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# ADVANCED NUCLEAR STATE COLLABORATIVE



**Richland, Washington**

**April 26 & 27, 2023**





# NARUC

National Association of Regulatory  
Utility Commissioners

## PRESS RELEASES

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## New NARUC-NASEO Advanced Nuclear State Collaborative Helps Better Inform State Approaches to New Nuclear Generation

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### For Immediate Release:

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**WASHINGTON** (April 10, 2023) — The National Association of Regulatory Utility Commissioners and the National Association of State Energy Officials have initiated the Advanced Nuclear State Collaborative, a new effort supported by the U.S. Department of Energy. This collaborative will gather state utility regulators and State Energy Officials across the United States to enhance collective understanding of the unique regulatory and policy questions surrounding the consideration and deployment of new nuclear generation.



# Nuclear Power

- First, Second and Third Generation
- Fourth Generation



# Nuclear Power

**Fourth Generation = Advanced Nuclear**

Greater safety

More Efficient

More Flexible and scalable



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# FORMAT

LECTURES  
& DISCUSSIONS

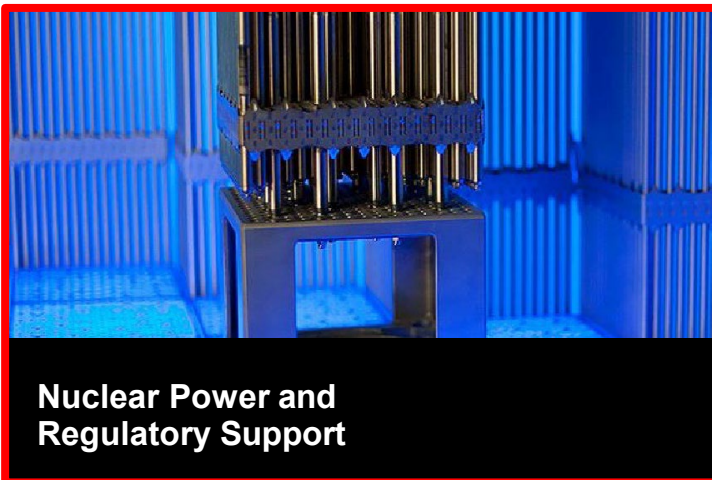
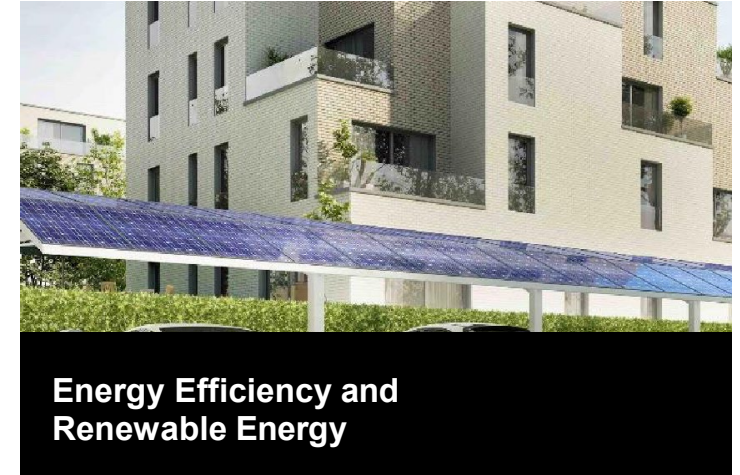
FIELD TRIPS



# LECTURES & DISCUSSIONS:

- Nuclear Energy Overview
- PNNL & Framatome Overview
- Those pertinent to Fieldtrips

# PNNL's **Energy and Environment** mission delivers innovations for our energy future





# LAB TOURS at PNNL:

- Radiochemical Processing
- Material Science and Technology
- Waste Form Development
- Metal Organic Framework
- Cable Degradation Management in Nuclear Facilities



# LAB TOURS at FRAMATOME:

- Fuel Design Research Centers
- Fabrication—uranium dioxide powder, pellets and fuel rod assemblies

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## Design and fuel manufacturing









# PREDOMINANT CONCERNS

## DISCUSSED ABOUT NUCLEAR SOURCES OF POWER

- Cost to the rate payer
- Disposal/recycling of nuclear waste
- Availability of transmission and metals (uranium, thorium, metals, copper etc)
- Choosing and citing locations
- Citizen resistance





# Takeaways were many:

- No substitute for hands-on and opportunities to ask questions of experts
- Burgeoning information is available to address questions about structure, function, regulation & other policies regarding deployment of new nuclear generation
- NARUC & NASEO provide ongoing assistance



# Since that April 2023 visit to Richland Washington...

- Within a week emailed resources: links to presentations, handouts, notes, and photos from the meeting...also, NARUC's nuclear resources, including briefing papers and resources from past public webinars, the ANSC Resource Repository
- 6/22/23 Webinar discussion: *DOE's Advanced Nuclear liftoff report*
- 9/27/23 Webinar discussion: *Evaluating Nuclear Waste and Safety Considerations for Advanced Nuclear Deployment.*  
During this webinar, participants learned about the characteristics of spent fuel produced by advanced reactors, prospects for reprocessing advanced reactor fuels, and the NRC's new SMR emergency planning zone rule.

## **Disclaimer:**

**The statements that follow regarding the DOE's and NARUC's opinions about nuclear power are not to be construed as reflective of the opinions of the Montana Public Service Commission, including this commissioner**



# DOE: The PATHWAY to ADVANCED NUCLEAR COMMERCIAL LIFTOFF

Nuclear power one of the few proven options that can deliver the scale of  
clean, carbon-free electricity needed

Complements renewables

low land-use and lower transmission requirements for buildout

Additional applications enable grid flexibility and decarbonization beyond  
the grid




# DOE: The PATHWAY to ADVANCED NUCLEAR COMMERCIAL LIFTOFF

*“Industry, investors, government, and the broader stakeholder ecosystem each have a role to play in ensuring the advanced nuclear industry accelerates towards commercial liftoff and rises to meet the challenge...in a way that meets the country’s climate, economic and environmental justice imperatives.”*



**6/22/23 Webinar discussion:**

***DOE's Advanced Nuclear liftoff report***

- **DISCUSSION of attendees:**
    - **No one wants to be first**
    - **Cost, financing available?**
    - **Nuclear waste concerns**
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*NARUC: “State Energy Offices and state utility regulators are exploring ways to plan for the growth of advanced nuclear over the next decade to harness the clean energy, grid reliability, economic development, and other benefits new nuclear generation can provide. Understanding how advanced nuclear reactors will address and account for nuclear waste and safety is a vital consideration for these planning processes.”*



**16 August 2023 The US Nuclear Regulatory Commission (NRC) has directed its staff to issue a final rule and associated regulatory guide that applies risk-informed, performance-based emergency preparedness requirements to small modular reactors (SMRs) and other new technologies.**



## 9/27/23 Webinar discussion:

*Evaluating Nuclear Waste and Safety Considerations for Advanced Nuclear Deployment.*

- **DISCUSSION with attendees:**
- **Important that any advancements be with eyes open regarding the current status of waste repositories being on site**
  - **Cost, financing available?**





**Thank-you**