

Charge to the External Review Committee for the NSTX-U Arc Fault

During the commissioning of NSTX-U for its first test plasma, an arc took place in its Ohmic heating circuit inflicting significant damage and delays. The NSTX-U team has investigated the causes and repairs, and PPPL has conducted an internal review to determine the direct and root causes, extent of condition, and the quality of and adherence to procedures and processes. The internal review panel also examined the robustness of the proposed repairs and redesigns.

I. The University has now convened your group as an external review committee to evaluate the quality of the laboratory's responses to this unfortunate incident, and address the detailed charge questions below.

1. Technical cause: Are the causes for the arc correctly identified and understood? Are there any other likely causes that should be more carefully considered?

2. Procedural and process causes: Are the procedural or process lapses that contributed to the fault understood? Is the Root Cause Analysis process adequate to identify all the contributing causes?

3. Extent of condition: Is the extent of condition understood? Is the extent of condition process adequate to identify potential design and process weaknesses?

4. Repair and design solution: Are the conceptual designs, repairs, and corrections identified by the NSTX-U team likely to avoid a recurrence of a similar fault? Are there other approaches that would be superior?

5. Overall recovery plan: Are the quality and thoroughness of the recovery plans and recent internal reviews adequate? Do you see any areas of concern that are not being addressed?

II. Please "take a step back" and give us feedback on any overarching or systemic weaknesses or issues, technical, organizational or other that should be evaluated further and addressed to ensure efficient and safe operations of NSTX-U.