DESIGN REVIEW DOCUMENTATION – RESULTS

Title: **NCSX Systems Engineering Management Plan** **& Procedure 004**   **WP#:** _____ __
(ENG-032)

Type of Review: **X Peer**   ☐ **CDR**   ☐ **PDR**   ☐ **FDR**

Cog Individual: **Robert Simmons**   **Date of Review: May 15, 2003**

Review Board Members: Attendees:	Invited attendees :	Other

Chairperson C. Neumeyer
            Wayne Reiersen
            Bob Simmons
            Mike Williams
            Larry Dudek
            Frank Malinowski
            Brad Nelson
Regulatory Compliance
	John Schmidt
	Hutch Neilson (Part Time)
	Phil Heitzenroeder	

Items Reviewed:	Sat.	Unsat.	Comments
Appropriate requirements identified	**X**	☐	_____
Development plans and schedules	**X**	☐	_____
Regulatory compliance including USQD and NEPA	**X**	☐	_____
Disposition of CHITS from previous reviews	**X**	☐	
Cost objectives	☐	☐	<u>N/A</u>
Other review objectives addressed	**X**	☐	_____
(Attachment 4 of ENG-033)			

SUM ARY OF RESULTS:
A total of twenty-eight (28) CHITs were generated. Major concerns expressed included that the in its present form the Systems Engineering Management Plan (SEMP) is unwieldy. A complete re-write is recommended. Comments on Procedure 004 (Systems Engineering Master Logic) were primarily editorial in nature. An underlying theme of the CHITs was that they invoked new terminology – recommendation was to use existing or more familiar terms.

Disposition: [check one]

☐   **Acceptable**

X   **Acceptable pending resolution of concerns** - CHITS dealing with specifics in SEMP and

Procedure 004 must be resolved prior to installation/issue of Plan/Procedure. More global CHITs should

demonstrate plan forward to resolve within a reasonable time frame.

☐   **Incomplete** - Additional design work is required prior to another design review.

Chairperson Signature:

Distribution: Review Board Members, NCSX Engineering Web Page, Cognizant Design Engineer, System Engineer(s), Attendees, QA, ES&H

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 1

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

In the second paragraph of the SEML Procedure, first line is a "(" without the corresponding ")".

For the statement "The SEML documents the logic ... To be completed during the Preliminary and Final Design phases of a subsystem and component design." I would use, instead, "to be completed in preparation for the next formal design review (conceptual, preliminary, final)." The key is that the SEML is an agreement with management on what information is required before scheduling the next formal design review, independent of its level. Also, though we should, as a project, be past the CDR stage for any work, there is the possibility that a new and important work element would be identified that would require a CDR (addition to project, change in scope, etc.) Even if you don't add conceptual, please consider the word changes.

ORIGINATOR Judy Malsbury
NAME/ORGANIZATION

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will be revised as requested.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0 APPROVE COG DISPOSITION
0 DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE: _____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 2

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	X PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY

☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE

☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

In the SEML Procedure, I was confused by the term "Cognizant Project Engineer" until I saw somewhere, but not in this procedure, that this term represented the WBS 1 Project Manager (Stellerator Support), WBS 2-6 Project Manager, etc. This term needs to be defined early in the procedure; readers should not have to go to separate documents for this .

ORIGINATOR Judy Malsbury

NAME/ORGANIZATION

REVIEW BOARD COMMENT/RECOMMENDATION

(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR

0 DISAGREE

0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will clarify in re-write.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION

0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT

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PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 3

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

X	PEER
☐	CDR
☐	PDR
☐	FDR

COGNIZANT DESIGN ENGINEER R. Simmons **DATE OF REVIEW** May 14, 2003

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

In the SEML Procedure, Under CI Identification, step 2 – This part of the procedure is only for the identification of the Cis, though step 2 mentions forwarding the SEML (part of the second part of the procedure). Remove the SEML portion.

Steps 2 and 3 – clarify the term "Engineering Manager." I believe you mean "NCSX Engineering Manager." Others may interpret it as Mike Williams.

Step 4 – First time I realized that a spec tree and schedule of design reviews were expected at this time. Suggest a form/Word templte for providing all requested information. It will make things much easier for the reader.

Under SEML Development, Review, and Approval – Make the templates available on the web and provide a URL.

ORIGINATOR Judy Malsbury
NAME/ORGANIZATION

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will clarify procedure.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
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COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

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PPPL DESIGN REVIEW CHIT

CHIT # <u>4</u>

COMPONENT/SUBSYSTEM/SYSTEM <u>NCSX SEMP & PROC-004</u>

COGNIZANT DESIGN ENGINEER <u>R. Simmons</u> DATE OF REVIEW <u>May 15, 2003</u>

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS	☐ HARDWARE	☐ SAFETY
☐ ANALYSIS	☐ CONFIGURATION	☐ COST/SCHEDULE
☐ PERFORMANCE	☐ RELIABILITY /MAINTAINABILITY	☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

In the SEML Procedure, Procedure clean-up – The font used should be the same throughout the procedure.
Label the two main processes – A. Identification of the Configuration Items and
B. Development, Review, and Approval of the SEMLs.

Put an extra carriage return after each action paragraph (providing clean separation of the action steps) and eliminate the table borders (they clutter up the procedure and don't provide any additional information than simple <CRs> would provide in a cleaner way.).

ORIGINATOR <u>Judy Malsbury</u>
NAME/ORGANIZATION

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON <u>C. Neumeyer</u> DATE: <u>May 15, 2003</u>

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will clarify and correct procedure as indicated above.

SIGNATURE <u>R. Simmons</u> DATE: <u>May 20, 2003</u>

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____DATE:_____

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PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 5_____

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	☒ PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER _____ DATE OF REVIEW _____	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS ☐ HARDWARE ☐ SAFETY
☐ ANALYSIS ☐ CONFIGURATION ☐ COST/SCHEDULE
☐ PERFORMANCE ☐ RELIABILITY/MAINTAINABILITY ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

WP database needs to be searchable from each project and should have appropriate fields to correlate w/WAFs.

ORIGINATOR Reiersen
NAME/ORGANIZATION PPPL

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)
Should also correlate with WBS.

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE:5-15-2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will investigate this. Not directly a SEMP or Procedure 004 issue however.

SIGNATURE R. Simmons DATE: 5-20-2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
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SIGNATURE _____ DATE:_____

PPPL DESIGN REVIEW CHIT

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	X PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Too much verbiage in SEMP. Too many abstract concepts lacking specificity. Difficult to read (too much word-smithing?) Inconsistent flow in subject matter. Consider major re-write (see point 3) of CN notes 5/14/03 (attached).

ORIGINATOR C. Neumeyer
NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

Review and respond to comments.

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will review comments and incorporate those appropriate into rewrite of SEMP.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE: _____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

CHIT # 6
CN notes 5/14/03

1) Document Style
    a. Too much verbiage in document.
    b. Too many abstract concepts, lacking specificity.
    c. Difficult to read, due perhaps to repeated wordsmithing by multiple reviewers.
    d. Inconsistent flow in subject matter, sometimes jumping from topic to topic out of sequence.
2) Purpose
    a. Purpose of "Plans" needs to be clarified in general. Perhaps Plans should be viewed as descriptions of management philosophy to be used in order to 1) echo back to DOE their directives in 413.3, thereby confirming our interpretation of same 2) convey to high level project participants (maybe down to WBS manager level) the management plans. However, the Plans should be distinct from "Procedures" which should provide concise, succinct, specific definitions of roles, responsibilities and actions to be performed by Project participants. Combining Plans and Procedures in to single entities may not work well. It might be better to have the Plans call out the Procedures which will make the Plans happen.
3) Scope and Document Outline
    a. The scope should be limited to the true "Systems Engineering" tasks. Other tasks should be covered by other plans and not rehashed in the SEMP.
    b. History of the project up to now should not be included in the SEMP.
    c. Consideration should be given to re-writing the document with the following outline…
        i. Purpose
        ii. Scope
        iii. Applicable Documents
        iv. System Engineering Activities
            1. Requirements Definition
            2. System Design Optimization
                a. Risk Management
                b. Value Engineering
                c. RAM
                d. Constructability
                e. Human Engineering
                f. Standardization
            3. Design Verification
                a. Design Reviews
                b. Analysis verification, validation, checking
            4. Technical Documentation
                a. Drawing Management
                b. Design Documentation
                c. Interface Control
                d. Specifications
                e. Statements of Work
            5. Testing
                a. Components
                b. Subsystems
                c. Integrated Systems
            6. Transition to Operations
                a. Design Description Documentation
                b. Operating Manuals
                c. Training

CHIT # 6
CN notes 5/14/03

4) Terminology
   a. Terminology seems unusual and perhaps too abstract. Sometimes used inconsistently.
   b. Might be good to clearly define "Project", "System", "Subsystem", "Component", e.g., and establishing their linkage to the WBS. Value of lumping these into the abstraction "Configuration Item" is questionable.
   c. The terms "Design to", "Build to", "Requirements", "Specification" , and "Statement of Work" are used in a confusing way, in the reviewer's opinion. It might be better to establish a set of entities based on more common practice with more concise definition, e.g….
      i. Requirements Document (or Specification): a definition of performance and functional requirements. Could be for the entire engineering activity (e.g. General Requirements Document) or for a WBS element (System Requirements Document) or for a lower level entity.
      ii. Design Description Document: a description of physical and functional aspects, including expected performance vs. requirements, etc.
      iii. Procurement Specification: a description of an item to be supplied by an outside vendor.
      iv. Statement of Work: description of a service to be provided, usually by an outside subcontractor.
   d. The term "Systems Integration Team": isn't this the same as the "Project Team"? Why not just call it that?
5) Relationship to Existing PPPL Procedures
   a. Reviewer would recommend a careful review of PPPL procedures to see which ones need to be superceded by NCSX specific procedures, and then to explicitly identify them (which procedure is superceded by which one).
   b. Applicability of PPPL Work Planning Form needs clarification. Reviewer would recommend that this system only be invoked when modifications are required to a system which was in existence prior to the NCSX Project start (say CY2003) and which is shared with other active projects (e.g. NSTX) and/or which is part of the PPPL facility infrastructure (buildings, HVAC, AC power distribution, e.g.). This needs further thought. The value of adding the WP to the process needs to be carefully evaluated to determine what elements are missing from the applicable NCSX procedures. To the greatest possible extent these elements should be included in the NCSX procedures to minimize the use of the WP system and avoid the confusion associated with multiple systems.
6) SEML
   a. It would seem simpler and more practical to apply the SEML principle only down to the lowest level defined in the WBS dictionary. This would simplify the terminology, again, by not introducing the new "SEML" concept, but instead by stating the constraints and objectives which will be applied to the execution of the WBS scope, which is more easily understood.
7) Interface Control Documents
   a. In the opinion of the writer, formal interface definition by means other that the drawings and the requirements documents is not especially useful. In most cases the actual interfaces are too complex to be described simply in ICDs. Also, the ICDs need to track the drawings and requirements documents. They only serve to add another layer of documentation which needs to be maintained. There will be exceptions where ICDs make sense but they should not be required across-the-board.

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 7

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	**X** PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS ☐ HARDWARE ☐ SAFETY
☐ ANALYSIS ☐ CONFIGURATION ☐ COST/SCHEDULE
☐ PERFORMANCE ☐ RELIABILITY /MAINTAINABILITY ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Remove sections of SEMP which describe history of what has transpired so far in the project.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Agree.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
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PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 8

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	**X** PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Procedure comments attached.

ORIGINATOR F. Malinowski

NAME/ORGANIZATION   QA

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

Review and respond to comment.

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Agree.

SIGNATURE R. Simmons DATE: May 20, 2003

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0   APPROVE COG DISPOSITION
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CHIT #8
FAM Comments

- General
  o The procedure needs to be more detailed with all the terms and concepts defined. We cannot expect engineers to go through the SEMP in order to understand PROC-004.
- Steps 2 & 3
  o Where are review and approval of CI's indicated? Where are the CI's documented?
- Generic SEML
  o Where does an engineer get guidance on Value Engineering?
  o Why does the SEML address COTS? COTS should only be a concern when items are bought to reduce the safety class or military grade items where enhanced reliability aspects have been specified.
  o "P3" and "MITP" should be defined.

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 9

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	**X** PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS ☐ HARDWARE ☐ SAFETY
☐ ANALYSIS ☐ CONFIGURATION ☐ COST/SCHEDULE
☐ PERFORMANCE ☐ RELIABILITY/MAINTAINABILITY ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Much of the language in the SEMP is not familiar to PPPL engineers, including the writer, familiar with engineering A/E construction practices. Will this be a problem?

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NCSX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

New terminology should be minimized and a glossary of terms created. This should be part of the training syllabus.

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Agree. Will utilize more familiar terminology.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE: _____

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PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 10

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	**X** PEER ☐ CDR ☐ PDR ☐ FDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Consider elevating configuration control and QA to "Project" level, above "Engineering" level.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

0 CONCUR
0 DISAGREE
X OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Configuration control is an important element of systems engineering and the SEMP and **not** above the SEMP. QA and ES&H could be considered on the same level or above the SEMP. Will consider this when doing the SEMP re-write.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 11

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004		
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	**X** PEER ☐ CDR ☐ PDR ☐ FDR	

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

SIT purpose/function appears to be boarder than specified on page 7. If so, SIT's charter or purpose should be defined somewhere & text in the SEMP should be consistent with this definition.

Originator: F. Malinowski

NAME/ORGANIZATION   QA

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Not sure that SIT definition belongs in SEMP, but rather in PEP. However, charter should be referenced in SEMP.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
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COGNIZANT DESIGN ENGINEER CLOSE-OUT
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PPPL DESIGN REVIEW CHIT

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	**X** PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY /MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

For "Risk Management Plan," identify top levels risks (maybe 5-10 items) and document Project strategy adopted to minimize same.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

To be considered.

0 CONCUR
0 DISAGREE
X OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

A Risk Management white paper is being prepared that amplifies (may become part of the PEP or SEMP update?) the Project's approach to risk and this may appropriately identify the major risk areas (but not a "risk of the day flavor"). Key element is how we identify "risk" and how we deal with them.   Risk management is the responsibility of everyone in line management. Documentation for the PDR (and for all follow-on design reviews) will explicitly address specific risk items and the risk mitigation plans for each item and WBS.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0 APPROVE COG DISPOSITION
0 DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 13

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

More attention needs to be paid to software practices. Perhaps categorize, e.g., I. Safety related, II. Hardware related (protection), III. Analysis, IV. Ops related.

.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will work with the Computer Division to arrive at a mutually agreeable solution.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0 APPROVE COG DISPOSITION
0 DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE: _____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004 COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	**X** PEER ☐ CDR ☐ PDR ☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS	☐ HARDWARE	☐ SAFETY
☐ ANALYSIS	☐ CONFIGURATION	☐ COST/SCHEDULE
☐ PERFORMANCE	☐ RELIABILITY /MAINTAINABILITY	☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Provide specific names to CI entities, e.g., WBS subsys, Component, Assy. This should be enough.

.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)
This needs clarification.

0 CONCUR
0 DISAGREE
X OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

The Project will revisit the process for CI, identifying the appropriate level (may change as the design evolves), identifying required specifications needed, and establishing the appropriate scope of the design review (e.g., one CI or a grouping). The SEMP will be revised to clarify this.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

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PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 15

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Definition of when a WP is used needs to be consistent. Wayne's explanation, the par. On pg. 9, and the diamond on page 10 give different interpretations.

.

ORIGINATOR Frank Malinowski

NAME/ORGANIZATION   QA

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR

0 DISAGREE

0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will revise to be consistent. Concept of a NCSX Work Planning Form that will cover all phases of the project (preliminary design, final design, and fabrication/assembly and installation) will be developed and iterated.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
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PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 16

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	**X** PEER ☐ CDR ☐ PDR ☐ FDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY /MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

SEMP 1.3 "existing relevant DOE orders" should be limited to the DOE orders specified in the PPPL contract.

.

ORIGINATOR F. Malinowski

NAME/ORGANIZATION   QA

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

Use terminology "applicable."

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Agree – will modify in re-write of SEMP.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.
SIGNATURE _____DATE:_____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # <u>17</u>

COMPONENT/SUBSYSTEM/SYSTEM <u>NCSX SEMP & PROC-004</u>

COGNIZANT DESIGN ENGINEER <u>R. Simmons</u> DATE OF REVIEW <u>May 15, 2003</u>

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY /MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Suggest that project procedures should supercede WP. One WP should cover NCSX.

.

ORIGINATOR <u>C. Neumeyer</u>

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

0 CONCUR
0 DISAGREE
X OTHER   CHAIRPERSON <u>C. Neumeyer</u> DATE: <u>May 15, 2003</u>

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

See CHIT#15.

SIGNATURE <u>R. Simmons</u> DATE: <u>May 20, 2003</u>

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE:_____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 18

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	X PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Consider lumping SEML, WAF, WP into one "NCSX WP" entity.

.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical
reason - do not simply state "out-of-scope or N/A" without explaining.)

CONCUR
0 DISAGREE
X OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Project needs to first clearly define the role of each and how they relate to one another.
Only then will Project be in a position to consider this recommendation. See CHIT#15.

SIGNATURE R. Simmons DATE:

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____DATE:_____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 19

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	X PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

If SEML is actually a configuration item checklist, why not call SEML a Config.
Item Checklist (CICL) or CIML? (or NCSX Work Plan) N.W.P.

ORIGINATOR L. Dudek

NAME/ORGANIZATION

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical
reason - do not simply state "out-of-scope or N/A" without explaining.)

0 CONCUR
0 DISAGREE
X OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will consider this, but it is not clear that going away from established SE terminology will
gain us anything since there is **not** an already existing PPPL term that applies. See
CHIT#15.

SIGNATURE R. Simmons DATE:

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE:_____

PPPL DESIGN REVIEW CHIT

CHIT # 20

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	**X** PEER ☐ CDR ☐ PDR ☐ FDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS ☐ HARDWARE ☐ SAFETY
☐ ANALYSIS ☐ CONFIGURATION ☐ COST/SCHEDULE
☐ PERFORMANCE ☐ RELIABILITY/MAINTAINABILITY ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Suggest that SEML process should only be implemented down to WBS level, (as defined in WBS dictionary) not below.

.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

The level carried down to will be determined based on criticality and cost.

0 CONCUR
0 DISAGREE
X OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

See response to CHIT #14 where the CI will be defined at the appropriate level, consistent with the status of design evolution. May be at WBS level or lower as appropriate. Will clarify this in SEMP and SEML as appropriate.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE: _____

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Sign when action required by disposition is complete.
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PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 21

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	X PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Question whether establishing SIT adds any value to process if it has no specific roles.

.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

See Chit #11.

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Not sure that SIT definition belongs in SEMP, but rather in PEP. However, charter should be referenced in SEMP.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE:_____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 22

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

X	PEER
☐	CDR
☐	PDR
☐	FDR

COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☒ QUALITY

COMMENT/CONCERN/RECOMMENDATION

A matrix to define which PPPL procedures are superceded by NCSX procedures might be useful for Project participants.

.

ORIGINATOR C. Neumeyer

NAME/ORGANIZATION   NSTX

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Agree will develop as possible annex to SEMP.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE: _____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 23

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Should high-level risk areas be addressed in a more formal manner?

.

ORIGINATOR P. Heitzenroeder

NAME/ORGANIZATION   PPPL

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

See Chit #12.

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Identification of risk and steps being taken to mitigate these risks are a key factor in every design review. Risk management is the responsibility of every level of line management.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0 APPROVE COG DISPOSITION
0 DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE: _____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.
SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 24

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	X PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Legacy equipment will not, per SEMP, have specifications but will have testing. Where will performance & verification be specified.

.

ORIGINATOR F. Malinowski

NAME/ORGANIZATION   QA

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

Performance req'ts will be established in development specs. Re-activation test will be used as necessary to confirm functionality.

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Concur. Will clarify in the SEMP re-write.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 25

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004	X PEER
	☐ CDR
COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003	☐ PDR
	☐ FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Implement training program.

.

ORIGINATOR W. Reiersen

NAME/ORGANIZATION   PPPL

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will work with QA to develop project-wide training program in the systems engineering plans and procedures over the summer. Hopefully, training will occur prior to PDR.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
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COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

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PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 26

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY/MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

In areas where documentation may not be required because it is not warranted, it should be so stated. (i.e. replace "shall" with "as required by RLM")

.

ORIGINATOR L. Dudek

NAME/ORGANIZATION   PPPL

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Agreed. Will clarify when re-write of SEMP and PROC-004 accomplished.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW

0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY /MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Clarify role of contracts, SOWs, and specifications.

.

ORIGINATOR W. Reiersen

NAME/ORGANIZATION   PPPL

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Agree. Will clarify when re-write SEMP.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE: _____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE: _____

PPPL DESIGN REVIEW CHIT

WP # _____ (ENG-032)

CHIT # 28

COMPONENT/SUBSYSTEM/SYSTEM NCSX SEMP & PROC-004

COGNIZANT DESIGN ENGINEER R. Simmons DATE OF REVIEW May 15, 2003

X	PEER
☐	CDR
☐	PDR
☐	FDR

SUBJECT: (CHECK AS APPLICABLE)

☐ REQUIREMENTS   ☐ HARDWARE   ☐ SAFETY
☐ ANALYSIS   ☐ CONFIGURATION   ☐ COST/SCHEDULE
☐ PERFORMANCE   ☐ RELIABILITY /MAINTAINABILITY   ☐ QUALITY

COMMENT/CONCERN/RECOMMENDATION

Address software development path.

.

ORIGINATOR W. Reiersen

NAME/ORGANIZATION   PPPL

REVIEW BOARD COMMENT/RECOMMENDATION
(Address technical, cost, and schedule impacts as appropriate. If CHIT is not adopted, provide technical reason - do not simply state "out-of-scope or N/A" without explaining.)

See Chit #13.

X CONCUR
0 DISAGREE
0 OTHER   CHAIRPERSON C. Neumeyer DATE: May 15, 2003

COGNIZANT DESIGN ENGINEER'S RESPONSE/DISPOSITION:

Will work with the Computer Division to arrive at a mutually agreeable solution.

SIGNATURE R. Simmons DATE: May 20, 2003

RESPONSIBLE RLM REVIEW
0   APPROVE COG DISPOSITION
0   DISAPPROVE COG DISPOSITION   SIGNATURE _____ DATE:_____

COGNIZANT DESIGN ENGINEER CLOSE-OUT
Sign when action required by disposition is complete.

SIGNATURE _____ DATE:_____