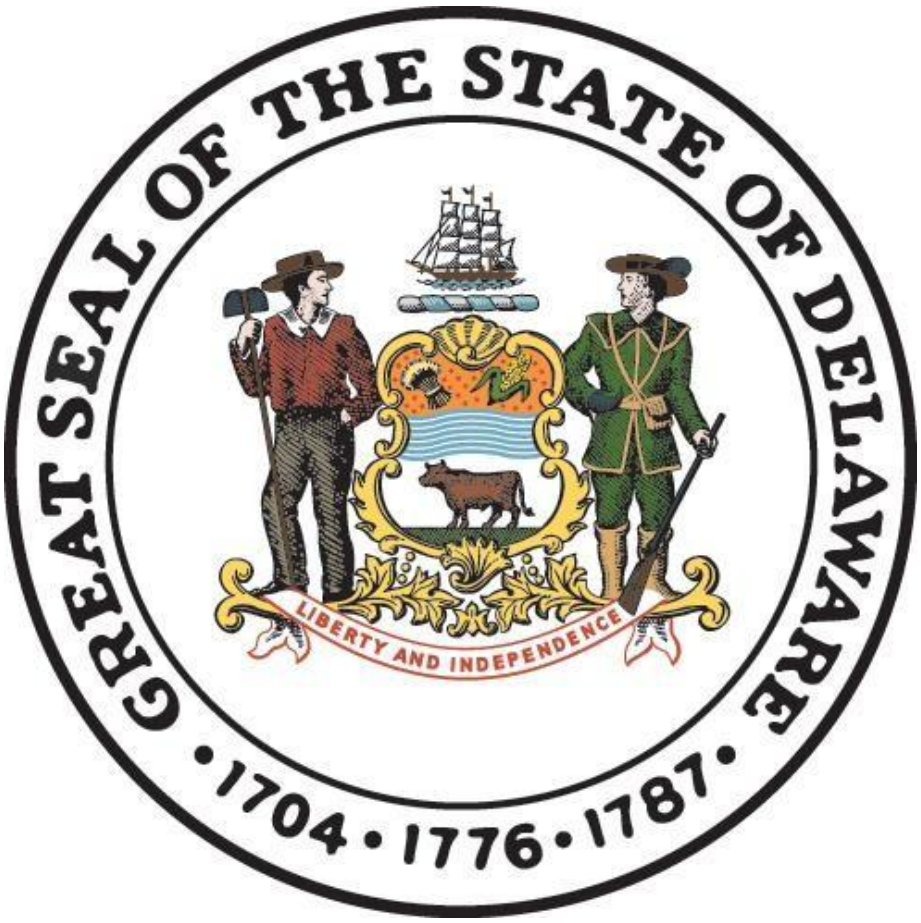
# DELAWARE NUCLEAR ENERGY FEASIBILITY TASK FORCE

# FINAL REPORT




**July 27, 2026**

*Final Report of the Delaware Nuclear Energy Feasibility Task Force*

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# Executive Summary

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# Executive Summary

## Task Force Background

The Nuclear Energy Feasibility Task Force was created when the 153rd General Assembly passed Senate Concurrent Resolution 18 ("SCR 18") on July 1, 2025 [Appendix A-3]. SCR 18 was introduced by Senator Richardson and Rep. Hilovsky on March 26, 2025. It was passed by the Senate the same day, with 19 "yes" votes and 2 "no" votes. It was passed by the House by simple majority voice vote in the early hours of July 1, 2025. As a Senate Concurrent Resolution, it went into effect upon passage and did not require the Governor's signature.

Senator Hansen was a co-prime sponsor of SCR 18. Senators Buckson, Hocker, Lawson, Pettyjohn, Walsh, and Wilson, and Reps. Collins, Dukes, Gray, Jones Giltner, Morris, Osienski, Postles, D. Short, Vanderwende, Wilson-Anton, and Yearick were co-sponsors.

The Task Force was charged with submitting its final report of findings and recommendations to all members of the General Assembly, the Governor, the Director and the Librarian of Legislative Services, and the Delaware Public Archives no later than December 31, 2025.

Senate Concurrent Resolution 129 ("SCR 129") [A-7] extended the report deadline to July 31, 2026. SCR 129 was introduced by the legislative members of the Task Force, Senator Hansen, Rep. Burns, Senator Richardson, Rep. Hilovsky, and Rep. Lambert. SCR 129 was passed by the Senate on January 21, 2026, with 20 "yes" votes and 1 absent. It passed the House on January 28, 2026, by simple majority voice vote. Rep. Kamela Smith was also a co-sponsor of SCR 129.

## Task Force Directive

The Task Force was directed to study and report its findings and recommendations on at least the following topics:

(1) Assess the technical and logistical feasibility of deploying Small Modular Reactors (SMRs) in Delaware, including identifying suitable locations, evaluating existing energy infrastructure, and determining necessary upgrades for grid integration.

(2) Analyze the long-term economic benefits and costs of SMR deployment, comparing nuclear energy pricing to other energy sources, evaluating job creation potential, and assessing local economic impacts.

(3) Examine how SMRs can enhance Delaware's energy independence, reduce reliance on electricity imports, stabilize pricing, and provide reliable baseload power compared to intermittent renewable energy sources.

(4) Identify necessary changes to Delaware's laws and regulations to facilitate SMR development, review federal and state permitting requirements, and explore strategies to include nuclear energy in the energy mix for Delaware, including but not limited to, nuclear energy credits and clean energy standards or requirements.

(5) Assess the environmental benefits and potential risks of SMR deployment, including its ability to reduce carbon emissions, its environmental footprint compared to other energy sources, and public health concerns related to safety, waste disposal, and emergency preparedness.

## Task Force Modules

In order to more easily facilitate the discussion, Senator Hansen split the Task Force charge into five modules to align with the topics directed by SCR 18.

***Module 1 (Lines 73-75) Are SMRs safe for people and the environment?***

Assess the environmental benefits and potential risks of SMR deployment, including its ability to reduce carbon emissions, its environmental footprint compared to other energy sources, and public health concerns related to safety, waste disposal, and emergency preparedness.

The Task Force heard presentations on Module 1 from Robert DeNight, Vice President of Nuclear Engineering, PSEG; AJ Schall, Delaware Emergency Management Agency (DEMA); Dr. Jennifer Clemons, Associate Teaching Professor, Energy and Sustainability Policy, Penn State University; John Wik; and Dr. Mike Woosley, New Era Energy.

***Module 2 (Lines 68-69) How much energy will SMRs produce?***

Examine how SMRs can enhance Delaware's energy independence, reduce reliance on electricity imports, stabilize pricing, and provide reliable baseload power compared to intermittent renewable energy sources.

The Task Force heard presentations on Module 2 from Courtney Fasca, Senior Reliability Engineer, ReliabilityFirst; Bob Coward, Executive Partner, Novellum Partners; and Dr. Mike Woosley, New Era Agency.

***Module 3 (Lines 66-67) How much do SMRs cost?***

Analyze the long-term economic benefits and costs of SMR deployment, comparing nuclear energy pricing to other energy sources, evaluating job creation potential, and assessing local economic impacts.

The Task Force heard presentations on Module 3 from Bob Coward, Executive Partner, Novellum Partners; John Quick, Delaware Workforce Development Board; Chris Lohse, Innovation and Technology Manager, Gateway for Accelerated Innovation in Nuclear (GAIN); Robert DeNight, Vice President of Nuclear Engineering, PSEG; and Dr. Martin Heintzelman, Department Chair and Professor, Applied Economics and Statistics, College of Agriculture and Natural Resources, University of Delaware.

***Module 4 (Lines 70-72) How long does it take to build SMRs?***

Identify necessary changes to Delaware's laws and regulations to facilitate SMR development, review federal and state permitting requirements, and explore strategies to include nuclear energy in the energy

mix for Delaware, including but not limited to, nuclear energy credits and clean energy standards or requirements.

The Task Force heard presentations on Module 4 from Tom Noyes, Administrator, State Energy Office (SEO), and Michelle Jacobs, Small Business Ombudsman, Delaware Department of Natural Resources and Environmental Control (DNREC); Kirsten Verclas, Senior Managing Director, National Association of Energy Officials (NASEO); Martin O'Neill, Associate General Counsel, Nuclear Energy Institute (NEI).

***Module 5 (Lines 63-65) Where can SMRs be built?***

Assess the technical and logistical feasibility of deploying Small Modular Reactors (SMRs) in Delaware, including identifying suitable locations, evaluating existing energy infrastructure, and determining necessary upgrades for grid integration.

The Task Force heard presentations on Module 5 from Dr. Martin Heintzelman, UD; Kenya Stump, Executive Director, Kentucky Office of Energy Policy; Dr. Allison Macfarlane, Former Chair of the U.S. Nuclear Regulatory Commission; AJ Schall, DEMA; Dr. Mike Woosley, New Era Energy; David Edgell, Office of State Planning Coordination (OPSEC) and Robert Wheatley, Principal, Whayland Consulting Group; and the Delaware Utilities: Douglas Dale and Joseph Papp from Delmarva Power, and Kevin Yingling from the Delaware Electric Cooperative.

## Expansion of Task Force Scope

While the Task Force was directed to assess the feasibility of deploying SMRs, throughout the discussion the Task Force discussed SMRs and nuclear energy more broadly.

## Nuclear Power Overview*

Nuclear plants produce electricity when a controlled nuclear chain reaction creates steam, which powers a turbine. The nuclear chain reaction occurs through a process called fission, where a neutron splits a uranium atom into two smaller atoms.[1]

Nuclear power plants are designed to run 24 hours a day, 7 days a week. Nuclear power has the highest capacity factor of any large electricity generator type (nuclear, coal, oil and gas), which refers to the percentage of time a plant is running at full power. In 2024, the nuclear reactors in the United States operated at full power 92% of the time.[2]

There are only currently two types of commercial nuclear reactors operating in the United States, pressurized water reactors (PWRs) and boiling water reactors (BWRs).

In a pressurized water reactor (PWR), the reactor core heats water in the reactor cooling system and keeps it under pressure to prevent the water from turning into steam. This hot radioactive water flows through thousands of tubes in a steam generator. A steam generator is a large heat exchanger designed to have radioactive water in the tubes and non-radioactive water in the shell surrounding the tubes. The hot radioactive water from the reactor core flows through these tubes and the nonradioactive water (or clean water) in the shell boils and turns into steam. The radioactive water flows back to the reactor core to be reheated, and once reheated, returns to the steam generator to repeat the cycle.[3] The non-radioactive steam is condensed back to water in the turbine generator system and returns to the steam generator to repeat the cycle.

In a boiling water reactor (BWR), the reactor core heats water, which turns directly into steam in the reactor vessel, and the steam is used to power a turbine generator. The steam is condensed back to water and returns to the reactor vessel to repeat the cycle.[4]

The nameplate capacity, which refers to the maximum rated output of a generator as designated by the manufacturer, of a traditional large light water reactor nuclear plant exceeds 1000 MW. By comparison, small modular reactors (SMRs) have a nameplate capacity of up to 300 MW. According to the International Atomic Energy Agency, an SMR is “small” as it is physically a fraction of the size of a conventional nuclear power reactor and “modular” as in making it possible for systems and components to be factory-assembled and transported as a unit to a location for installation.[5]

There are many potential SMR designs with varying reactor technologies, but there are not any SMRs currently operating in the United States.

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[1] Nuclear Energy 101. Idaho National Laboratory. Office of Nuclear Energy, U.S. Department of Energy.
[2] Nuclear Energy 101. Idaho National Laboratory. Office of Nuclear Energy, U.S. Department of Energy.
[3] Nuclear Explained: Nuclear Power Plants. U.S. Energy Information Administration. https://www.eia.gov/energyexplained/nuclear/nuclear-power-plants-types-of-reactors.php
[4] Nuclear Explained: Nuclear Power Plants. U.S. Energy Information Administration. https://www.eia.gov/energyexplained/nuclear/nuclear-power-plants-types-of-reactors.php
[5] Liou, Joanne. “What are Small Modular Reactors (SMRs)?” International Atomic Energy Agency. https://www.iaea.org/newscenter/news/what-are-small-modular-reactors-smrs

Recently, the first small modular reactor to receive construction approval from the Nuclear Regulatory Commission (NRC) is Kairos Power's Hermes Lower Power Demonstration Reactor. This nonpower demonstration reactor unit is being built by Kairos Power in Oak Ridge, TN, supported through the U.S. Department of Energy's Advanced Reactor Demonstration Program.[6] Hermes follows three iterations of an Engineering Test Unit (ETU) series to test the reactor vessel design.[7] Hermes is expected to be operational by 2027.[8] Kairos broke ground on Hermes 2 on April 17, 2026, and expects that unit to be operational by 2030.[9]

## Nuclear in PJM*^

According to PJM's Independent Market Monitor, as of March 31, 2026, PJM had a total installed capacity of 203,028.6, of which 33,452.6 MW (16.5%) are nuclear units.[10] PJM's Generation Attribute Tracking System reported nuclear's share of total electricity produced in 2025 was 31.315%.[11] On July 23, 2026, nuclear comprised approximately 32.53% of the generation mix in PJM, 33,053 MW out of 101,601 MW.[12]

There are 17 operational nuclear power plants in the PJM region. Dominion Energy operates two sites in Virginia, North Anna (1,960 MWe, 2 units) and Surry (1,696 MWe, 2 units). Constellation Energy Generation operates one site in Maryland, Calvert Cliffs (1,850 MWe, 2 units); two sites in Pennsylvania, Limerick (2,278 MWe, 2 units) and Peach Bottom (2,876 MWe, 2 units, a 3rd unit was decommissioned); and five sites in Illinois, Braidwood (2,450 MWe, 2 units), Bryon (2,450 MWe, 2 units), Dresden (2,018 MWe, 2 units), LaSalle (2,340 MWe, 2 units), and Quad Cities (2,018 MWe, 2 units). PSEG Nuclear operates two sites in New Jersey, Hope Creek (1,291 MWe, 1 units) and Salem (2,440 MWe, 2 units). Vistra Vision operates one site in Pennsylvania, Beaver Valley (1,846 MWe, 2 units) and two sites in Ohio, Davis Besse (925 MWe, 1 unit) and Perry (1,312 MWe, 1 unit). Talen Energy operates one site in Pennsylvania, Susquehanna (2,532 MWe, 2 units). Indiana Michigan Power / AEP operates one site in Michigan, Donald C. Cook (2,285 MWe, 2 units).

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[6] "Kairos Power Installs Reactor Vessel for Third Test Unit." (15 July 2025). Office of Nuclear Energy, U.S. Department of Energy. https://www.energy.gov/ne/articles/kairos-power-installs-reactor-vessel-third-test-unit

[7] "Kairos Power breaks ground on first power-producing reactor in Oak Ridge." (21 Apr. 2026). NuclearNewswire, American Nuclear Society. https://www.ans.org/news/2026-04-21/article-7964/kairos-power-breaks-ground-on-first-powerproducing-reactor-in-oak-ridge/

[8] "Kairos Power starts construction of Hermes reactor." (30 Jul. 2024). Office of Nuclear Energy, U.S. Department of Energy. https://www.energy.gov/ne/articles/kairos-power-starts-construction-hermes-reactor

[9] "Kairos Power breaks ground on first power-producing reactor in Oak Ridge." (21 Apr. 2026). NuclearNewswire, American Nuclear Society. https://www.ans.org/news/2026-04-21/article-7964/kairos-power-breaks-ground-on-first-powerproducing-reactor-in-oak-ridge/

[10] Section 12 – Generation and Transmission Planning, 2026 State of the Market Report for PJM. pp. 711. 2026 Monitoring Analytics, LLC. https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2026.shtml

[11] PJM System Mix -System Mix By Fuel - 01/2025 to 12/2025. Generation Attribute Tracking System. PJM Environmental Information Systems (EIS). https://gats.pjm-eis.com/GATS2/PublicReports/PJMSystemMix/Filter

[12] As of July 23, 2026. Data Viewer: Generation by Fuel Type. PJM. https://dataviewer.pjm.com/dataviewer/pages/public/gen-by-fuel.jsf

### Waste*

Spent nuclear fuel (SNF) is used fuel from a reactor that is no longer efficient in creating electricity. It is thermally hot, highly radioactive, and must be stored appropriately. Spent fuel removed from the reactor core can be stored either in on-site spent fuel pools, which is where most spent nuclear fuel is currently stored, or within a shielded dry cask on a pad on-site. Independent spent fuel storage installations (ISFSI) are dry cask storage at the reactor site. Dry cask storage can also be at decommissioned reactor sites, or at a consolidated off-site interim storage facility (CISF), although no CISFs currently exist in the United States.[13]

Waste was discussed further in depth under Module 1 during the meeting on February 9, 2026 [B - 163]. John Wik gave a presentation titled "Management of Commercial Nuclear Waste: The Back End of the Fuel Cycle" [B - 200], and a supplemental report titled "The Path Forward for Nuclear Waste in the U.S.: A Bipartisan Solution to the Nuclear Waste Problem" can be found in Appendix F [F - 46].

## Delaware Energy Policy on Nuclear^

Delaware is the lowest electricity producer in the country and generates approximately 30% of the electricity needed to meet our demand.

The Delaware Climate Change Solutions Act of 2023 establishes an economy-wide greenhouse gas emissions reduction target of 50% by 2030 from a 2005 baseline, and a target of net-zero emissions by 2050 (7 Del. Code § 10003). The Act establishes a process for updating the Climate Action Plan every 5 years, which serves as the framework to guide state agencies in achieving these targets and developing climate change resilience strategies (7 Del. Code § 10004). Each update must include additional greenhouse gas emissions reduction strategies.

The Delaware Energy Act (29 Del.C. §8051-§8065) established the State Energy Office, now housed within the Department of Natural Resources and Environmental Control. The State Energy Office is tasked to develop and update a comprehensive State Energy Plan that, among other priorities, is consistent with the State's greenhouse gas emissions reduction targets.

The 2024 Delaware Energy Plan identifies nuclear power within the category of renewable energy and clean technologies (pp. 36):

> **5.2.6. Nuclear Power.** Small modular reactors (SMRs) are advanced nuclear reactors that have a power capacity of up to 300 MW per unit, about one-third the generating capacity of a traditional nuclear power plant. SMRs[14] are physically small and modular, meaning they can be factory assembled and then transported. They use nuclear fission to generate heat to produce energy. In comparison, the newly operational Vogtle 3 and 4 reactors in Georgia each total 1,100 MW.
>
> While recognizing the potential benefits of SMRs, it should be noted that the industry is still nascent. At the start of 2024, there was only one operational SMR in the world: the Shidao Bay

[13] Storage of Spent Nuclear Fuel. United States Nuclear Regulatory Commission. https://www.nrc.gov/waste/spent-fuel-storage

[14] https://www.iaea.org/newscenter/news/what-are-small-modular-reactors-smrs (Footnote 44 within the Plan)

> demonstration reactor in China, which entered commercial operation in December 2023.[15] Nationally, SMR development is facing significant challenges. The first company to receive a design certificate by the Nuclear Regulatory Commission announced last year that its first project, proposed for municipal electric companies in the Intermountain West, was cancelled.[16] Rising costs and the variety of SMR designs have significantly hindered the industry's ability to ramp toward commercial feasibility.
>
> Even with these challenges, SMRs represent an opportunity to provide carbon-free baseload generation that could contribute to achieving net-zero generation by 2050. State government agencies should closely monitor the development of SMRs to assess whether and how the technology can be a part of Delaware's energy portfolio in the future.

Further, the 2024 Energy Plan also states that the State Energy Office (SEO) will monitor and assess the development of future innovative clean technologies, including nuclear power (pp. 37).

The Delaware Climate Action Plan is produced by the Delaware Department of Natural Resources and Environmental Control with significant public and stakeholder engagement. The 2025 Delaware Climate Action plan outlines goals and strategies for a path toward net-zero emissions. Among those strategies related to electricity generation and grid infrastructure is support for emerging clean energy technologies, including evaluating the potential of small modular reactor technology in Delaware's energy future (pp. 84).

This is fully outlined as Strategy E5 in the Climate Action Plan:

> Small modular nuclear reactors are an emerging technology that could contribute to Delaware's long-term energy portfolio. Over the next five years, the state can prepare for deployment of this new technology by assessing its benefits, risks and limitations.
>
> **E5.1.** Explore feasibility of small modular nuclear reactors, including permitting barriers, human health and safety concerns, air and water quality impacts and waste management strategies.
>
> **E5.2.** Enhance public awareness of small modular nuclear reactor technology by providing clear, accurate information and analyses.
>
> **E5.3.** Work with neighboring states on a possible regional approach to new nuclear power development (pp. 84).

While strategy E5 speaks specifically about small modular nuclear reactors, strategy E4 speaks to reforms and potential market strategies for furthering clean energy, including nuclear, in Delaware. Strategy E4 from the 2025 Delaware Climate Action Plan states (p.84):

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[15] World Nuclear News. "China's demonstration HTR-PM enters commercial operation." December 6, 2023. Available at https://www.world-nuclear-news.org/Articles/Chinese-HTR-PM-Demo-begins-commercial-operation (Footnote 45 within the Plan)

[16] https://www.reuters.com/business/energy/cancelled-nuscale-contract-weighs-heavy-new-nuclear-2024-01-10/ (Footnote 46 within the Plan)

Delaware law requires the state's electric utilities to acquire 40% of their electricity from renewable sources by 2035. However, achieving deeper decarbonization in other sectors will require more ambitious targets that accelerate the reduction of emissions from electricity generation.

**E4.1.** Amend the Renewable Energy Portfolio Standards Act to establish a 2050 target.

**E4.2.** Explore a Clean Energy Standard to supplement the Renewable Energy Portfolio Standards.

**E4.3.** Conduct a net-zero grid study for Delaware to inform target setting.

Delaware, along with 10 other northeast and mid-Atlantic states, regulates carbon dioxide emission from power generators through a regional, market-based program known as the Regional Greenhouse Gas Initiative. This program sets a cap on emissions in the region which declines over time. Electricity generators must purchase allowances for each ton of carbon dioxide emitted from their facility. Auction proceeds are returned to states to invest in energy efficiency and renewable energy initiatives. Delaware's program was codified in 2008 (26 Del.C. §6043-§6047) and is administered by the Division of Air Quality via 7 DE Admin. Code 1147.

Delaware's specific policies related to nuclear power were discussed in a presentation by Tom Noyes on April 20, 2026 [B - 431].

## State Collaboratives^

The National Association of Regulatory Utility Commissioners (NARUC) and the National Association of State Energy Officials (NASEO) formed the Advanced Nuclear State Collaborative (ANSC) with support from the U.S. Department of Energy in 2023. The ANSC convenes state utility regulators and State Energy Officials to enhance collective understanding of the unique regulatory and policy questions surrounding the consideration and deployment of new nuclear generation, and to support peer learning across states.[17] Delaware is a member of this collaborative.

Delaware is not yet a member of The National Association of State Energy Officials' (NASEO) Advanced Nuclear First Mover Initiative. The First Mover Initiative is focused on accelerating advanced nuclear projects by working with private-sector partners, DOE, and Congress to reduce financial and technology risks, promote market adoption policies, improve the domestic supply chain, streamline federal permitting, create coordinated procurement options, develop state-federal-private financing structures, and ensure the continued safety and reliability of nuclear power. There are 11 states that are members of the Initiative, and 14 states have observer status. At the recommendation of this Task Force, Delaware will be applying for observer status [Module 4, E(ii)(C)].

[17] Advanced Nuclear State Collaborative. National Association of Regulatory Utility Commissioners. https://www.naruc.org/core-sectors/electricity-energy/nuclear-energy/advanced-nuclear-state-collaborative/

## Federal Actions on Nuclear Power^

On May 23, 2025, President Donald Trump issued four Executive Orders focusing on nuclear power.

EO 14299, "Deploying Advanced Nuclear Reactor Technologies for National Security," instructed DOE to provide technical advice to the Department of War (DoW) on the "design, construction, and operation of any advanced nuclear reactor on a military installation.[18]

EO 14300, "Ordering the Reform of the Nuclear Regulatory Commission," directed the NRC to undertake a review and wholesale revision of its regulations and guidance documents, and issue notice(s) of proposed rulemaking effecting this revision within 9 months of the date of this order, and issue final rules and guidance to conclude this revision process within 18 months of the date of this order.[19]

EO 14301, "Reforming Nuclear Reactor Testing at the Department of Energy," emphasized the urgency of deploying advanced reactors to meet the nation's growing demand for reliable energy.[20]

EO 14302, "Reinvigorating the Nuclear Industrial Base," directed DOE to prioritize restarting closed nuclear plants as part of a strategy to accelerate nuclear energy development; called for the federal government to pursue policies to maximize the value of nuclear fuel and expand the domestic nuclear fuel supply chain; and called for DOE to facilitate at least 5 gigawatts of power uprates to existing reactors and have 10 new large reactors under construction by 2030.[21]

*Thank you to *Robert DeNight and ^Tom Noyes, Scott Hunter, and the State Energy Office for their assistance reviewing these summaries.*

[18] "One Year After Executive Orders, U.S. Nuclear Energy Renaissance Is in Full Swing." (23 May 2026). Office of Nuclear Energy, U.S. Department of Energy. https://www.energy.gov/ne/articles/one-year-after-executive-orders-us-nuclear-energy-renaissance-full-swing

[19] "Wholesale Revision of Regulations Under Executive Order 14300." (29 June 2026). U.S. Nuclear Regulatory Commission. https://www.nrc.gov/about-nrc/governing-laws/advance-act/wholesale-revision-regs

[20] "One Year After Executive Orders, U.S. Nuclear Energy Renaissance Is in Full Swing." (23 May 2026). Office of Nuclear Energy, U.S. Department of Energy. https://www.energy.gov/ne/articles/one-year-after-executive-orders-us-nuclear-energy-renaissance-full-swing

[21] "One Year After Executive Orders, U.S. Nuclear Energy Renaissance Is in Full Swing." (23 May 2026). Office of Nuclear Energy, U.S. Department of Energy. https://www.energy.gov/ne/articles/one-year-after-executive-orders-us-nuclear-energy-renaissance-full-swing

## A Systems Thinking Approach

Parallel to the official task force meetings, task force members were invited to participate in a "Systems Thinking" approach to the charge set out in SCR 18. Led by researchers from the Social and Environmental Research Institute (SERI), Task Force Members participated in a three-pronged study which sought to understand the implications of deploying SMRs in Delaware across many dimensions—economic, environmental, technological, social, political, etc. The Delaware Sustainable Energy Utility (DE SEU) funded this project to support the mission of the task force.

*"The decision about whether, when, and how to deploy small modular reactors in Delaware is not a simple technical or economic calculation. It involves multiple actors with different values, interests, and knowledge; multiple technologies with different time horizons, risks, and uncertainties; and multiple interdependencies among the electricity system, the regulatory environment, the economy, the environment, and public opinions, particularly among those communities that would host new reactors."* -Systems Thinking Project Report, E-2

Task force members were interviewed in April 2026 (22 participants). Four small group meetings of task force members were held in May 2026 (20 participants). A virtual Q-methodology exercise was administered via email/internet in June 2026 (21 participants).

In combination, these activities (particularly the small group discussions) provided additional capacity for exploring the complex implications of SMR deployment for Delaware, which could not fully be captured in the limited timeframe of official task force meetings. The final report for the Systems Thinking Project may be found in Appendix E.

*"Each of the three research activities was designed to contribute to this systems understanding, but from different angles. The interviews mapped the landscape of individual knowledge, concerns, and values. The scenario-based small group meetings explored how task force members link different issues and system dynamics over time, specifically how different trajectories for SMR deployment interact with other elements of Delaware's energy and governance systems. The Q methodology study identified the underlying structure of shared perspectives within the task force. These are the coherent, distinct ways of thinking about the SMR question that cut across individual positions. Together, the three activities provide a layered and mutually reinforcing account of the system the task force is navigating."*-Systems Thinking Project Report, E-3

## Overview of Task Force Meetings

The five directives to Task Force members captured in SCR 18 were categorized into modules, as an organized approach to guide discussion of mandated topics. This structure allowed the Task Force to invite individuals with relevant expertise to participate in the Task Force discussions.

The first two meetings (in 2025) were two hours in duration. Task Force Member Martin Willis expressed interest in extending the meeting duration to three hours each, and this was implemented after agreement by other Members. The Task Force meeting schedule was proposed by Chair Senator Hansen at the third meeting, on January 6, 2026, and passed after vote. All eleven subsequent meetings were held on Mondays from 9 a.m. to 12 p.m. ET in the House Hearing Room at Legislative Hall in Dover, with the exception of the final meeting on June 29, which was held from 10 a.m. to 12:30 p.m. An option to attend meetings via conference call was enabled. All meetings were open to the public and minutes from each meeting were made publicly available online along with audio recordings, notices, and agendas for each meeting. Under SCR 18, official action by the Task Force, including making findings and recommendations, required the approval of a majority of the Task Force in attendance at a meeting when quorum was present.

### *Meeting #1: October 27, 2025*

**Procedure**

- 24 members were present: 17 in person, 7 virtually. 1 member was absent.
- Senator Hansen outlined the Task Force charge and members introduced themselves.
- Senator Hansen distributed a document where she divided the Task Force's charge into five modules to guide its work.
- Senator Hansen shared that a resolution extending the Task Force report due date would be introduced when the legislature reconvened in January.

**Introductory Presentation**

Nuclear Energy 101: Technology, Policy, and Status of the Resource
Kathryn Lienhard, Energy Research Associate from Delaware Sea Grant

- Delaware is a net importer of electricity: approximately 60% of our needed electricity is generated in another state. Delaware ranks 47th out of 50 states in terms of net electricity generation. This is attributable to the small size of the state, but highlights our reliance on other states' generation.
- Nuclear power refers to the generation of electricity from a controlled nuclear chain reaction. Nuclear fission consists of the splitting of enriched uranium atoms. This reaction creates heat, which then powers a steam-driven turbine to generate electricity.
- Commercial power reactors were first licensed in the U.S. in the 1950s. There are two types of large reactors used historically in the U.S.:
    - Pressurized Water Reactors (PWRs): comprises the majority of reactor types in the U.S.

    - Boiling Water Reactors (BWRs)
- Nuclear fuel assemblies consist of millimeter-sized fuel pellets, which are stacked into a fuel pencil, and arranged in a fuel bundle. These bundles are placed into fuel assemblies inside a nuclear reactor.
- Enriched uranium is the key ingredient for fueling nuclear reactors. Mined uranium ore must undergo various physical and chemical processes before it is in a suitable form for nuclear reactors.
- Small modular reactors (SMRs) are a suite of proposed designs of nuclear reactors with a nameplate capacity of up to 300 megawatts (MWs). There are many potential designs with varying technologies, with different fuels and waste products. There are no existing SMRs operating commercially in the U.S., with only a handful of test reactors planned or under construction. The first test reactor to receive construction approval from the Nuclear Regulatory Commission (NRC) is the Hermes Low Power Demonstration reactor in Tennessee. It will be operational by 2027, but will not produce electricity for the grid, as it is a demonstration reactor. NuScale Power is the only developer which has received NRC approval for its SMR designs.
- Nuclear power exhibits less lifecycle greenhouse gas emissions than other nonrenewable resources such as oil and gas, but similar or greater emissions than renewable resources (according to the 2021 life cycle greenhouse gas emissions assessment from the National Renewable Energy Laboratory). Nuclear power assessed includes large reactors, not SMRs or any potential future technologies.
- The U.S. has the most number of nuclear plants worldwide, with 95 reactors licensed to operate as of October 2025. The oldest operating reactor is Unit 1 of Nine Mile Point in New York, which began operation in 1969. The most recent construction were Units 3 and 4 of Plant Vogtle in Georgia, completed in 2024.
- The U.S. Advanced Reactor Demonstration Program receives permits for planned reactors. Recent proposals include the TerraPower Natrium reactor project (Wyoming); Long Mott Xe-100 project (Texas); Clinch River Nuclear Site (Tennessee).
- Federal responsibility for nuclear power in the U.S. is delegated by statute to the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE). The NRC is the primary regulatory authority for nuclear power in the U.S., while DOE advances nuclear energy science and technology through research and demonstration.
- High-level nuclear waste (i.e. spent nuclear fuel) is regulated by the NRC. Spent nuclear fuel is currently stored on-site of reactors in the U.S. There is no operating long-term storage facility for nuclear waste. Spent fuel is the responsibility of DOE, which was tasked by statute with siting and operating a long-term storage facility.
- Federal policy and incentives related to nuclear power include tax credits under the Inflation Reduction Act (Nuclear Power Production Tax Credit; Clean Energy Protection Tax Credit) and 2025 Executive Orders on nuclear power.
- There are several decommissioned nuclear power plants working to restart, including the Palisades Nuclear Plant (Michigan) and the Three Mile Island/Crane Clean Energy Center (Pennsylvania).

**Public Comment**: Keith Steck, Dave Stevenson, Robert Fischer, and Dustyn Thompson.

### *Meeting #2: December 1, 2025*

**Procedure**

- 21 members were present: 17 in-person, 4 virtually. 4 members were absent.

**Presentations**

A Systems Thinking Approach
Dr. Tom Webler, Associate Professor of Environmental Studies, Keene State College;
Dr. Seth Tuler, Associate Professor, Department of Integrative and Global Studies and Global Lab Co-Director, Worcester Polytechnic Institute

Key Takeaways:

- Dr. Webler reviewed how a "systems thinking approach" to examining the feasibility of SMRs in Delaware could encourage a holistic assessment of the benefits and risks of different deployment scenarios. A discussion followed the presentation regarding future meeting format and how the task force might incorporate this framework into its activities.

Nuclear Energy in the PJM Region and Renewable Portfolio Standard v. Clean Energy Standard
Emma Korein, Senate Energy Policy Fellow and University of Delaware Ph.D. Candidate

Key Takeaways:

- There are a total of 17 operating nuclear reactors in the PJM region, and 21 decommissioning facilities.
- There is interest in SMRs within the PJM region:
    - New Jersey: Holtec hopes to site SMRs at the decommissioning Oyster Creek Generating Station
    - Pennsylvania: Talen Energy and Amazon entered a power purchase agreement for SMRs
    - Virginia: Dominion Energy issued a request for proposals to assess the feasibility of constructing an SMR at the North Anna nuclear power station
- Natural gas comprises the largest share of energy sources in PJM's electricity mix at around 44%, while nuclear follows at almost 33% (2024 fuel mix data).
- PJM selected five nuclear projects in 2025 to undergo its fast-track interconnection process. Four of those are for uprates (capacity increases at existing plants), and one is for new construction.
- Delaware's Climate Change Solutions Act does not directly mention nuclear energy, however, nuclear energy is included as a form of clean energy in the 2021 Climate Action Plan. The 2025 Climate Action Plan specifically mentions SMRs as a technology to monitor for potential future development in Delaware or neighboring states.
- The Delaware State Energy Plan for 2024-2028 prioritizes renewable energy and clean technologies, which includes nuclear power.

- The existing Delaware Renewable Portfolio Standard does not include nuclear power as a qualifying resource. Developing a Clean Energy Standard which includes nuclear as a qualifying energy source would be an incentive for nuclear power development.

**Procedure** (continued)

- Discussion of the Task Force structure continued; members decided against creating subcommittees.
- Senator Hansen circulated a document from Reliability First in which Reliability First provided technical comments regarding prospective nuclear energy generation in New Jersey to New Jersey's Board of Public Utility. Michelle Cross of Reliability First offered to provide the same technical expertise to Delaware and present this information at a future task force meeting.

**Public Comment**: Jay Bancroft, Dave Stevenson

### *Meeting #3: January 6, 2026*

**Procedure**

- 23 members were present: 18 in person, 5 virtually. 2 members were absent.
- John Quick replaced Joanna Staib as the representative of the Delaware Workforce Development Board.
- Senator Hansen reported that the suggestions submitted by the task force members regarding a letter to Reliability First were added to the letter, and it was sent. Reliability First was scheduled to present the answers to those questions during the task force meeting on January 26.
- Senator Hansen shared the proposed meeting date schedule, with a buildout of the five modules. The schedule was unanimously approved by the members present.
- Senator Hansen shared that the Interim Report was submitted to the Legislative Council and the members of the General Assembly on December 22, 2025.
- Dr. DePrima informed the task force that he and Drew Slater, Executive Director of the Sustainable Energy Utility, discussed the SEU funding the Systems Thinking research on behalf of the task force. He shared that there will be a meeting on January 15 to discuss further.

**Module 1 Presentations**: Kathryn Lienhard, AJ Schall, Dr. Jennifer Clemons, Robert DeNight

<u>NRC Agreement States Program</u>
Kathryn Lienhard, Energy Research Associate, Delaware Sea Grant

- Kathryn Lienhard gave a presentation on the implications of Delaware becoming a Nuclear Regulatory Commission (NRC) Agreement State. Discussion followed, with no formal motion to pursue or forgo this process. It was noted that Delaware would not need to be an agreement state to be able to build an SMR or other nuclear power plant.

Radiological Emergency Preparedness (REP) Program
AJ Schall, Director of the Delaware Emergency Management Agency

- A partnership between states and the Federal Emergency Management Agency (FEMA) was created in the aftermath of the Three Mile Island nuclear plant incident in 1979. Delaware's radiological emergency plan aligns with that of the federal framework.
- Within Delaware, geographical regions fall into different Emergency Planning Zones, which integrate partners across state agencies, emergency responders, and elected officials to prepare for emergencies. There are four nuclear power plants within 10-mile or 50-mile zones of Delaware. There are regular trainings and communications between Delaware emergency managers and partners in these regions.

Environmental Impacts of Nuclear Power
Dr. Jennifer Clemons, Associate Teaching Professor, Energy and Mineral Engineering, Penn State University

- Uranium mining has negative impacts on groundwater and human health in or near mining sites.
- Most of the uranium used for nuclear power in the U.S. currently is imported from other countries.
- Nuclear reactors require a water source for cooling, which is typically taken from and returned to a natural water body. This can lead to thermal pollution of a water body, subsequently affecting aquatic or marine life by decreasing available dissolved oxygen and disrupting reproductive cycles.
- The U.S. does not reprocess spent nuclear fuel, while other countries such as France do conduct reprocessing.

Safety and Operations of Nuclear Plants
Robert DeNight, Vice President of Engineering, PSEG Nuclear

- Nuclear power plants adhere to radiation release limits. The Salem/Hope Creek power plants monitor and sample for radiation in human communities and agriculture.
- Well-known nuclear accidents in history, including Three Mile Island, Fukushima, and Chernobyl, have impacts on public perception of nuclear power but have also informed industry practices.
- Spent nuclear fuel is stored on-site at reactors in the U.S., as the U.S. has yet to implement a solution for long-term high-level nuclear waste.

*Note: Robert's presentation was not complete by the end of this task force meeting. He continued this presentation in conjunction with another presentation for Module 3 on March 23, 2026.*

**Procedure** (continued)

- The minutes from December 1, 2025 were unanimously approved by the members present.

**Public Comment**: Representative Collins and Wayne Roberts

***The meeting scheduled for January 26, 2026, was canceled due to inclement weather.***

### *Meeting #4: February 9, 2026*

**Procedure**

- 16 present: 11 in person, 5 virtually. 9 members were absent.
- Joseph Poppiti joined as the designee of Ed Kee, the Chair of the Governor's Energy Advisory Council (GEAC).
- The minutes from January 6, 2026 were approved.
- Senator Hansen informed the group that Senate Concurrent Resolution 129, which extended the final report due date to July 31, 2026, was passed by both chambers.
- Drew Slater updated the group that the Sustainable Energy Utility (SEU) signed the MOU with and Dr. Webler and Dr. Tuler and their organization. The SEU agreed to fund this report and study on the Task Force's behalf, which will support the final recommendations and path forward for the task force.
- Martin Willis shared his proposed preliminary recommendations with the Task Force. Jameson Tweedie motioned to table the recommendations, and the motion carried. Rep. Hilovsky then motioned to have members review Martin's recommendations ahead of the next meeting, and discuss them at that meeting. That motion also carried.

**Module 1 Presentations (continued)**: John Wik, Dr. Mike Woosley, and Robert Coward

<u>The Back End of the Fuel Cycle: Management of Commercial Nuclear Waste</u>
John Wik, Eco Plastics. Expert in nuclear waste policy and environmental cleanup.

Key takeaways:

- Since the 1970s when commercial nuclear power became prevalent in the U.S., we have accumulated 90,000 metric tons of high-level waste.
- The Nuclear Waste Policy Act of 1982 made DOE responsible for all commercial spent fuel, including the siting, construction and operation of a deep geologic repository–a long-term storage facility for high-level waste. Currently, DOE maintains responsibility for spent fuel across the country, but cannot accept it because they don't have an operating repository.
- Reprocessing nuclear waste is not conducted in the U.S. It is costly compared to sourcing fresh uranium, and there are proliferation concerns with reprocessing.
- Delaware must consider the implications of hosting nuclear power in regards to spent fuel, as the current U.S. practice is to store it on-site of a reactor.

SMR Technology: What is It?
Dr. Mike Woosley, New Era Energy. Expert in nuclear technology and policy.

Key takeaways:

- Defining "small modular reactors": some proposed SMR designs are for 300 megawatts, which might not be considered "small", as 300 MW is roughly 25% of the electricity used in the entirety of Delaware. "Modular" refers to the potential for factory assembly and delivery to an operation site, in contrast with large reactors with large containment vessels that are built on-site.
- In theory, an SMR would require less land than a solar farm with equivalent capacity (e.g. a 1000 MW large reactor at Crystal River was decommissioned, and part of the site was converted into only 30 MW of solar panels).
- Challenges for building large reactors include the size and delivery of components. Estimating lead time for specific components, and getting them to the power plant site, is a technical and financial risk.
- Although reactor construction companies are advertising advanced and small reactor designs, it will likely not be until the late 2030s until these companies are confident to sell reactors at scale.
- Advanced reactor designs can include nontraditional cooling mechanisms or fuel designs. The idea of "passive safety" designs rely on gravity, low pressure, and natural forms of heat removal to reduce the danger associated with a reactor overheating.

Deployment of New Nuclear Technology: A Collection of Benefits
Robert Coward, Executive Partner of Novellum Partners, LLC. Expert in design, evaluation, and development of nuclear power plants.

Key Takeaways:

- Electric bills for ratepayers of Delmarva Power (in the PJM region) include three categories: generation, transmission, and capacity. The capacity market was designed to ensure that electricity supply is sufficient to meet demand.
- The PJM Interconnection region is currently not adding enough new electricity generation to meet the growing demand.
- There can be costs associated with deploying renewable energy sources that do not exist for other sources. Energy storage systems (e.g. batteries) allow electricity from renewable energy to be stored for use at another time, but this is an additional cost to the overall system cost of electricity.
- Nuclear power is dispatchable: it is considered a "firm" and "reliable" resource, as the timing of generation can mostly be controlled. Nuclear power in the U.S. has a capacity factor of over 90%. A capacity factor of 100% refers to the amount of electricity reactors could generate under ideal conditions running 24/7/365.
- The advanced nuclear/SMR industry faces challenges of high costs and supply chain uncertainty, due to its novelty. The industry must establish initial customers, build trust, and create a firm foundation so that more deployment is possible.

**Public Comment**: Robert Ridgeway

***The meeting scheduled for February 23, 2026, was canceled due to inclement weather.***

## *Meeting #5: March 9, 2026*

**Procedure**

- 25 members were present: 14 in person, 4 virtually. 7 were absent.
- The minutes from February 9, 2026, were approved by members present, with abstentions from Matt Hartigan and Tom Noyes.
- Senator Hansen shared a matrix for Task Force members to provide comments and feedback on the items discussed in Module 1.

**Module 2 Presentations**: Courtney Fasca and Dr. Mike Woolsey

Technical Presentation for Delaware Nuclear Feasibility Task Force
Courtney Fasca, Senior Reliability Consultant, External Affairs & Entity Engagement, ReliabilityFirst

Key takeaways:

- ReliabilityFirst (RF) was created in 2006 as a regional entity of the North American Electric Reliability Corporation (NERC). NERC was certified as an Electric Reliability Organization (ERO) by the Federal Energy Regulatory Commission (FERC) in 2006, after FERC authorized the creation of an ERO. RF is an objective, independent resource with a mission to ensure the reliability and security of the bulk power system. RF does not own or operate grid assets or energy markets; they are regulators of the electric industry.
- Delaware's electricity generation is mostly from natural gas (87% of generation). There are 350 MW of energy storage in Delaware that are in the PJM interconnection queue, and around 160 MW of solar power generation in the queue.
- "Reliability services" of a generation resource include frequency response, voltage control, dispatchability for ramping, on-site fuel availability, fast start up (less than 30 minutes), availability on- and off-peak, and blackstart capability. As with most generation resources, nuclear power exhibits some, but not all, of these attributes.
- SMRs are not yet commercially available in the U.S., but they are being considered by states for future implementation. Their benefits include consistent generation output, blackstart capability, and fuel storage on site with infrequent (approximately 18-month) refueling timelines. The transmission and distribution system may face less negative impacts from data centers if SMRs are deployed near, and supply electricity to, data centers.
- PJM requires a grid upgrade study for generation proposals in the interconnection queue, ensuring that new generation does not compromise grid reliability. The ability of our transmission and distribution system to handle additional output from SMRs must be considered.

- Nuclear plants can "swing" in theory, but typically do not do so in practice, because it would reduce the overall efficiency/output of electricity.
- There are costs associated with electricity transmission and distribution, such as congestion charges, that may be alleviated by generating electricity closer to where it is consumed. SMRs might provide this advantage if sited where new generation is needed; for example, in southern Delaware. There is a tradeoff between cost and reliability: generating power closer to demand can reduce reliance on transmission, but may be more expensive due to the costs associated with building and integrating new generation resources into the grid.
- The amount of land needed for different generation resources varies. A nuclear power plant might require less area than a solar farm that generates an equivalent amount of electricity. However, there are concerns associated with the end-of-life of nuclear power plants. The site of a nuclear power plant might remain contaminated for a long time, whereas a solar farm can be dismantled and the land repurposed after its useful operating life.
- The Vogtle Nuclear Plant (Units 3 and 4) in Georgia added 2.4 GW of capacity to the plant, costing over $35 billion with completion 7 years later than anticipated.

Nuclear: Energy Independence and Reliability

Dr. Mike Woosley, New Era Energy. Expert in nuclear technology and policy.

Key takeaways:

- Delaware is a net importer of electricity. PJM's capacity auction prices have increased significantly, indicating that there is a shortage of electricity in the PJM region. Virginia also imports electricity to meet demand, while Pennsylvania generates excess electricity and exports about ⅓ of its total generation.
- Nuclear power is a reliable source of electricity generation, but is also one of the most expensive. For example: to construct generation for 1 kilowatt of power, it costs about $8,000 for nuclear, but only $1,200 for solar. There are tradeoffs in capacity factor and lifespan between nuclear and solar power. Renewable resources such as wind and solar generate electricity less consistently than nuclear power, so they may be paired with energy storage systems to maximize generation capacity. Having a mix of generation resources can increase grid reliability.
- Whether or not a data center integrates into the electric grid, or generates its own electricity separately, may have implications for overall grid function. If a data center is not willing to bear the costs of upgrades associated with connecting to the grid, the costs associated with grid upgrades may be passed onto ratepayers.
- Dr. Woolsey proposed that Delaware build a nuclear campus that could generate 3,900 MW. Generation would be delivered to three categories: 1. Meet Delaware's current electricity demand, 2. Offset the demand of a proposed data center in Delaware City, and 3. Export to other states via PJM. Discussion among task force members noted that there are challenges associated with this approach: high costs, centralization of generation to one location, and that SMRs do not have commercial experience.

The Task Force continued the discussion of Martin Willis' preliminary recommendations. There was eventually a motion to table the discussion; the motion carried.

**Public Comment**: none

### *Meeting #6: March 23, 2026*

**Procedure**

- 24 members were present: 13 in person, 11 virtually. 1 member was absent.
- The minutes from March 9, 2026, were approved by all members present.

**Module 3 Presentations**: Chris Lohse and Robert DeNight

Nuclear Costs and Economic Gains
Chris Lohse, Innovation and Technology Manager, Gateway for Accelerated Innovation in Nuclear (GAIN). Expert and former consultant for the nuclear power industry.

Key takeaways:

- GAIN is a program within the Idaho National Laboratory who is working with the National Association of State Energy Officials (NASEO) on a "First Movers Initiative."
- Traditionally, nuclear power plants have been deployed and operated by utilities. This carries risk for the utilities, because they are paying the costs of building new generation. Looking ahead in the nuclear power sector, it may become more prevalent for developers to build power plants, as is often the case for renewable energy projects. The nuclear power industry is examining deployment scenarios. However, it is difficult to predict the cost of deploying SMRs, because the projected costs may differ substantially from actual costs of commercial deployment.
- "First Movers' Risk": there are risks associated with "being the first" to build SMRs. The high costs and uncertainty of project timelines disincentivizes first movers, which makes widespread deployment of SMRs less likely without economies of scale. GAIN and the U.S. Department of Energy are researching solutions to this first movers' risk. Taking advantage of federal financial incentives, such as the Investment Tax Credit (ITC) or Production Tax Credit (PTC) before their expiration could be valuable.
- Workforce availability and readiness for new nuclear power plants is a concern for Delaware. There are a diversity of roles to be filled at a nuclear plant, both during construction and ongoing operation.

New Nuclear Power: Market/Industry Overview
Robert DeNight, Vice President of Engineering, PSEG Nuclear. Expert in nuclear engineering and deployment.

- PJM's capacity market was designed to incentivize companies to build new generation by signaling increased demand for electricity. Currently, capacity market prices are high due to the projected increase in electricity demand, with inadequate supply being built in the next several years. There is a disconnect between the capacity market's intention to incentivize new generation, and the many years it actually takes to build that new generation. Regulatory reform

which incentivizes building capacity over a longer period of time (than the current 3-year outlook in PJM) may improve this capacity market issue.
- Energy policy in the U.S. fluctuates among changing federal administrations. Incentives or disincentives for a particular type of generation cause difficulty for the energy industry, because it takes many years to plan and build new generation.
- According to the Independent Market Monitor of PJM: data center load growth is the primary reason for recent unexpected capacity market conditions, including load growth, tight supply, demand, and high prices.
- Nuclear power developers are looking for solutions to address the challenges of building first-of-a-kind reactors. There are financial incentives from the federal government, along with streamlined permitting from the NRC, that may support quicker adoption of new technologies.

Robert Coward's presentation on Module 3 that was originally scheduled for this meeting was postponed to the next meeting.

**Public Comment**: Emmet Tydings, David Stevenson, Fred Hartman.

### *Meeting #7: April 6, 2026*

**Procedure**

- 23 members were present: 14 in person, 9 virtually. 2 members were absent.

**Module 3 Presentations**: John Quick, Robert Coward, and Dr. Martin Heintzelman

Delaware Workforce Development Board
John Quick, Executive Director, Delaware Workforce Development Board

Key takeaways:

- There are more than one thousand registered apprentices in Delaware across many trades, including electricians, HVAC, pipefitters, and more. There are also several hundred trainees scheduled to complete their apprenticeships in 2026.
- DTCC, Delaware Skills Center, Sussex Tech, and Polytech are among the workforce training providers in Delaware for trades.
- Delaware should consider conducting a gap analysis of workforce needs: what do we have, and what do we need? Identifying training providers and additional funding to administer workforce training for a Delaware nuclear industry would be valuable.
- New and emerging technologies are taken into consideration during the creation of workforce development programs in Delaware. Outreach coordinators visit high schools to share information with students about career opportunities.

Siting Energy Infrastructure: Community and Economic Concerns and Impacts (Modules 3 and 5)
Dr. Martin Heintzelman, Professor and Department Chair of Applied Economics and Statistics, University of Delaware. Environmental economist with research background in energy infrastructure and community impacts.

Key takeaways:

- Property market research shows that most people do not want to live in close proximity to power plants, substations, transmission lines, or other major infrastructure, regardless of the type of energy. The presence of energy infrastructure tends to negatively impact local property values. Larger plants, and energy sources that are seen as higher risk, tend to have more negative impacts. Research also shows the closing of an existing power plant also has a negative impact on property values and local economy–often the result of job loss for residents who were previously employed at these plants.
- Nuclear power plants tend to have the most significant negative impact on property values. Nuclear power is often associated with higher risk, especially after the Fukushima crisis. Property values near Fukushima experienced a significant decline in the first six months following the crisis, but dissipated within about a year. A German study found similar rates of declining property values immediately following a standard closure of a plant.
    - The general public also tends to view the storage and transportation of nuclear waste as potentially hazardous. Research shows that communities that are already located in close proximity to nuclear plants and accustomed to the risk perception do not experience additional impacts as a result of waste storage or transportation. Studies have not found any effect from the construction of dry cask storage at existing nuclear sites.
- Survey results have shown that communities have a willingness to accept the construction of new nuclear plants if they are fairly compensated for the perceived risk. Studies have shown the average minimum compensation needed would be about $5.66/month per household. National survey results show a higher acceptance rate for nuclear energy compared to local surveys.
- Most people tend to have a general interest but have a “not in my backyard” view of nuclear power.
- Surveys have shown higher acceptance rates for renewable energy sources over nuclear.
- Siting energy infrastructure can be very controversial; this includes all types of infrastructure from power lines to power plants. There is limited academic literature on the impacts of nuclear infrastructure, but would likely be more controversial than other forms of energy like wind and solar.
- Lessons from renewable energy: people care about both the impacts and the potential benefits that these projects will have on their community. They need to know about risks, but also the potential impacts that a power plant has on local energy costs and usage. Developers have to be transparent about risks and benefits to make a project successful.
- Community compensation structures: 1. Direct ratepayer subsidies on their power bills, 2. Payments to landowners, 3. Payments to the community or municipality (this can include school funding assistance or municipal subsidy payments to each household). Communities are made up

of diverse viewpoints, no one compensation structure can be identified as a universal best practice.

So You Want to Build a Nuclear Power Plant? What Can Enable That Outcome?
Robert (Bob) Coward, Novellum Partners. Nuclear industry expert.

Key takeaways:

- Realistically, no regulated utility (Delmarva, BG&E, PSEG, etc.) nor merchant generators (NRG, Constellation, etc.) would be willing to build their own nuclear facility in Delaware in the foreseeable future due to high financial risk. It is more feasible to bring nuclear generation to the state via a partnership between a developer and a utility with federal and state support (including grants, changes to energy policy, permitting, site zoning, etc.).
- The number of stakeholders involved, and agreements to be approved, in order for a new nuclear project to move forward are typically more challenging to complete than actually designing and constructing the power plant.
- Some of the primary deployment risks for nuclear energy include the integration of multiple technical working scopes, workforce productivity, supply chain, policy and regulation changes, and more.
- Each technology has unique benefits and risks that need to be understood and weighed to best meet the needs of the project. A developer needs to confirm several factors before proceeding with a project, such as regulatory stability, technology readiness, site suitability, and appealing financials.
- The time needed to address the uncertainty and risk landscape is a primary reason for the current gap between interest and committed projects.

**Public Comment**: Chris Muntz, Ken Reuter, John Flaherty.

### *Meeting #8: April 20, 2026*

**Procedure**

- 21 members were present: 14 in person, 7 virtually. 4 members were absent.
- The minutes of March 23, 2026 were unanimously approved by the members present.

**Module 4 Presentations**: Tom Noyes, Michelle Jacobs, Kirsten Verclas, Martin O'Neill

Nuclear Power and Delaware Energy Policy
Tom Noyes, Administrator of the State Energy Office, Delaware DNREC

Key takeaways:

- The DNREC State Energy Office promotes renewable energy, energy efficiency, grid modernization, energy security, energy justice, and stakeholder engagement. It offers programs

for residents and businesses, such as the Green Energy Program and Weatherization Assistance Program.

- The 2024 State Energy Plan sets policy priorities for Delaware's energy future. The Plan directs state agencies to closely monitor the development of SMRs to assess whether and how the technology can be part of Delaware's energy portfolio in the future.
- Executive Order 18, enacted by Governor Meyer, directs state authorities to design a coordinated permitting process for priority energy projects. State agencies are also directed to pursue all avenues for advancing energy deployment.
- Natural gas is the primary resource used for electricity generation in Delaware. There are more than 10,000 solar installations in Delaware, however not all are managed by PJM (e.g. rooftop solar/"behind-the-meter").
- New nuclear power may enhance Delaware's energy diversity, leading to strengthened local or regional generation.
- Delaware is part of the DPL zone from PJM's perspective, which also includes Northeast Maryland and most of the Delmarva peninsula. In this sense, state borders are not the defining characteristic of the electric grid; if there is additional generation in Northeast Maryland, the grid carries electricity to nearby Delaware.
- There are costs associated with any of the options: proceeding with nuclear deployment, proceeding with other energy deployment, or not proceeding towards a particular energy outcome. The uncertain economics and timelines for SMR deployment remain a concern, as does a shortfall of electricity for Delaware.

<u>DNREC Permitting: Potential Needs for Small Modular Reactors (SMRs)</u>
Michelle Jacobs, Small Business Ombudsman, DNREC Office of the Secretary

Key takeaways:

- There are no existing DNREC permits specific to nuclear power. Working with the Regulatory Advisory Service, Ms. Jacobs identified 17 total possible permits that could apply to SMR deployment in Delaware. The permits fall under different DNREC Divisions for review, as follows:
    - Division of Coastal, Climate, and Energy
        - Coastal Zone Act permit: would be required if an SMR were sited within the Coastal Zone, as defined by the Delaware CZA of 1971
        - Federal Consistency Review: if a federal license or permit is necessary per the federal Coastal Zone Management Act of 1972
    - Division of Water
        - Well permits: for self-supplied water sources
        - Water allocations: for self-supplied water sources that are greater than 50,000 gallons per day
        - Septic permit: for any site that's not connected to public sewer, and processing under 2,500 gallons per day

        - Large wastewater disposal system permit: for sites not connected to the public sewer, and processing more than 2,500 gallons per day
        - Wastewater construction permit: for building infrastructure to contain wastewater or to pump to public sewer
        - Subaqueous lands permit or lease: for infrastructure that impacts subaqueous lands (e.g. power lines or roads crossing a water body)
        - Wetlands permit: when infrastructure impacts tidal wetlands (e.g. construction, draining, excavating)
        - Water Quality Certification: for construction-related discharge of water or fill material into Waters of the U.S.
    - Division of Watershed Stewardship
        - National Pollutant Discharge Elimination System (NPDES): for self-discharging to surface water body
        - Industrial Stormwater: for material handling and storage to prevent the contamination of stormwater runoff from a facility
        - Sediment & Stormwater Management Plan (SSMP): for land disturbing activity of greater than 5000 square feet
        - NPDES Construction General Permit (CGP): for land disturbing activity of 1 acre or greater
        - Coastal Construction permit: for construction activity in the defined regulated area which is either 3 buildable lots or 1,000' from the mean high-water line of the Delaware Bay (Fenwick Island/Maryland border up to just north of Pickering Beach) and the Atlantic Ocean
    - Other
        - Air permits: for emergency generators and ancillary units
        - Boiler/Pressure Vessel Inspections: for boilers and other pressure vessels that may fall under Delaware's Boiler Safety regulations and may be subject to state inspection and certification requirements
- The Coastal Zone permit is a known hurdle for development projects in Delaware. If state permitting hurdles are cleared, local zoning can also pose challenges for construction.

<u>National Association of State Energy Officials (NASEO) and Nuclear Energy</u>
Kirsten Verclas, Senior Managing Director, NASEO

Key takeaways:

- The NASEO-NARUC Advanced Nuclear State Collaborative (ANSC) convenes state utility regulators, State Energy Officials, and experts to address challenges of deploying new advanced nuclear generation. Delaware is a member of ANSC.
- The Advanced Nuclear First Mover Initiative is a collaboration among states that are committed to accelerating the timeline and reducing costs for advanced nuclear projects. Delaware is not yet part of the Initiative as either a First Mover or Observer.

- For some states, the first step towards exploring advanced nuclear deployment was repealing existing nuclear power moratoria.
- New Jersey repealed a state moratorium on new nuclear construction in 2026. NJ Department of Environmental Protection permits were amended to allow permits for nuclear power, if the method for waste storage and disposal is identified.
- Maryland conducted a feasibility study on deploying an advanced nuclear reactor at a retired coal-fired power plant. Maryland passed legislation (SB 937) that encourages the development of clean, carbon-free nuclear power. The legislation directs Maryland to pursue cost-sharing agreements with neighboring states.

Federal and State Roles in New Nuclear Power Reactor Licensing
Martin O'Neill, Associate General Counsel at the Nuclear Energy Institute

Key takeaways:

- Federal authority over nuclear power is managed by the NRC, which manages all reactor licensing, leads National Environmental Policy Act (NEPA) reviews, and has exclusive control over nuclear safety.
- State and local authority over nuclear power include decisions on siting, economics, and the need for nuclear power. States issue non-radiological environmental permits and manage off-site emergency planning.
- The NRC does not regulate in a vacuum: they coordinate with other federal agencies such as FEMA, EPA, USACE, NOAA, and others to ensure activities are consistent with relevant statutes and policies.
- In addition to the state environmental permits relevant to nuclear power in Delaware, consultation must be conducted with the State Historic Preservation Officer before the state issues major licensing decisions for nuclear power that may affect historic properties or cultural resources.
- While zoning, conditional use permits, and county approvals are exclusive of NRC regulation, a developer must secure site control before receiving necessary licensing from the NRC. "Site control" consists of either ownership or long-term lease of the project site.
- A "nuclear-ready" state would prioritize clear siting expectations, local permitting readiness, emergency planning capacity, and engagement with local and federal governments.

**Public Comment**: Emmet Tydings, Ryan Wilson, Robert Ridgeway, John Flaherty.

## *Meeting #9: May 4, 2026*

### Procedure

- 21 members were present: 15 in person, 6 virtually. 4 members were absent.
- The minutes from April 6 and April 20, 2026 were approved by a majority of the members present.

**Module 5 Presentations**: Kenya Stump, Dr. Mike Woolsey, Dr. Allison MacFarlane

Advanced Nuclear Technology Site Evaluation
Kenya Stump, Executive Director of the Kentucky Office of Energy Policy

Key takeaways:

- Kentucky is one of the states leading the NASEO Advanced Nuclear First Mover Initiative. Kentucky underwent an initial site screening analysis, which precedes site selection for new nuclear deployment.
- Studies to assess candidate sites include geotechnical analyses, water supply planning and consultation, ecological characterization, conceptual site layouts, and more. The Ghent Generating Station, a retired coal-fired power plant in Kentucky, received a formal evaluation and feasibility study in partnership with the First Movers Initiative/GAIN.

SCR 18 Wrap Up: Modules 4 and 5
Dr. Mike Woosley

Key takeaways:

- Federal permits
    - Environmental Impact Statement (or less intensive Environmental Assessment) as part of NRC review under the National Environmental Policy Act (NEPA)
    - NRC license options: 1. Traditional construction license, operating license; 2. Combined construction/operation license; 3. Risk informed, technology inclusive, uses probabilistic risk tools
- Plant emergencies and waste disposal
    - Public and policymaker perception of nuclear waste is largely negative
    - There are real problems that the U.S. must address: opening an interim and a permanent waste storage facility
- Possible SMR sites in Delaware
    - Delaware City Refinery: 5,000 acres; the site of a proposed hyperscale data center
    - Indian River Power Plant
- How long will it take to build?
    - Permitting and licensing: 24 months
    - Construction: 50-60 months
    - Total: 7-9 years, if the process began today
- Nuclear Energy Credits (NECs)
    - Currently not implemented in Delaware
    - States with NECs or Zero Emission Credits include New York, New Jersey, Illinois, Connecticut, and Ohio

Challenges for SMRs and Advanced Nuclear Power
Dr. Allison Macfarlane, Former Chair of the U.S. Nuclear Regulatory Commission

Key takeaways:

- Claims about the benefits of SMRs include that they are cheaper, easier to build, more efficient, create more jobs, are safer, and produce less waste than conventional nuclear reactors. However, most reactor designs have never been built; there are only a handful of demonstration models.
- Nuclear power faces challenges of economics, waste, proliferation and security, and public acceptance. The current experience is that building new nuclear results in large cost overruns: the 2 new reactors at Plant Vogtle in Georgia are an example.
- Supply chains for advanced reactors are not established. Non-light water reactors may require new fuel types (e.g. High-Assay Low Enriched Uranium) which have no way of being fabricated yet. There is still no accepted plan for nuclear waste in the U.S. SMRs do not improve, and may worsen, the nuclear waste problem.
- SMRs will not be commercially available in large numbers until after 2050, according to a National Academies of Science Report (2022).

**Public Comment**: Robert Geist, Anne Kirby, Christopher Thorten, John Flaherty

### *Meeting #10: May 18, 2026*

**Procedure**

- 21 members were present: 18 in person, 3 virtually. 4 were absent.
- The minutes from May 4, 2026 were approved, with one correction, by a majority of the members present.

**Module 5 Presentations**: AJ Schall, David Edgell and Robert Wheatley

Delaware Hazard Overview for Small Nuclear Reactor Siting
AJ Schall, Director of the Delaware Emergency Management Agency (DEMA)

Key takeaways:

- DEMA prepares a hazard mitigation plan every 5 years; each county must also prepare a plan.
- Delaware's primary constraint for siting nuclear power is not seismic activity, but water exposure. Current and future flooding, storm surge, sea-level rise, and low elevation make coastal Delaware least suitable for siting an SMR. The most favorable early-screened areas are western New Castle County and interior Kent County (subject to further reviews). Any potential site requires official site characterization and suitability assessment from the NRC.
- Flooding is a statewide problem, not just a coastal one. Flash flooding, urban drainage overload, and riverine flooding pose risks for northern parts of the state. A region which is "not coastal" should not be ruled "not flood-prone."

Evaluation of Potential Areas in Delaware for the Installation of a Small Modular Reactor
David Edgell, DE Office of State Planning Coordination (OSPC), with Robert Wheatley

Key takeaways:

- Delaware is a densely populated state, with over one million people as of 2025. Delaware ranked 9th in population growth between 2015 and 2025, with Sussex County facing the largest increase in population in recent years.
- County and municipal comprehensive plans do not account for a nuclear reactor site. A selected site would require comprehensive plan amendments and rezoning. Different nuclear technologies pose different siting and permitting needs. For example, novel cooling methods may not require that a nuclear reactor be located near a large water source.
- A mapping exercise was conducted to identify potential suitable sites for SMRs (for purposes of this presentation; not an official or final analysis). Considerations for evaluating sites in Delaware included environmental impacts, wetlands and flood zones, nearby population density, proximity to existing electrical infrastructure, and more. Unsuitable areas excluded from consideration include areas in the 100-year floodplain, wetland protection areas, residential and school parcels (with buffers), and others. The areas remaining, potentially suitable for SMRs, are limited. Several areas for further study emerged in each county.
- Locating a nuclear reactor in Delaware is not impossible, but it would be difficult. Delaware lacks large open spaces that are far from human communities. The type of nuclear reactor may affect siting availability, according to its size, need for cooling water, and other factors,

**Procedure** (continued)

- Senator Hansen introduced Brad Sperber, the third-party facilitator for the Task Force's recommendation process.
- There were additional presentations from the Delaware utilities. Delmarva Power (DPL) presented on Exelon's perspective on SMR deployment in Delaware. Delaware Electric Co-Operative also presented to the Task Force.

**Public Comment**: Dustyn Thompson, John Flaherty

## *Meeting #11: June 1, 2026*

**Procedure**

- 20 members were present: 16 in person, 4 virtually. 5 were absent.
- The minutes from May 18, 2026 were unanimously approved.
- Senator Hansen reintroduced the facilitator, Brad Sperber. Brad walked the Task Force through the recommendations he synthesized from their responses to the module matrices and the systems thinking project.

**Public Comment**: Emmet Tydings, Anne Kirby, Johannes Sayre, Coralie Pryde, Marissa McClenton, Tim Miller, Michael Wirtschafter

### *Meeting #12: June 15, 2026*

**Procedure**

- 20 members were present: 15 in person, 4 virtually, and 1 designee for John Quick. 5 were absent.
- The minutes from June 1, 2026 were unanimously approved, with corrections.
- The Task Force walked through and unanimously approved recommendations for Modules 5, 1, 2, and 3. The Task Force also worked through most of Module 4, with the remainder deferred to the next meeting due to time constraints.

**Public Comment**: Lisa Rice, John Sykes, John Flaherty, Emmet Tydings

### *Meeting #13: June 29, 2026*

**Procedure**

- 21 members were present: 12 in person, 9 virtually. 4 members were absent.
- The minutes from June 1, 2026 were unanimously approved.
- The Task Force continued the discussion of Module 4 recommendations. It then reviewed the entirety of Module 4 before voting unanimously to approve the recommendations.
- The Task Force also unanimously voted to replace the references to SMRs with “nuclear energy” in all of the recommendations.

**Public Comment**: Robert Geist, Lisa Rice, Paul Simon, Rich Jester, Ken Reuter, John Flaherty

## Task Force Composition

Full biographies of Task Force members can be found in Appendix C.

A member serving by virtue of position who is granted the ability to designate another individual to attend a Task Force meeting must provide the designation in writing to the Task Force co-chairs. An individual attending a meeting for a member service by virtue of position has the same duties and rights as the member serving by virtue of position.

The composition of the Task Force was outlined in SCR 18, with the following individuals filling the designated slots:

A State Senator from the Majority Caucus, appointed by the President Pro Tempore of the Senate, who shall serve as Co-Chair of the Task Force: **Stephanie L. Hansen, Senator (SD 10)**

A State Representative from the Majority Caucus, appointed by the Speaker of the House of Representatives, who shall serve as Co-Chair of the Task Force: **Frank Burns, Ph.D., Representative (RD 21)**

A State Senator from the Minority Caucus, appointed by the President Pro Tempore of the Senate: **Bryant L. Richardson, Senator (SD 21)**

A State Representative from the Minority Caucus, appointed by the Speaker of the House of Representatives: **Jeff Hilovsky, O.D., Representative (RD 4)**

Thirteen members serving by virtue of position, or a designee appointed by the member, as follows:

a. The Secretary of Delaware Department of Natural Resources and Environmental Control

**Secretary Designee: Tom Noyes, Administrator, DNREC State Energy Office (SEO)**

b. The Secretary of Delaware Department of Health and Social Services.

**Secretary's Designee: Wayne Vogel, Environmental Scientist, Delaware Division of Public Health**

c. The Director of the Office of State Planning Coordination: **David Edgell**

d. The Director of Delaware Emergency Management Agency: **AJ Schall**

e. The Director of the Public Service Commission: **Matt Hartigan**

f. The Public Advocate: **Jameson Tweedie**

g. The Chair of the Governor's Energy Advisory Council

**Joseph Poppiti, Designee of Ed Kee**

h. The Executive Director of the Delaware League of Local Governments.

**Nick Smith, DLLG President/Mayor of Clayton**

i. The Chair of the Delaware Workforce Development Board:

**John Quick, Designee of Joanna Staib, Executive Director**

j. The Chair of the Justice 40 Oversight Committee: **Representative Larry Lambert (RD 7)**

k. The President of Delmarva Power

**Mario Giovannini, Director, Energy Acquisition, Delmarva Power and Light**

l. The President of Delaware Electric Cooperative: **Rob Book**

m. The President of Delaware Municipal Electric Corporation: **Kimberly Schlichting**

Eight members appointed by the Governor:

a. An expert in energy production, transmission, or distribution, preferably from a company experienced in nuclear power or grid management: **Robert DeNight, VP of Nuclear Engineering, PSEG**

b. A professional in environmental science, sustainability, or climate policy: **Jennifer Clemons, Ed.D., Professor, Penn State University**

c. Three leaders from Delaware's business sector, one from each county, such as a Chamber of Commerce representative or an executive from an energy-intensive industry.

New Castle County: **Andrew Cottone, Ph.D., Founder and CEO, Aternium**

Kent County: **Tony DePrima, Ph.D., Independent Consultant**

Sussex County: **Robert Wheatley, Principal, Whayland Consulting Group**

d. A representative from a trade union, technical college, or workforce training organization specializing in energy sector jobs: **Martin Willis, Boilermaker Local 13, Philadelphia, PA**

e. A faculty member from a Delaware university with expertise in nuclear engineering, energy policy, or sustainability: **Keith Goosen, Ph.D., Professor, University of Delaware**

f. A representative from a consumer protection organization or public advocacy group: **Peggy Schultz, Portfolio Chair, Climate Change and Energy, League of Women Voters DE**

# Final Findings and Recommendations of the Delaware Nuclear Energy Feasibility Task Force June 29, 2026

## GENERAL OBSERVATIONS

### 5 modules explored by the NFTF

At the last meeting of the NFTF on June 29, 2026, the NFTF voted to replace all references to "SMRs" in the Finding and Recommendations to "nuclear power." This was done in recognition that the issue of whether nuclear power should play a role in Delaware's energy profile was broader than simply a discussion and analysis of SMRs. Throughout the meetings and presentations of the NFTF, the discussions often expanded beyond SMRs as there are no SMRs currently in commercial operation in the United States and our current knowledge of operating nuclear facilities is found within this broader subject area.

Below are the original five (5) module subject headings as discussed at the time of the NFTF meetings. These are set forth below in order to be historically accurate.

1) Are SMRs safe for people and the environment?
2) How much energy will SMRs produce?
3) How much do SMRs cost?
4) How long does it take to build SMRs?
5) Where can SMRs be built?

The Systems Thinking Project focused on SMR deployment. However, by nature of the methodology, discussions did include consideration of alternatives including large reactors. As part of the group facilitation effort led by Brad Sperber, the evident areas of general agreement and disagreement were pulled from the Final Report of the Systems Thinking Project **(see Appendix E)** and displayed as set forth below at the NFTF meeting on June 29, 2026.

**Evident areas of general agreement:**

A. Delaware urgently needs more energy generation; however, nuclear will not meet our short-term energy needs as any Delaware SMR would not generate electricity before the mid-to-late 2030s at the earliest.

B. The energy needed should come from a portfolio of sources. Non-carbon generation resources, such as SMRs, are valuable tools to meet Delaware's climate goals.

C. Regardless of which scenario is chosen, Delaware should use the current period to lay the foundation: identifying sites, building state capacity, and beginning conversations with the larger community and local jurisdictions on the acceptability of nuclear power.

D. The costs of SMR deployment are not yet fully clear.

E. It would be unacceptable to expose Delaware ratepayers and taxpayers to significant financial risk if an SMR project fails.

F. Financial risk allocation of any SMR deployment should be addressed early on and transparently.

G. Both normal operations of conventional nuclear reactors, and interim, onsite storage of spent nuclear fuel, have a meaningful track record of safety.

H. The Delaware public would need to be proactively engaged, educated, and listened to regarding benefits and risks of nuclear energy (including spent fuel).

**Evident areas of disagreement:**

A. Whether SMRs should play a significant role in Delaware's future energy equation (though it appears a majority are supportive or leaning supportive).

B. How aggressively or patiently to pursue SMRs.

C. Whether to prioritize SMRs or renewables and efficiency. (Many Task Force members support an "all of the above" approach, with stipulations around feasibility and cost.)

D. How aggressively to pursue renewables and efficiency (though most support doing so as part of a portfolio).

E. Whether a large-scale reactor would be feasible for Delaware (whether in terms of siting, policy, permitting, public acceptance, etc.).

F. What entity would be the off-taker of an agreement (State, industry) if a nuclear reactor were built in Delaware.

G. Whether it would be worthwhile for Delaware to join an agreement with another state which builds a nuclear reactor, if no reactor is built within Delaware.

# OFFICIAL FINDINGS AND RECOMMENDATIONS

*The following findings and recommendations were unanimously approved by members present on June 29, 2026.*

**MODULE 1: Nuclear power safety for people and the environment – environmental benefits and potential risks**

Considerations include:

- Carbon emissions
- Environmental footprint
- Public health and safety
- Waste management

**A. Safety of novel technologies**

i. *Finding:* There is a need to evaluate the safety of new nuclear technologies (e.g., alternative cooling methods).

ii. *Finding:* Delaware needs consistent guidance from regulators about the appropriate proximity of a nuclear reactor to residential populations, depending on the technology and design of a reactor. (This content would be captured in a feasibility study as recommended in Module 5).

iii. *Recommendation:* Delaware should compile a review of peer-reviewed safety studies conducted by other states which have pursued nuclear deployment.

**B. Engaging the Delaware public**

i. *Finding:* The success of siting/developing new energy infrastructure/generation hinges on informed and voluntary public acceptance of a project. It is crucial that the State of Delaware (and/or a developer) earn public trust and support early in the energy infrastructure development process.

ii. *Recommendation:* Delaware should implement proactive public engagement and education, through a variety of methods (which may include social media, print media, public meetings, etc.) to inspire trust and understanding of the benefits and risks of nuclear power.

iii. *Recommendation:* Local governments, in partnership with the State and its agencies, should be responsible for outreach within the local community when exploring the prospect of accepting a nuclear reactor.

**C. Long-term high-level waste storage**

i. *Finding:* The U.S. needs a plan for long-term, centralized storage of spent nuclear fuel. The presence or absence of a federally managed long-term repository (or, even an interim facility that is not on-site of a Delaware reactor) may be a trigger point for public acceptance of siting nuclear power reactors.

ii. *Recommendation:* The State of Delaware should encourage the federal government to establish a plan for long-term, centralized storage of spent nuclear fuel.

**D. Emergency preparedness and response**

i. *Finding:* Nuclear-related considerations would need to be incorporated into local and state emergency preparedness and response planning if a nuclear reactor were built in Delaware.

ii. *Recommendation:* The State and its agencies should work with local governments to facilitate information exchange related to state emergency preparedness and response planning for new nuclear power, in conjunction with the feasibility study recommended in Module 5.

**E. Suitability of the electric grid**

i. *Finding:* To successfully integrate a nuclear reactor, Delaware will need robust transmission infrastructure.

ii. *Finding:* There is no publicly available study regarding the status, and potential upgrades needed, for new nuclear power within our regional electric grid.

iii. *Finding:* For large reactors, there must be several sources of off-site power (connection to multiple electric lines to provide redundancy in case of maintenance).

iv. *Recommendation:* The State and its agencies should look further at feasibility from a transmission perspective.

**F. Carbon emissions**

i. *Finding:* Nuclear power constitutes a valuable carbon emissions-free electricity generation resource. Nuclear power produces electricity without greenhouse gas emissions which contribute to climate change.

**MODULE 2: Suitability of nuclear power for energy production in Delaware**

Considerations include:
- Delaware's energy independence
- Price stabilization
- Baseload power reliability
- Non-SMR forms of nuclear energy

**A. Workforce**

i. *Finding:* Having an in-state, trained workforce for future energy generation development (nuclear and otherwise) will contribute to job growth and economic opportunity for Delawareans.

ii. *Recommendation:* Delaware should take steps to develop a trained workforce, prioritizing workforce development in the communities where energy projects may be sited, so that they can share in the benefits (job opportunities).

**B. Electricity mix/grid**

i. *Finding:* Delaware needs to understand the dynamics of the electricity mix, percentage of each resource that comprises the mix, how they change, what affects them, and how we can use that information to yield low-cost, clean, reliable energy.

ii. *Recommendation:* The State Energy Office should conduct another "Mega Model" workshop in the 2026 calendar year to gather a (non-definitive) understanding of what different kinds of energy mixes could look like.

**MODULE 3: Nuclear power costs and benefits**

Considerations include:
- Pricing relative to other energy sources
- Relative job creation potential
- Impact on local economy

**A. Uncertain costs and benefits**

i. *Finding:* The costs and benefits of nuclear power deployment are not yet fully clear. Delaware needs to understand (from independent, qualified, credible sources):

1. The long-term costs to ratepayers of nuclear deployment
2. The local economic benefits of nuclear deployment
3. The life expectancy of nuclear reactors compared to other energy sources

ii. *Recommendation:* Delaware should conduct or commission an economic impact study for deploying nuclear power.

iii. *Recommendation:* Delaware should consider the recent and upcoming Levelized Cost of Energy Reports by Lazard and other analyses to understand the best-available information on cost of new energy generation.

**MODULE 4: Public policy factors in building a nuclear power facility**

Considerations include
- Delaware laws and regulations
- Federal and state permitting requirements
- Nuclear Energy Credits
- Clean Energy Standard

**A. Existing state regulations**

i. *Finding:* There is no Delaware statute which prohibits the building of nuclear plants within the state. However, the rules associated with building nuclear power in Delaware do not exist.

ii. *Recommendation:* Delaware should develop energy statutes and implement regulations to facilitate consideration of nuclear generation, including SMRs, as a permissible in-state or contracted resource, while ensuring consistency with federal preemption over radiological safety.

**B. Addressing local government regulations**

i. *Finding:* If a county or municipality wishes to host nuclear energy generation, it may need to ensure its regulations allow for new nuclear energy development.

ii. *Recommendation:* County laws and comprehensive plans could be changed to acknowledge and plan for the future presence of nuclear power. The State should support counties as they pursue these changes, technically and financially.

**C. Financial mechanisms for incentivizing nuclear energy**

i. *Finding:* Building nuclear power may require financial incentives from the State and/or federal government.

ii. *Finding:* Other states are adopting Clean Energy Standards that incentivize new nuclear power.

iii. *Recommendation:* Delaware should study and evaluate a Clean Energy Standard, or another procurement mechanism, to recognize nuclear power as a form of zero-emission firm generation alongside renewables.

iv. *Recommendation:* Delaware should consider creating legislation for nuclear energy procurement.

**D. Streamlining permitting**

i. *Finding:* Long permitting timelines at federal, state, and local levels may be a barrier to deploying nuclear power.

ii. *Recommendation:* Delaware should synchronize with the Federal government to avoid bureaucratic permitting delays (while taking care not to compromise safety reviews in the interest of speed).

iii. *Recommendation:* Delaware should align with federal requirements by adopting a "one-stop" coordinated permitting process that defers radiological and reactor safety issues entirely to the NRC while synchronizing state environmental and land-use reviews.

**E. State actions moving forward**

i. *Finding:* Without a unified authority, fragmented decision-making, delayed approvals, and funding gaps are likely causes of failure.

ii. *Recommendation:* The State of Delaware should establish a clearly empowered, statewide leadership with authority, dedicated funding, and mandate to coordinate permitting, grid interconnection, environmental review, emergency planning, and community engagement.

*A. Among Task Force Members, there were different suggestions of best solutions moving forward. Possible structures for implementation could include one or more of:*

A. A cabinet level energy agency or expanded authority within an existing agency (e.g. DNREC).

B. A dedicated nuclear or advanced energy coordinator to improve regulatory coordination, stakeholder engagement, and federal alignment.

C. An expanded Delaware Sustainable Energy Utility (or a separate entity) as a quasi-independent, nonprofit corporation, governed by a board appointed by the Governor and Legislature. The intent would be to create an organization that is separate from state government but capable of acting on behalf of Delaware's long-term energy interests. It could also position Delaware to participate more actively in emerging opportunities related to advanced generation technologies, transmission infrastructure, energy storage, and regional power markets.

D. Delaware could fund a non-regulatory board to meet Delaware's carbon-free goals and to provide reliable firm energy throughout Delaware.

*B. The responsibilities of this entity (or entities) should include some or all of the following:*

A. Developing a consequential master plan to ensure the development and deployment of nuclear reactors and correlated technologies in Delaware.

B. Assist and promote cooperation, collaboration, and exchange of information among Delaware state programs affecting the development and deployment of nuclear reactors and correlated technologies in Delaware.

C. Coordinate with other utilities, state agencies, federal agencies, PJM Interconnection and its states, and developers.

D. Develop and participate in energy projects that promote economic development, energy reliability, and affordability.

E. Issue revenue bonds.

F. Provide financing for generation, transmission, and energy storage projects.

G. Purchase and sell electric power.

H. Acquire, own, and operate generation assets.

I. Conduct studies and issue Requests for Information (RFIs) and Requests for Proposals (RFPs) for energy procurement.

J. Locate suitable sites for deployment.

K. Conduct early and transparent engagement, public meetings, workforce planning, and local "nuclear-ready" community designations. This approach should empower counties and municipalities to opt in to structured engagement and siting readiness without committing to deployment.

L. Examine closely what other states are doing with respect to nuclear development – e.g., how they are investing, how they are facilitating deployment.

C. *Delaware should move forward as an Observer in the Advanced Nuclear First Mover Initiative, co-led by the National Association of State Energy Officials (NASEO) and the National Association of Regulatory Utility Commissioners (NARUC).*

**MODULE 5: Siting feasibility**

Considerations include:
- Suitable locations
- Existing energy infrastructure
- Upgrades for grid integration

A. *Finding:* Delaware has potentially suitable sites for nuclear deployment that offer existing transmission interconnections, industrial zoning, and acreage identified in presentations to the Task Force on May 18, 2026. Final suitability, however, requires detailed siting analyses for cooling water availability, seismic and ecological constraints, grid interconnection capacity, regulatory approvals, and community acceptance.

B. *Finding:* Delaware's existing energy infrastructure provides a useful starting point but additional engineering, transmission upgrade, regulatory, and social license (community engagement) work is required before a nuclear reactor could be reliably sited and operated in the state.

C. *Recommendation:* Delaware should commission a study, in partnership with local government(s), to evaluate where there are feasible sites in Delaware and suitable partnerships to develop nuclear power (in terms of technical and logistical suitability as well as availability).

D. *Recommendation:* Delaware should determine necessary upgrades for grid integration of nuclear reactors, including determination of: the level of investment necessary, PJM interconnection needs, load and transmission modeling.

    1. Specifically, Delaware should commission targeted technical, regulatory, environmental, and economic studies – including transmission interconnection and stability analyses, site-specific cooling and environmental assessments, geotechnical/remediation surveys, and detailed cost, schedule, and financing models – to define the specific grid upgrades and integration requirements for nuclear reactors. Early coordination with PJM/Delmarva, the NRC, state environmental and emergency-management agencies, and local stakeholders is essential to identify permitting, protection, and emergency-planning needs and to mitigate late-stage cost, timeline, and community-acceptance risks.

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Dr. Mike Woosley, New Era Energy; and

John Wik

**indicates those who are also members of the Task Force.*