

Fusion Technical Working Group (FUS-TWG)

Discussion of Fusion Workforce Needs

July 28, 2026; 12:00 p.m. to 1:30 p.m. ET

Discussion Summary

Welcome

- The facilitator from Eastern Research Group (ERG), a New York State Energy Research and Development Authority (NYSERDA) contractor, welcomed TWG members and reviewed the agenda, which focused on fusion workforce needs, synergies with fission workforce needs and strategies, and draft findings in the Fusion Study within the Master Plan for Responsible Advanced Nuclear Development in New York.

Workforce Development Needs for Fusion

- NYSERDA presented an assessment of fusion workforce needs, noting that workforce development efforts must align with fusion's stage of development. The current focus for the fusion workforce is in the area of research and development. As fusion development progresses, the core skill sets needed to support fusion will change. Current skills needed include plasma physics, precision engineering, materials sciences, power electronics, cryogenics, advanced manufacturing, and systems integration.
- Participants generally agreed with the skill sets needed, and suggested additional core skills including tritium handling, robotics, vacuum engineering, power conversion, radiological understanding, cryogenics, and computational modeling and simulation. During construction, more translatable skills from other sectors will be needed.
- NYSERDA summarized the workforce recommendations from the Fusion Study, noting that fusion workforce development will:
 - Rely in part on adapting and redeploying existing talent pools.
 - Need to extend beyond traditional university pathways to include community colleges, vocational training, and apprenticeship programs.
 - Require existing degree programs to incorporate fusion-relevant coursework.
- Need early investment in technical skills to help New York State participate in the emerging fusion industry.
- Participants shared examples of programs with fusion-specific coursework, including Columbia University (which has a fusion minor); the University of Tennessee, Knoxville; MIT; and the Australian National University.
- Participants also mentioned other potential pathways for students to attain fusion-specific training, such as internships or an online course through the U.S. Department of Energy's Science Undergraduate Laboratory Internship; university-based internships; and programs to introduce high school students to fusion-related research and labs.

- Participants mentioned that expanding fusion-specific fellowships, which are currently very limited, would be beneficial to workforce development.

Synergies with Advanced Nuclear Workforce Findings and Strategies

- NYSERDA gave an overview of what the Workforce and Supply Chain Technical Working Group (WSC-TWG) has been working on.
- The WSC-TWG developed a set of 15 targeted advanced nuclear occupations. They also modeled risk and intervention matrices for nuclear power plant workforce needs broken down by the pre-operations phase and the operations and maintenance phase. These matrices classify jobs based on development intensity and projected demand.
 - Participants suggested considering regulatory dimensions as part of the matrices.
 - Participants noted some changes to the target occupations listed for fission that are fusion specific. They suggested adding cryogenics; tritium-handling expertise; health physicists; and plumbers, fitters, and welders who are trained on vacuum vessels, as well as expanding the listing for nuclear engineers to nuclear engineers/plasma physicists.
- NYSERDA presented the foundational/cross-ecosystem strategies that the WSC Study identified.
 - Strategies include managing uncertain demand, prioritizing flexibility and transferable foundational skills, upskilling experienced workers first, using lead time wisely, demonstrating clear state leadership, clarifying roles across government entities, coordinating workforce strategy with procurement strategy, sequencing funding with market signals, co-designing with employers and industry, supporting union workforce readiness, investing in smaller-scale higher education pathways, and building nuclear career awareness early.
- Participants discussed the overlap of the workforce strategies with fusion workforce needs, noting that aligning timelines is a challenge for fusion since there are no fusion plants functioning today.
 - Participants also noted that while New York State needs to be getting a fusion workforce ready, it would be counterproductive to produce a range of fusion skills and personnel now and not be able to employ them yet.
 - Near-term employment opportunities for fusion expertise could be in the startup ecosystem, supply chain providers, and fusion research and development.

Key Findings in the Fusion Study

- NYSERDA presented the key draft findings from the Fusion Study. For New York, the most immediate opportunity is to position the state to participate in and enable the growth of the fusion ecosystem.

Next Steps and Action Items

NYSERDA is targeting November for publication of the studies. NYSERDA plans to continue working with the FUS-TWG and is evaluating how to move forward.

Action item	Assigned to	Target date
Distribute meeting slides and notes	ERG	Week of August 10, 2026

Participants

Member Organizations

Brookhaven National Laboratory
Columbia University
Idaho National Laboratory
Lawrence Livermore National Laboratory
Princeton Plasma Physics Laboratory
Rensselaer Polytechnic Institute
Stony Brook University
University of Rochester

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