later from a search list. Clicking the Continue button alerts the SNS Configuration Manager with an e-mail, creates a PCR record in the database, and displays the PCR input screen.



4.1.1 PCR Screen

The next screen displays the WBS number and description, a unique computer generated PCR number, and the version time and date for this new PCR. The initial status is "DRAFT" and Cost, Schedule, Time Assessment (CSTA), Document Change Notice (DCN), and attachment records have not yet been created.



The user enters the following information describing the PCR in the remaining fields.

PCR Title – Enter or edit the PCR title. The spellcheck button allows the user to correct misspelled words.

Description of Change – Click each item that applies.

Directed Change – Was this change directed by DOE?

DOE Approval Required - See the Table 9.2 in the Configuration Management Plan for help in determining approvals.

Class of Change – Click on the Display Class Definition button to view the classes. Then select the class by clicking on the field's down-arrow. Refer to the Configuration Management Plan for help in determining the class of change.

Select Affected WBS Nos, Select Affected PCR Nos, and Select Affected DCNs buttons – Allows the user to associate this PCR with other Level 2 WBS elements, PCRs, and Document Change Notices that are affected by it.

Explanation of Change – Textual information explaining the change. The spellcheck button allows the user to correct misspelled words.

Detailed Description – Textual information describing the change in detail.

The buttons on this screen provide the user with the following functions.

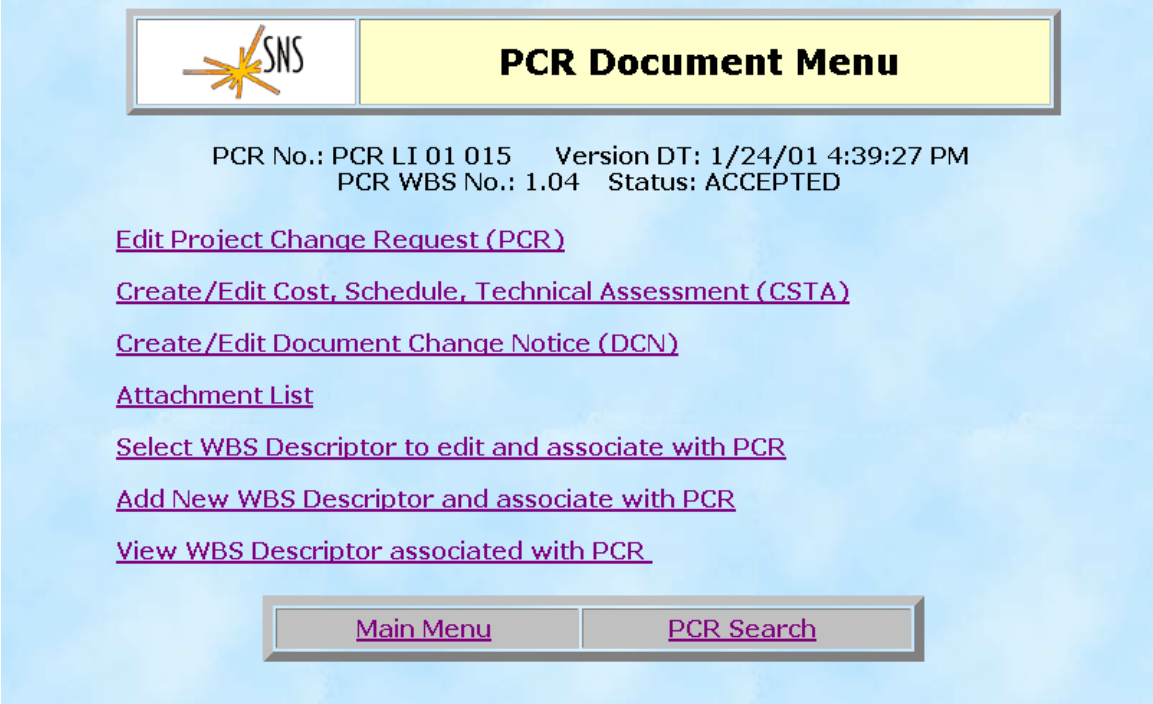
View – Displays the PCR Display screen
Reset – Clears any input values on the screen or restores the initial values displayed for the PCR.
Status Defs – This button displays the PCR status definitions. The definitions are:

Draft - A PCR and its associated documents are being defined and completed before submission to the SNS Configuration Manager. You can only make changes to the documents/attachments while it is in this status.
Submitted -A PCR and its associated documents have been submitted to the SNS Configuration Manager for review.
Pending - A PCR and its associated documents has been accepted by the SNS Configuration Manager and the approval process for the PCR and its associated documents has begun.
Accepted - A PCR and its associated documents have been accepted and adopted by the SNS project.
Rejected - A PCR and its associated documents have been rejected. A reason for the rejection will be stated in the signature history for the PCR.

PCR Menu – Displays the PCR Document Menu screen.
Main Menu – Displays the Main Menu screen.

Attachments – Allows the user to view the attachment list.

Clicking on the Save button saves the PCR record with a status of "DRAFT" and with all data that was entered and displays the PCR Document Menu screen.



From this screen the user can select from the following commands.

Edit Project Change Request (PCR) – Edit the current PCR.

Create/Edit Cost, Schedule, Technical Assessment (CSTA) – Create/edit the CSTA record associated with the current PCR.

Create/Edit Document Change Notice (DCN) – Create/edit the DCN record associated with the current PCR.

Attachment List – Add/Delete attachments to the current PCR.

Select WBS Descriptor to edit and associated with PCR – Select an existing WBS Descriptor to edit and associate with this PCR.

Add New WBS Descriptor and associate with PCR – Create a new WBS Descriptor and associate with this PCR.

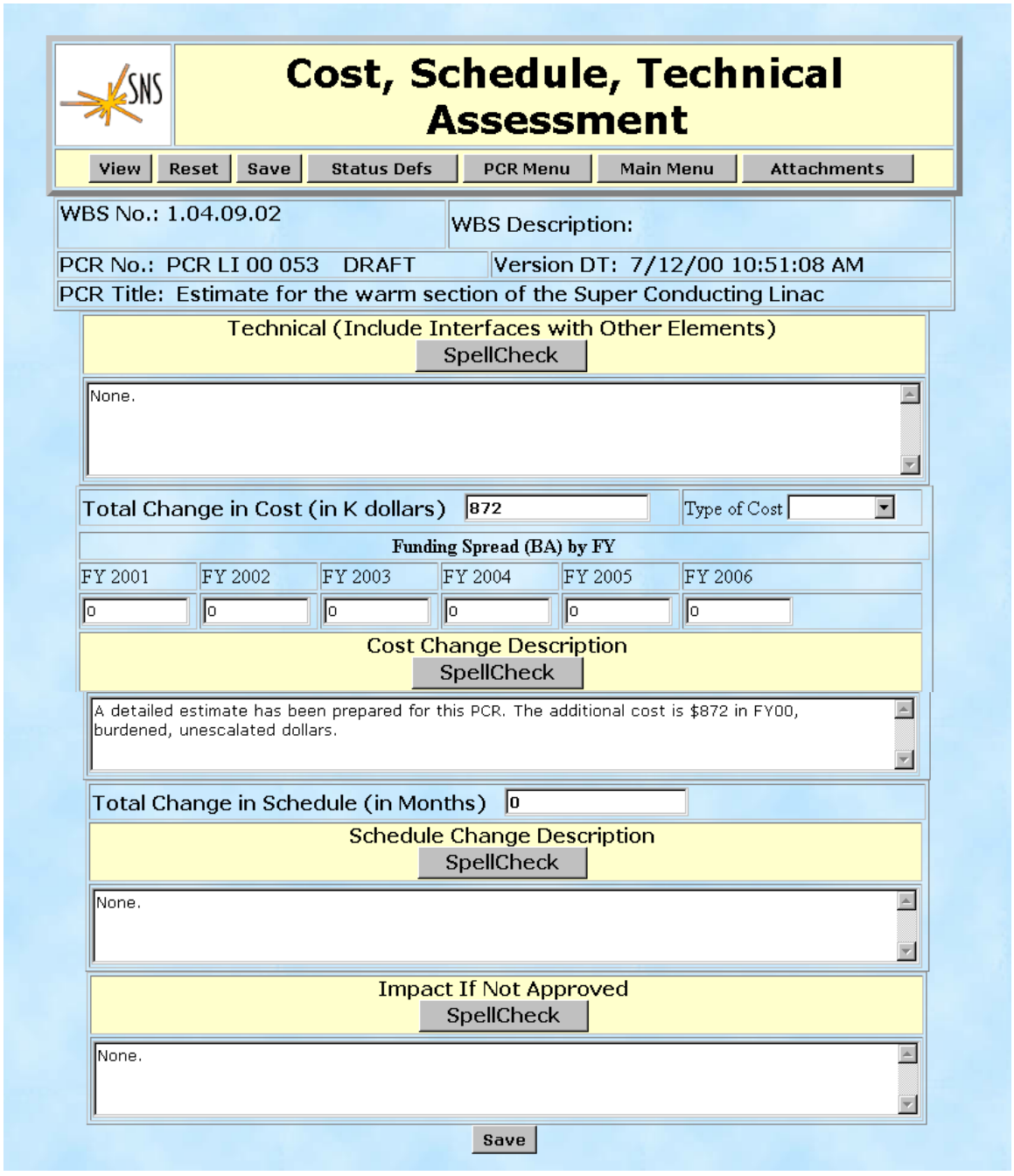
View WBS Descriptor associated with PCR – View the WBS Descriptor(s) associated with this PCR.

Submit Project Change Request (PCR) for Approval – Submit the current PCR to the Configuration Manager for approval.

The PCR Search button at the bottom of the page allows the user to query and display PCRs. The Main Menu button displays the main menu screen.

4.1.2 CSTA Screen

Clicking on Create/Edit Cost, Schedule, and Technical Assessment (CSTA) initiates the next step in creating a PCR package by displaying the following screen:



This screen displays information from the current PCR and allows the user to enter/edit the following fields:

Technical (Include Interfaces with Other Elements) – Discuss the impact on the technical baseline and clarify the interfaces with the other areas of the project, including WBS numbers. Attach additional information as applicable.

Total Change in Cost (in K dollars)

Type of Cost – Select either Burdened or Escalated.

Funding Spread (BA) by FY – The total dollar amount entered into the "Total Change in Cost" must be allocated by FY.

Cost Change Description - Clarify the cost impact of the change including the cost impact on all affected subprojects. State burdened and escalated to current year dollars.
Total Change in Schedule (In Months)

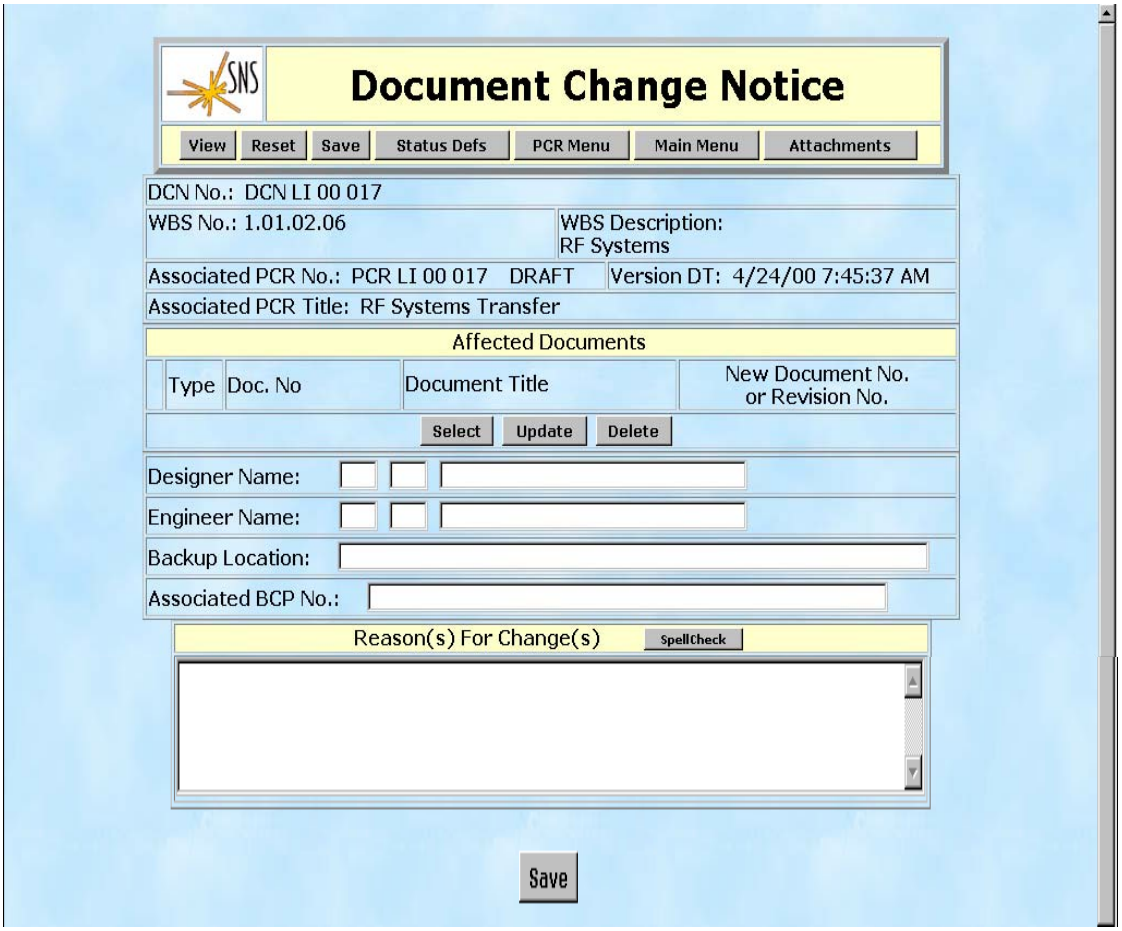
Schedule Change Description - Clarify the schedule impact of the change on all affected subprojects. Include a discussion of baseline milestone changes and the effect on the subproject critical path. Include revised activity durations plus current FY detail schedule changes.

Impact if not Approved – Discuss the impact to the project if the requested change is not approved.

Clicking on the Save button saves the CSTA record with all data that was entered and returns the user to the PCR Document Menu.

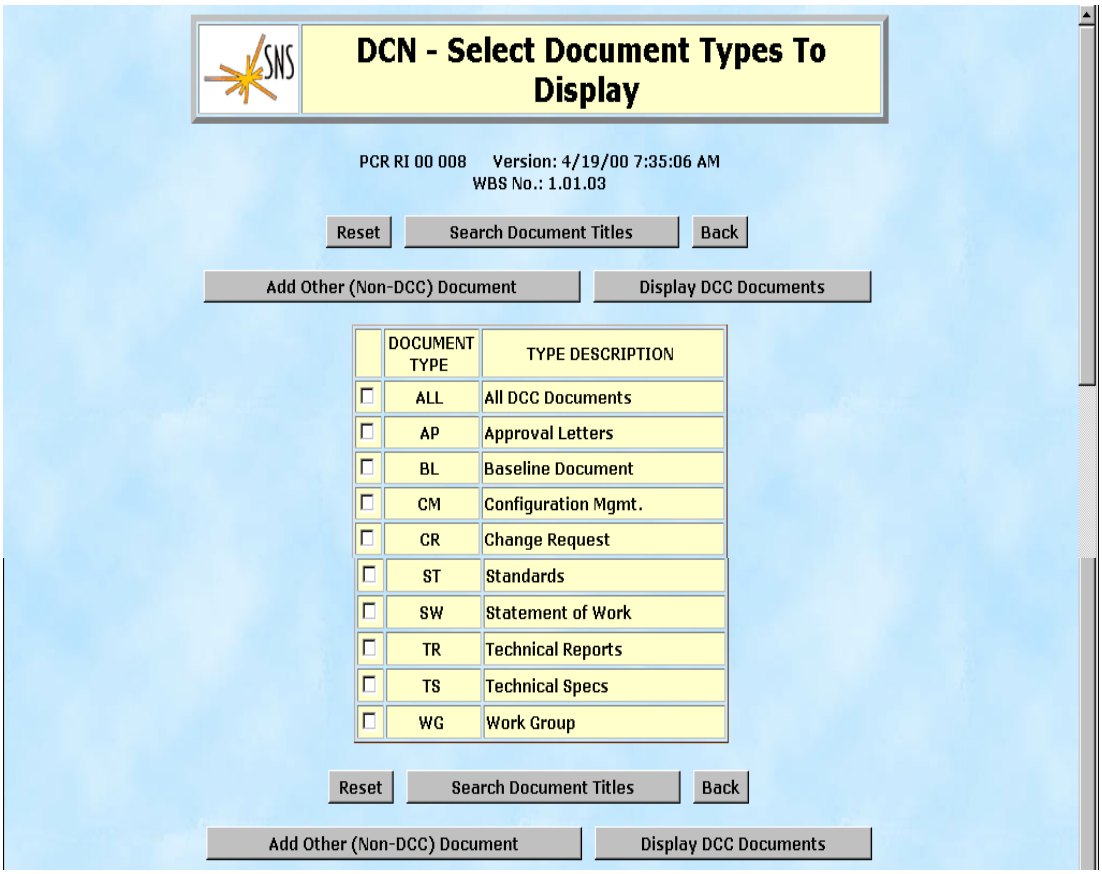
4.1.3 DCN Screen

From the PCR Document Menu screen click on Create/Edit Document Change Notice (DCN) to continue the process of creating a PCR package. This command displays the following screen:

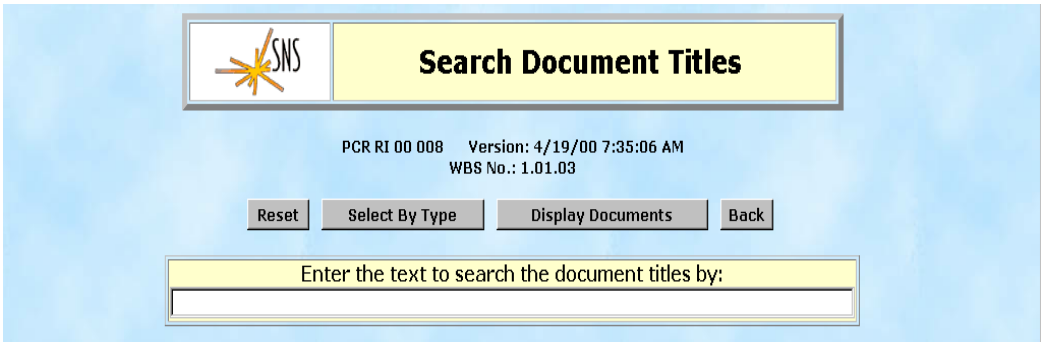


This screen displays information from the current PCR and allows the user to enter the following fields:

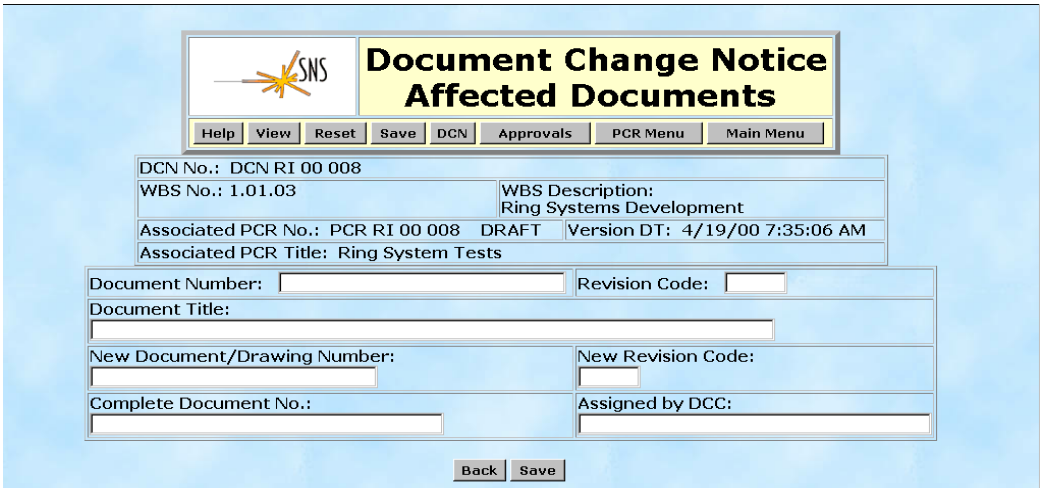
> Affected Documents – This section is used to display any documents that are affected by the PCR. Clicking the Select button under this banner displays the Select Document Types to Display screen shown below. The user can select the document type of interest by clicking the box to the left of the Document Type.



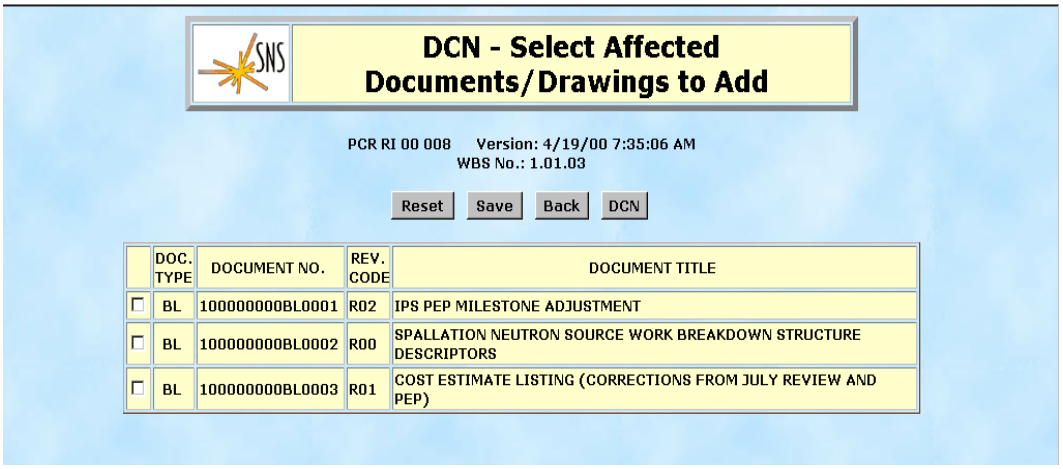
The following buttons are available from this screen.
Search Document Titles – This screen allows the user to search documents by title.



Add Other (Non-DCC) Document – This screen allows the user to add Non-DCC documents.



Display DCC Documents – Selecting a document type and then clicking on the Display DCC Documents button will display this screen. The user can add a document or drawing by checking the box to the left of the document title and clicking the Save button.



After selecting and saving DCC or other documents the user returns to the Document Change Notice screen where he can update the document by selecting Update or delete the document from the PCR by selecting the Delete button.

Other fields on the Document Change Notice screen used to describe the affected documents are:

Designer Name – The initials and last name of the designer.

Engineer Name – The initials and last name of the engineer.

Backup Location – The backup location of the design documents.

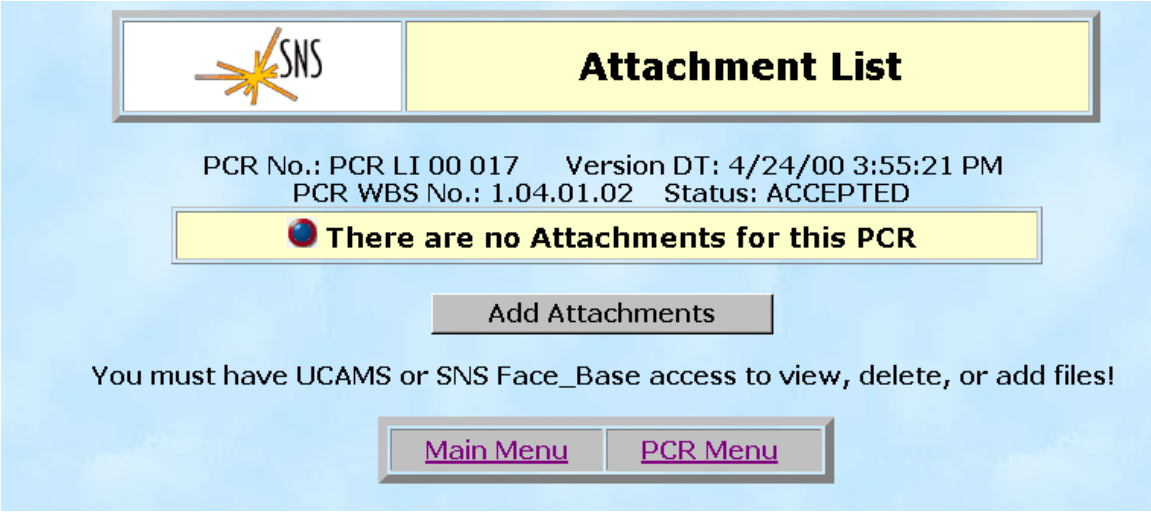
Associated BCP No. – The associated BCP number.

Reason (s) for Change (s) – Textual information describing the reasons for the changes to the documents. The spellcheck button allows the user to find and correct misspelled words

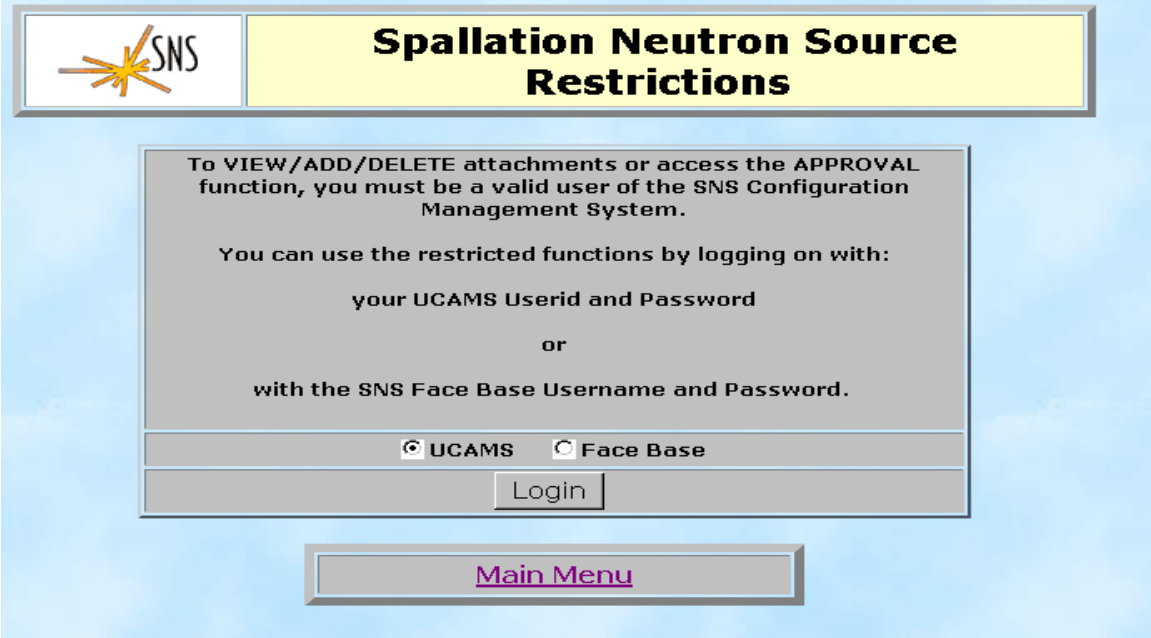
Clicking on the Save button saves the DCN record and returns the user to the PCR Document Menu screen.

4.1.4 Attachment List

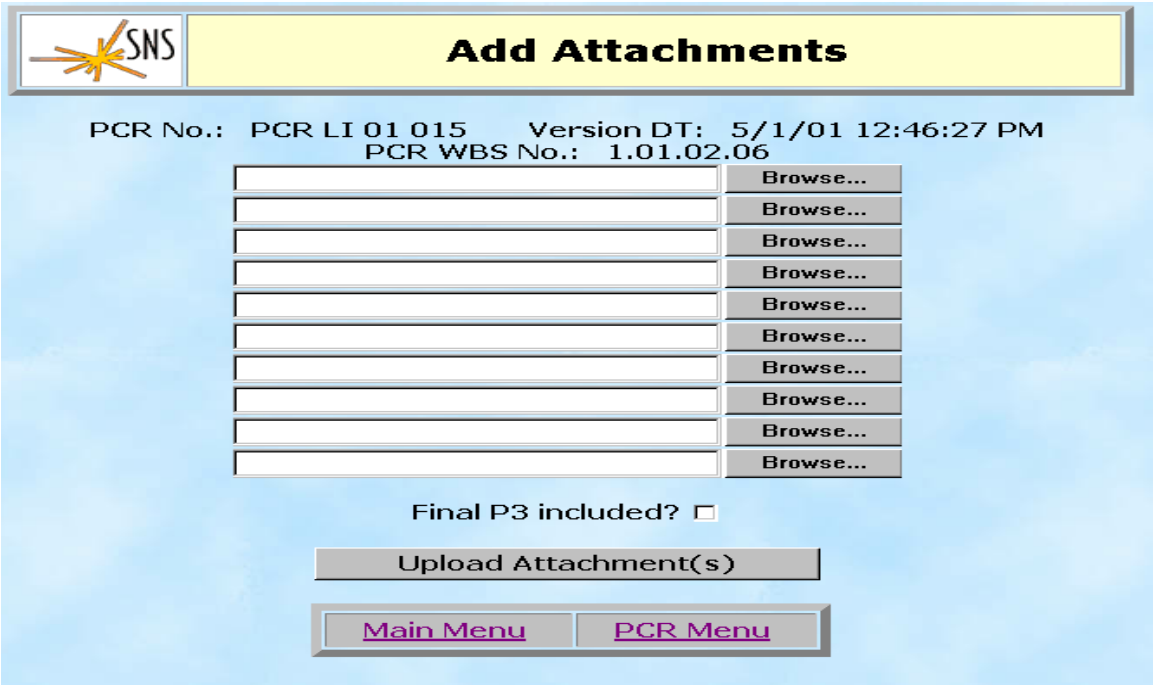
Attachments can be added to or deleted from the PCR package by clicking Attachment List on the PCR Document Menu Screen. The Attachment List screen is displayed.



In order to add attachments the user must have a UCAMS (OAKRIDGE Domain) or FACEBASE (SNS Directory) account. Clicking on the Add Attachment button displays the screen below. The user must Logon by entering a valid user id and password.



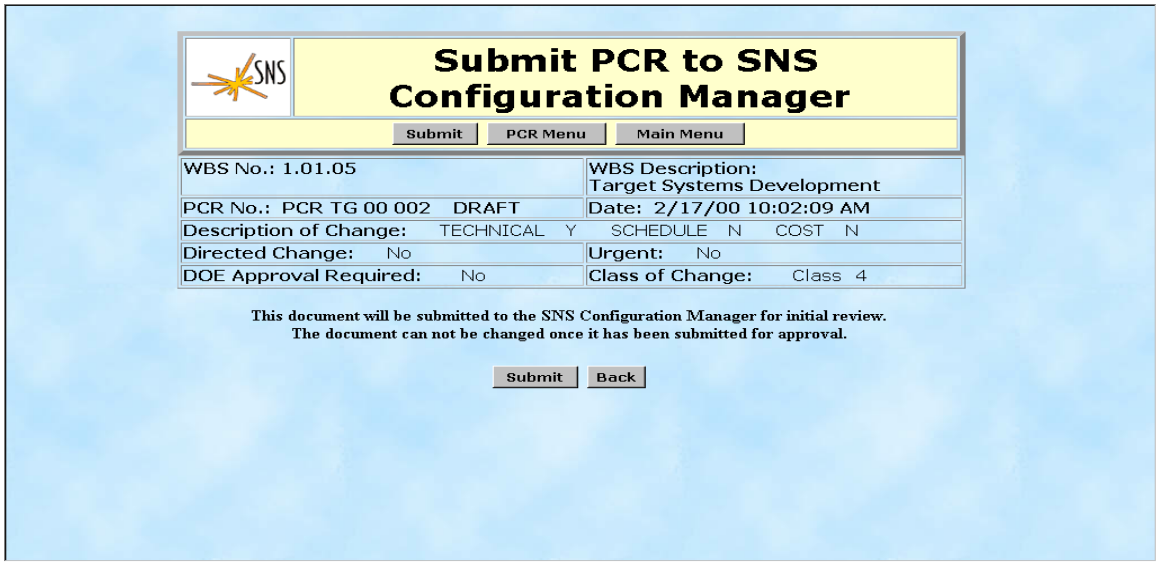
After login the Add Attachment screen is displayed allowing the user to select documents to attach to the PCR package. The browse button enables the user to search for a document. Up to ten documents may be attached from this screen at one time. After selecting the document click the Upload Attachment button to initiate the upload and attachment process.



Checking the 'Final P3 included' checkbox indicates required P3 data is uploaded as an attachment. The PCR Menu button at the bottom of the screen returns the user to the PCR Document Menu screen. The Main Menu button displays the main menu screen.

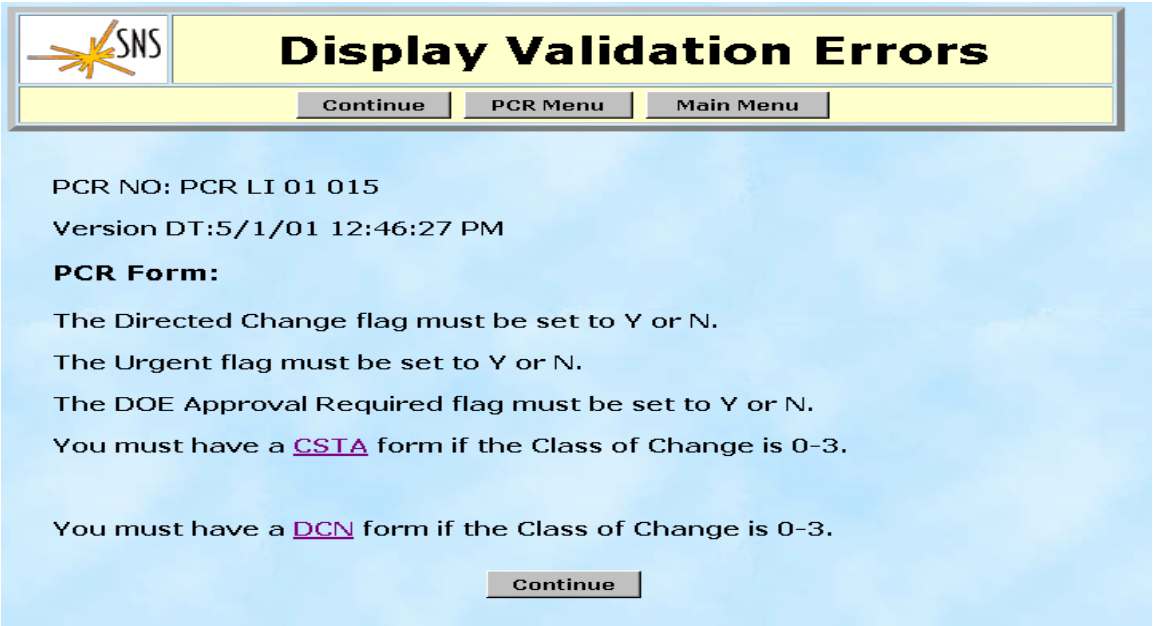
4.1.5 Submit Project Change Request (PCR) for Approval

The last step in creating a PCR package is submitting it to the SNS Configuration Manager for approval. This is done by selecting Submit Project Change Request (PCR) for Approval option from the PCR Document screen. The following screen is displayed if the PCR and its associated documents have the required entries.



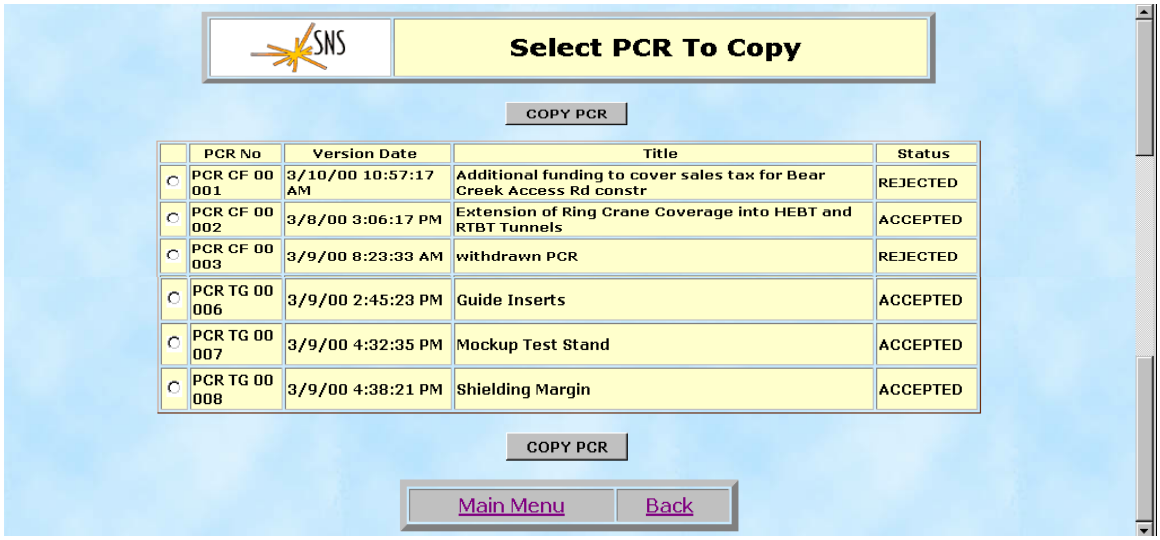
Clicking the Submit button on this screen alerts the SNS Configuration Manager that the PCR package is complete. The status is changed from "DRAFT" to "SUMITTED". Although the PCR can no longer be edited, it can be copied.

If errors exist in the PCR record it can not be submitted for approval. The following screen is displayed if this is the case.

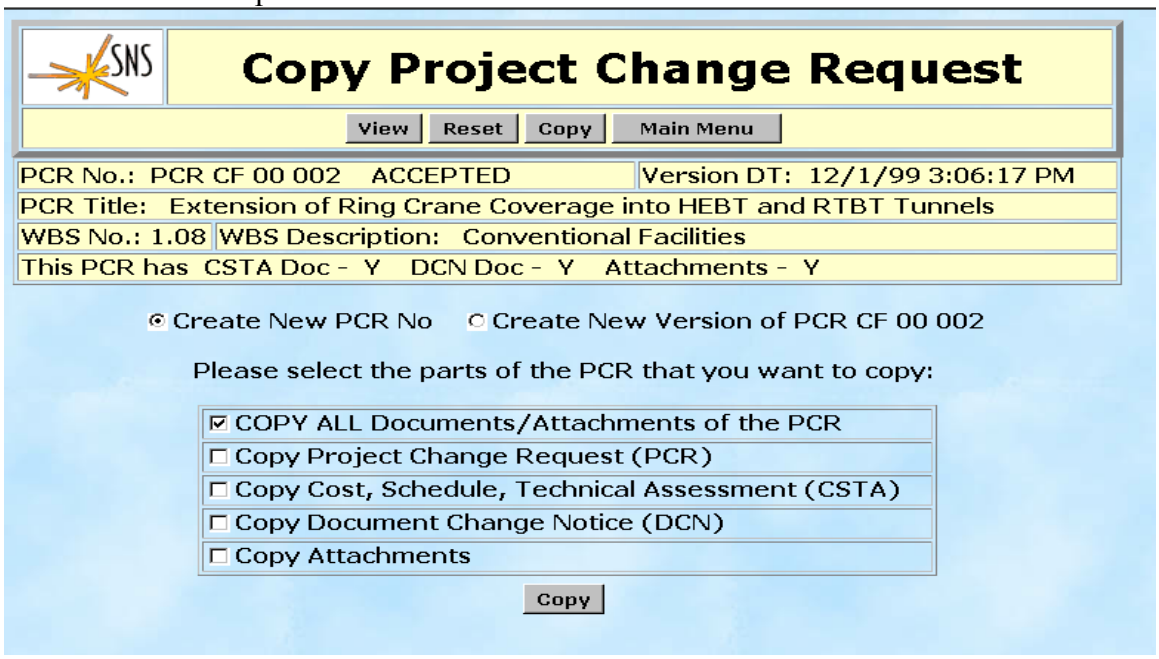


4.2 Copy Existing

Selecting this option from the PCR Menu screen lists all PCRs that are available for copying. The user indicates which PCR to copy by clicking on the circle to the left of the PCR number and then pressing the Copy PCR button. The Back button returns the user to the PCR Menu screen. The Main Menu button displays the Main Menu screen.



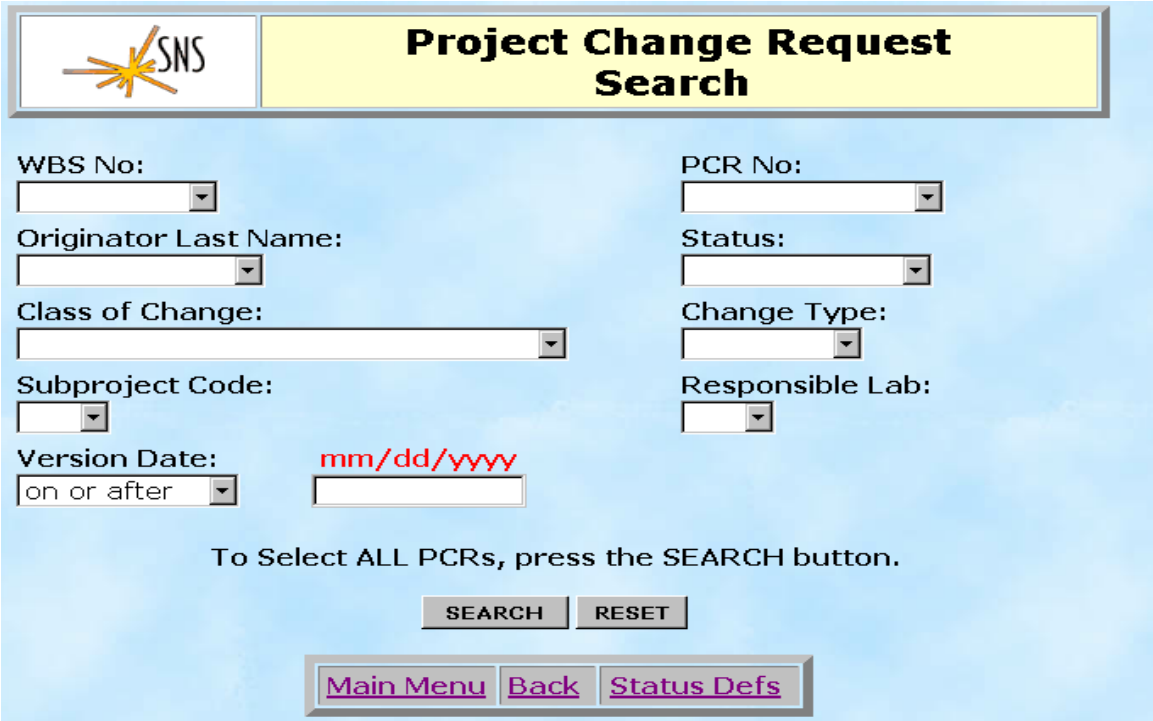
Pressing the Copy PCR button displays the Copy Project Change Request screen with the selected PCR information displayed. From this screen the user can select to create a new PCR, or create a new version of the current PCR. The user can also select specific parts of the PCR to be copied.



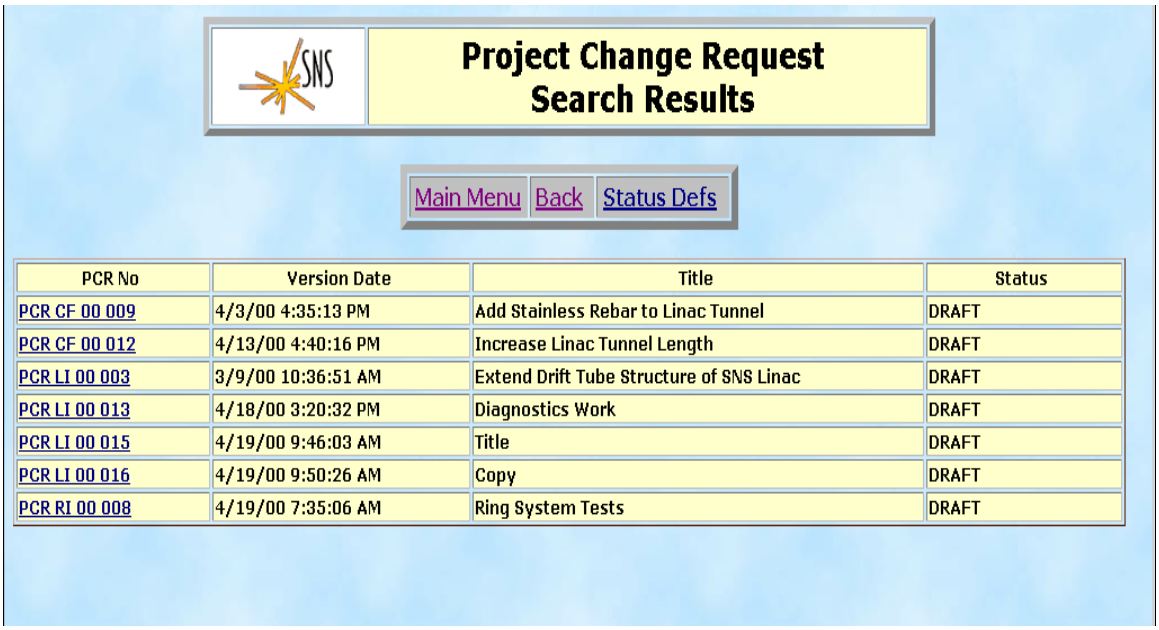
Pressing the copy button from this screen will allow the user to select a Work Breakdown Structure, and enter the Originator and Title and then view the new PCR.

4.3 Search PCR

Clicking on the Search option from the PCR Menu screen displays the screen below which allows the user to search for PCR records based on a WBS number, a specific PCR number, the Originator's Last Name, Version Date, Status, Class of Change, Change Type, Subproject Code, or Responsible Lab. The search can be on any field or combination of fields. Each field has a drop-down list of available choices. Blank fields will be ignored.

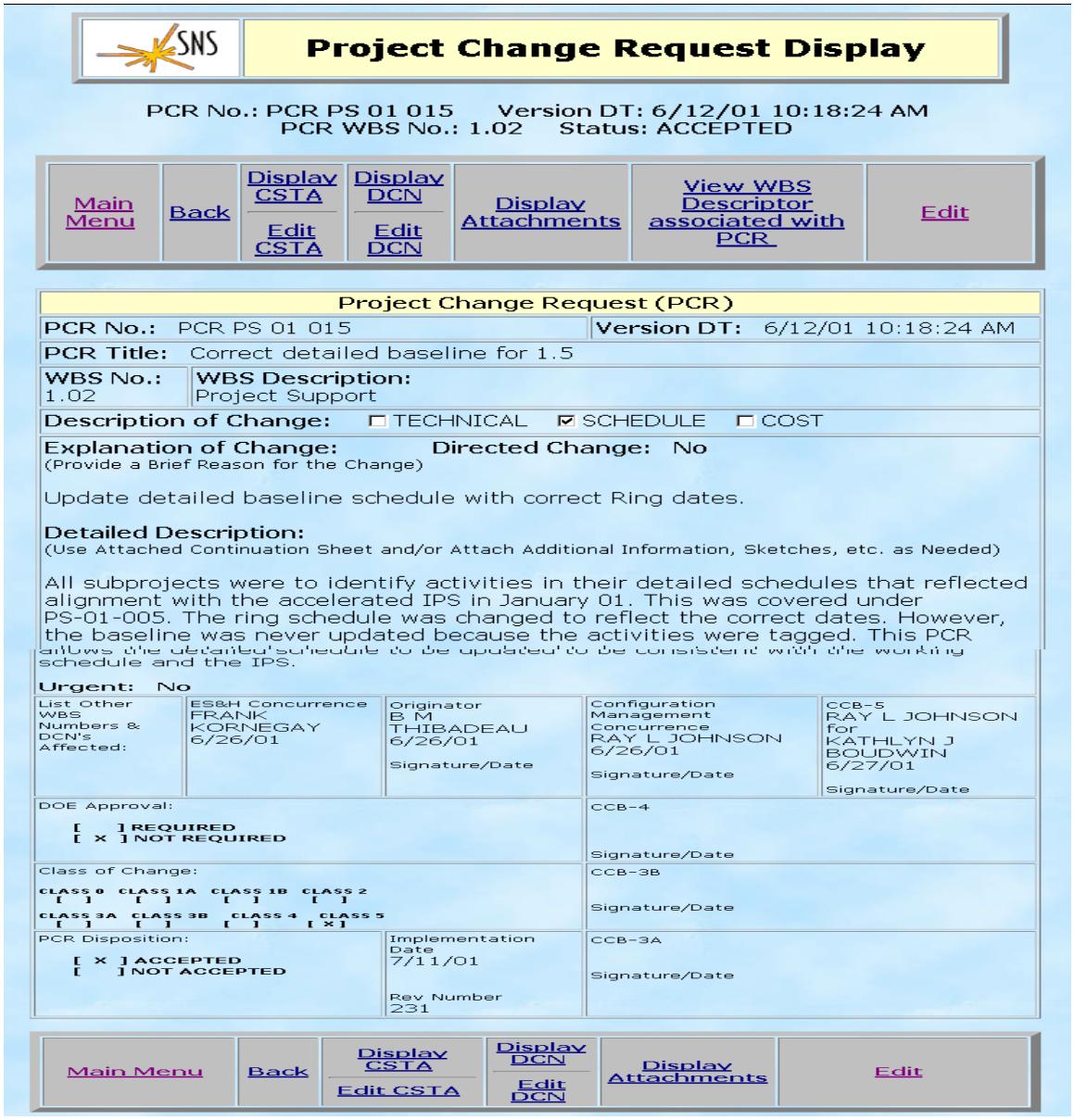


For example, the following screen resulted from a search for all PCR records on or after January 1, 2000 that are of change type "Technical" and that have a status of "DRAFT".



PCR No	Version Date	Title	Status
PCR CF 00 009	4/3/00 4:35:13 PM	Add Stainless Rebar to Linac Tunnel	DRAFT
PCR CF 00 012	4/13/00 4:40:16 PM	Increase Linac Tunnel Length	DRAFT
PCR LI 00 003	3/9/00 10:36:51 AM	Extend Drift Tube Structure of SNS Linac	DRAFT
PCR LI 00 013	4/18/00 3:20:32 PM	Diagnostics Work	DRAFT
PCR LI 00 015	4/19/00 9:46:03 AM	Title	DRAFT
PCR LI 00 016	4/19/00 9:50:26 AM	Copy	DRAFT
PCR RI 00 008	4/19/00 7:35:06 AM	Ring System Tests	DRAFT

To view a specific PCR record, click on the PCR number. This will display the screen below, which allows the user to view the PCR record. From this screen the user can search for other PCRs, display the associated CSTA, display the associated DCN, or edit the PCR if the status is “DRAFT”.



Project Change Request Display

PCR No.: PCR PS 01 015 Version DT: 6/12/01 10:18:24 AM
PCR WBS No.: 1.02 Status: ACCEPTED

Main Menu | Back | Display CSTA / Edit CSTA | Display DCN / Edit DCN | Display Attachments | View WBS Descriptor associated with PCR | Edit

Project Change Request (PCR)

PCR No.: PCR PS 01 015	**Version DT:** 6/12/01 10:18:24 AM
PCR Title: Correct detailed baseline for 1.5	
WBS No.: 1.02	**WBS Description:** Project Support

Description of Change: ☐ TECHNICAL ☑ SCHEDULE ☐ COST

Explanation of Change: **Directed Change:** No
(Provide a Brief Reason for the Change)

Update detailed baseline schedule with correct Ring dates.

Detailed Description:
(Use Attached Continuation Sheet and/or Attach Additional Information, Sketches, etc. as Needed)

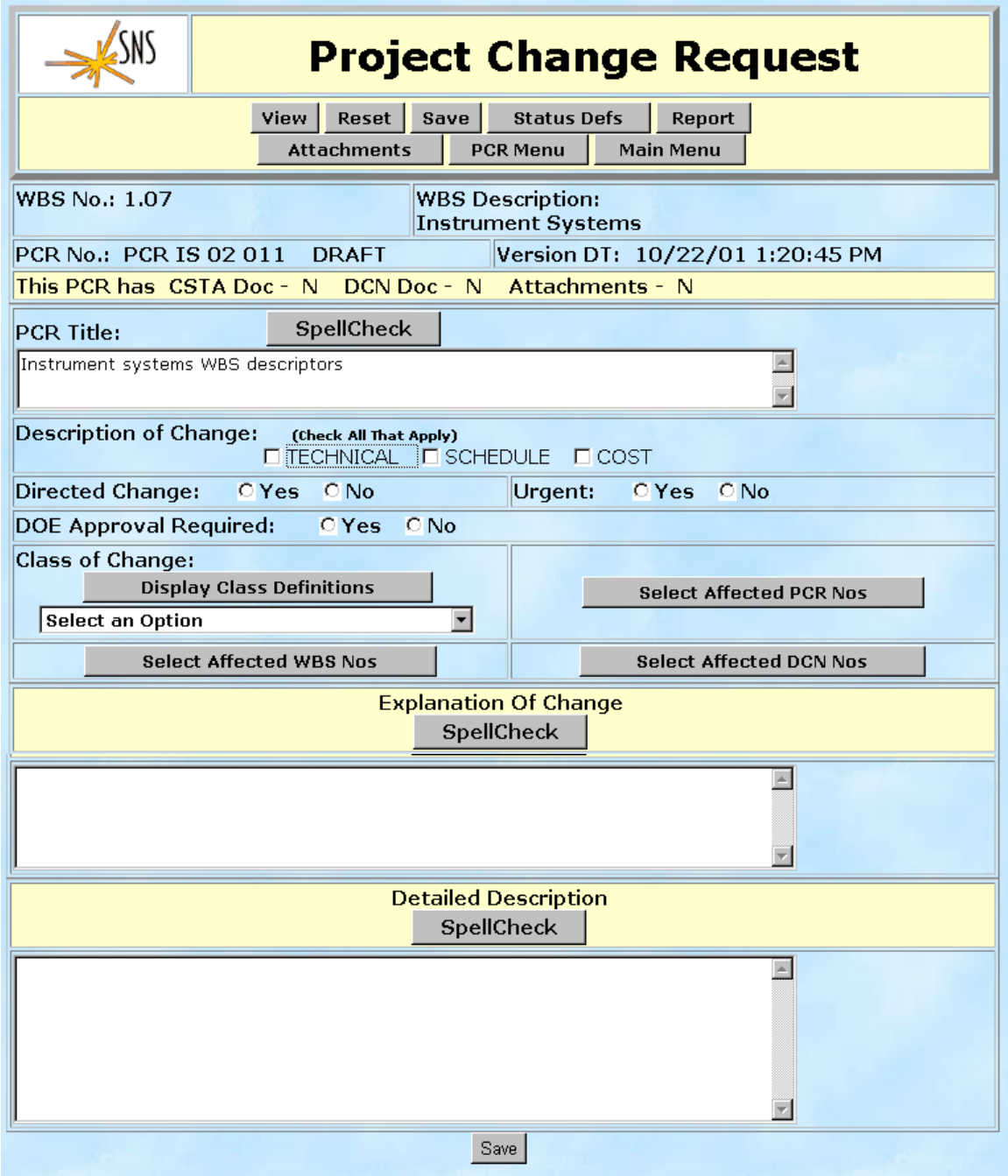
All subprojects were to identify activities in their detailed schedules that reflected alignment with the accelerated IPS in January 01. This was covered under PS-01-005. The ring schedule was changed to reflect the correct dates. However, the baseline was never updated because the activities were tagged. This PCR allows the detailed schedule to be updated to be consistent with the working schedule and the IPS.

Urgent: No

List Other WBS Numbers & DCN's Affected:	ES&H Concurrence FRANK KORNEGAY 6/26/01	Originator B M THIBADEAU 6/26/01 Signature/Date	Configuration Management Concurrence RAY L JOHNSON 6/26/01 Signature/Date	CCB-5 RAY L JOHNSON for KATHLYN J BOUDWIN 6/27/01 Signature/Date
DOE Approval: [ ] REQUIRED [x] NOT REQUIRED			CCB-4 Signature/Date	
Class of Change: CLASS 0 [ ] CLASS 1A [ ] CLASS 1B [ ] CLASS 2 [ ] CLASS 3A [ ] CLASS 3B [ ] CLASS 4 [ ] CLASS 5 [x]			CCB-3B Signature/Date	
PCR Disposition: [x] ACCEPTED [ ] NOT ACCEPTED		Implementation Date 7/11/01 Rev Number 231	CCB-3A Signature/Date	

Main Menu | Back | Display CSTA / Edit CSTA | Display DCN / Edit DCN | Display Attachments | Edit

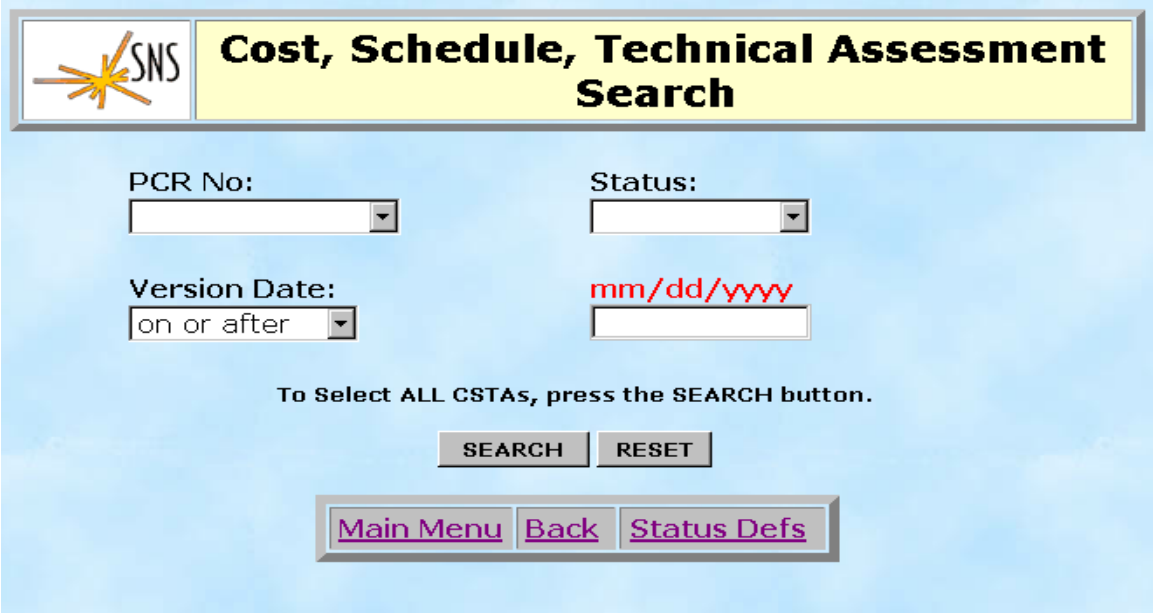
To edit the PCR record, click on the Edit button. The Project Change Request screen will be displayed.



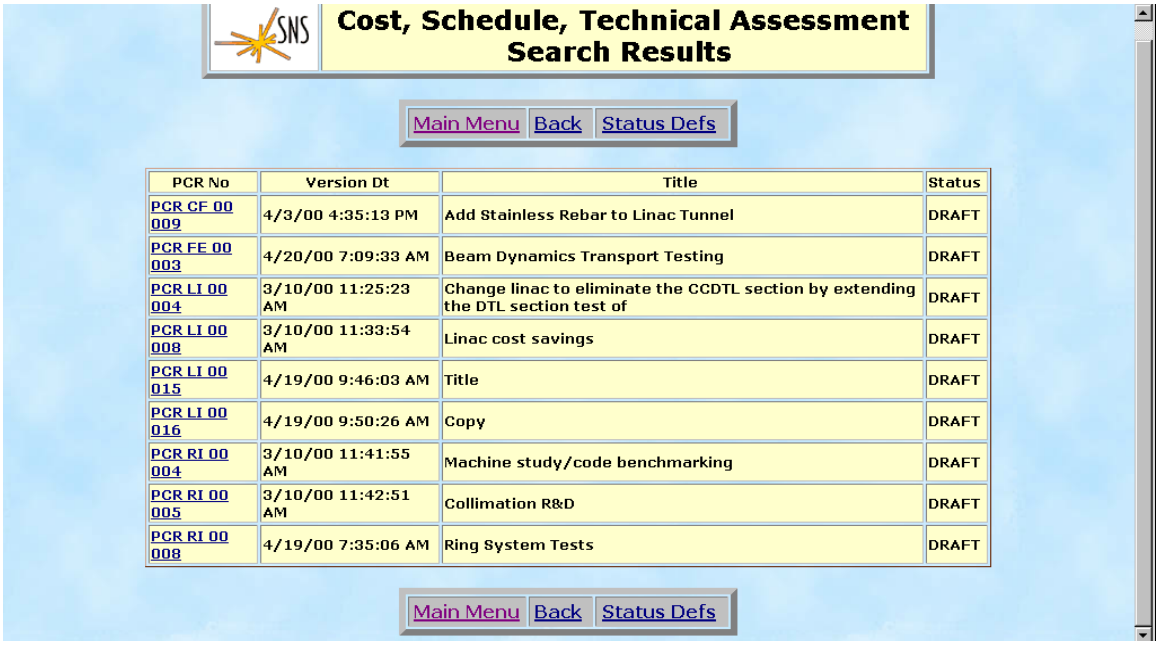
The fields in the PCR record can be edited and saved from this screen. The button bar at the top of the screen allows the user to view, reset, or save this record, display attachments, view status definitions, and return to the PCR Document or Main menus.

5.0 Cost, Schedule, and Technical Assessment (CSTA)

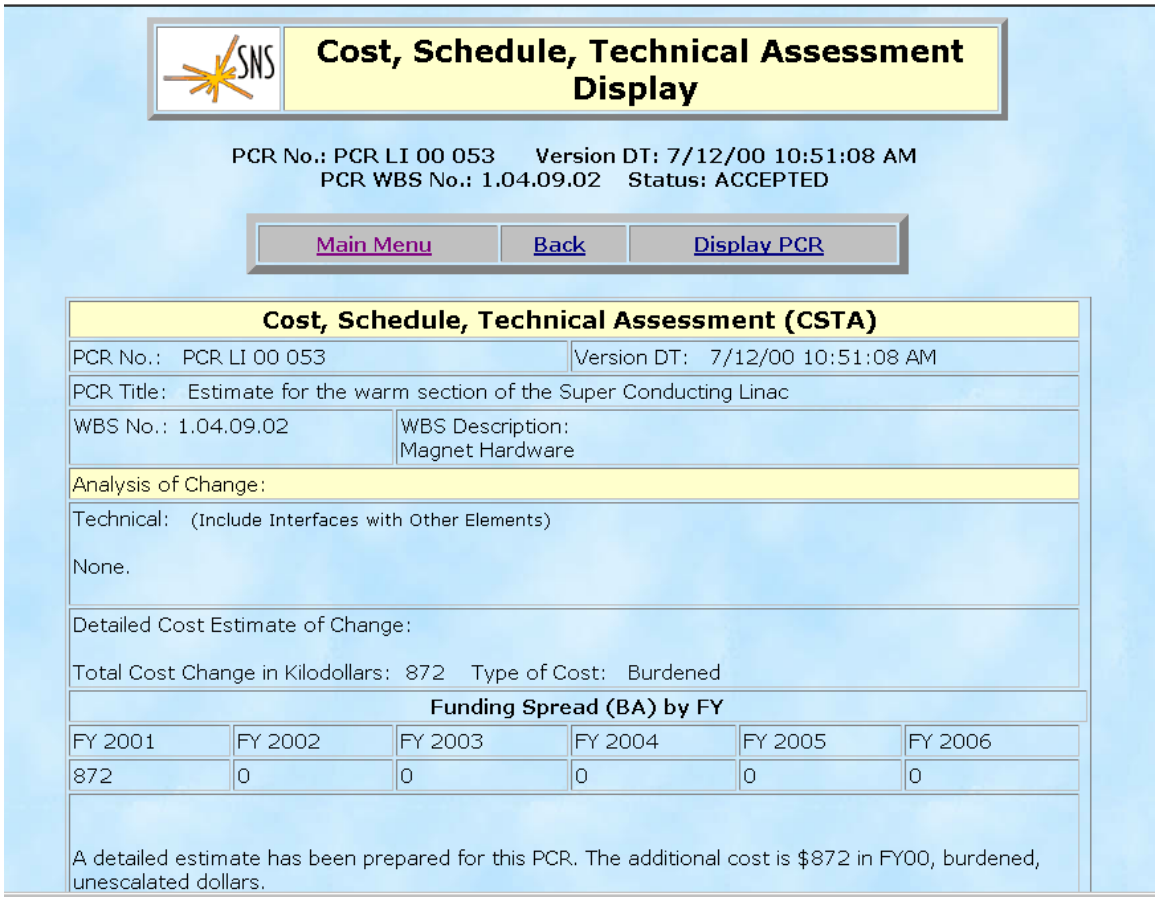
Selecting Cost, Schedule, and Technical Assessment (CSTA) from the Main Menu displays the following screen which allows the user to search for CSTA records based on a specific PCR number, Version Date, or Status. The search can be on any field or combination of fields. Each field has a drop-down list of available choices. Blank fields will be ignored.



For example, the following screen resulted from a search where the Status field was "DRAFT" all other fields were blank.



To view a specific CSTA record click on the PCR number. This will display the following screen in read only mode. From this screen the user can view the CSTA information, display the associated PCR record, or return to the search screen or main menu.



Cost, Schedule, Technical Assessment Display

PCR No.: PCR LI 00 053 Version DT: 7/12/00 10:51:08 AM
PCR WBS No.: 1.04.09.02 Status: ACCEPTED

Main Menu | Back | Display PCR

Cost, Schedule, Technical Assessment (CSTA)

PCR No.: PCR LI 00 053	Version DT: 7/12/00 10:51:08 AM
PCR Title: Estimate for the warm section of the Super Conducting Linac	
WBS No.: 1.04.09.02	WBS Description: Magnet Hardware

Analysis of Change:

Technical: (Include Interfaces with Other Elements)

None.

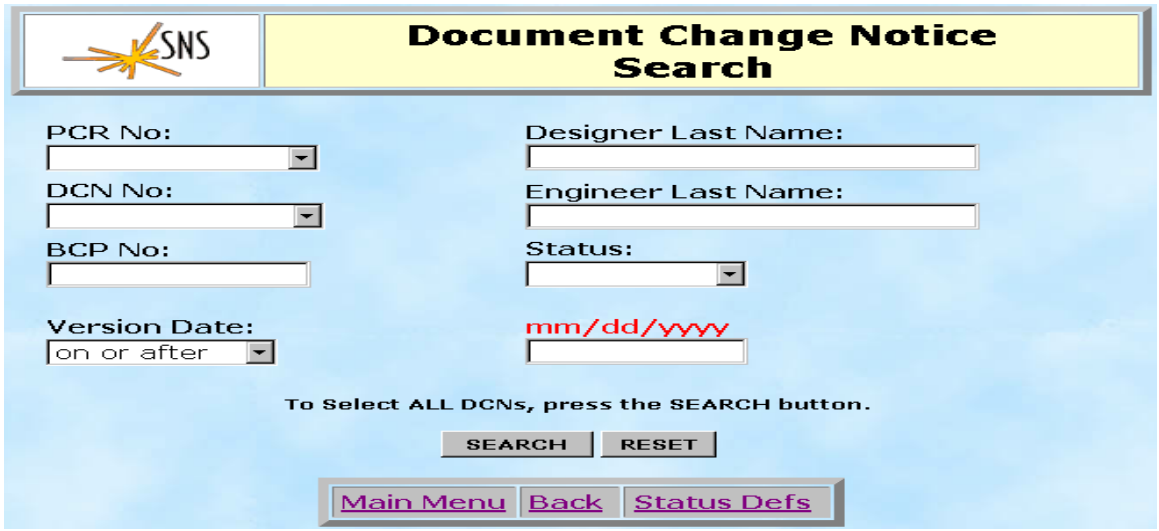
Detailed Cost Estimate of Change:

Total Cost Change in Kilodollars: 872 Type of Cost: Burdened

Funding Spread (BA) by FY

FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
872	0	0	0	0	0

A detailed estimate has been prepared for this PCR. The additional cost is $872 in FY00, burdened, unescalated dollars.



Document Change Notice Search

PCR No: Designer Last Name:
DCN No: Engineer Last Name:
BCP No: Status:
Version Date: on or after mm/dd/yyyy

To Select ALL DCNs, press the SEARCH button.

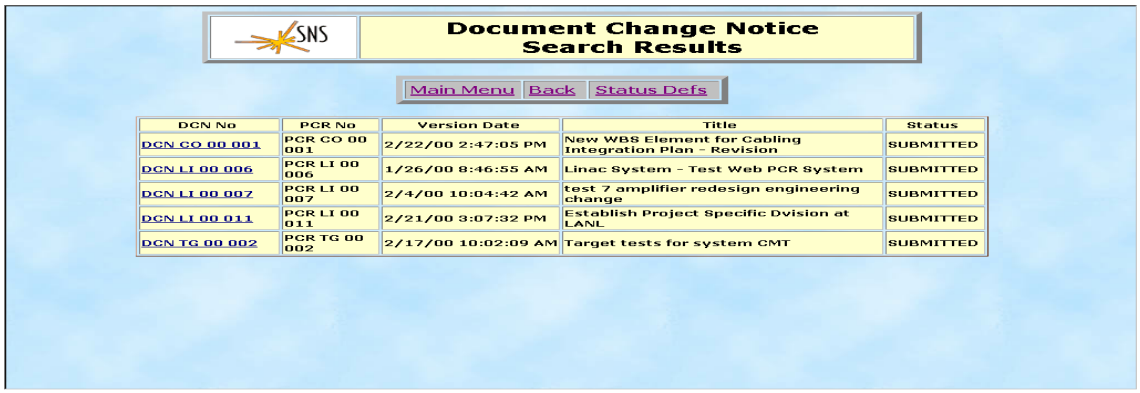
SEARCH RESET

Main Menu | Back | Status Defs

The Search screen allows the user to search for DCN records based on a specific PCR number, DCN number, BCP number, Status, Designer Last Name, Engineer Last Name,

Version Date, or Status. The search can be on any field or combination of fields. Some fields have drop-down lists of available choices. A blank field will not be included in the search.

For example the following screen resulted from a search for all DCN records after January 1, 2000 and that have a status of "SUBMITTED".



DCN No	PCR No	Version Date	Title	Status
DCN CO 00 001	PCR CO 00 001	2/22/00 2:47:05 PM	New WBS Element for Cabling Integration Plan - Revision	SUBMITTED
DCN LI 00 006	PCR LI 00 006	1/26/00 8:46:55 AM	Linac System - Test Web PCR System	SUBMITTED
DCN LI 00 007	PCR LI 00 007	2/4/00 10:04:42 AM	test 7 amplifier redesign engineering change	SUBMITTED
DCN LI 00 011	PCR LI 00 011	2/21/00 3:07:32 PM	Establish Project Specific Dvision at LANL	SUBMITTED
DCN TG 00 002	PCR TG 00 002	2/17/00 10:02:09 AM	Target tests for system CMT	SUBMITTED

To view a specific record, click on the DCN number. This will display the following screen in read only mode. From this screen the user can view the DCN information, display the associated PCR record, or return to the search screen or Main Menu.

Document Change Notice Display

PCR No.: PCR CO 00 001 Version DT: 9/27/99 2:12:21 PM
PCR WBS No.: 1.09.01 Status: ACCEPTED

Main Menu | Back | Display PCR

Document Change Notice (DCN)

NOTE: Use this form to initiate a new Document or change an existing Document	DCN: DCN CO 00 001 New WBS Element for Cabling Integration Plan

List Affected Documents: (Use Continuation Pages, if needed)

Type	Document No.	Title	New Document No/Revision
O		SNS PROJECT: WBS LEVEL 4 DESCRIPTOR FORM FOR WBS 1.9.1.2	
O		SNS PROJECT: WBS LEVEL 4 DESCRIPTOR FORM FOR WBS 1.9.1.1	
O		SNS PROJECT: WBS LEVEL 3 DESCRIPTOR FORM FOR WBS 1.9.1	

Type Codes:		(Drawings)		
BL - Baseline	EQ - Equipment Specs		A - Architectural	L - Interface(s)
CM - Configuration Mgmt	IC - Interface Control		E - Electrical	M - Mechanical
DD - Design Drawing	O - Other		P - Piping	P - Parts Lists
DR - Directives	PC - Policy		I - Instrumentation	Size: A - E
DS - Data Sheet Specs	PL - Parameters List			
EC - Eng. Change Proposal	SR - System Requirements			
	SW - Statement of Work			

Designer	J CLEAVES Engineer	Backup Location

Reason(s) for Change(s): (Provide as many details as possible)

WBS Descriptor Form for WBS 1.9.1 needs to be expanded to include the cabling plan scope. New WBS Descriptor forms for WBS 1.9.1.1 and 1.9.1.2 need to be generated. WBS 1.9.1.1 will include management activities and WBS 1.9.1.2 will include cabling activities. Proposed new descriptor forms are attached.

Associated PCR Number (When Applicable) PCR CO 00 001	Associated BCP Number (When Applicable)	Originator J E CLEAVES 1/31/00 Signature/Date

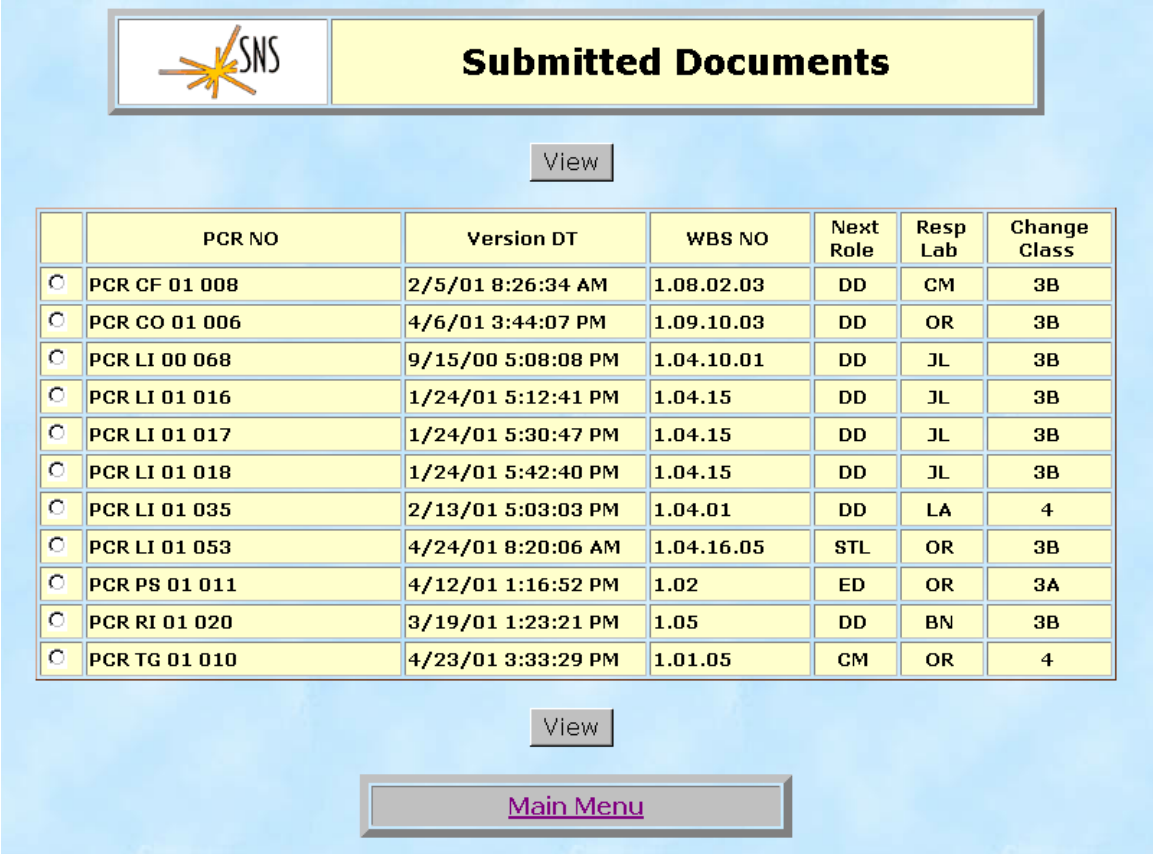
Note: All required signatures must be obtained prior to requesting Document Numbers.

Complete only for Revised Document(s)/Drawing(s)	Revised Document(s) Class 0 - 4	Required for Class 0 - 3
Group Leader D GURD 2/1/00 Signature/Date	Division Director Approval R L KUSTOM 2/1/00 Signature/Date	Project Director Approval Signature/Date

Main Menu | Back | Display PCR

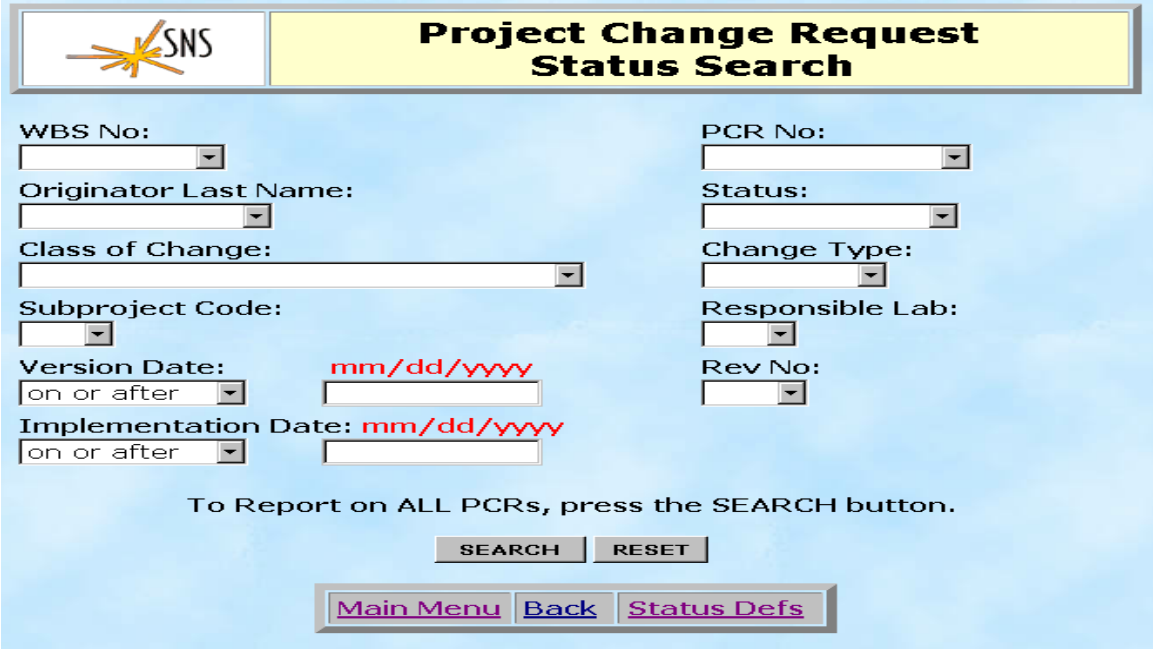
6.0 Tracked Submitted Documents

Selecting this option displays a screen listing all PCRs with a status of "PENDING" for the user to review. This table displays where the PCR is in the approval process, the change class, and the responsible lab. The user can select a PCR in the list and click the view button to view it.

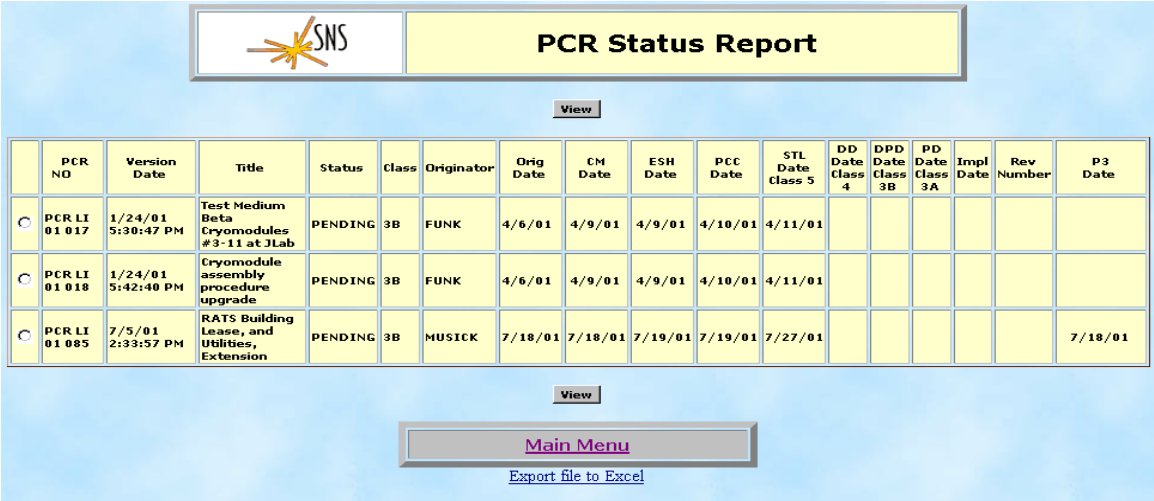


7.0 PCR Status Report

Clicking on the PCR Status Report option from the Main Menu screen displays the screen below which allows the user to search for PCR records based on a WBS number, a specific PCR number, the Originator's Last Name, Version Date, Status, Class of Change, Change Type, Subproject Code, Responsible Lab, Implementation Date, or Revision Number. The search can be on any field or combination of fields. Each field has a drop-down list of available choices. Blank fields will be ignored.



For example the following screen resulted from a search for all PCR records on or after March 1, 2001 that are of change type "Technical".



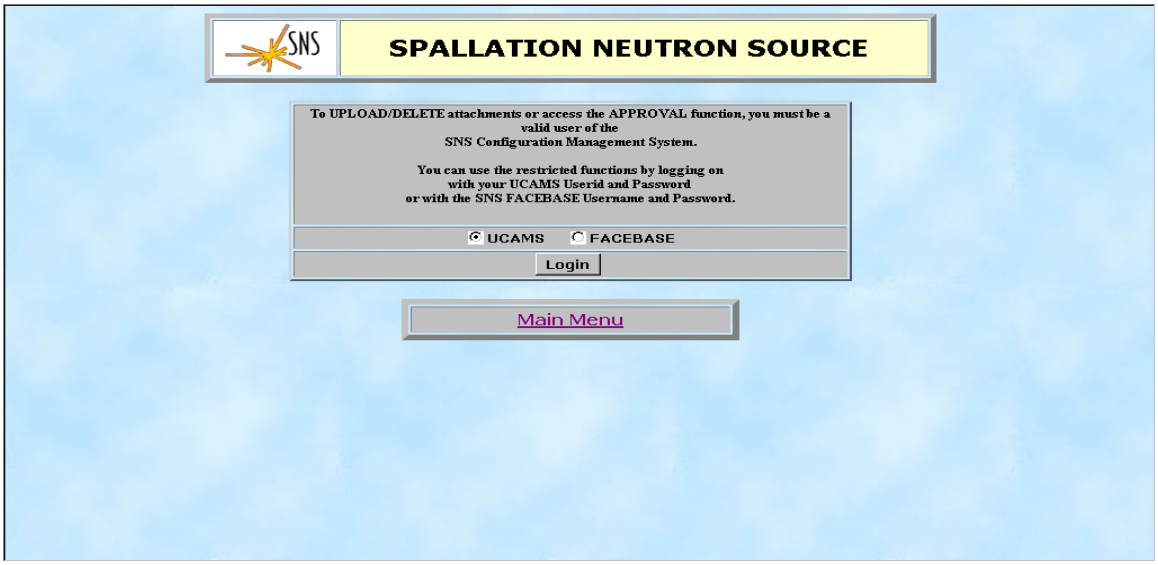
	PCR NO	Version Date	Title	Status	Class	Originator	Orig Date	CM Date	ESH Date	PCC Date	STL Date Class 5	DD Date Class 4	DPD Date Class 3B	PD Date Class 3A	Impl Date	Rev Number	P3 Date
○	PCR LI 01 017	1/24/01 5:30:47 PM	Test Medium Beta Cryomodules #3-11 at JLab	PENDING	3B	FUNK	4/6/01	4/9/01	4/9/01	4/10/01	4/11/01						
○	PCR LI 01 018	1/24/01 5:42:40 PM	Cryomodule assembly procedure upgrade	PENDING	3B	FUNK	4/6/01	4/9/01	4/9/01	4/10/01	4/11/01						
○	PCR LI 01 085	7/5/01 2:33:57 PM	RATS Building Lease, and Utilities, Extension	PENDING	3B	MUSICK	7/18/01	7/18/01	7/19/01	7/19/01	7/27/01						7/18/01

This table shows the PCR Number, Version Date, Title, Status, Class of Change, Originator, Originator Submitted Date, Configuration Manager Sign Date, ES&H Concurrence Sign Date, Project Controls Concurrence Sign Date, Senior Team Leader Sign Date, Division Director Sign Date, Deputy Project Director Sign Date, Project Director Sign Date, Implementation Date, Revision Number, and Date P3 data was attached to PCR.

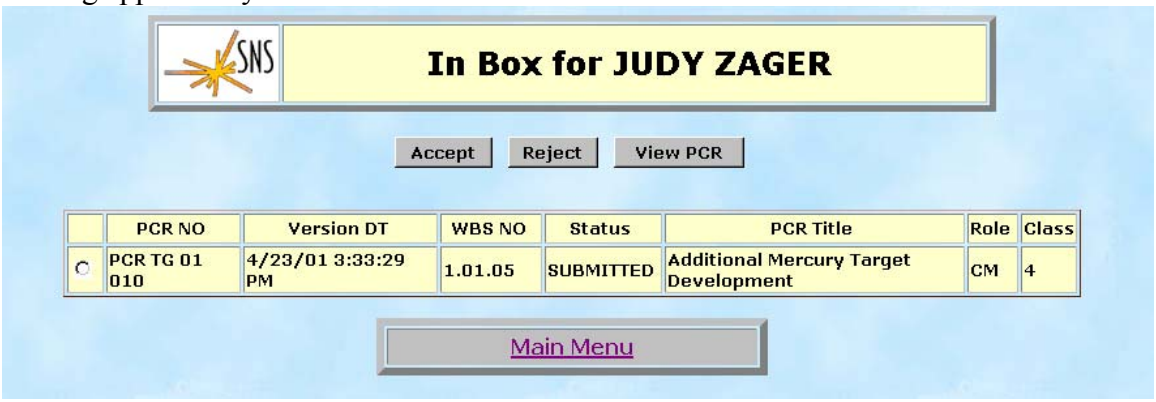
The user can elect to save this data to an Excel spreadsheet by clicking on the "Export file to Excel" link. The user can also view a PCR, by selecting it and clicking on the "View" button.

8.0 Approvals

Clicking on the Approvals command from the Main Menu displays the screen below. A user must have a UCAMS or FACEBASE account and approval level access to successfully login and view the approval screens. (See section 2.0 System Access).

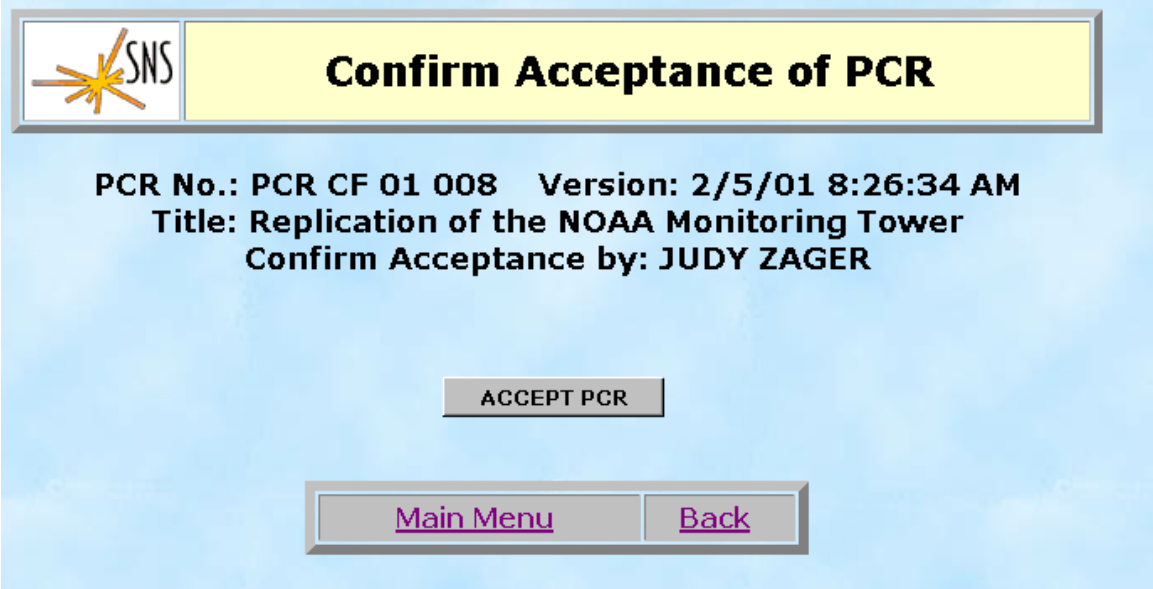


After successfully logging in, the user's In Box is displayed listing all records that are waiting approval by the user.

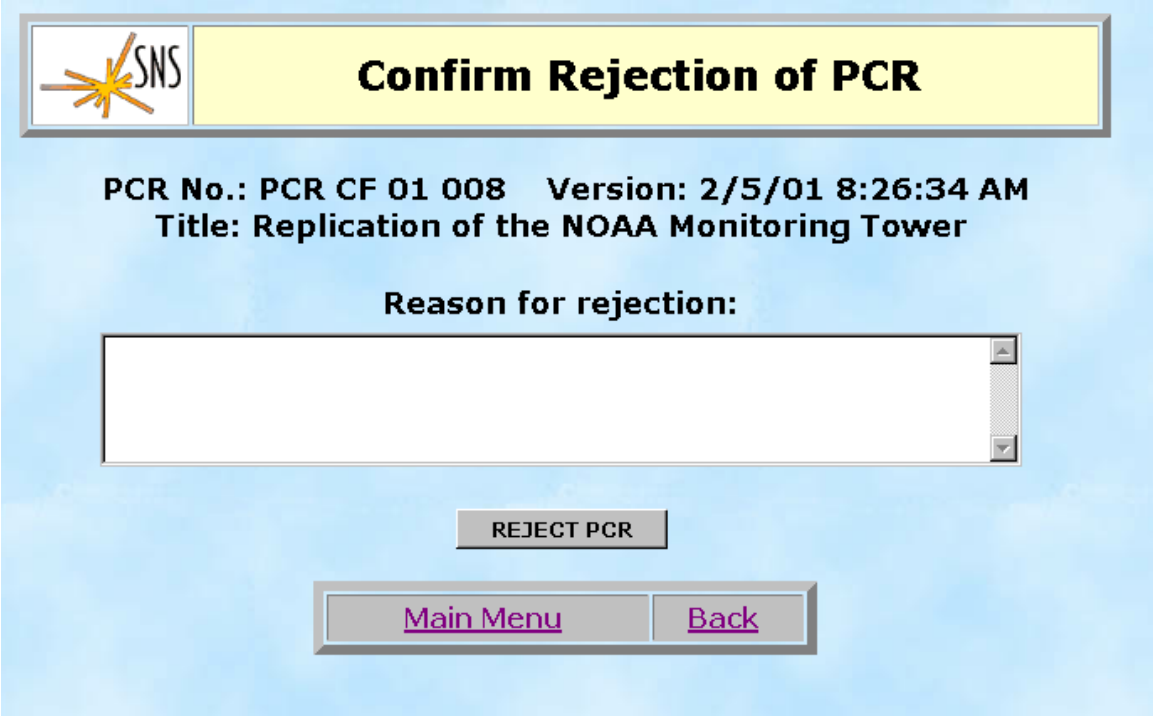


The user can then accept or reject the selected record, or view the PCR.

When the user selects the Accept button the screen below is displayed to allow the user to confirm the acceptance.

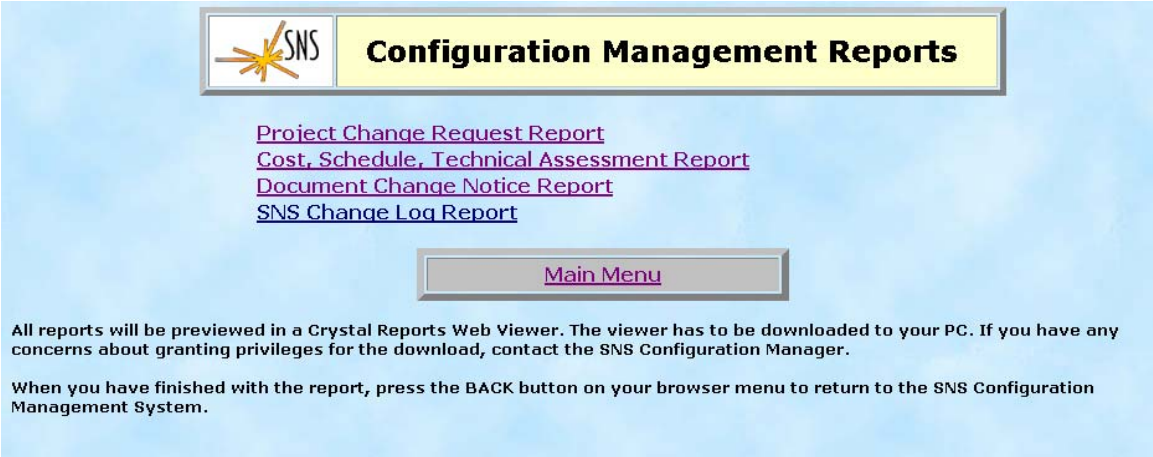


When the user selects the Reject button the screen below is displayed to allow the user to enter the reason for the rejection.



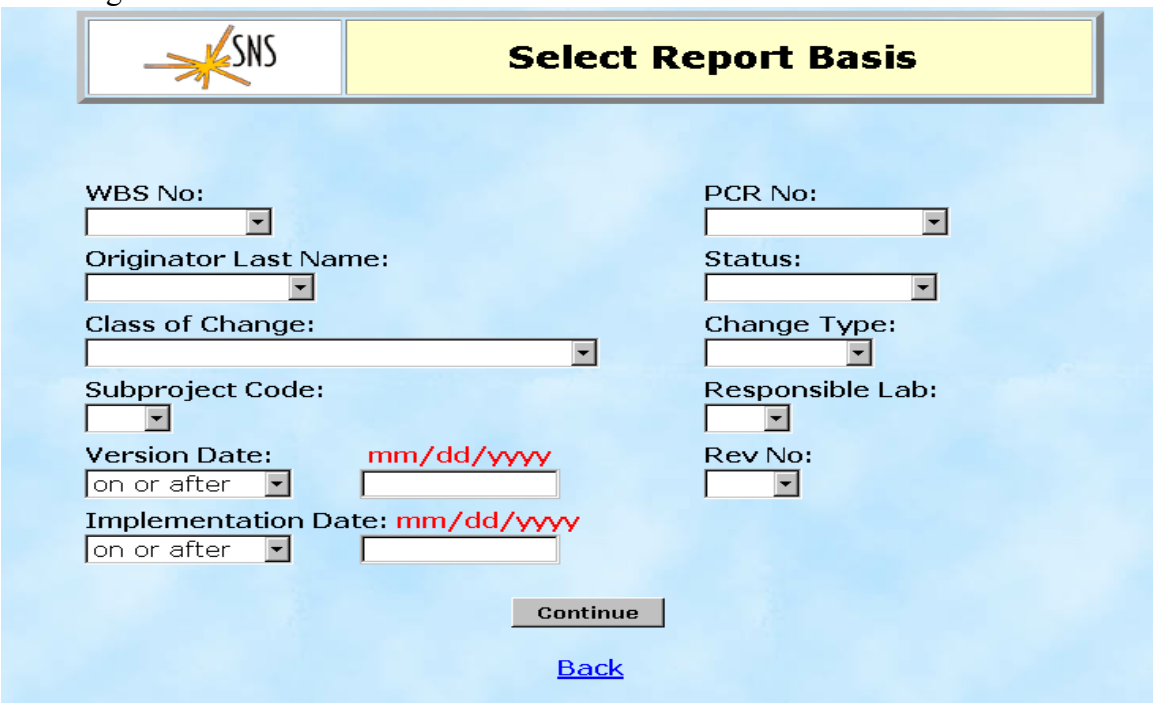
9.0 Reports

Selecting Reports from the Main Menu displays the following screen.



Selecting one of the following reports from this screen will display the Select Report Basis screen.

From the Select Report Basis screen the user can select which PCRs for the report based on a WBS number, a specific PCR number, the Originator's Last Name, Version Date, Status, Class of Change, Change Type, Subproject Code, Responsible Lab, Implementation Date, or Revision Number. The search can be on any field or combination of fields. Each field has a drop-down list of available choices. Blank fields will be ignored.



Clicking the Continue button from the Select Report Basis screen will display the requested list. An example is shown below. The user can preview the report by clicking on the circle to the left of the PCR No. The report is displayed using Crystal Report Viewer.

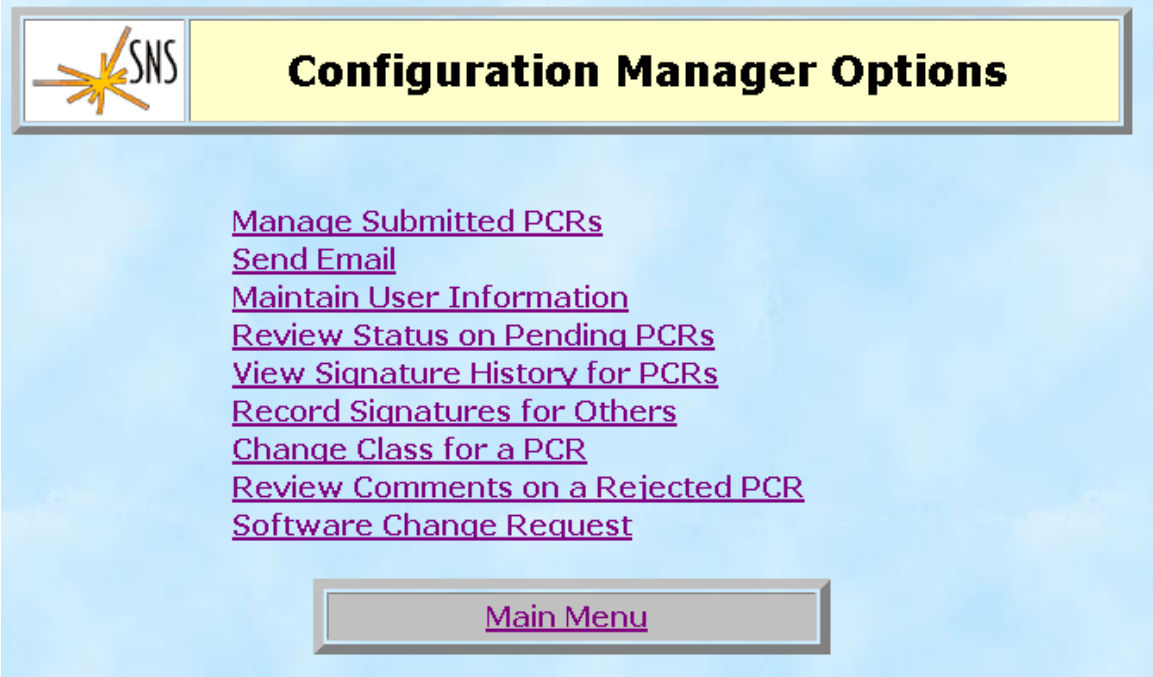
All reports will be previewed in a Crystal Report Viewer. The viewer has to be downloaded to your PC. If you have any concerns about grating privileges for the download, contract the SNS Configuration Manager.

When you have finished with the report, press the BACK button on your browser menu to return to the SNS Configuration Management System.

See Appendix A for examples of each report.

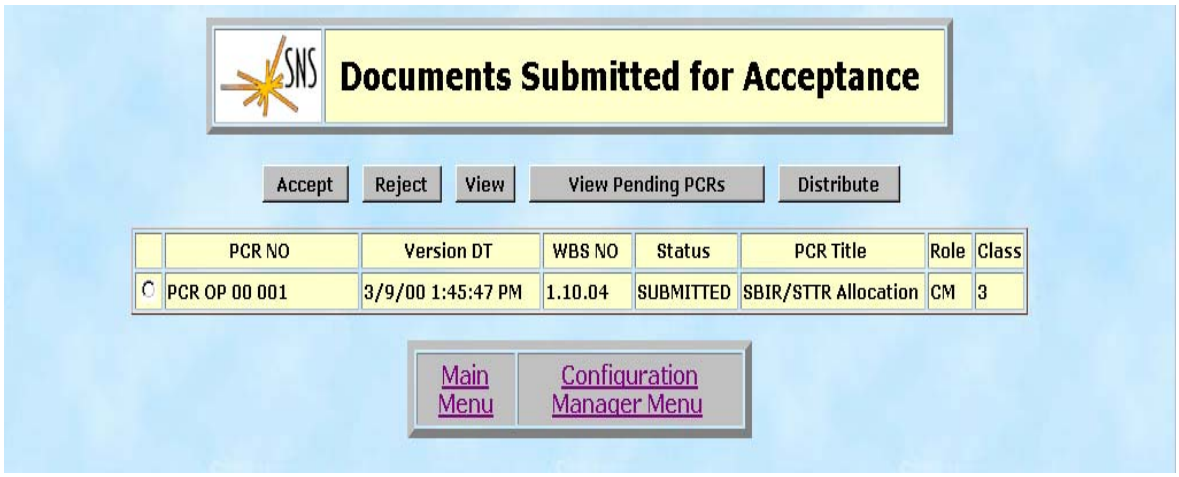
10.0 Configuration Manager Options

Selecting Configuration Manager Options from the Main Menu displays the screen below. A user must have a UCAMS (OAKRIDGE Domain) account and Configuration Manager level access to successfully login and access this screen.



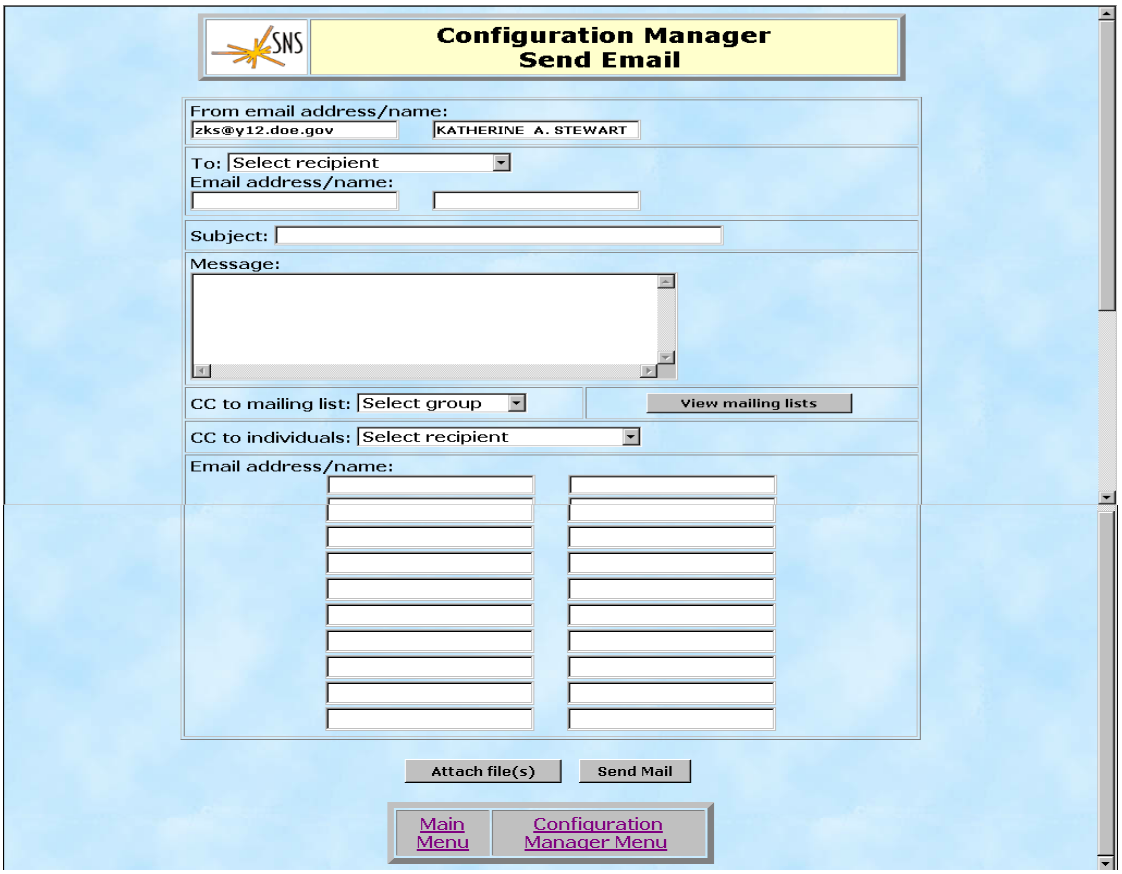
10.1 Manage Submitted PCRs

Selecting this option displays the screen below. The user can view all documents that have been submitted for acceptance. By selecting a document from the list the user can accept, reject, view, or distribute it. The user can also view all pending PCRs.



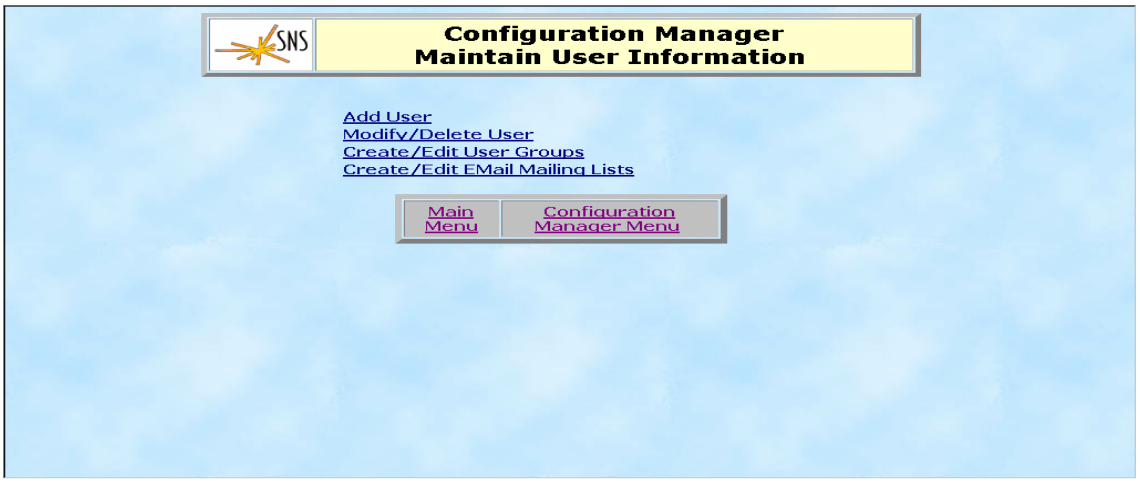
10.2 Send Email

Selecting Send Email from the Configuration Manager Options screen allows the user to send e-mail from the following screen.



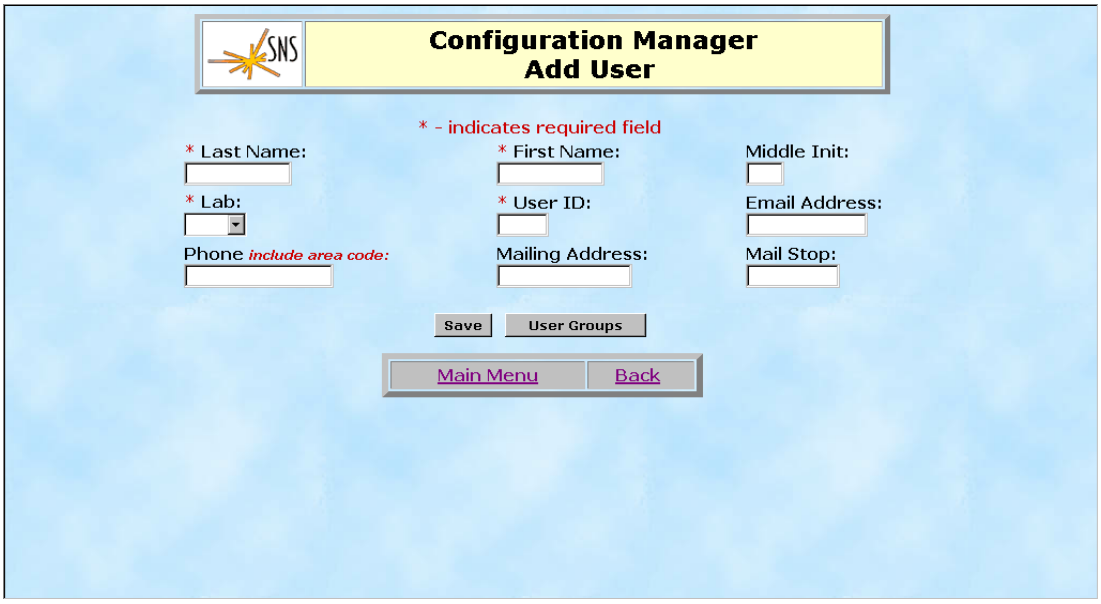
10.3 Maintain User Information

Selecting Maintain User Information from the Configuration Manager Option screen allows the user to add, modify, or delete users from the system as well as create and edit user groups and e-mail mailing lists.

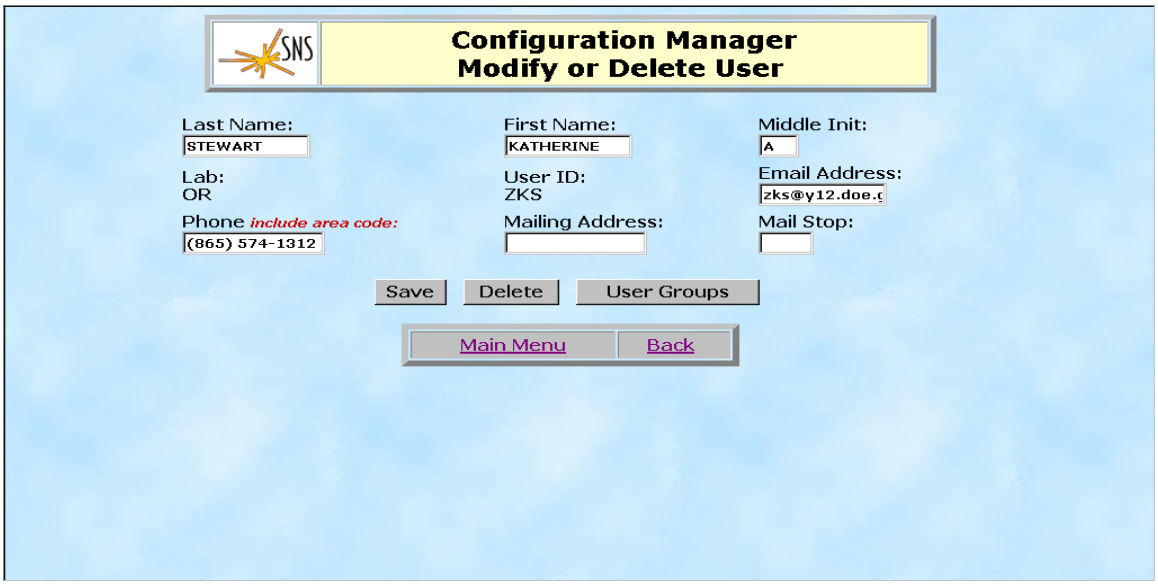


Selecting the following options from the Maintain User Information screen displays the corresponding screens.

Add User

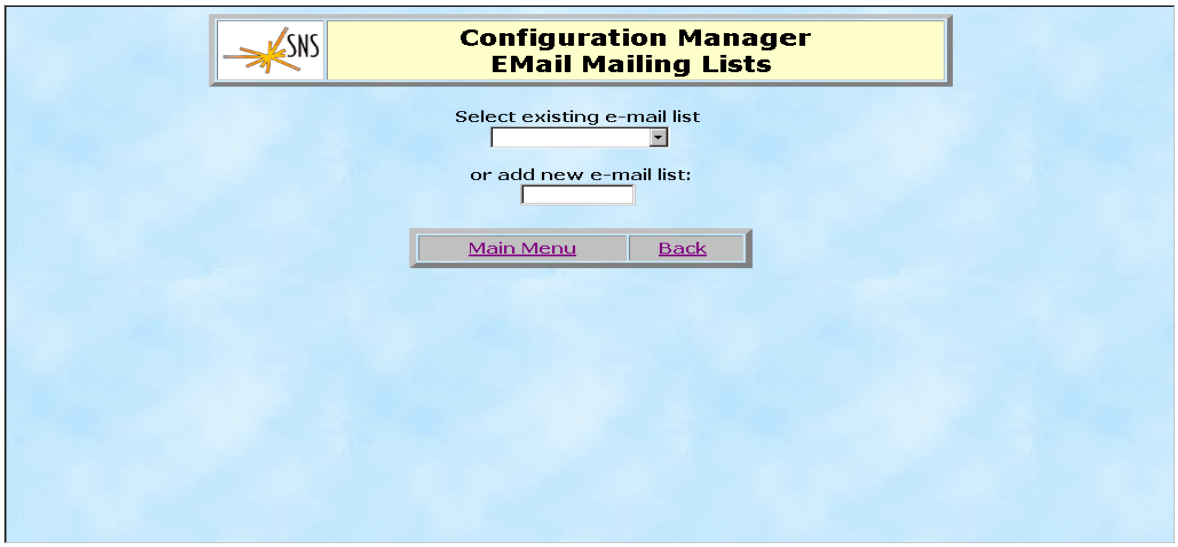


Modify or Delete User



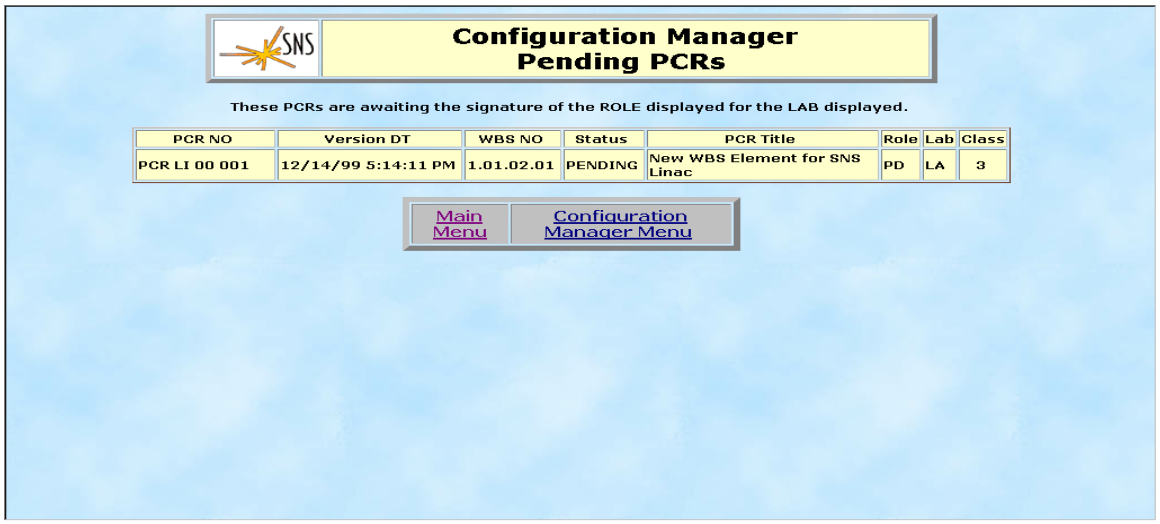
Create/Edit User Groups

Create/Edit EMail Mailing Lists



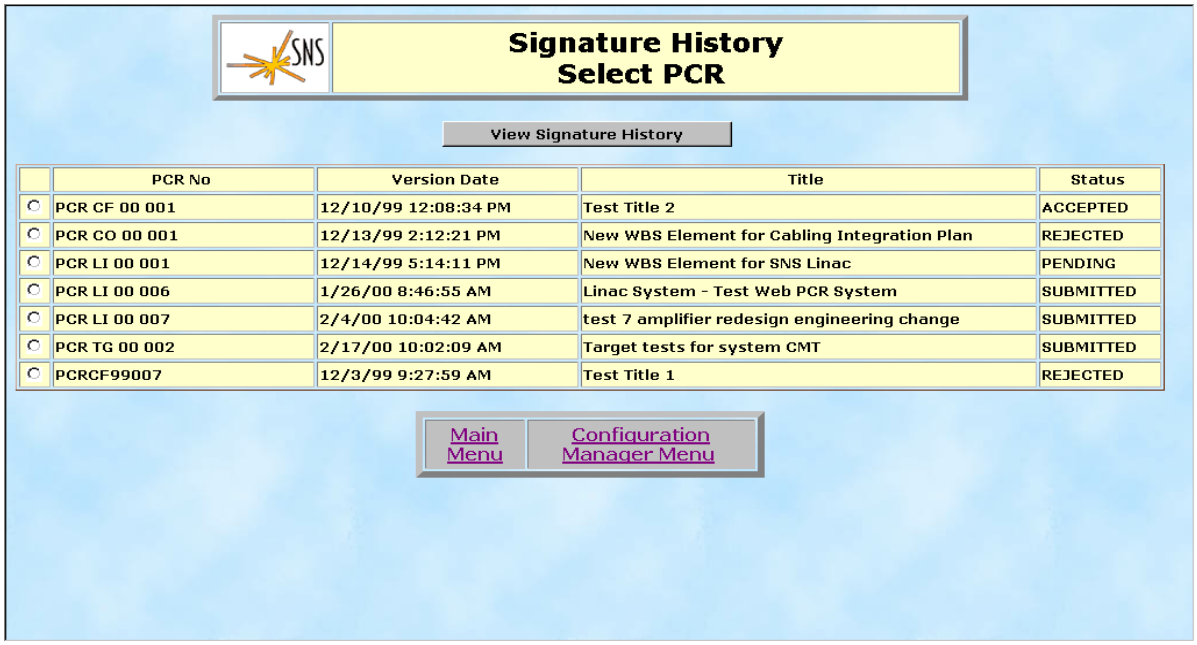
10.4 Review Status on Pending PCRs

Selecting this option displays a screen listing all PCRs with status of "PENDING" for the user's review.

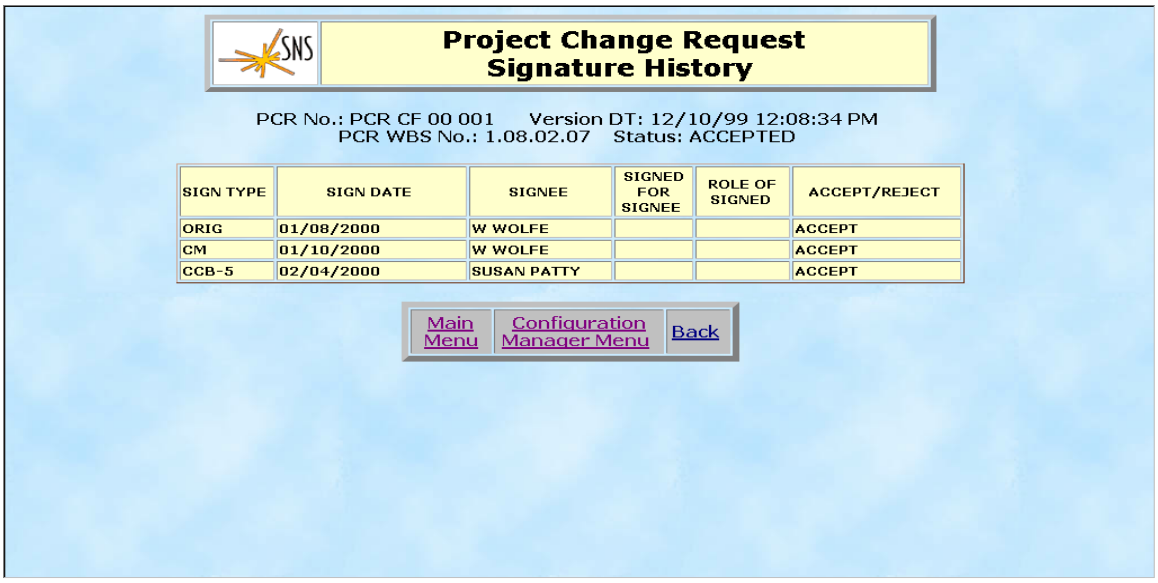


10.5 View Signature History for PCRs

The Configuration Manager can review the signature history of any PCR by selecting this command from the Configuration Manager Option Menu. The following screen is displayed.

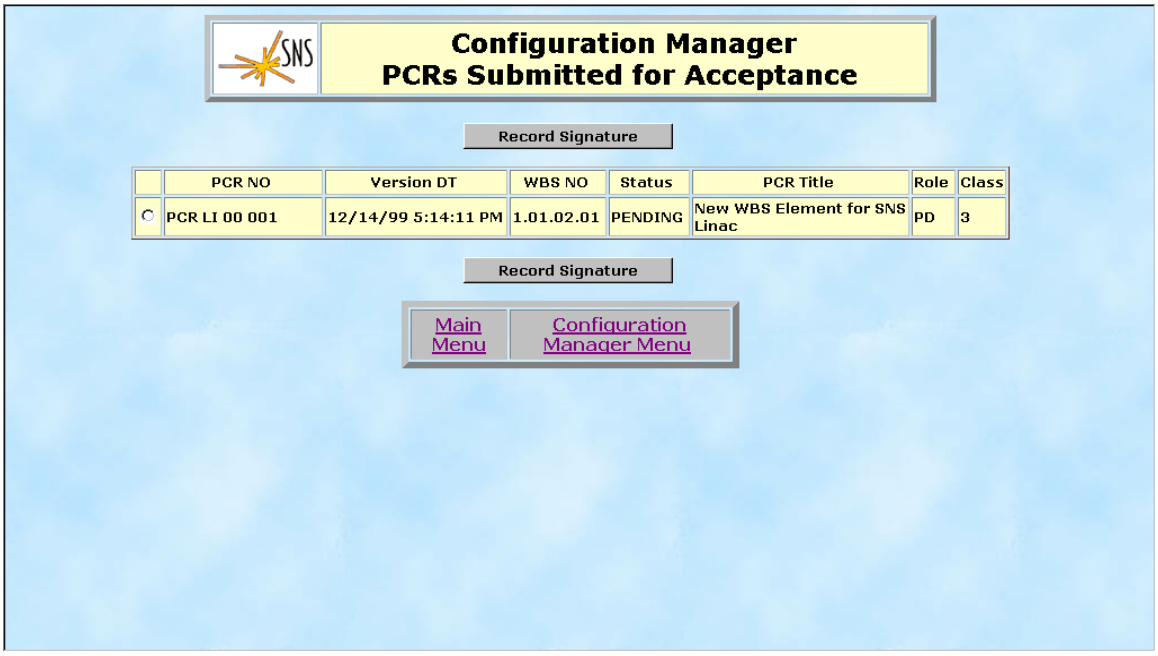


By selecting a specific PCR and clicking the View Signature History button the signature history of the PCR is displayed.

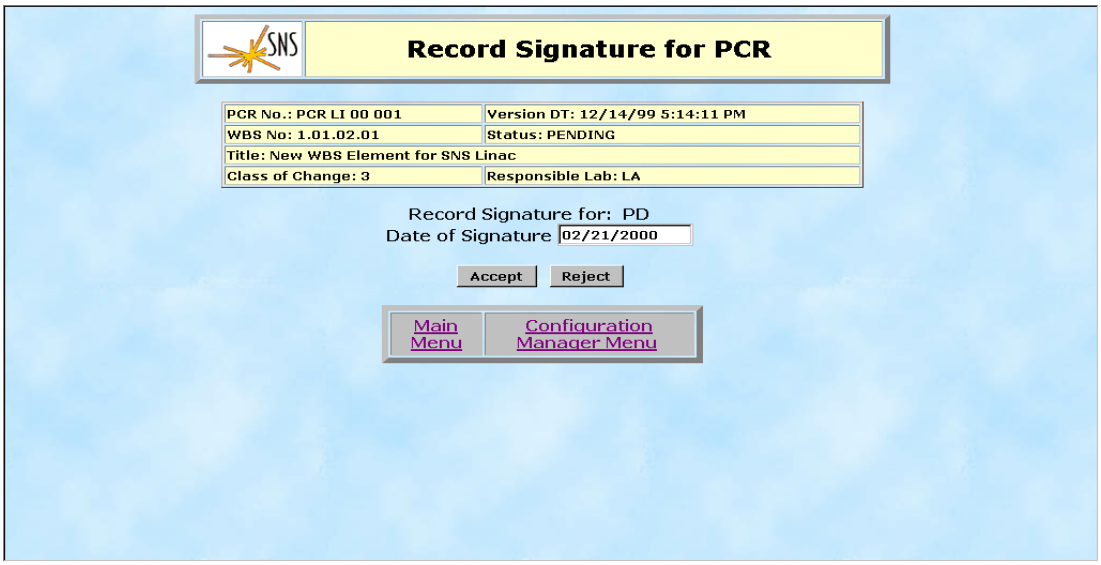


10.6 Record Signatures for Others

This command allows the configuration manager to record approval signatures for others. From the screen shown below the configuration manager selects a PCR from the list and clicks the Record Signature button.

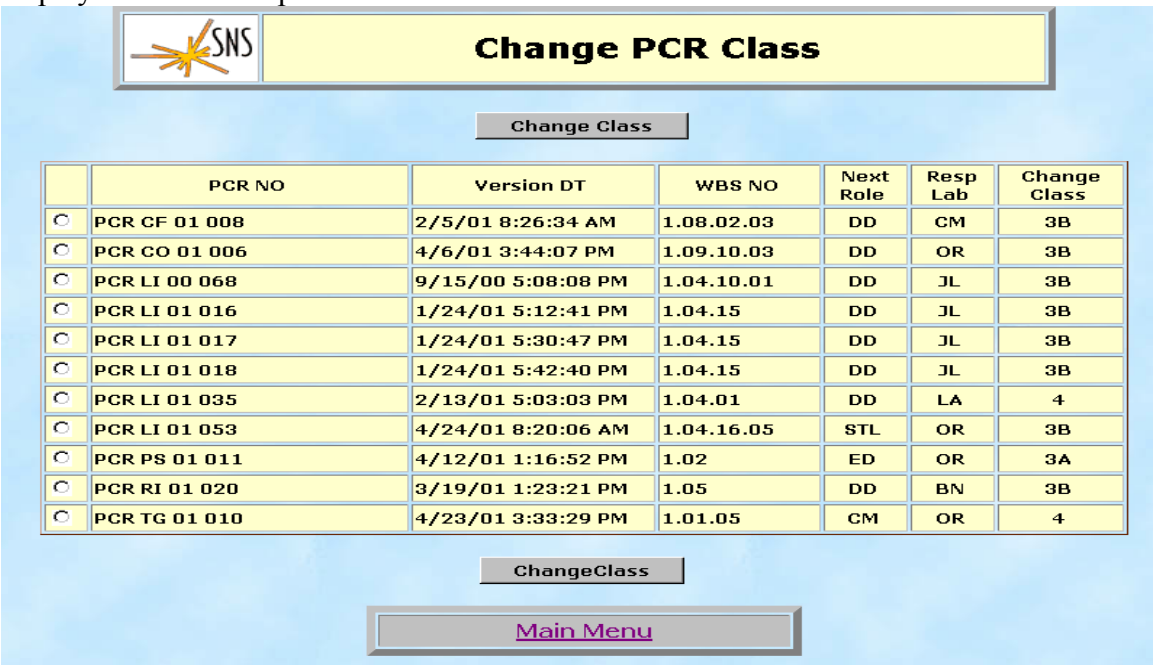


The Record Signature of PCR screen is displayed allowing the configuration manager to accept or reject the signature. If a PCR is rejected, the user must provide a reason for the rejection.

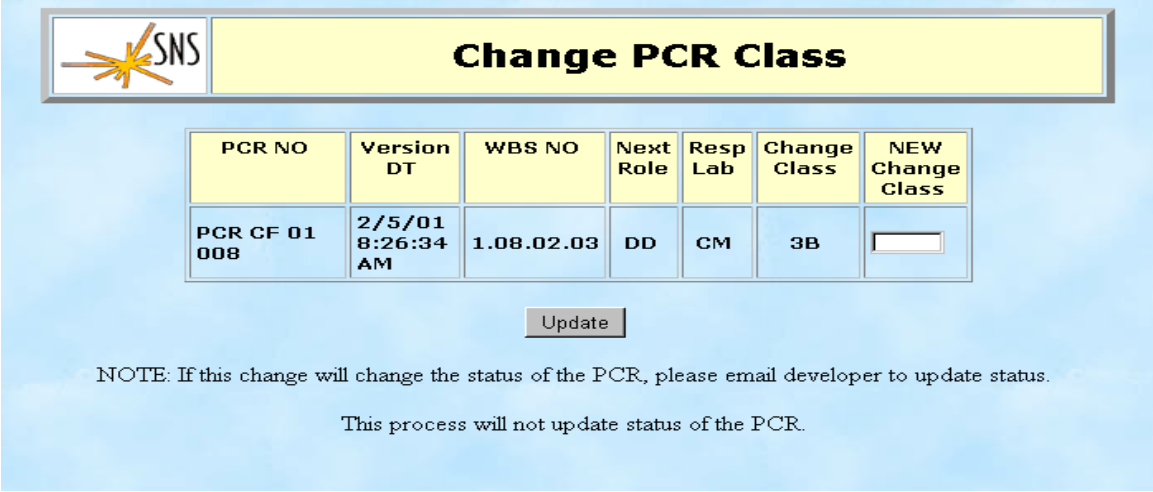


10.7 Change Class of PCR

The class of a PCR determines the approval needed for acceptance. The Configuration Managers can change the class of any "PENDING" PCRs. All "PENDING" PCRs are displayed when this option is selected.



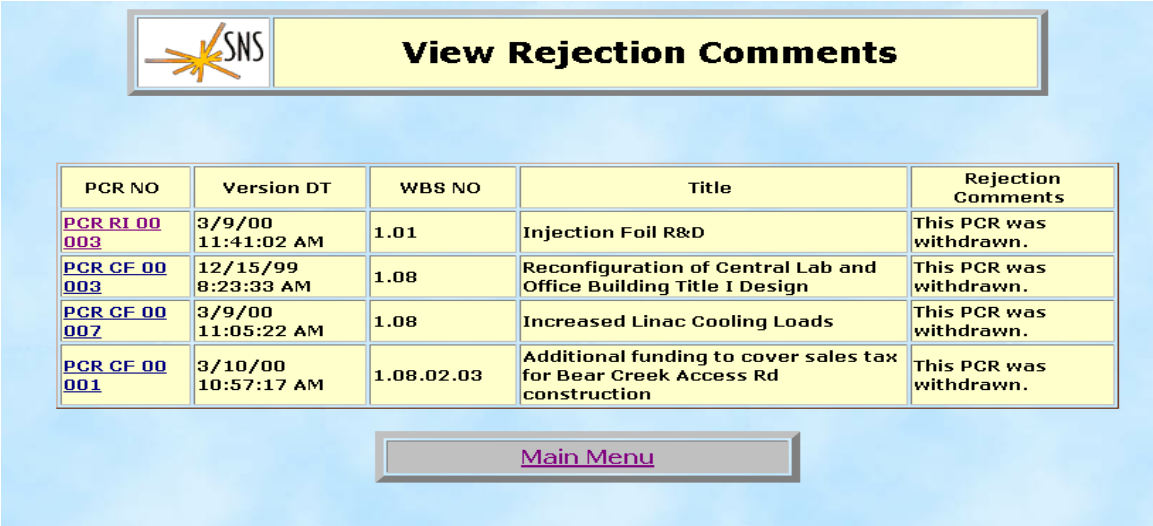
The Configuration Manager selects the PCR to change, and the following screen is displayed:



To update the PCR with the new class the user clicks the update button. Changing the class of a PCR will not change the status of the PCR. For example if the PCR originally has a class of 4, and is changed to a class of 5, and the Senior Team Leader has approved the document. The PCR will still be "PENDING". The developer must manually change the status of the PCR.

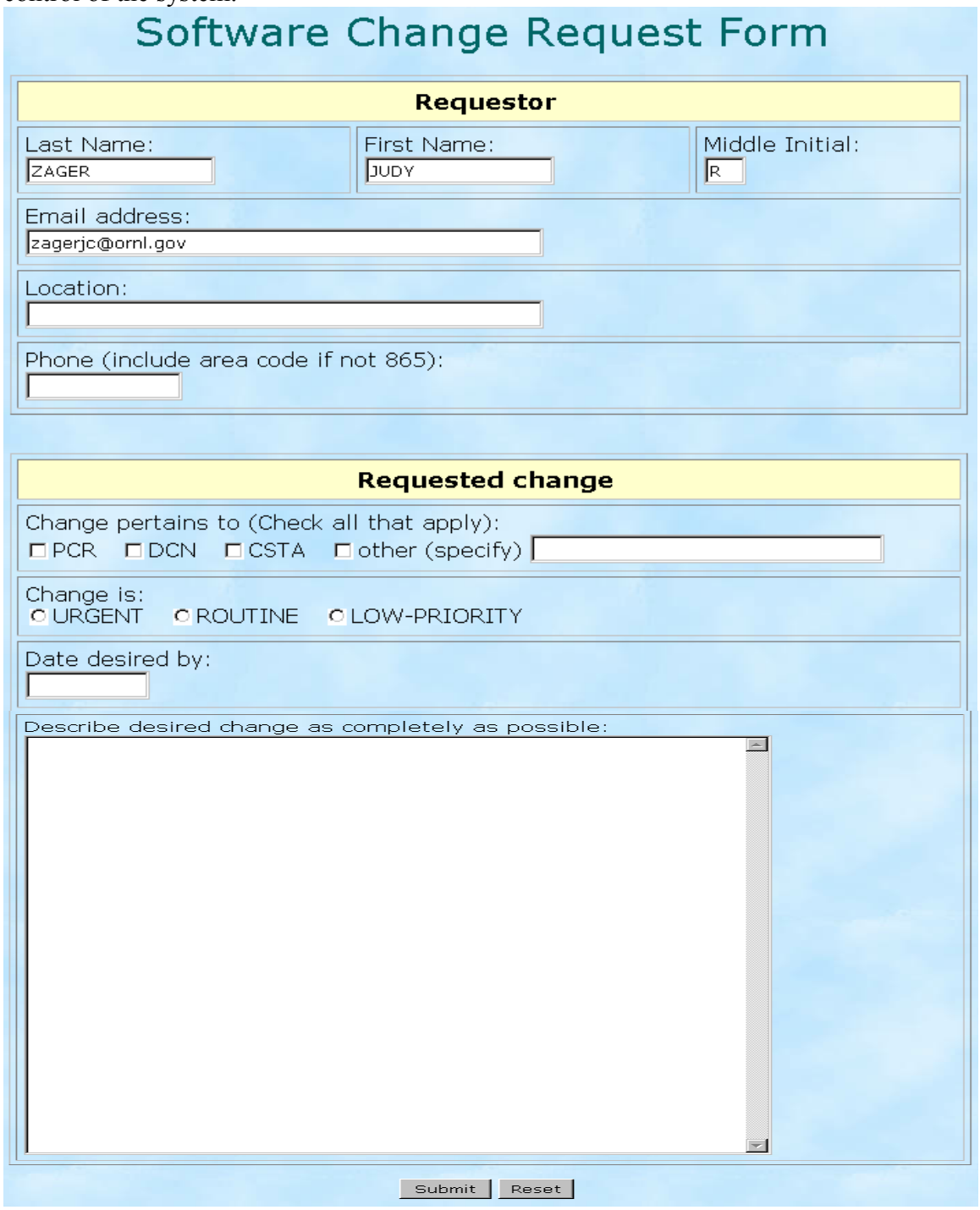
10.8 Review Comments on a Rejected PCR

Any PCR that has been rejected is displayed when this option is selected. The Configuration Manager may also click on the PCR Number to view the entire PCR with the Rejected Comments included.



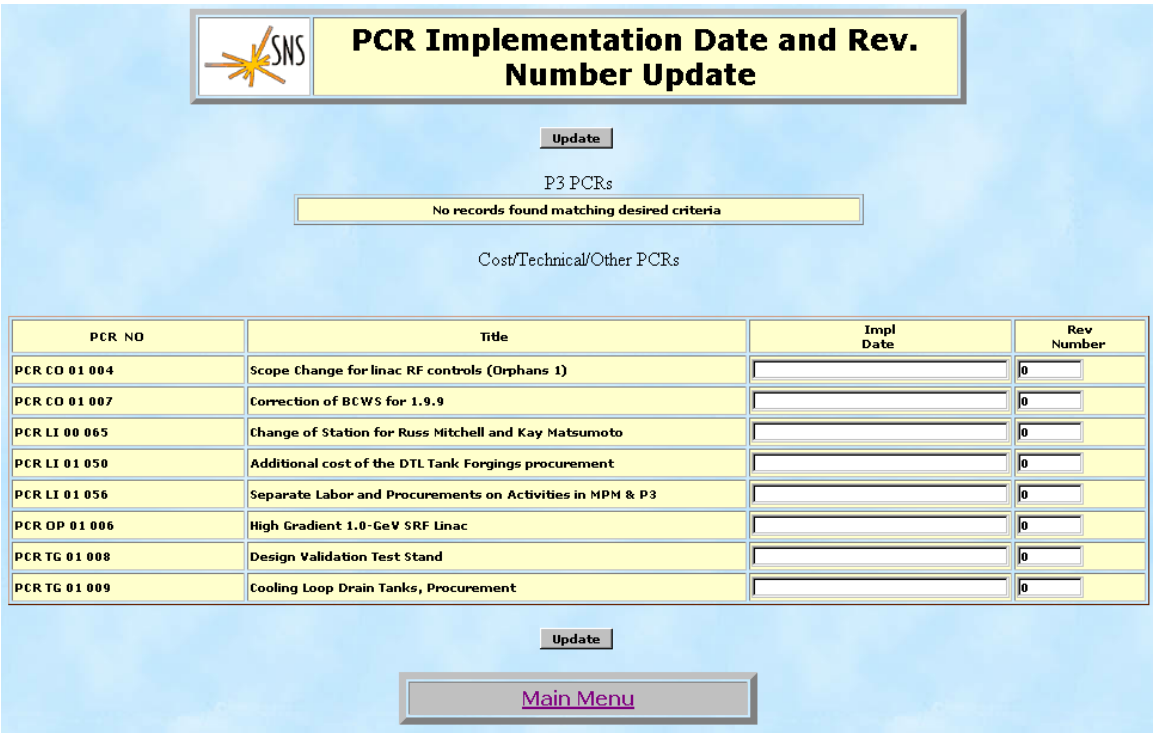
10.9 Software Change Request

When a Configuration Manager has encountered a bug in the software or has an enhancement for the software, they can enter a Software Change Request for the system. The developer tracks the progress of the Software Change Requests for configuration control of the system.



11.0 Implementation Date/Revision Number

This option allows approved users to update "APPROVED" PCRs with Implementation Date and Revision Number data. All "APPROVED" PCRs without Implementation Date and Revision Numbers are displayed. The PCRs are split between PCRs that require P3 data, and PCRs with Cost, Technical, or Other Change Types.



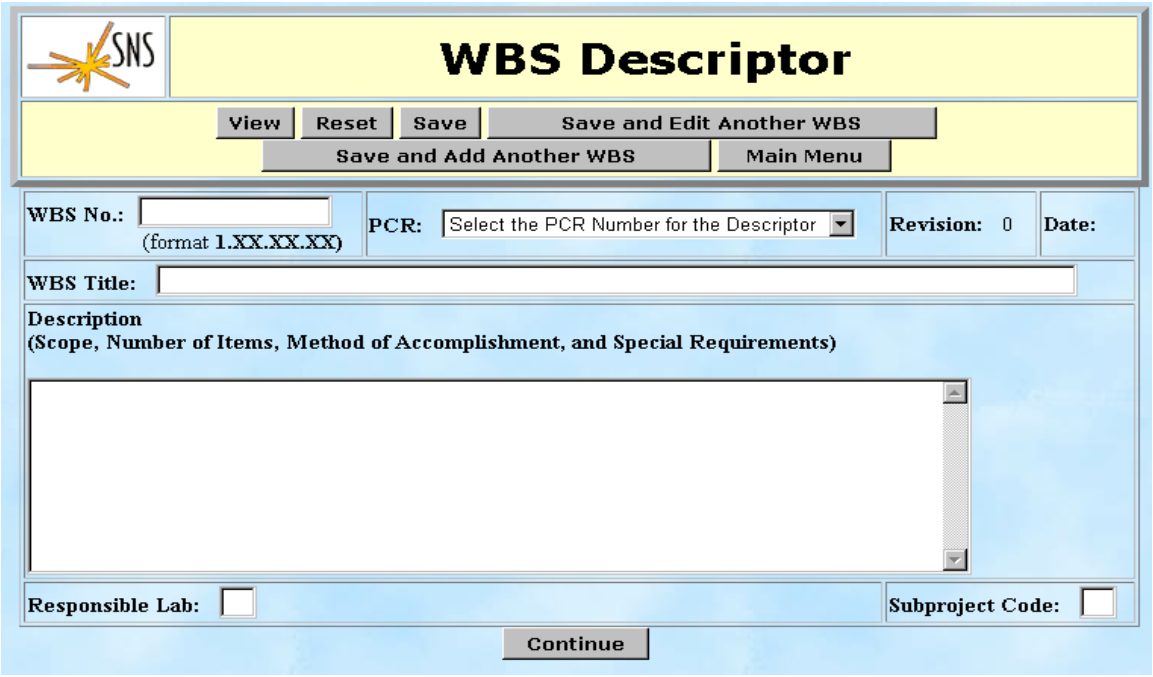
The user can update multiple PCRs at one time, by entering the Implementation Date and Revision Code for each PCR. Then selecting the Update button. Once the PCRs are updated the user is returned to the Main Menu.

12.0 WBS Descriptors

Clicking on the WBS Descriptors option from the Main Menu displays the screen below which allows the user to search for WBS descriptor records or create new records.

12.1 Create New WBS Descriptor

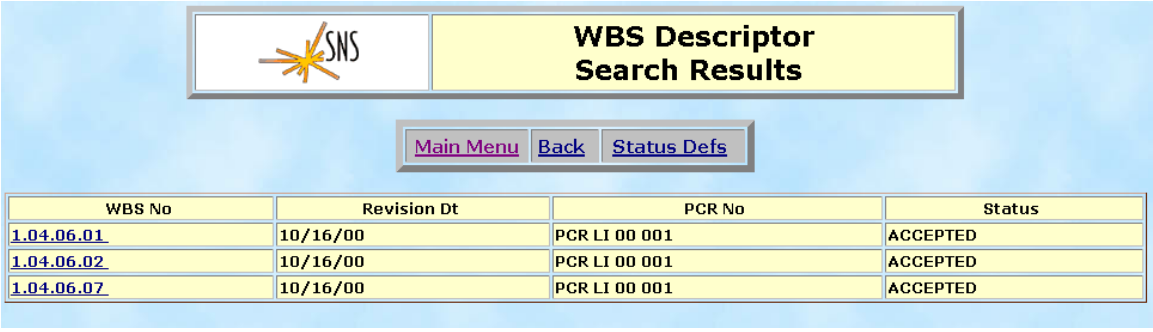
Clicking on the "Create New" option displays the screen below. On this screen the user must enter the new WBS number in the required format, enter the title, the lab identifier, and the subproject code, and enter the description of the work to be accomplished in this WBS element. A PCR may be selected to associate with this new descriptor or the system will hold the descriptor in DRAFT until a PCR is created for it. The user must click on "Continue" to save the work done.



12.2 Search for WBS Descriptor

Clicking on the "Search" option displays the screen below. On this screen the user may search for descriptors by WBS Number, Status, Revision Date, Subproject Code, or Responsible Lab, or combinations of parameters.

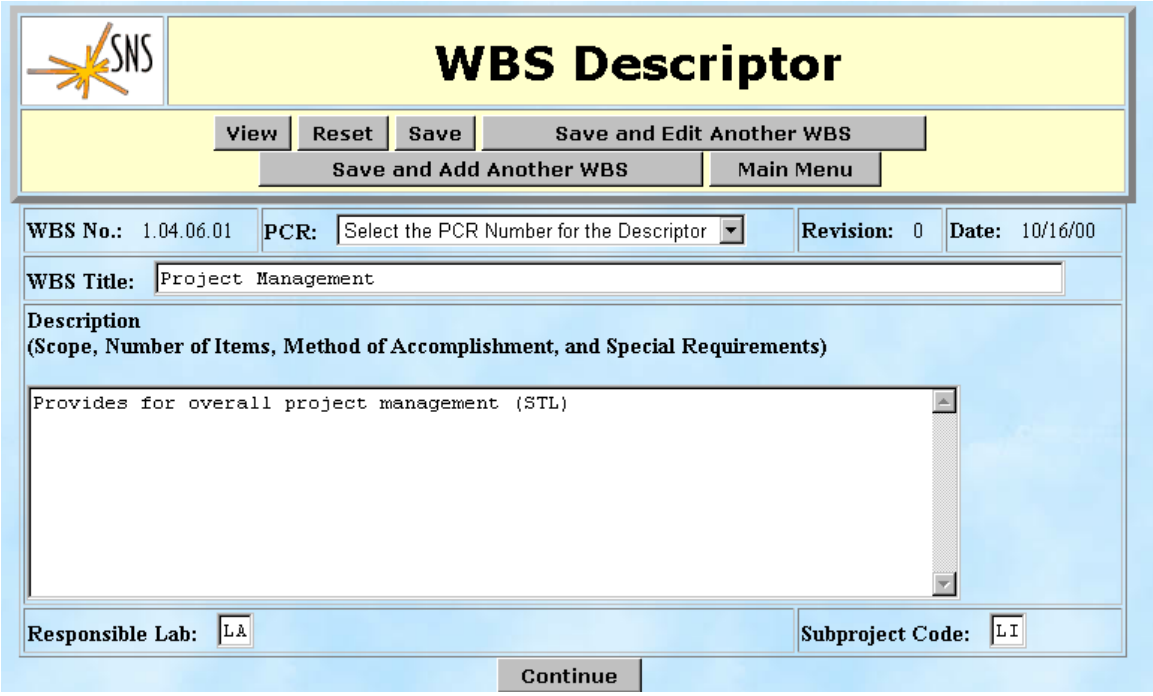
The screen below is an example of the display using the parameters of PCR No equal PCR LI 00 001 and Status equal "Accepted".



WBS No	Revision Dt	PCR No	Status
1.04.06.01	10/16/00	PCR LI 00 001	ACCEPTED
1.04.06.02	10/16/00	PCR LI 00 001	ACCEPTED
1.04.06.07	10/16/00	PCR LI 00 001	ACCEPTED

Clicking on the WBS number of one of the descriptors results in the WBS Descriptor View screen shown below.

Clicking on "Edit" results in the display below where the WBS Title, Description, Responsible Lab, and Subproject Code can be modified. A PCR may be selected from a drop-down list to associate this new descriptor or the system will hold the descriptor in DRAFT until a PCR is created for it. The user must click "Save" to save the draft revision.



13.0 Configuration Management Plan

Selecting Configuration Management Plan from the Main Menu will display the SNS Configuration Management Plan. This plan is the basis for the business rules, forms, and terminology used in this system. Refer to this plan for any questions regarding the SNS configuration control procedures.

14.0 Configuration Management Plan - Printable PDF (Face Base login)

Selecting this option will display the SNS Configuration Management Plan in Adobe Portable Document Format. The user must have a valid SNS Face Base account to view this document.

15.0 Configuration Management Plan User Guide

Selecting Configuration Management Plan User Guide from the Main Menu will display the SNS Configuration Management Plan User Guide. This guide explains the use of the system, and show examples of the screens.

16.0 How to use NetMeeting

This option gives the user general instruction on how to initiate Microsoft's NetMeeting. NetMeeting can be used when a user is having difficulty with the system. NetMeeting allows a technician to view a user's use of a program, to facilitate troubleshooting it.

APPENDIX B

DEFINITIONS

Baseline Change Control Board (CCB)—multidisciplined body of representatives, appointed by the appropriate management level, responsible for ensuring the proper definition, coordination, evaluation, and disposition of all changes to project baselines within their chartered jurisdiction.

Baseline change proposal (BCP)—form prepared to provide a complete analysis of a proposed baseline change requiring DOE approval and its resulting impact to the current approved technical, cost, and/or schedule baseline. The BCP form provides justification for a proposed change, supporting documentation, possible alternatives or work-arounds to minimize the change, negative impacts of not implementing the specific change, and historical documentation of BCP disposition.

Contingency—amount budgeted to cover costs that may result from incomplete design, unforeseen or unpredictable conditions, and uncertainties. The amount of the contingency will depend on the status of design, procurement, and construction and the complexity and uncertainty of the component parts of the project. Contingency is not to be used to avoid making an accurate assessment of expected cost.

Directed changes—technical, cost, and schedule baselines may be subject to change because of DOE Headquarter's decisions or annual funding restraints. In the event that an external driver results in a change to the project's planned approach, DOE will direct that a *PRIORITY BCP* be generated that defines requirements and impacts on cost, schedule, or technical parameters. The changes are mandatory and are generally processed by the Level 2 CCB within ten working days.

Document change notice (DCN)—form used to list which existing baseline documents should be changed or to list new documentation required as a result of the change request.

Emergency changes—changes that have potentially immediate impacts and are *URGENT PCRs*. These PCRs are generally processed within one day. The SNS project director determines the applicability of an urgent PCR and alerts the DOE project manager that an urgent change is necessary to prevent a catastrophic situation from developing.

Project change request (PCR)—form prepared to request a technical, cost, or schedule change at threshold levels for approval by CCB-3A, CCB-3B, CCB-4, and CCB-5.

Scope—incorporates performance and design requirements, criteria, and characteristics derived from mission needs that provide the basis for project direction and execution.

Cost, Schedule, Technical assessment (CSTA)—form used to quantify the cost, schedule, and technical impacts to the current baseline resulting from the change request.

Thresholds—limits of authority at each respective change control level for approval of proposed baseline changes and controls.