



ENG-033 - FDRS - FDR SUMMARY

Final Design Review Summary for the VVHW Field Scope Part 2

NSTXU_1-1-2-1-1_FDRS_100

Work Planning #:
Effective Date: **01/24/2020**
Prepared By: **William R. Blanchard**

Reviewed By	William R. Blanchard, Design Review Chair	01/24/2020 11:37:06 AM
Approved By	Mojtaba Safabakhsh, Cognizant Individual	01/24/2020 12:13:32 PM



DESIGN REVIEW DOCUMENTATION – RESULTS – No:

Title: VVHW Recovery Field Scope (Part 2) (WP# 3075 , WBS# 1.01.02.03)

CAT: ☒A1 ☐A2 ☐A3

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

Cognizant Individual: M. Safabakhsh _____ **Date of Review:** 1/23/20

Review Board Members:	Other Presenters/Attendees
W. Blanchard, Chairperson	K. Corrigan
R. Ellis, CE and Mech TA	D. Bishop
S. Gerhardt, Systems Integration	J. Galayda
W. Que, Electrical SME	A. Indelicato
Y. Zhai, Proj Eng	F. Cai
S. Raftopoulos, Magnets RE and Alt. VVIH RE	P. Dugan
P. Titus, Analysis TA	A. Brereton
J. Mitchell, CAD Design	R. Hawryluk
S. Gifford, Mach Tech	W. Gattoni
A. Castaneda, QA	L. Hill
J. Levine, ES&H (remote)	D. Loesser
	M. Smith (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"/>	NEPA 1631 _____
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 an improved VV leg insulation design and prototype testing; a method for re-tapping the holes on the upper and lower VV flanges; assessing the PF2/3 and 4/5 clamping assemblies and the radial restraints of the outer PF coils; and a design to compensate for a broken bolt in the machine flange that bolts to the pedestal. M. Safabakhsh reviewed the VV leg insulator design and the proposed method and fixture for re-tapping the holes on the vacuum vessel upper and lower flanges. W. Que reviewed the results of the prototype testing for the VV leg insulator design and D. Bishop reviewed the stress analysis for the re-tapping fixture. K. Corrigan reviewed the modifications to the PF2/3 and PF4/5 coil clamping assemblies and the analysis of the radial bolt restraints. The broken bolt issue was not reviewed since the calculation/analysis of the existing configuration was not completed. There will be a separate review on this topic after the analysis has been completed. There were nine chits generated during the review. Four pertained to documentation, two concerned using RTV in addition to the G10 insulators for the VV legs and two concerned tolerance stack and global tolerance errors are accounted for in re-tapping the VV flange holes. One chit concerned tapped hole errors due to flange deflection but was satisfactorily addressed in the review. For the topics covered in this review, the review committee deemed the FDR successful pending resolution of the chits.

Disposition: [check one]

_____ **Acceptable**

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

Approved 01/24/2020 ☐ **Incomplete** - Additional design work is required prior to another design review.

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

NSTXU-1-P2-1-P1-DRS-100



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

Revised 8/10/18