



ENG-033 - FDRS - FDR SUMMARY

Final Design Review Summary for the Oxygen Deficiency Hazard (ODH) Monitoring System

NSTXU_1-8-1-1-3_FDRS_100

Work Planning #:

Effective Date:

02/10/2020

Prepared By:

William R. Blanchard

Reviewed By	William R. Blanchard, Design Review Chair	02/07/2020 14:37:43 PM
Reviewed By	Mark B. Cropper, Responsible Engineer	02/10/2020 06:25:05 AM
Approved By	Robert A. Ellis, Chief Engineer	02/10/2020 12:50:24 PM



DESIGN REVIEW DOCUMENTATION – RESULTS – No:

Title: Oxygen Deficiency Hazard (ODH) Monitoring System (WP# 3006, WBS# 1.08.01.02)

CAT: ☒A1 ☐A2 ☐A3

Type of Review: ☐ Peer ☐ CDR ☐ PDR ☒ FDR

Cognizant Individual: M. Cropper _____ **Date of Review:** 1/31/20

Review Board Members:

W. Blanchard, Chairperson
J. Petrella, Safety Instrument Systems SME
R. Camp, EE TA
N. Gerrish, ES&H
P. Sichta, I&C TA
T. Stevenson, Head of Operations
P. Dugan, Systems Integration
A. Castaneda, QA

Other Attendees

J. Alicea (presenter)
J. Guttenfelder
S. Gerhardt
M. D'Agostino
K. Bauer
G. Anderson
P. Titus
S. Davis (remote)

Items Reviewed:	Sat.	Unsat.	Comments or n/a if not applicable
Appropriate requirements identified	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Development plans and schedules	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Reg. compliance incl. USI/USID and NEPA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Disposition of CHITS from previous reviews	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Cost objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Other review objectives addressed	<input type="checkbox"/>	<input type="checkbox"/>	_____

SUMMARY OF RESULTS:

The purpose of this FDR was to review the design for monitoring the NSTX-U test cell and gallery areas for oxygen deficiency hazards (ODH). M. Cropper reviewed the principal hazards (NB liquid helium and nitrogen reservoirs and HVE SF6), the COTS ODH monitors and annunciators, areas of concern, system requirements and PLC displays. He further reviewed the disposition of chits from the PDR, FMEA and the cost and schedule to complete the project. J. Alecia reviewed the design of the system, the five sampling locations, annunciator locations and testing of the system.

There were eight chits generated during the review of which one was not concurred with. Of the remaining seven chits, three pertained to documentation, one concerned accounting for rooms off the gallery, one with monitoring the system power supplies, one with the system relay logic configuration to the PLC and one with testing the audible alarm to set the volume level. The review committee deemed the design review successful pending resolution of the chits.

Disposition: [check one]

_____ **Acceptable**

☒ **Acceptable pending resolution of concerns** - CHITS identified above must be resolved prior to installation.

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

_____ **Unsuccessful** - Corrective actions must be taken and another review process must be initiated.

Design Review Chair Person _____ **Date:** _____

Cognizant Individual Acceptance _____ **Date:** _____

Distribution: Review Board Members, Operations Center, Responsible Engineer (RE), Cognizant Individuals, Project Manager, Project Director, relevant Technical Authorities (TAs), Chief Engineer (CE), Fire Protection Engineer, Attendees, QA, ES&H, Security, Requesting & Performing Dept Head

Approved: 02/10/2020
Revised 8/10/18

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