NASEO Advanced Nuclear First Mover Initiative Orderbook Strategy Request for Information Responses Summary

November 2025

In September 2025, the National Association of State Energy Officials (NASEO) issued a Request for Information (RFI) in support of the Advanced Nuclear First Mover Initiative, and received 31 responses from a wide range of advanced nuclear technology companies, developers, and organizations. The First Mover initiative is led by NAESO member state co-chairs New York, Indiana, Kentucky, Tennessee, and Wyoming, and participating states Louisiana, Maryland, Pennsylvania, Utah, Virginia, and West Virginia. The governors of these states are committed to delivering advanced nuclear power rapidly, safely, and cost-effectively to ensure consumers and businesses have reliable and affordable electricity for years to come. In addition, 12 states have signed on as observers of the First Mover Initiative: Connecticut, Idaho, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Jersey, North Dakota, Texas, Washington, and Wisconsin.

NASEO, Idaho National Laboratory, Oak Ridge National Laboratory, and the U.S. Department of Energy (DOE) Gateway for Accelerated Innovation in Nuclear (GAIN) coordinate with the states to advance this important national initiative. Responses to the RFI inform the 11 First Mover states and the observer states on how best to create a coordinated orderbook strategy for advanced nuclear projects — a mechanism that will speed project development and lower costs. The orderbook approach moves away from one-off demonstrations to propel widespread market adoption by building a robust demand signal for the most viable advanced nuclear technologies. Additionally, the RFI responses provide information on status and use cases of different nuclear technologies, and investment and coordination models.

Responses Received

A total of 31 responses were submitted to NASEO from A4CRE, Aalo Atomics, Accenture, Advanced Nuclear Advisors, American Demolition and Nuclear Decommissioning, Antares Nuclear, Bechtel Power Corporation, The Breakthrough Institute, BWXT, Clean Air Task Force, ClearPath, Constellation Energy Generation, Deep Isolation, Deloitte, Energy Communities Alliance, Energy Systems Network, Flibe Energy, Google, Guidehouse, Holtec International, IEM, IP3 / Allied Nuclear Partners, Kairos Power, Nuclear Energy Institute, Pioneer Nuclear, Rolls-Royce SMR, ScottMadden, US Nuclear Industry Council, VERTical Innovation Cluster, Westinghouse, and X-energy.

Key Takeaways and Themes from the RFI Responses

- **State Leadership and Flexibility**
    - State Energy Offices are viewed as key actors in convening stakeholders, setting policy, facilitating deployment, and providing incentives. Additionally, they play an important role in developing strategic plans, conducting or funding feasibility studies, and building supply chain/workforce capacity.

- State policy can be a significant area of collaboration among states (e.g., developing model legislation).
- States should consider revising clean energy mandates to include nuclear, provide tax credits, offer grant funding, and deliver cost-share for projects based on meeting different project milestones.
- State can utilize nuclear funds such as Texas and Tennessee to incentivize business development.
- States should ensure the lead department for advanced nuclear engages with industry and other stakeholders to gather information and better understand the potential commercial adoption.
- State engagement in regional planning and coordination is critical to supporting aspects of the nuclear value chain.

- **Multi-State Coordination**
  - Many of the responses stressed that coordinated, multi-state action—whether through Memorandums of Understanding (MOUs), formal orderbooks, joint procurement, or regional compacts—is critical to accelerate advanced nuclear deployment, reduce costs, and attract investment.
  - Some responses favored formal compacts while others recommend flexible, incremental coordination.
  - Responses raised the following considerations for formal or informal coordination:
    - MOUs are not binding and might lack durability across governor administrations. To mitigate this, one suggestion was for states to agree to public reporting requirements or a neutral committee structure.
    - Formal compacts involving states, utilities, investors, and developers may center around multi-state procurement options, which could include a pooled fund for feasibility studies, early site characterization and early site permitting activities, and cost-share grants.
    - Formalized compacts are challenging in that they may inadvertently slow project development with potential bottlenecks, such as additional reviews.
    - Formal or informal coordination should include strong procurement signals need to be tied to specific MW goals, number of reactors deployed, identified site locations, and specific timelines.

- **Risk Sharing and Mitigation**
  - There is a need to share and mitigate risks, especially for first-of-a-kind deployments. Potential mechanisms to address these risks include formal agreements, milestone-based incentives, public-private partnerships, and insurance for cost overruns.
  - Examples of risk mitigation and orderbook strategies shared by respondents included:
    - France's new nuclear deployment in the 1970s and 1980s.
    - China's current nuclear fleet deployment strategy.
    - Sweden's political risk compensation clause and Swedish-style Contracts for Difference (CfDs), state-backed loans, and risk-sharing funds.
    - Existing multi-state initiatives around electric vehicles, offshore wind, hydrogen, and clean manufacturing.
    - Procurement agreements, such as national rail operators in other countries procuring fleets of identical trains through framework agreements such as rolling stock procurement. This drives down per-unit costs, simplifies maintenance, and can ensure interoperability over multi-jurisdiction geographies.

- Approaches to risk sharing include forming a state-led Regional Nuclear Compact Authority to manage CfDs, loan guarantees, and investment funds. The Authority would align project standards and pricing across sites.
- States could adopt statutes that guarantee compensation or regulatory protection for nuclear operators.
- Orderbooks are helpful for creating technical standardization, which would in turn reduce risk for developers and investors by narrowing the optionality of reactor designs.

- **Regulatory Coordination and Information Sharing**
  - Harmonized state permitting, regulatory consistency, and streamlined processes are seen as necessary to reduce uncertainty, accelerate timelines, and lower costs.
  - Early engagement and coordination with the Nuclear Regulatory Commission (NRC) and DOE is critical.
  - States can harmonize permitting, adopt model regulatory templates, and share best practices and regulatory data to accelerate project timelines.
  - There may be a benefit in adopting a common site, environmental, and safety assessment criteria and framework.
  - State Energy Offices can work with other state agencies to facilitate a Multi-State Regulatory Coordination Council to share information, timelines, data, and jointly engage the NRC on key issues such as emergency planning zones.
  - States would greatly benefit from pursuing early site permits on both brownfield and greenfield sites.

- **Demand Aggregation and Market Signals**
  - Aggregating demand through orderbooks, joint procurement, or formal agreements is essential for sending credible market signals, enabling economies of scale, and unlocking private investment.
  - State Energy Offices can partner with data centers, hyperscalers, and industrial users to anchor demand and facilitate deployment.
  - State nuclear funds or strategic documents can send a positive market signal to industry that a state is interested in near term deployment and partnerships.

- **Financing Approaches**
  - There is value in leveraging federal incentives (tax credits, DOE loan guarantees, cost overrun insurance, etc.) to advance reactor development.
  - Within the orderbook framework, states could explore innovative financing models such as CfDs, state pension funds for operating plants, completion incentives, state cost-share programs, milestone-based funding, and more.
  - States could jointly fund different mechanisms to support the nuclear value chain such as infrastructure or workforce that could then support regional deployment.
  - States, individually or collectively, could establish a program similar to the DOE Advanced Reactor Demonstration Program with milestone-based funding.

- **Workforce and Supply Chain Readiness**
  - Workforce development and supply chain readiness are foundational to an orderbook strategy and coordinated deployment of new nuclear generation.
  - Early investment in training, partnerships with educational institutions, and regional coordination are recommended to ensure sufficient skilled labor and manufacturing capacity are available.

    - States could develop regional training centers, apprenticeships, and credentialing programs as well as coordinate on supply chain development, regional manufacturing hubs, and training programs for welders, electricians, and reactor operators.

- **Waste Management**
    - Deployment cannot succeed without an integrated waste disposal strategy with lifecycle solutions and regulatory certainty.
    - State Energy Offices can lead by embedding waste disposal into orderbook strategies and joining demonstration projects. This is also an opportunity to create high-value jobs, leverage oil/gas supply chains, and build public confidence.
    - State Energy Offices can champion federal and state policy changes for innovative waste management solutions.

What Happens Next

NASEO held an Advanced Nuclear Roundtable in Nashville, Tennessee on October 27, 2025, to share findings and recommendations from the RFI with states and energy sector stakeholders. During the meeting, the states discussed a series of proposed orderbook pathways and potential next steps, such as streamlining permitting and supporting workforce development. First Mover States, NASEO, INL, ORNL, and DOE will continue to partner through the Advanced Nuclear First Mover Initiative and develop pathways to accelerate advanced nuclear deployment.