

Preliminary Design Review Summary for the Buswork Design

PDR summary: NSTXU_1-1-3-4_PDRs_100

REVISION 0

October 18, 2019

PREPARED BY: Kathleen Lukazik 10/18/2019 8:54:25 AM

Kathleen Lukazik,

REVIEWED BY: William R. Blanchard 10/18/2019 11:11:44 AM

William R. Blanchard,

REVIEWED BY: Steve Raftopoulos 10/18/2019 12:49:46 PM

Steve Raftopoulos,

REVIEWED BY: Yuhu Zhai 10/18/2019 1:26:36 PM

Yuhu Zhai,

APPROVED BY: Dang Cai 10/18/2019 1:28:16 PM

Dang Cai,

PRINCETON PLASMA PHYSICS LABORATORY
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PRINCETON, N.J. 08543

DESIGN REVIEW DOCUMENTATION – RESULTS – No:

Title: Buswork Design (WP# 2340, WBS# 1.01.03.02)_____

CAT: ☒A1 ☐A2 ☐A3

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

Cognizant Individual: D. Cai _____ **Date of Review:** 10/14/19

Review Board Members:	Other Presenters/Attendees	
W. Blanchard, Chairperson	P. Dugan	L. Hill
Y. Zhai, Project Engineer	P. Titus	G. Swider
W. Que, EE and Power Sys. SME	J. Fang	T. Guttadora
S. Gerhardt, Systems Integration	C. Rana	S. Weidner
A. Castaneda, QA	S. Sheckman	J. Galayda
R. Ellis, Chief Eng, and ME TA		J. Mitchell
J. Petrella, Bakeout RE		W. Gattoni (Remote)
S. Raftopoulos, Magnets RE		
P. Salwecki, Fabrication		
J. Bartzak, Installation SME		
J. Winkelman, CAD Designer		
A. Brooks, Analysis		
S. Gifford, Installation SME		
W. Slavin, ES&H, (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 type="checkbox"/>	<input type="checkbox"/>	n/a _____
Calculations (all listed are signed and filed)	<input type="checkbox"/>	<input type="checkbox"/>	n/a _____
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 PDR was to review the design of the bakeout bus, PF4 bus support, PF1b power cable, TF extension connection and the OH coax bus. The review also covered the manufacturing, installation, costs and analysis of the proposed buswork.

P. Dugan presented the scope of the project, interfaces and requirements. D. Cai reviewed the design of the upper and lower bus and PF4 support design. He also reviewed the fabrication and installation requirements, FMEA and cost and schedule for the project. S. Sheckman reviewed the design of the OH coax bus, TF bundle extension and the PF1B flex bus. The analyses of the thermal and electrical loads were reviewed by P. Titus, J. Fang and C. Rana.

Although the review generated 32 chits, all of which were concurred with, 7 of the chits were out of scope for the buswork team and require the project to assign to the appropriate group for resolution. Of the remaining chits, most concerned additional analyses. Other chits concerned hardware modifications, field designs/fabrications, insulation and grounding. A few chits addressed documentation, categorization and procurement requirements. The review committee deemed the design review successful and recommends that the project proceed to the Final Design Review phase 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

Revised 8/10/18