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July 8, 2009

Mr. Jeffrey Makiel
Federal Project Director for NSTX Upgrades
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U.S. Route 1 North at Sayre Drive
P.O. Box 451
Princeton, NJ 08543

References

- (1) " Hazard Analysis Assessment for the National Spherical Torus Experiment (NSTX) Upgrade Project " J. Makiel to A. Cohen. May 20, 2009.
- (2) DOE-STD-1027-02
- (3) 10CFR830, subpart B

Dear Mr. Makiel,

Pursuant to your correspondence dated May 20, 2009 (Ref 1) please be advised that the NSTX Activity Certification Committee (ACC) has convened to address the following;

1. Review a Preliminary Hazard Analysis Report for the upgrades planned by the MIE Project;
2. NSTX is currently considered a "below hazard category 3" facility. Upon completion of the MIE project, will this designation change? When performing the assessment, other planned modifications by the NSTX Program outside the MIE project between now and CD-4 (2014) should be considered as well as any operational considerations involving experimental run time;
3. Evaluate the work scope for Questions 1 and 2 in aggregate, as well as individually, should work scope be severed at a later date within the Project.

In response to item 1, an NSTX Upgrades Project Preliminary Hazard Analysis document has been developed and reviewed by the ACC. The preliminary hazard analysis (which builds upon the NSTX Safety Analysis Document) shows that the two planned upgrades, individually and collectively, will have negligible impact at PPPL and the environment. The operation of NSTX, post the planned upgrades, continues to fall well within the established safety parameters and classification currently in place for NSTX machine operations at PPPL.

In response to item 2, the ACC analyzed the two upgrades, which include(s); enhanced capability to the center stack assembly (higher magnetic fields), and the inclusion of a second neutral beam injector (increased heating and current drive). Upon technical review, in accordance with DOE-STD-1027-02, and 10CFR830 subpart B, analysis shows that employing a conservative NSTX run schedule, and a single compartment model, where by all radioactive sources (including products of activation) at PPPL are appropriately weighted and summed, NSTX, post the planned upgrades, will continue to be classified as “below hazard category 3” facility.

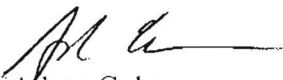
At this time the ACC is not aware of any sub-system upgrade(s), outside of the MIE, which would impact the NSTX “ below hazard category 3 facility” classification. As the ACC is an on-going review process any new sub-systems that could have future impact would be reviewed prior to implementation. At this time none are known.

In response to item 3, technical analysis of the planned upgrades, for the purpose of hazard classification, have been performed in the aggregate and individually. Any reduction in work scope associated with the upgrades would not result in a change to the “ below hazard category 3” facility classification.

Supporting technical analysis and data for the above will be made part of the NSTX Upgrade Project CD-1 submittal package.

Please do not hesitate to contact me if there are any questions.

Sincerely,

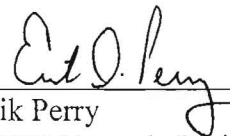


Adam Cohen
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Concurrence:



Charles Gentile
ACC Chair



Erik Perry
NSTX Upgrade Project Manager