



**Department of Energy
Princeton Site Office**

P.O. Box 102
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May 20, 2009

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A. Cohen, PPPL

SUBJECT: HAZARD ANALYSIS ASSESSMENT FOR THE NATIONAL SPHERICAL TORUS EXPERIMENT (NSTX) UPGRADE PROJECT

Major upgrades are being planned for the National Spherical Torus Experiment (NSTX) to explore new physics regimes and to enhance the understanding of toroidal confinement physics. A major item of equipment (MIE) project was approved last February which has authorized PPPL to proceed to critical decision 1 (CD-1): develop an alternative analysis and cost range.

The NSTX Upgrade Project has two discrete work packages:

1. Upgrade the center stack assembly as to provide a higher magnetic field;
2. Install a second neutral beam injector (NBI) to increase heating and current drive.

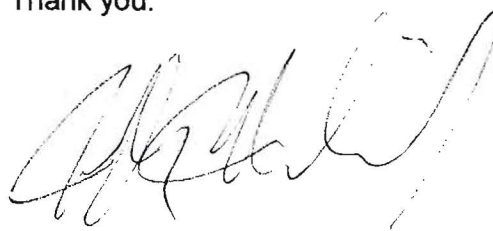
Although both workscope items above are planned as one MIE project, the NSTX Upgrade Project's planning structure is being implemented as to allow the work packages to be severed from each other in the event of future budget constraints.

I am requesting your support, as the chair of the PPPL ES&H Executive Board, to appropriately charge the NSTX Activity Certification Committee (ACC) to respond to 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 workscope packages for Questions 1 and 2 in aggregate, as well as individually, should workscope be severed at later date within the Project.

I request that the above tasks be completed by July 31, 2009 and all findings, analyses, and reports be posted on the NSTX website in support of the CD-1 review this fall. If you need further information, please feel free to contact me at extension x3721.

Thank you.

A handwritten signature in black ink, appearing to read 'Jeffrey Makiel', written in a cursive style.

Jeffrey Makiel
Federal Project Director for NSTX Upgrades
Princeton Site Office

cc: E. Perry, PPPL
M. Ono, PPPL
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