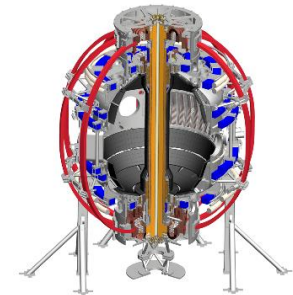


NSTX-U FY2018-19 milestone process / development overview

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FY18-19 Milestone Development Meeting
May 25, 2017



Overview

- Milestone development significantly impacted by latest understanding of NSTX-U run schedule
 - Original milestones assumed NSTX-U ops in FY17 or 18
 - Early in CY2017, expected ops shifted to FY19
 - Most recently, given the findings/scope of Extent of Condition, cannot guarantee research operations in FY19
- Situation also modified by new collaboration solicitations for University / Industry (non-diagnostic) and for labs
- NSTX-U program very much welcomes continued collaboration, data access/usage whether funded or not
 - Likely need to update Record of Discussion, possibly Model Letter

Why have Milestones?

- Important to have definitive goals each year to demonstrate progress on important research areas
 - Focus more resources on milestones to aid progress
 - Some milestones require new diagnostics or actuators
 - Can have long lead time for design, review, and implementation
 - Must plan ahead
- PPPL Field Work Proposal (FWP) submitted to FES each year includes milestones as goals
 - Types: Research, Facility/Diagnostic, Joint Research Target
 - Includes budget / resource justification / request

What's different this year?

- Previous NSTX-U milestones often incorporated collaborator contributions as appropriate with little differentiation between team-member home institution
 - Topics chosen based on most important research for overall NSTX-U program, collaborator contribution relatively stable / predictable
 - PPPL contributed/s to all NSTX-U milestones by supporting operations and/or diagnostic/actuator implementation → natural to include in FWP from program / budgetary standpoint
- The “normal” milestone / FWP approach now untenable
 - No NSTX-U ops, research tool funding redirected to Recovery, several/many collaborators not funded on NSTX-U in FY2018-20

FES / JEM guidance on Milestones

- Limit number of Research Milestones to 3-4 / year (FES)
 - JRT counted separately (JEM)
- Emphasis:
 - Should increase emphasis on supporting critical Recovery tasks
 - Support getting to initial ops ASAP and/or accelerated access to high performance / new regimes when NSTX-U resumes operation
 - Increase emphasis on collaboration – especially MAST-U/STs, but other relevant facilities also acceptable (DIII-D, KSTAR, ...)
 - Milestones based purely on NSTX/NSTX-U data analysis or without a strong Recovery or Initial Ops contribution have less emphasis
- Need significant PPPL contribution to include in FWP

What if a milestone idea is not selected?

- Value all milestone ideas even if not included in FWP
- Considering definition / documentation of “Research Activities” in addition to FWP Milestones
 - Help coordinate activities in support of NSTX-U longer-term goals, include collaborator contributions even if unfunded
 - Maintain aspects of NSTX-U team during Recovery outage
- SG/TSG structure will be need to be altered in FY18+
 - Instead document PPPL / lab / collaborator points of contact by topical area – including Working Groups

Example points of contact (PoC)

- Jon Menard – PPPL NSTX-U → DIII-D coordinator and collaborator (working closely with Raffi N, Brian G)
 - Emphasize **ramp-up/access** to high/full non-inductive fraction ops
 - TRANSP for predictive simulations + stability and transport
- Stan Kaye – PPPL MAST-U collaboration coordinator
- Devon Battaglia – MAST-U commissioning, first plasma, scenario development, control
 - Multi-month visit to MAST-U this summer
- Matt Reinke – PFC requirements WG (assuming Matt agrees)
- **Would you like to be included in a PoC list?**
- JEM would also like to track/document US (at least PPPL) collaborations on international STs for/using [IEA ST Annex](#)

Thank you

Any questions?