Pre-Application Activities
Early Site Permit Application (ESPA)
Site Near Belews Creek Steam Station

Engagement with State and Other Federal Agencies, and Community Outreach

DECEMBER 12, 2024

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Duke Energy Participants

- **Rounette Nader** Vice President, New Nuclear Generation and License Renewal
- **Chris Nolan** Vice President, New Nuclear Generation Strategy & Regulatory Engagement
- **Lee Grzeck** Licensing Manager, New Nuclear Generation
- **Shannon Langley** Principal Consultant, Environmental Health and Safety
- **Chet Sigmon** Senior Nuclear Licensing Engineer, New Nuclear Generation
- **Heather Danenhower** Strategic Business Support Director, New Nuclear Generation
- **Norm Kunkel** Director, Nuclear Engineering, New Nuclear Generation

Agenda

Welcome and Introductions	Lee Grzeck
Early Site Permit Project Overview	Lee Grzeck
Engagement with State and Federal Agencies	Shannon Langley
Community Engagement	Shannon Langley
Questions and Closing Comments	Chris Nolan

Early Site Permit Project Overview

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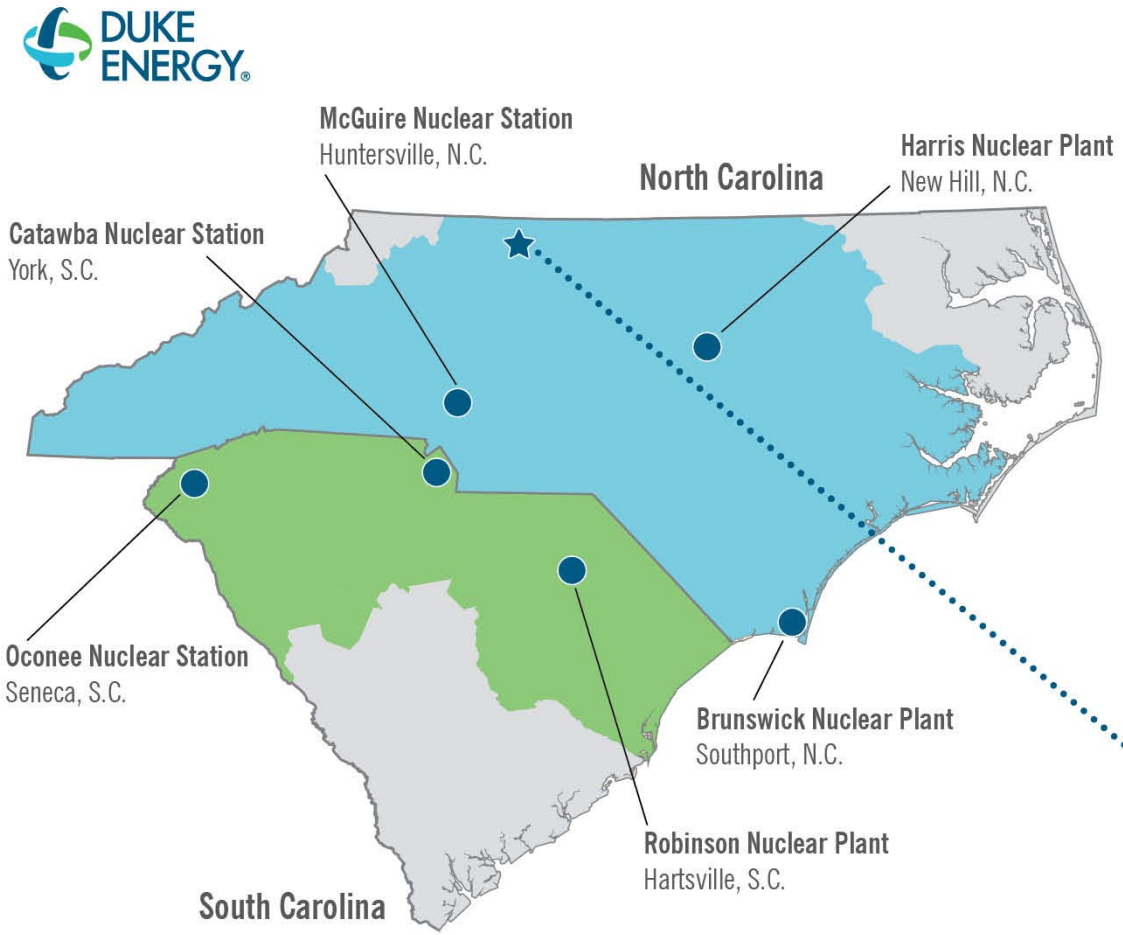
Site Near Belews Creek Steam Station

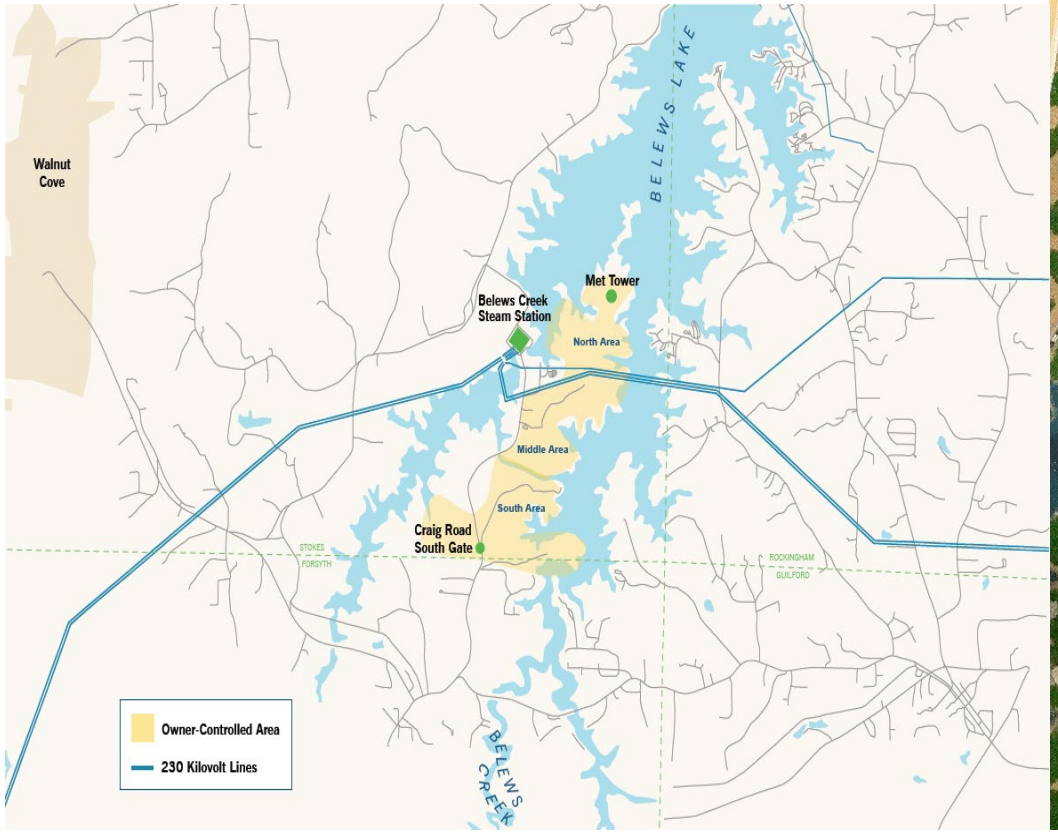


Stokes County, N.C.

1) The 1,000-acre site on Belews Lake. 2) An on-site meteorological tower. 3) Groundwater monitoring wells and rock core drilling. 4) Survey of freshwater mussels in Dan River.

Site Near Belews Creek Steam Station

- Groundwater monitoring well installations
- Meteorological tower installation and data collection
- Core boring
- Seismic testing
- Flora/fauna data collection
- Fisheries and water quality data collection



Engagement with State and Federal Agencies

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Proactive Engagement with State and Federal Agencies

- **Goals**
  - Identify site-specific issues early
  - Establish a common understanding of the project
  - Confirm availability and adequacy of information
  - Encourage ongoing communications and collaboration
  - Optimize the value of the early site permit application process
- **Engagement methods**
  - Formal notification letters requesting feedback
  - In-person and virtual meetings
  - Site tours
  - Email correspondence

List of Agencies Contacted

- U.S. Fish and Wildlife Service
- North Carolina Wildlife Resources Commission
- North Carolina Department of Environmental Quality
- U.S. Army Corps of Engineers
- North Carolina State Historic Preservation Office
- Catawba Indian Nation
- North Carolina Natural Heritage Program
- U.S. Environmental Protection Agency, Region 4
- North Carolina Department of Public Safety
- North Carolina Division of Parks & Recreation
- North Carolina State Archaeologist
- North Carolina Department of Transportation
- United State Natural Resources Conservation Service
- Monacan Indian Nation

U.S. Fish and Wildlife Service (USFWS)

- Summer 2023: Worked with USFWS to develop and approve plan for acoustic survey for bats.
- January 2024: USFWS approves report and findings of acoustic survey. (Good for 5 years)
- May 2024: Held initial in-person meeting at USFWS regional field office
  - Obtained a USFWS single point of contact for the project
- July 2024: USFWS staff provided written comments in accordance with provisions of the National Environmental Policy Act (NEPA) and Section 7 of the Endangered Species Act (ESA), including:
  - List of federally-listed species
  - Noted presence of bald eagle nest on property but outside the area of potential effect (APE)
  - Tree-clearing timeframe recommendations
  - Input on general topics such as pollinators, light pollution, and erosion control

North Carolina Wildlife Resources Commission (NCWRC)

- Sought input on surface water sampling plans
- May 2024: Held in-person meeting at site
  - Provided a site tour and project overview
- July 2024: Received written comments
  - Input on threatened species (e.g. mussels, bats)
  - Changes in water quality and level fluctuations
  - Water withdrawals from Dan River
  - Information on pollinators
  - Tree-clearing timeframe recommendations
  - Water quality
- August 2024: Completed collaborative field work with NCWRC staff on mussel survey in the Dan River

North Carolina Department of Environmental Quality

- June and July 2024: Held virtual meetings
  - Broad participation
  - Multiple regulatory topics represented (air, water, waste, land, dam safety, etc.)
- Provided periodic updates during regularly scheduled management meetings, including input on:
  - Wastewater and stormwater permitting processes
    - Modification of existing permits
  - 401 certification process and stream buffer requirements
  - Potable water supply for a new facility
  - Existing Title V air permit
    - Modification of existing permit
  - Flue gas desulfurization (FGD) landfill currently inside the APE but in the process of closure by excavation
  - Dam safety requirements

U.S. Army Corps of Engineers (USACE)

- July 2024: Sent initial project overview document and requested meeting
- October 2024: Held meeting with project manager and district management discussing:
  - Level of support needed prior to submitting the early site permit application
  - Stream and wetland delineations for Belews Creek, NC site
    - Submitted stream and wetlands delineation on Oct. 22, 2024
  - Interactions with other agencies
  - Overview of anticipated types of impacts
  - Assigned Corps. AID# number for all correspondence (SAW-2024-01909)
  - Assigned single point of contact for project
  - Requested presentation slides for future reference
- December 2024: USACE site visit to site

North Carolina State Historic Preservation Office (NCSHPO)

- February 2024: Held initial meeting
- March 2024: Submitted work plan
- April 2024: Work plan approved
    - No National Historic Preservation Act (NHPA) Section 106 properties in the area
- July 2024: Sent general scoping information
- October 2024: Submitted the Phase I archaeological report
- Will Develop Phase II scope of work, if needed, upon receipt of NCSHPO comments

Catawba Indian Nation

- August 2024: Sent formal letter to Tribal Historic Preservation Office
- Written correspondence indicated no initial concerns
- Tribal Historic Preservation Officer requested to be notified if land disturbance revealed tribal or human remains

Additional Federal and State tribal research and Identification underway.

- Tribal Directory Assessment Tool
- ProPublica Database– Native American Grave Protection and Repatriation Act
- North Carolina Commission of Indian Affairs

North Carolina Natural Heritage Program

- August 2024: Sent formal letter
- Written correspondence confirmed no known natural heritage resources within area of potential effect
- One managed property within one-mile buffer zone (Belews Lake Park in Forsyth County)
- Requested to be notified if new discoveries are made

Additional Agencies and Other Considerations

- Letters submitted requesting input on project (no response received to date)
  - U.S. Environmental Protection Agency, Region 4
  - North Carolina Department of Public Safety
  - North Carolina Division of Parks & Recreation
  - North Carolina State Archaeologist
  - North Carolina Department of Transportation
  - United State Natural Resources Conservation Service
  - Monacan Indian Nation

- Environmental Justice
  - Appropriate measures will be taken to incorporate environmental justice evaluations into stakeholder engagement and the early site permit application
  - Build on decades-long presence in the community and existing relationships with stakeholders from different viewpoints

Community Engagement

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Proactive and Inclusive Stakeholder Engagement

Demonstrate transparency and welcome different perspectives

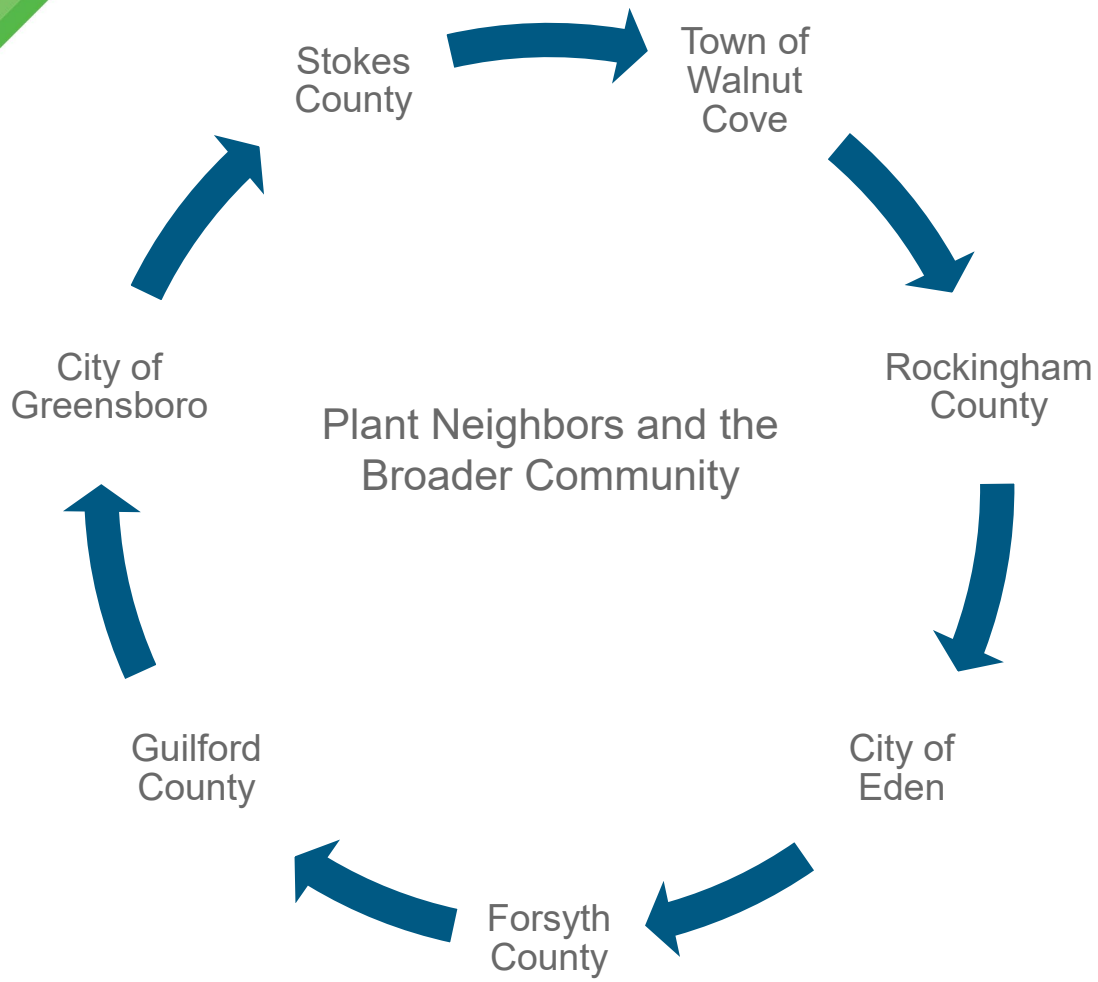
Listen to and learn from stakeholders to inform decision-making

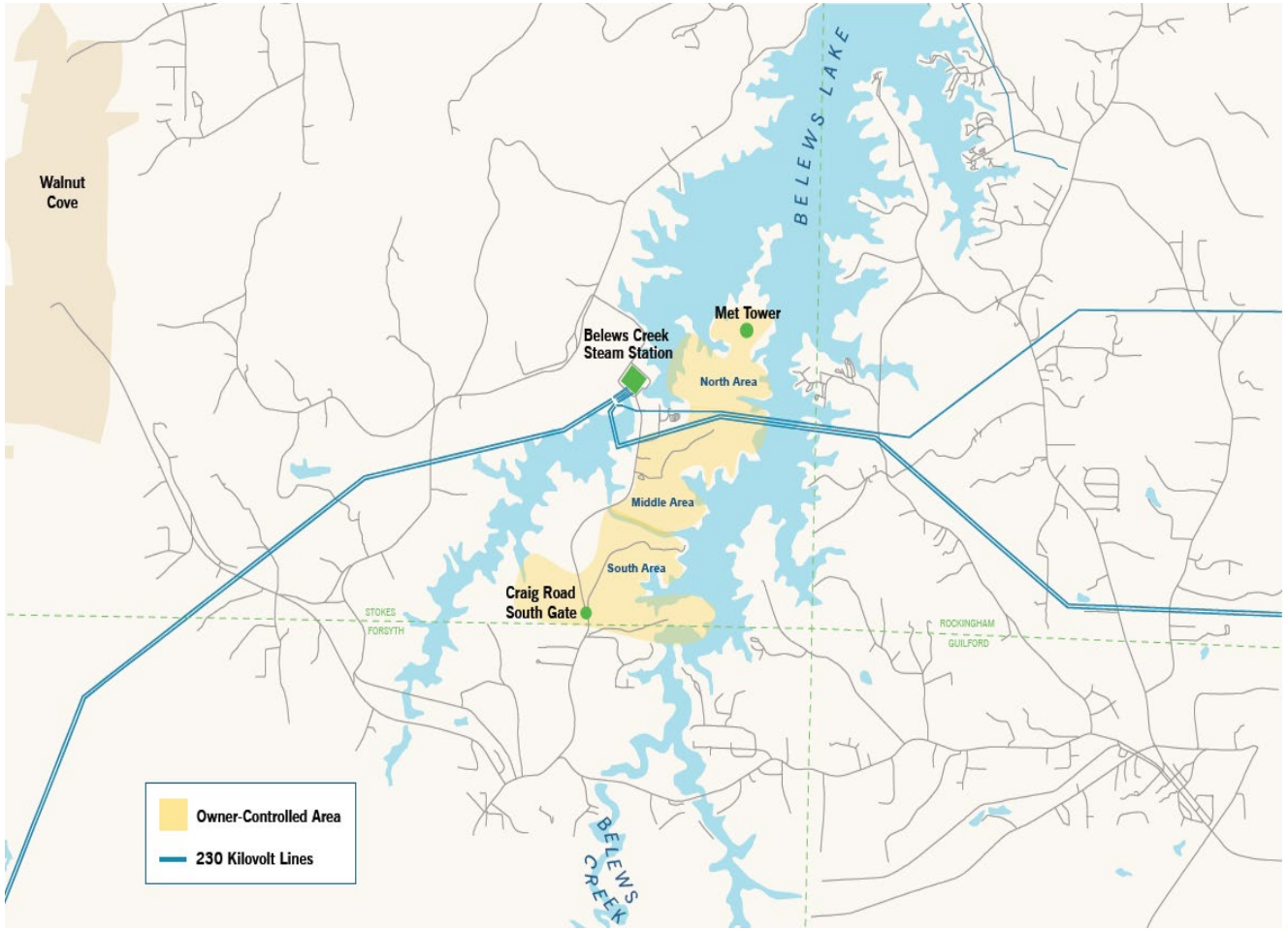
Adjust plans to address stakeholder concerns, needs and preferences

Use a broad set of tools and channels to engage, inform and educate stakeholders

Communicate proactively, early and often

Targeted Audiences





Meetings, Presentations and Tours

April 2024

- Site tour with Stokes County, Forsyth County and Town of Walnut Cove elected officials and community leaders
- Presentation and Q&A session with Town of Walnut Cove elected officials, community leaders and residents
- Meeting with City of Greensboro and Guilford County elected officials and community leaders

August-September 2024

- Meetings with Stokes County and Rockingham County

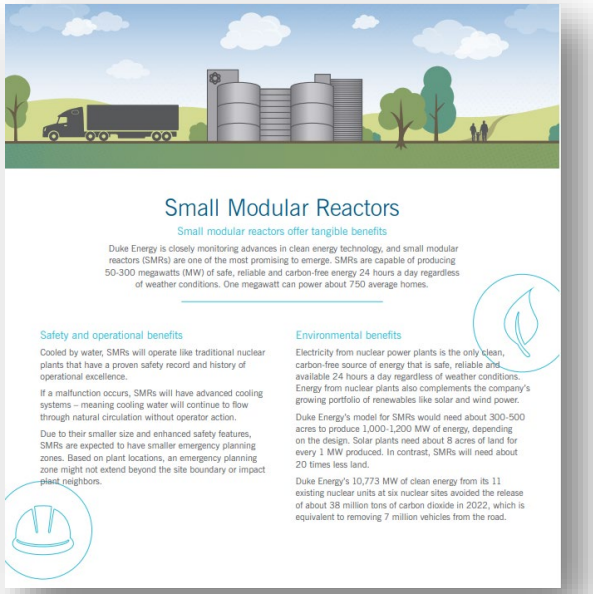
December 2024

- Planning tour of McGuire Nuclear Station for community and government leaders local to the area surrounding the site at Belews Creek Steam Station.

Reoccurring Topics of Discussion

- Safety
- Security
- Emergency preparedness and response
- Used fuel management
- Questions about Belews Lake
  - Water quality
  - Water temperature
  - Recreational use
- Economic benefits, jobs and tax base
- Workforce development
- Historic impacts of coal ash from Belews Creek Steam Station

Advanced Nuclear Fact Sheets



Small Modular Reactors

Small modular reactors offer tangible benefits

Duke Energy is closely monitoring advances in clean energy technology, and small modular reactors (SMRs) are one of the most promising to emerge. SMRs are capable of producing 50-300 megawatts (MW) of safe, reliable and carbon-free energy 24 hours a day regardless of weather conditions. One megawatt can power about 750 average homes.

Safety and operational benefits

Cooled by water, SMRs will operate like traditional nuclear plants that have a proven safety record and history of operational excellence.

If a malfunction occurs, SMRs will have advanced cooling systems – meaning cooling water will continue to flow through natural circulation without operator action.

Due to their smaller size and enhanced safety features, SMRs are expected to have smaller emergency planning zones. Based on plant locations, an emergency planning zone might not extend beyond the site boundary or impact plant neighbors.

Environmental benefits

Electricity from nuclear power plants is the only clean, carbon-free source of energy that is safe, reliable and available 24 hours a day regardless of weather conditions. Energy from nuclear plants also complements the company's growing portfolio of renewables like solar and wind power.

Duke Energy's model for SMRs would need about 300-500 acres to produce 1,000-1,200 MW of energy, depending on the design. Solar plants need about 8 acres of land for every 1 MW produced. In contrast, SMRs will need about 20 times less land.

Duke Energy's 10,773 MW of clean energy from its 11 existing nuclear units at six nuclear sites avoided the release of about 38 million tons of carbon dioxide in 2022, which is equivalent to removing 7 million vehicles from the road.

Small Modular Reactors

Offer Significant Economic Benefits

Duke Energy is closely monitoring advances in clean energy technologies, and small modular reactors (SMRs) are one of the most promising to emerge. SMRs are capable of producing 50-300 megawatts (MW) of safe, reliable and carbon-free energy 24 hours a day regardless of weather conditions. One megawatt powers about 750 average homes.

SMRs can also operate in conjunction with renewable sources, such as solar and wind power. Without new nuclear power plants, providing uninterrupted electricity while achieving net-zero carbon emissions is not possible. In addition to safety, operational and environmental benefits, SMRs offer significant economic benefits.

Building multiple SMRs at one site to generate **1,000-1,200 MW** of clean energy would create:

1,000-2,000
jobs during construction

180
coal-to-nuclear jobs, giving coal plant workers opportunities, if a retiring coal site is chosen, to continue their careers at Duke Energy in engineering, operations, maintenance, training, etc.

250-500
permanent, high-wage jobs

Increased tax base
Duke Energy's power plants serve as the bedrock of many communities – contributing to the vitality and economic growth of these communities and generating millions in property and other taxes.

Community giving
Power plant workers are known for volunteering their time and talents – and for making financial or in-kind contributions – to advance the mission of local nonprofits.

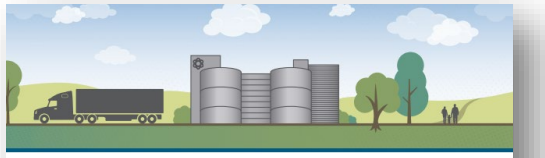
Affordability
Due to their smaller size, SMRs can use more commercially available and standardized equipment, and some prefabrication can be performed off-site – making SMRs easier and more affordable to build.

The Road to Advanced Nuclear Generation

DUKE ENERGY.

A 10-year journey with many stops along the way

2034: Celebrate the first new small modular reactor to come online



Small Modular Reactors:
Early Site Permit Application Process

Why nuclear energy?

Nuclear power plants generate more than 80% of the clean energy that customers in the Carolinas depend on – in hospitals, powering life-saving equipment; in grocery stores, keeping food cold; and at home, ensuring lights illuminate dark rooms and the air conditioning and heat turn on.

Customers expect their electricity to be there whenever they need it. Every day. Without exception. They also want clean energy and a carbon-free future.

Electricity from nuclear power plants is the only clean, carbon-free source of energy that is safe, reliable and available 24 hours a day regardless of weather conditions.

Energy from nuclear plants also complements renewables like solar and wind power.

Without new nuclear power plants, providing uninterrupted electricity while achieving net-zero carbon emissions by 2050 is not possible.

What is an early site permit application?

An early site permit application is a U.S. Nuclear Regulatory Commission (NRC) process that allows regulators to review site safety, environmental protection and emergency preparedness information for potential development of new nuclear units. The permit is valid for a specific site for 20 years and may be renewed for another 10-20 years. Pursuing an early site permit application allows Duke Energy to make progress on site readiness while monitoring developments in new nuclear reactor technologies.

Where is Duke Energy considering building a new nuclear plant?

Duke Energy is in the initial stage of a well-defined process that takes about 10 years to complete, depending on the licensing pathway chosen. No decision to build a new nuclear plant has been made, and no technology has been selected.

The company is closely monitoring advances in clean energy technologies, and small modular reactors (SMRs) are one of the most promising to emerge. SMRs are capable of producing 50-300 megawatts of safe, reliable and carbon-free energy 24 hours a day regardless of weather conditions.

Duke Energy is considering several locations in the Carolinas to potentially build the first small modular nuclear units, including retiring coal plant sites that offer land availability and access to water, railroads and transmission infrastructure. The 2022 Inflation Reduction Act gives utilities tax incentives to repurpose retiring coal plant sites, making transitioning to carbon-free energy sources more affordable for customers.

QUESTIONS?