



ENG-033 - CRR - CHIT RESOLUTION REPORT

Centralized Control System FDR Chit Resolution Report

NSTXU_1-7-3-8_CRR_102

Work Planning #:
Effective Date: **02/24/2020**
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Chit Resolution Report for *Centralized Control System*

February 20, 2020

NSTXU_1-7-3-8_CRR_102

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Preliminary Design Review

Chit Resolution Number	Description	Chit Number	Status
CR-CCS-04	Clerical Drawing Corrections	CCSFDR01 CCSFDR02 CCSFDR06	Closed
CR-CCS-05	COE Interface Corrections	CCSFDR03 CCSFDR07	Closed
CR-CCS-06	CCS Operations	CCSFDR05	Closed
CR-CCS-07	Cyber Security	CCSFDR04	Closed



Record of Changes

Rev.	Date	Description of Changes
0	February 20, 2020	Initial Release



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CR-CCS-05: COE Interface Corrections

Review	ID	Chit
CCS FDR	CCSFDR03	Slide 24 of Ben's talk... "Safe to Enable" label... we inferred that this might imply the neutral beam itself is safe, i.e. this light was a statement about the status of the NB systems. However, the intent of the light is that the facility is in a state such that it is safe to enable the neutral beam. Please clarify the label so this confusion is avoided.

Closed: Label will be re-worded to "PSS-SIS OK", with logic and configuration the same. COE's were involved in the selection of the new terminology.

Review	ID	Chit
CCS FDR	CCSFDR07	Add sounds to changes of state i.e. arms, permits, enables. COE's to provide a list of conditions.

Closed: The COE's have provided a list of status changes that warrant an audible tone. This will be implemented through the FactoryTalk HMI program.

CR-CCS-06: CCS Operations

Review	ID	Chit
CCS FDR	CCSFDR05	Consider PLC logic to ensure FCPC disarm/disable does not fast-close the ground switches during non e-stop events (regular operations).

Closed: PSS-SIS will send two new signals to the CCS: one indicating the status of the ground switches and one indicating the status of the line switches. The CCS will use the status of the ground switches to conditionally prevent the removal of the enable except in emergency situations. Relevant documentation and drawings will be updated to capture this design improvement.

CR-CCS-07: Cyber Security

Review	ID	Chit
CCS FDR	CCSFDR04	Consider placement of IT components in the FCC Computer Center in order to meet moderate-level cyber security controls.

Closed: The CCS design team considered placing control components in the FCC but this would necessitate extending the computer controls (e.g. keyboard, mouse etc.) to the local cabinet, leaving the system with the same local communication port vulnerability as a local PC. As described in the FDR the local PC and its associated communication ports will be locked down using tamper-resistant fasteners that will require an access procedure to utilize, and the cabinet housing the control components will be monitored by door switches. These security measures will be confirmed by the cyber security validation test procedure.