

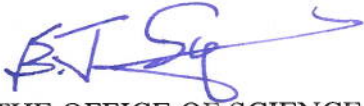


Department of Energy
Washington, DC 20585

July 22, 2015

MEMORANDUM FOR STEPHEN W. MEADOR

DIRECTOR
OFFICE OF PROJECT ASSESSMENT
OFFICE OF SCIENCE

FROM: EDMUND J. SYNAKOWSKI 
ASSOCIATE DIRECTOR OF THE OFFICE OF SCIENCE
FOR FUSION ENERGY SCIENCES

SUBJECT: Department of Energy (DOE) Review of the National Spherical Torus
Experiment – Upgrade (NSTX-U) Major Item of Equipment (MIE) Project

I request that your office organize and lead an Office of Science Independent Project Review of the NSTX-U MIE project at the Princeton Plasma Physics Laboratory on September 2, 2015. The purpose of this review is to determine whether the NSTX-U project has fulfilled the requirements for Critical Decision 4 (CD-4), “Project Completion” and is ready to request CD-4 approval by the Acquisition Executive (AE).

The objective of the NSTX-U project has been to design, build, install and test the in-scope equipment to allow the NSTX machine to operate at the following increased levels:

- Toroidal Field from 0.5 tesla to 1.0 tesla;
- Pulse length from ~1.0 second to 5.0 seconds;
- Plasma current from 1MA to 2MA;
- Neutral beam heating from 5-7MW to 10-14MW

The scope consists of two major elements: fabrication and installation of a Center Stack upgrade and installation of a 2nd Neutral Beamline.

In carrying out its charge, the Committee should include responses to the following questions:

1. Has the NSTX-U project met all CD-4 requirements, which includes: completing the technical scope and achieving the Key Performance Parameters as defined in the Project Execution Plan?
2. Is the transition to operations plan adequate to transition the NSTX-U project to research operations?
3. Is the draft project closeout report adequate and have the lessons learned from the project been identified and captured in a draft document?

4. Is the NSTX-U project ready for approval of CD-4, Project Completion?

Barry Sullivan will serve as the Fusion Energy Sciences point of contact for this review. I would appreciate receiving your committee's report within 30 days of the review's conclusion.

cc:

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