Princeton University: Quality Assurance Division

TO: Hutch Neilson DATE: August 1, 2007

FROM: Judy Malsbury SUBJECT: Audit 0609, NCSX Modular Coil

Fabrication

AUDIT CLOSURE NOTICE

All the findings of the cited audit have been dispositioned in the following manner:

<u>Finding #1</u>: Change control for the fabrication of the modular coils is less than adequate.

Corrective Actions Taken:

- 1. MCF-003. Modular Coil Fabrication VPI/Autoclave Activities, was updated to reflect the appropriate leak check requirements in step 6.4.2. (closed 11/14/06)
- 2. MCF-004, Modular Coil Fabrication Post VPI Activities, was updated to add the step to develop punchlists indicating what work remained to be completed for each coil. (closed 11/1/06)
- 3. Procedures were modified to allow the identified steps within procedures to be performed out of sequence. (closed 1/25/07)
- 4. NCSX-PROC-007, NCSX Electronic Model and Drawing/Intralink Processes, was updated to clarify that the Systems Engineering Support Manager was to notify the Design Integration Manager and the ATI that ECNs have been approved. (closed 12/1/06)
- 5. Field supervisors now review all changes within the procedures for appropriateness. (closed 5/23/07)

<u>Finding #2:</u> The drawing control program used by NCSX needs improvement.

Corrective Action Taken:

- 1. ENG-010, Control of Drawings, Software, and Firmware, was updated to allow the use of the ECN to identify new drawings, not just changes to existing drawings. An added field was added to the ECN for NCSX's use for the RLM to indicate if immediate updates to the drawings are needed or whether just indicating an open ECN via a stamp on the drawing is adequate. (closed 10/17/06)
- 2. All of the Modular coil stick file drawings were removed from the coil winding areas with the exception of the chill plate and cladding drawings. The versions of these exception drawings are correct. The coil winding lead technicians were instructed on how to view on-line the modular coil drawings. (closed 8/1/07)

3. NCSX-PROC-007, NCSX Electronic Model & Drawing/Intralink Processes, was updated to improve the communications within the project concerning Engineering Change Notices (ECNs) and Requests for Disposition (RFDs). (Closed 12/1/06)

<u>Finding #3</u>: The Data Management and Document and Records Plans do not include two important project records – metrology data and photos.

Corrective Actions Taken: Both were updated to include this data and posted on the web. NCSX Project Team Members were notified of these changes. (closed 12/1/06)

Therefore the audit is now closed.	
Geoff Gettelfinger, Auditor, Engineering	Colin Phelps, Auditor, Quality Control
Judy Malsbury, Lead Aud	litor, Head/Quality Assurance

cc: J. L. Anderson, NCSX Project Manager

J. W. Anderson, Head, ES&H & Infrastructure Support Department

W. Reiersen, NCSX Project Engineer

- T. Brown, NCSX Design Integration (see findings 2 and 3)
- J. Chrzanowski, NCSX MC Fabrication Project Engineer (see finding 1)
- L. Dudek, Head, NCSX Stellerator Core Onsite Fabrication
- F. Malinowski, QA, Procurement Quality Assurance
- B. Nelson, Head, Stellerator Core Design and Procurement
- B. Simmons, NCSX Systems Engineering Support
- M. Williams, Head, Technical and Infrastructure Department