NUCLEAR ENERGY ADVISORY COUNCIL

Public Meeting
July 24, 2025 11:00 AM
CT State Community College
Three Rivers Campus
President's Conference Room
Norwich, CT 06360

Closed Briefing
Commonwealth Fusion Systems
117 Hospital Road
Devens, MA 01434

MINUTES

Members Present
Rep Kevin Ryan, Chair
Alternate Chair Mr. Jeffrey Semancik representing DEEP Commissioner Dykes

Mr. James Sherrard	Mr. Bill Sheehan
Mr. C. Salonia	Mr. J. McGunnigle
Mr. R. Woolrich	Sen C. Osten
Rep A. Nolan	Mr. M. Quinn

Members Not Present
Mr. A. Jordan

1. **Call to Order of Meeting**
   Council Chair Ryan called the meeting to order at 11:00 AM at the in the CT State Community College in Norwich, CT.

2. **Assuming Regulatory Authority for Certain Radioactive Materials, Connecticut Agreement State Status –** Briefing on Connecticut Agreement State status by Brandon Graber, Connecticut Department of Energy and Environmental Protection (DEEP) and Michael Firsick, Office Director, DEEP. Mr. Graber provided an overview of what an Agreement State (AS) is, why Connecticut decided to become and AS, the process of becoming an AS, and the schedule. (presentation attached)
   a. Mr. Graber explained that the Atomic Energy Act allows states to build a compatible radioactive materials regulatory program and enter into an Agreement with the U.S. Nuclear Regulatory Commission (NRC) for the state to assume and the NRC discontinue regulatory authority for certain radioactive material – byproduct, source and special nuclear material. He explained the NRC retains authority for regulation of fission nuclear

power plants and spent nuclear fuel, and the state retains its existing authority to regulate radiation generating equipment (such as x-rays). He also explained that a recent ruling by the NRC established that fusion machines are not reactors and would be regulated by AS's under the materials framework.

b. Mr. Graber explained the rigorous process of developing statutory authority, regulations, program and trained staff to become an AS.
c. Mr. Graber discussed outreach to the regulated community as well as with federal and tribal entities. He explained that use of radioactive materials on federally recognized tribal lands remains under the jurisdiction of the NRC.
    i. Mr. Woolrich asked what radioactive material the tribes had. Mr. Graber responded that the tribes did not currently have any licensed radioactive material. Mr. Firsick added that the most likely would be byproduct material for medical use. Sen. Osten noted that one of the federal tribes was building a medical center. Mr. Semancik noted that the state would work with the NRC in such cases to determine who had jurisdiction for regulation of the material as it can depend on whether the land is on federally recognized tribal land and other factors.
d. Mr. Graber noted that the application to become an AS has been accepted by NRC staff and pending a Commission vote Connecticut will be the 40th AS effective September 30, 2025.
    i. Mr. Semancik noted that the federal executive orders on overhauling regulation of nuclear power plants has the potential to change what else could be regulated under the agreement. For example, some states are requesting the regulations be changed to allow AS's to permit siting for microreactors. (NRC would continue to license the physical reactor but states could approve siting.)

3. **Nuclear Power Executive Orders (EO's)** – Mr. Quinn requested the Council be made aware of and discuss recent executive orders (listed in paragraph 5) related to nuclear power. Mr. Quinn stated that April 9th executive order used energized words that task the NRC to review and incorporate sunset provisions on 10CFR (licensing of nuclear facilities, nuclear materials safety, and security) regulations. He compared this effort to possibly removing stop signs and traffic lights to improve traffic but with additional risk. The April 8th EO entails State Overreach, which as presently written does not mention nuclear. However, should significant 10CFR sunset provisions be enacted, state bodies such as NEAC could be constrained should the Administration determine nuclear will apply to the State Overreach Executive Order. He wanted to make sure the Council was aware of these EO's.
    a. Mr. Semancik stated it was his opinion that the Council's statutory role was to continue to monitor the safety of the nuclear power plants in the state to see if there was any adverse impact from the EO's.
    b. Mr. Sheehan read a quote from Admiral Rickover on the importance of responsibly in managing nuclear power safely including commitment to the recognition that any amount a radiation must be respected.

4. **NRC Correspondence Reviewed since past meeting**
   Council reviewed the following NRC Correspondence. The Council did not have any questions or comments.
   a. Millstone Power Station, Unit 3 – Information Request Tt Support Post-Approval Site Inspection for License Renewal; Inspection Report 05000423/2025010 dated May 2, 2025
   b. Millstone Power Station, Units 2 and 3 – Integrated Inspection Report 05000336/2025001 and 05000423/2025001 and Independent Spent Fuel Storage Installation Inspection Report 07200047/2025001 dated May 5, 2025.
   c. Public Meeting Announcement: Public Meeting on Executive Order 14300 Section 5(b) – Reconsidering the NRC's Radiation Protection Framework: July 16, 2025.
   d. Millstone Power Station, Units 2 and 3 – Security Baseline Inspection Report 05000336/2025401 AND 05000423/2025401 dated July 16, 2025.

5. **Other material reviewed**
   NEAC reviewed the following information related to nuclear industry and trends. The council did not have any questions or comments.
   a. Presidential Executive Orders:
      i. Deploying Advanced Nuclear Reactor Technologies for National Security dated May 23, 2025.
      ii. Ordering the Reform of the Nuclear Regulatory Commission dated May 23, 2025.
      iii. Reforming Nuclear Reactor Testing at the Department of Energy dated May 23, 2025.
      iv. Reinvigorating the Nuclear Industrial Base dated May 23, 2025.
      v. Zero-Based Regulatory Budgeting to Unleash American Energy dated April 9, 2025.
      vi. Protecting American Energy From State Overreach dated April 8, 2025.

6. **Council Business**
   a. Agreed to next meeting on September 18, 2025. Meeting topic is presentation of performance by Dominion. Council members requested a tour of the facility as they have not been on site for several years.

7. **Public Comment**
   a. One member of the public was in attendance. There were no questions from the public.

8. **Adjournment**
   Meeting adjourned at 11:55 AM.

9. **Closed Briefing**
   a. After conclusion of the public meeting, the Council travelled to Commonwealth Fusion Systems in Devens, MA for a tour and briefing on the progress of private fusion energy

development, regulation of fusion machines, and safety of fusion machines. Due to discussion of proprietary information and security access requirements at Commonwealth Fusion Systems, this briefing and tour were closed to the public.

Connecticut
The 40th Agreement State

DEEP Radiation Division Meeting with Nuclear Energy Advisory Committee (NEAC)

July 24, 2025

Brandon Graber
Environmental Analyst III
AS Project Lead

Jeffery Semancik
Director, Radiation Division

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Department of Energy & Environmental Protection
RADIATION DIVISION

Goal

- Provide NEAC an overview of Agreement State program and schedule

- Ensure NEAC's understanding of CT's regulatory authority over radioactive material

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Agenda

- What is an Agreement State?
- Regulation of Sources of Ionizing Radiation
  - Regulation of Fusion
- Stakeholder Engagement
- Building the Agreement Program
- Schedule & Milestones
  - October 1st, 2025!

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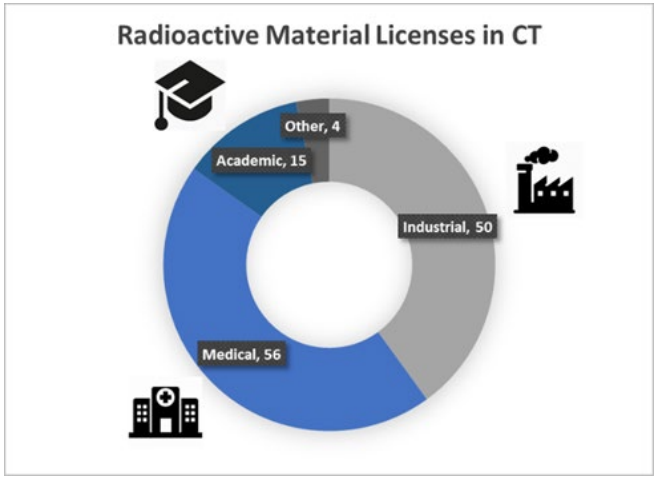
What is an Agreement State?

- A State that has assumed regulatory authority over certain categories of radioactive materials* through a cooperative Agreement with the NRC as authorized by the Atomic Energy Act of 1954
- State becomes responsible for:
  - licensing, inspection, and enforcement of medical, academic, and industrial uses of certain radioactive materials
    - Fusion Machines
  - responding to certain types of incidents and allegations within their borders



**** NRC remains regulatory authority for nuclear power plants, spent nuclear fuel, or federal facilities.***

Discontinuation of federal authority and assumption of state authority – not a delegated program

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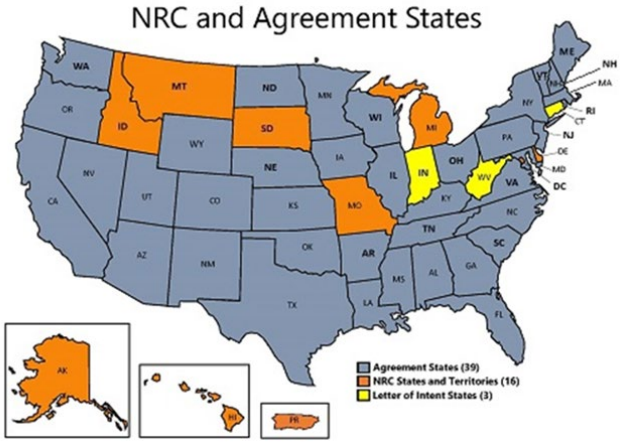
Making the Decision

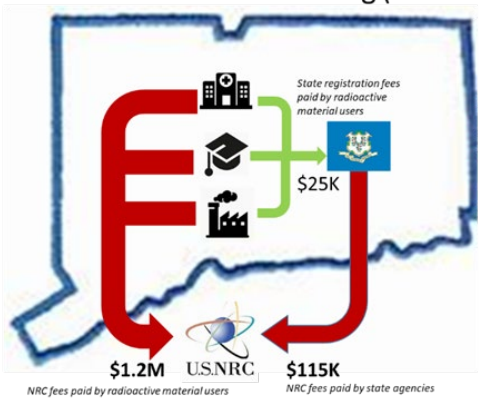
- Gov Lamont signed a Letter of Intent to become an Agreement State on December 10, 2020
  - CT will be the **40th** Agreement State
- Why take this on?
  - Regulatory Certainty
    - Eliminate dual regulation
    - Compatibility
    - Local access and accountability to licensees and public
  - Safety and Security
    - State responsibility/accountability for radiation sources, safety and security
    - Ownership for oversite of EJ issues (former clock factories)
  - Economic
    - Over $1M in fees stay in CT
    - Streamlined program administration



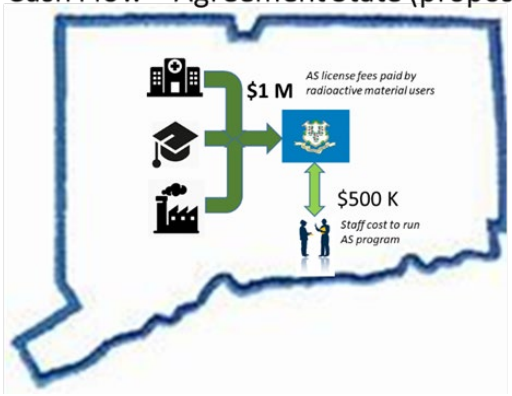
National Materials Program

- 39 Agreement States
- 16 NRC States/Territories
- 3 states (CT, IN, WV) with LOI

Cash Flow – NRC Licensing (current)



Cash Flow – Agreement State (proposed)



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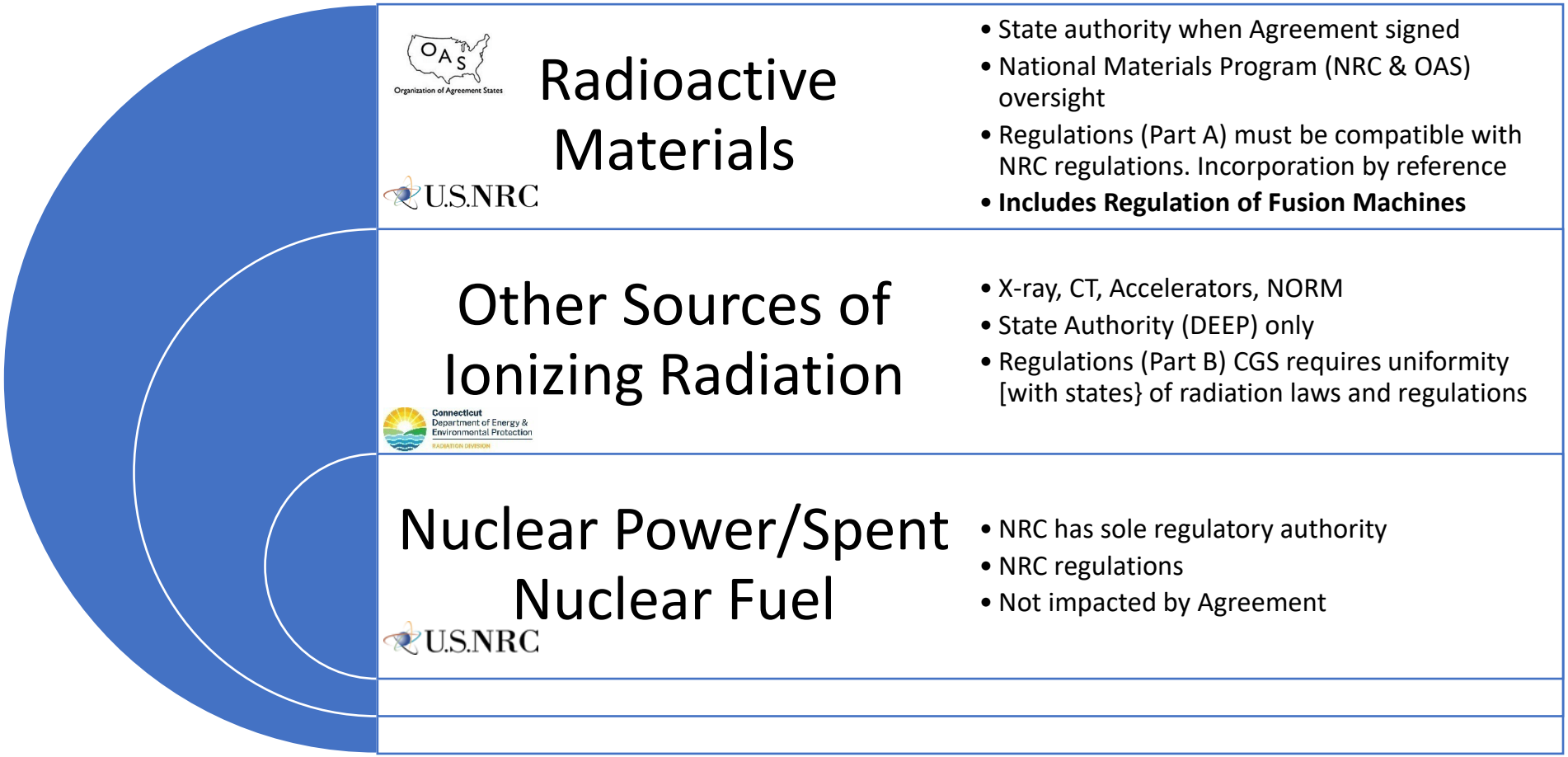
Radioactive Materials & Other Sources of Radiation



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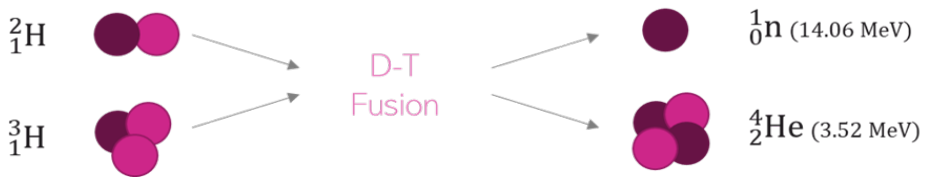
Regulation of Fusion

- Nuclear fusion is the process by which two atomic nuclei—the central cores of atoms, made up of protons and neutrons—combine to form a heavier nucleus, releasing energy.



- Fusion Machine (not Reactor)
  - Machines such as tokamaks and stellarators, use powerful magnetic fields or lasers to heat and confine hydrogen isotopes until they fuse, releasing energy.
    - If the machine shuts down, the fusion reaction stops
  - No special nuclear material (no Uranium or Plutonium)
    - While often referred to as "fusion reactors," fusion machines are ***not*** reactors in the sense normally associated with nuclear power because they do not rely on a self-sustaining chain reaction to produce energy.
  - However, fusion machines will use and generate byproduct material.
    - Most designs will use substantial amounts of tritium (H-3)
- Authority for Regulation of Fusion
  - On July 9, 2024, the enactment of the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2024, or the ADVANCE Act, amended the definition of byproduct material in Atomic Energy Act of 1954 (AEA) to include radioactive material produced by fusion machines.
    - This codified Commission decision to regulate fusion machines under material license framework
    - Public Act No. 25-170 incorporated compatible changes to statutory definitions in Connecticut General Statutes
  - When Connecticut becomes an “Agreement States,” the possession of byproduct material, including radioactive material produced by fusion machines, will be regulated by the State rather than the NRC.
  - Authority to regulate the machine portion (ie the accelerator) is under existing state authority

Regulated Community Outreach

- NRC Licensees
  - about 120
  - communications during inspection accompaniments
- Stakeholder Engagement
  - Connecticut Hospital Associations (CHA)
  - Connecticut Association of Medical Physicist (CAMPs)
- Tribal partners
  - Federal tribes (NRC)
  - State tribes (DEEP)

Yale University

Yale NewHaven Health

Hartford HealthCare

CHA CONNECTICUT HOSPITAL ASSOCIATION

AMERICAN ASSOCIATION of PHYSICISTS IN MEDICINE

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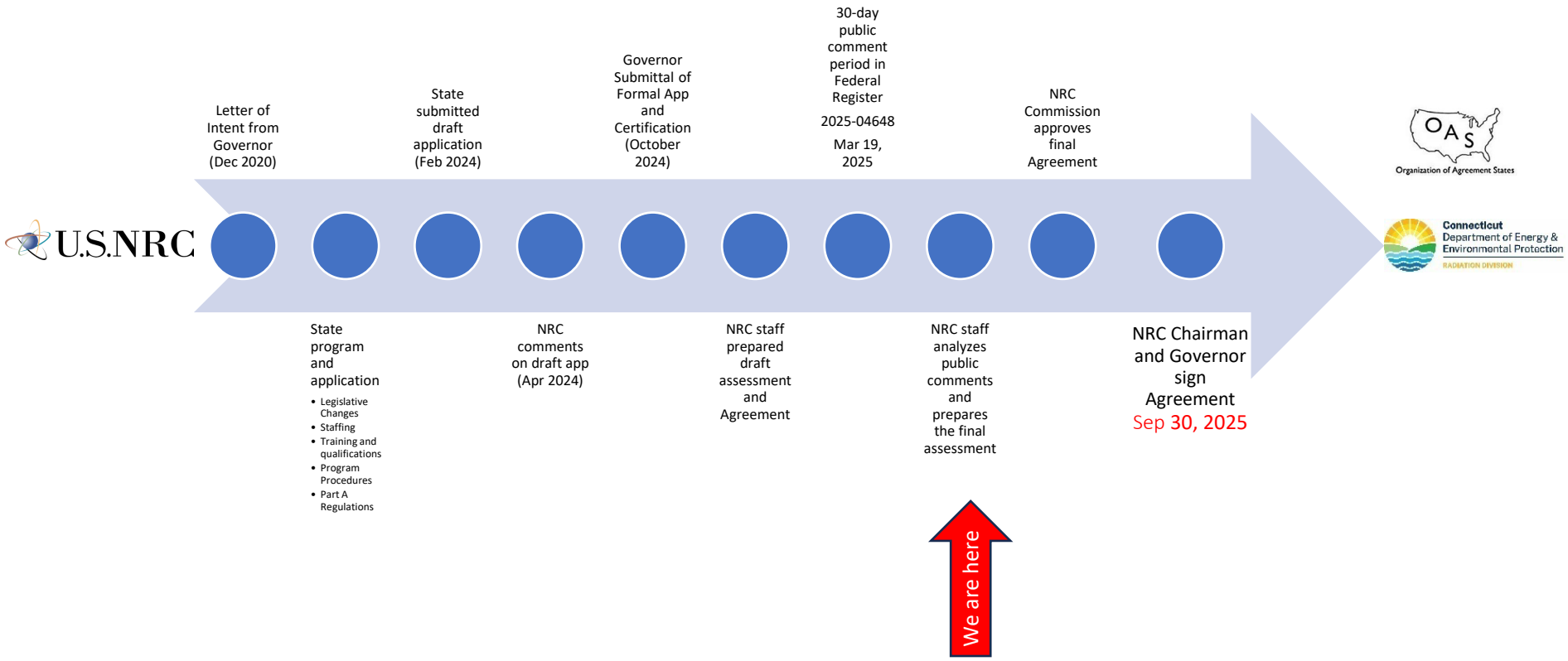
A Rigorous and Thorough Process

- Clear guidance
  - NRC SA-700 Handbook for Processing an Agreement
  - Benchmarks – VT (2019) and other state applications
- NRC Project Manager
  - Experienced with other state agreements
  - Routine project meetings
- Dedicated state lead, CHP
- Assigned AS staff
  - Diverse staff with experience in healthcare, academic, industry, and other Agreement State Programs
  - Completed approximately 2200 person-hours of NRC provided inspector training
  - Accompanied NRC inspectors in over 80 inspections (over 550 person-hours of inspections)
- Involvement with Organization of Agreement States (OAS) and National Materials Program (NMP)
- Leveraging experience from other states
- Periodic Audits (IMPEP) by NRC and other AS's
  - IMPEP – Integrated Materials Performance Evaluation Program

Program Elements Required for an Agreement

- Legal Authority - Legislation
- Regulatory Requirements - Regulations
- Licensing Program
- Inspection Program
- Enforcement Program
- Technical Staffing and Training
- Event and Allegation Response Program

Connecticut Agreement Progress



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Questions?

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NRC: State and Tribal Programs - National Materials Program – Connecticut

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