

# National Spherical Torus eXperiment Upgrade

## *Working Safely and Effectively on NSTX-U*

Physics Meeting – May 5 , 2025

---

S. Gerhardt



# Motivation

---

- It has been a long time since most of us worked in the test cell, planned an NSTX-U experiment, etc
- In that time, much has changed:
  - The staff - both operations and research
  - PPPL ES&H & Security Policies
  - The basis under which we are authorized to run
    - Accelerator Safety Order (now) vs. Below Cat. 3 Nuclear Facility (then)
  - Work planning
- Idea: have a short brief on a topic a most weekly physics meeting.
  - 5 minutes
  - Catch you all up to present practice, but also have a venue to discuss changes
  - We have some topics identified, but can accommodate requests

# Perspective on Safety

---

- What is safety?
  - **Merriam-Webster** - the condition of being safe from undergoing or causing hurt, injury, or loss
  - **Jonathan LaCarrubba (PPPL ES&H)** - Safety is the capacity we build into our systems to avoid harm.
    - It isn't how many times we didn't fall off the ladder, it's how many ladders we replaced with stairs.
    - The controls not the exposure.
- Accidents are preventable
- We are important as individuals, and our research is important
  - We have a moral obligation to look after ourselves, and after each other

# Topics

---

## Near term

- Accelerator Safety Order
- New Access Control System
- Test Cell Nuclear Shielding
- Operations and Commissioning Authorizations

## After that

- Traditional ES&H aspects of work
- Area access and work planning
- Machine systems and how they impact research planning

Need this to have value, so requests topics are welcome

# Safety Foundation: Stop Work

---

## PPPL Policy [P-012](#): Stop Work Authority

- In the event that any employee, subcontractor, visitor or other individual at PPPL becomes aware of an activity that creates an imminent danger to an individual, property and/or the environment, that employee, subcontractor, visitor or other individual has the authority and responsibility to require that the work which is creating the danger be immediately stopped*
- Individuals who receive a notification to stop work must comply with that request immediately.*

**You will never be penalized for good-faith use of the Stop Work policy.**