

## DESIGN REVIEW DOCUMENTATION – RESULTS

**Title:** NSTX-U GDS Burst Disc \_\_\_\_\_

**WP#:** 2324 \_\_ (ENG-032)

**CAT:** ☐A1 ☒A2 ☐A3

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

**Cognizant Individual:** D. Cai \_\_\_\_\_ **Date of Review:** 5/29/18 \_\_\_\_\_

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**Review Board Members:**

Chair: T. Stevenson

RE \_D. Cai \_\_\_\_\_

TA (*MECH*) M. Viola \_\_\_\_\_

TA (\_\_\_\_) \_\_\_\_\_

TA (\_\_\_\_) \_\_\_\_\_

TA (\_\_\_\_) \_\_\_\_\_

QA\_J. Malo (Remote) \_\_\_\_\_

ESH\_J. Toth, N. Gerrish \_\_\_\_\_

**Invited Attendees:**

T. Egebo

I. Zatz

M. Cropper

S. Gerhardt

P. Dugan

W. Blanchard

**Other Attendees:**

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**Items Reviewed:**

**Sat.**

**Unsat.**

**Comments or n/a if not applicable**

Appropriate requirements identified

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Development plans and schedules

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Reg. compliance incl. USI/USID and NEPA

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☐

NSTXU \_\_\_\_\_

Disposition of CHITS from previous reviews

☐

☐

n/a \_\_\_\_\_

Cost objectives

☒

☐

\_\_\_\_\_

Other review objectives addressed

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☐

FMEA \_\_\_\_\_

**SUMMARY OF RESULTS:**

This review covered one of several minor changes to the vacuum and fuelling system on NSTX-U. The Gas Delivery System has an expansion tank to maintain gas pressure below 1 atm. In the event of multiple valve or controls failures gas bottle pressure might inadvertently be applied. Per DVVR recommendation, a burst disc will be installed on the tank. The burst disc will be connected to the NTC exhaust manifold to route effluent there. Analysis was performed on the tank to determine allowables and a burst disc was chosen to provide a factor of 2 safety margin on pressure. Hardware is Commercial Off the Shelf (COTS); modifications will be performed by tech shop. Cost and schedule were presented for the work. In the extremely unlikely event of a burst disc rupture, the burst disc can be replaced with a new one. Two chits were generated regarding ES-MECH-15 documentation. This review highlighted the need for a overarching project response to systems regarding ES-MECH-15 pressure systems. The charge, agenda, presentation, and chit log are available on the NSTX-U Recovery dashboard for this review.

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**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** T. Stevenson \_\_\_\_\_ Date: \_\_\_\_\_

**Cognizant Individual Acceptance** D. Cai \_\_\_\_\_ Date: \_\_\_\_\_

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

Revised 2/19/2018