

**Appendix 1A**

**Agency Consultation Letters  
(15 Agencies)**



M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

August 20, 2024

Ms. Wenonah G. Haire  
Tribal Historic Preservation Officer  
Catawba Indian Nation  
996 Avenue of the Nations  
Rock Hill, SC 29730

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Ms. Haire:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the Catawba Indian Nation to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the Catawba Indian Nation in obtaining the necessary permits to support authorization of this important project.

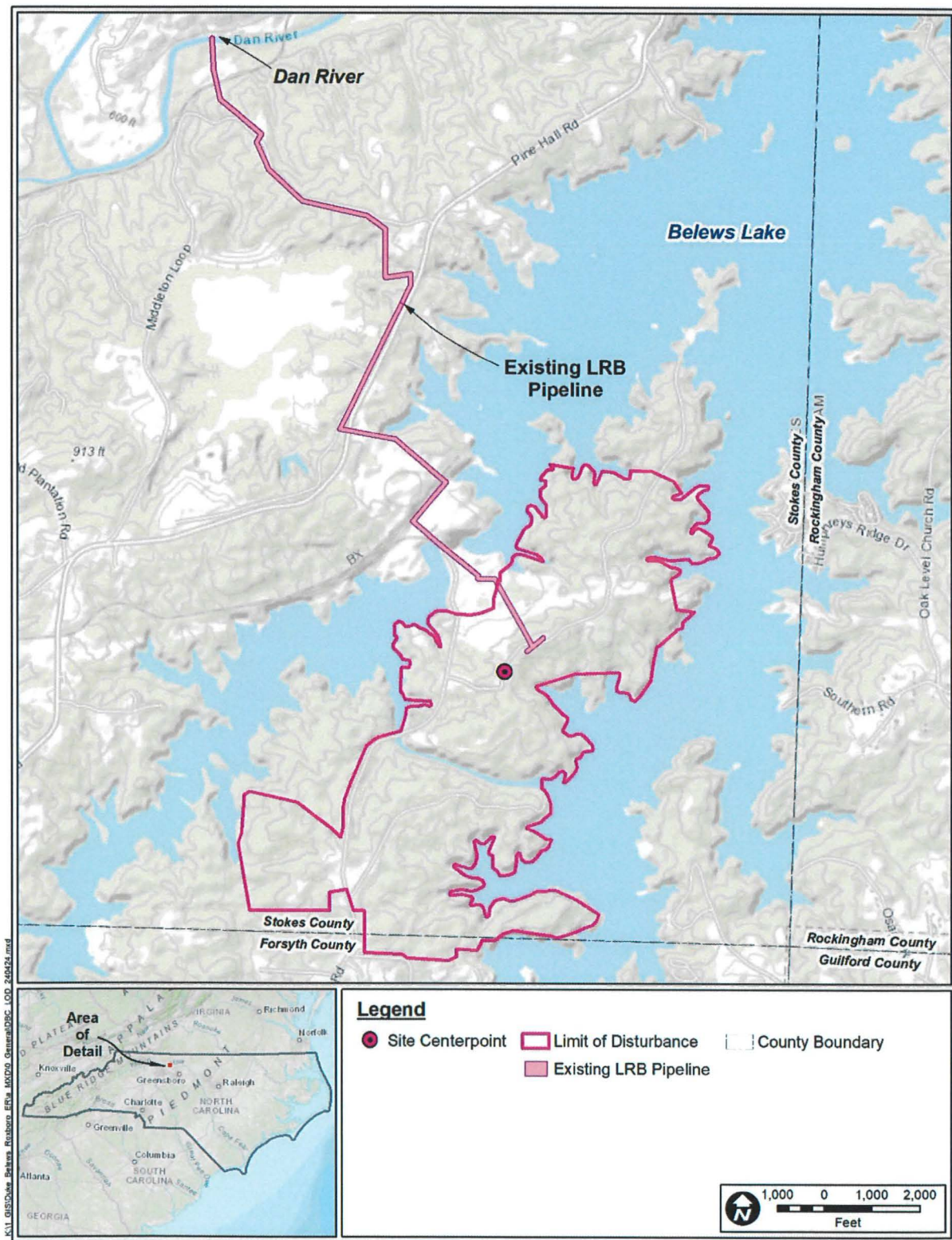
If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement



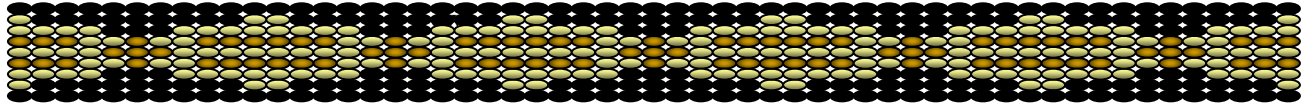


**Figure Error! No text of specified style in document.-1 Belews Creek, NC, Site**



Catawba Indian Nation  
Tribal Historic Preservation Office  
1536 Tom Steven Road  
Rock Hill, South Carolina 29730

Office 803-328-2427  
Fax 803-328-5791



September 24, 2024

Attention: Shannon Langley  
Duke Energy  
13225 Hagers Ferry Road  
Huntersville, NC 28078

Re. THPO #	TCNS #	Project Description
2024-5-13		Potential Sire for a proposed Small Modular Reactor Nuclear Plant

Dear Shannon,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail [Caitlin.Rogers@catawba.com](mailto:Caitlin.Rogers@catawba.com).

Sincerely,

Wenonah G. Haire  
Tribal Historic Preservation Officer

June 19, 2024

Sushma Masemore  
Assistant Secretary for Environment  
North Carolina Department of Environmental Quality  
217 West Jones Street  
Raleigh, NC 27603

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Assistant Secretary Masemore:

Thank you for meeting with our staff on June 11, 2024, to discuss the work underway to develop an application for an Early Site Permit (ESP) that Duke Energy plans to submit to the U.S. Nuclear Regulatory Commission (NRC) in the 4<sup>th</sup> quarter of 2025. As discussed, the project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is technology neutral using a plant parameter envelope that bound multiple SMR technologies. The ESP is separate from, and prior to, any decision to apply for a license to construct and/or operate a nuclear power plant.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the effects of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting information and input from the North Department of Environmental Quality to support our scoping efforts and to identify notable environmental permits, authorizations, or conditions that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of NUREG 1555 and RG 4.2, Rev. 3, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity. We respectfully request your review and comments by July 26, 2024, for our consideration in the development of licensing application materials.

We look forward to working with the North Carolina Department of Environmental Quality in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Nolan", written in a cursive style.

M. Christopher Nolan, VP  
New Nuclear Generation Strategy & Regulatory Engagement



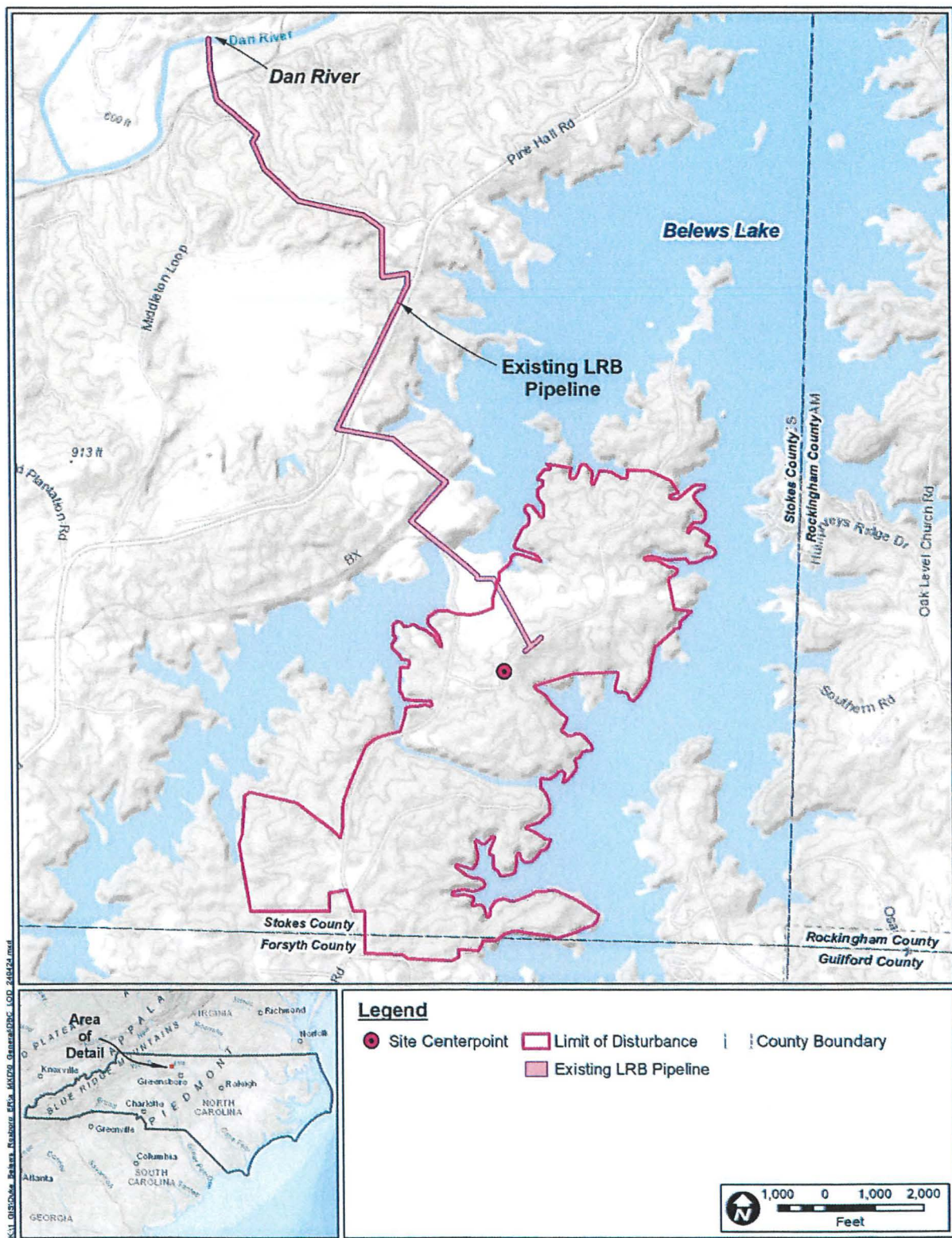


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NORTH CAROLINA  
Environmental Quality

ROY COOPER  
Governor

MARY PENNY KELLEY  
Secretary

September 17, 2024

M. Christopher Nolan, VP  
New Nuclear Generation  
Duke Energy  
13225 Hagers Ferry Road  
Mail Code MG7419EX  
Huntersville, NC 28078

Subject: DEQ Response on Information Requested on the Proposed Small Modular Reactor  
Nuclear Plant Early Site Permit

Dear VP Nolan:

Thank you for your letter on June 19, 2024 explaining Duke Energy's plans to submit to the U.S. Nuclear Regulatory Commission an application for an Early Site Plan for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors. As explained in your letter the Project Site consists of approximately 1,041 acres and Duke Energy is also considering work along an existing pipeline corridor to the Dan River, which includes an additional 45 acres. In addition to the deployment of SMRs we understand the project site would include required supporting facilities and systems, access roads, parking areas, and areas used temporarily for construction.

The purpose of this letter is to respond to Duke Energy's request for information and input from NC Department of Environmental Quality to support Duke Energy's scoping efforts and to identify notable environmental permits, authorizations, or conditions that should be considered in the environmental review of the proposed action.

Below is input from pertinent DEQ divisions regarding Duke Energy's request:

### **Division of Water Resources**

**NPDES Wastewater Permitting:** Applicants for new NPDES discharge permits must submit the following documents:

1. One original signed application, a hard copy and all supporting documents. This is required by 40 CFR 122.21, NCGS 143-215.1, and 15A NCAC 02H.0105. The proposed nuclear plant would require EPA Form 1 and EPA Form 2D. Application



North Carolina Department of Environmental Quality

217 West Jones Street | 1601 Mail Service Center | Raleigh, North Carolina 27699-1601

919.707.8661

forms can be found here: <https://deq.nc.gov/about/divisions/water-resources/water-quality-permitting/npdes-wastewater/npdes-permitting-process>

2. An application fee of \$4,625.00. Make checks payable to NC DEQ. Application fees are non-refundable [15A NCAC 02H.0105 (b)].
3. If the application is for a new or expanded discharge not covered in any existing permits please submit a completed Engineering Alternatives Analysis (EAA), required by 15A NCAC 02H.0105 (c) (2). Cost data for all disposal alternatives must be documented.
4. The application should identify the receiving stream classification (Class C) and the 7Q10 summer and winter streamflow obtained from USGS, required by 15A NCAC 02B.0206.
5. A topographical map of the discharge location, showing the proposed outfall location[s].
6. A schematic of the permitted site, showing all proposed wastewater discharges and their paths from the treatment system to the receiving stream[s].
7. Description of the proposed Cooling Water Intake Structures to satisfy requirements of the Clean Water Act Section 316(b).
8. Temperature impact study that will demonstrate compliance with the state temperature standard.

Once a draft NPDES wastewater permit is prepared, it will be Public Noticed for 30 days. If sufficient comments are received showing public opposition to the project, a Public Hearing may be required by the Director. The Hearing and its subsequent report can take approximately ninety days to complete. The entire permitting process can last 6-9 months, if no litigation is involved.

**401 & Buffers:** A delineation of the entire project site/property will be necessary to accurately identify all Waters of the US that would be subject to Section 404 of the Clean Water Act.

Any proposed impacts to Waters of the US will require permits from the US Army Corps of Engineers and 401 Certification from DWR. The appropriate permitting mechanism will be determined by the Army Corps of Engineers.

Mitigation may be required for impacts to Waters of the US.

Streams within the proposed project site are not subject to any of the 6 NC Riparian Buffer Rules.

**Public Water Supplies:** The Duke Power-Belews Creek Steam Plant (NC0285495) is an inactive non-transient non-community groundwater system. The system was deactivated on 3/1/2004 when it connected to the Winston Salem water system. It is unclear if the 2 wells on site are still being used by Winston Salem to provide drinking water. If Duke Power-Belews Creek Steam Plant (NC0285495) wanted to become an active non-transient non-community public water system they would need to contact our regional office prior to activating and fulfill



all rule requirements including, but not limited to, resuming applicable compliance monitoring and obtaining an operating permit.

### **The Division of Energy, Mineral, and Land Resources**

Duke Energy will need to submit an Erosion and Sediment Control plan application for review and approval. After approval of the E&SC then Duke Energy should submit an electronic notice of intent application for coverage under the NPDES Construction Stormwater general permit, prior to any construction. Depending upon the project location a post Construction Stormwater Permit may also be required. No Dam Safety Approval is required unless Duke Energy decides to make a modification to the dam.

### **The Division of Air Quality**

DAQ has no comments on the process of Duke obtaining the early site permit. However, any modification of the existing facility (i.e., addition of new air emission sources associated with the deployment of these small nuclear reactors - SNR) would need to be reviewed and a permit written prior to construction at the facility. DAQ would review the addition of the SNR facility using the current guidance for single source determinations. Specifically, if the following three criteria are all met, the new equipment would be considered part of the existing facility, and its permit would have to be modified. Based on current information:

1. The new equipment must be owned and operated by the same owner/operator – DAQ believes this will be met.
2. The new equipment must be contiguous and adjacent to the current facility – DAQ believes this will be met.
3. The new equipment must be under the same standard industrial classification (SIC) code as the current facility – The facility today is classified with primary code 4911 (Electric Services). Nuclear Electric Power Generation also falls within this same SIC. [This is subject to review.]

Therefore, the facility would most likely be deemed a single source for permitting.

DAQ understands that the build will be in phases. As new reactors come online, existing coal units would be removed. It is unclear at this time whether that would be in one permitting action or multiple. Multiple actions may have prevention of significant deterioration (PSD) permitting program ramifications.

As the current facility is classified as a PSD major facility, any modifications would have to be analyzed under that federal permitting program. PSD is a pre-construction permitting program which means that no construction (other than what is allowed by statute) could be initiated until the permit is issued. Details of whether PSD is triggered are based on a variety of pieces of information (e.g., total emissions potential of all new equipment, subsequent removal of current equipment, etc.). Most of this would not be known at this phase in planning. A facility can avoid triggering PSD by taking limitations in their permit or by a complex set of emission

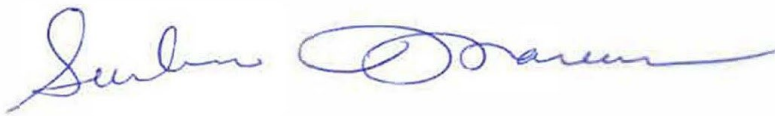
calculations indicating that the “project” doesn’t exceed the major source thresholds. Again, this is not known at this phase in planning.

**Division of Waste Management**

There are two active landfills located on or adjacent to the proposed “project site” which include the Craig Road Ash Landfill (8504-INDUS) and the Flue-Gas Desulfurization (FGD) Landfill (8505-INDUS). The Craig Road Landfill appears to be outside of the limits of disturbance, however it is adjacent to Area 1. This landfill could be closed by the project commencement date however it will have continued maintenance for at least 30 years beyond closure. The FGD landfill appears to be within Area 2 , however is subject to being mined to sell the synthetic gypsum and may no longer be present by the date of development for that portion of the property. Siting of the Small Modular Reactor’s themselves or any land development necessary for associated facilities and infrastructure shall not cause impact to either landfill or their monitoring systems without prior approval from the Division of Waste Management’s Solid Waste Section.

Please understand this information is meant to assist Duke Energy in its scoping efforts, however, the information above is not all inclusive of all the possible permits required by NC DEQ or any other Federal, State, or local governmental agency.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sushma Masemore", with a long, flowing horizontal line extending to the right.

Sushma Masemore, P.E.  
Assistant Secretary



M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

August 20, 2024

Ms. Misty Buchanan, Director  
North Carolina Natural Heritage Program  
1651 Mail Service Center  
Raleigh, NC 27699-1651

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Ms. Buchanan:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the NC Natural Heritage Program to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

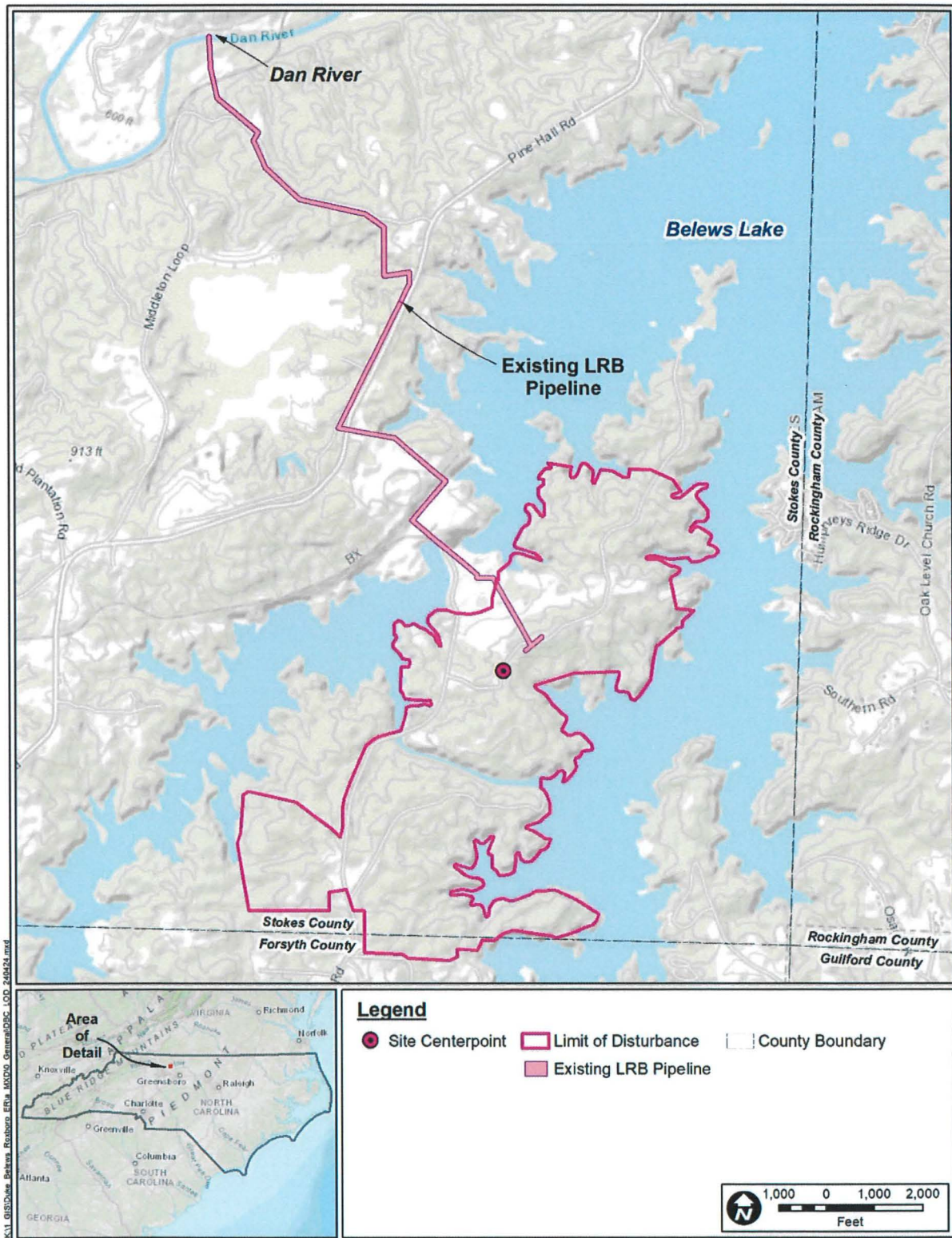
We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the NC Natural Heritage Program in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement



**Figure Error! No text of specified style in document.-1 Belews Creek, NC, Site**





Roy Cooper, Governor

D. Reid Wilson, Secretary

Misty Buchanan  
Deputy Director, Natural Heritage Program

NCNHDE-27245

September 30, 2024

Shannon Langley  
Duke Energy  
410 South Wilmington Street  
Raleigh, NC 27606  
RE: Proposed Small Modular Reactor Nuclear Plant

Dear Shannon Langley:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

Based on the project area mapped with your request, a query of the NCNHP database indicates that there are no records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. Please note that although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed. The results of this query should not be substituted for field surveys where suitable habitat exists. In the event that rare species are found within the project area, please contact the NCNHP so that we may update our records.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists. Tables of natural areas and conservation/managed areas within a one-mile radius of the project area, if any, are also included in this report.

If a Federally-listed species is found within the project area or is indicated within a one-mile radius of the project area, the NCNHP recommends contacting the US Fish and Wildlife Service (USFWS) for guidance. Contact information for USFWS offices in North Carolina is found here:

<https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=37>.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

The NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Land and Water Fund easement, or Federally-listed species are documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact the NCNHP at [natural.heritage@dncr.nc.gov](mailto:natural.heritage@dncr.nc.gov).

Sincerely,  
NC Natural Heritage Program



Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area  
Proposed Small Modular Reactor Nuclear Plant  
September 30, 2024  
NCNHDE-27245

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Dragonfly or Damselfly	33770	Somatochlora georgiana	Coppery Emerald	2004-Pre	H?	5-Very Low	---	Significantly Rare	G3G4	S1?
Vascular Plant	13199	Crocanthemum propinquum	Creeping Sunrose	1958-06	F	4-Low	---	Threatened	G4	S1
Vascular Plant	10455	Cyperus granitophilus	Granite Flatsedge	1948-05-05	H	4-Low	---	Threatened	G3G4	S2
Vascular Plant	41004	Triadenum tubulosum	Marsh St. John's-wort	1937-08-21	H	3-Medium	---	Significantly Rare Other	G4?	S2

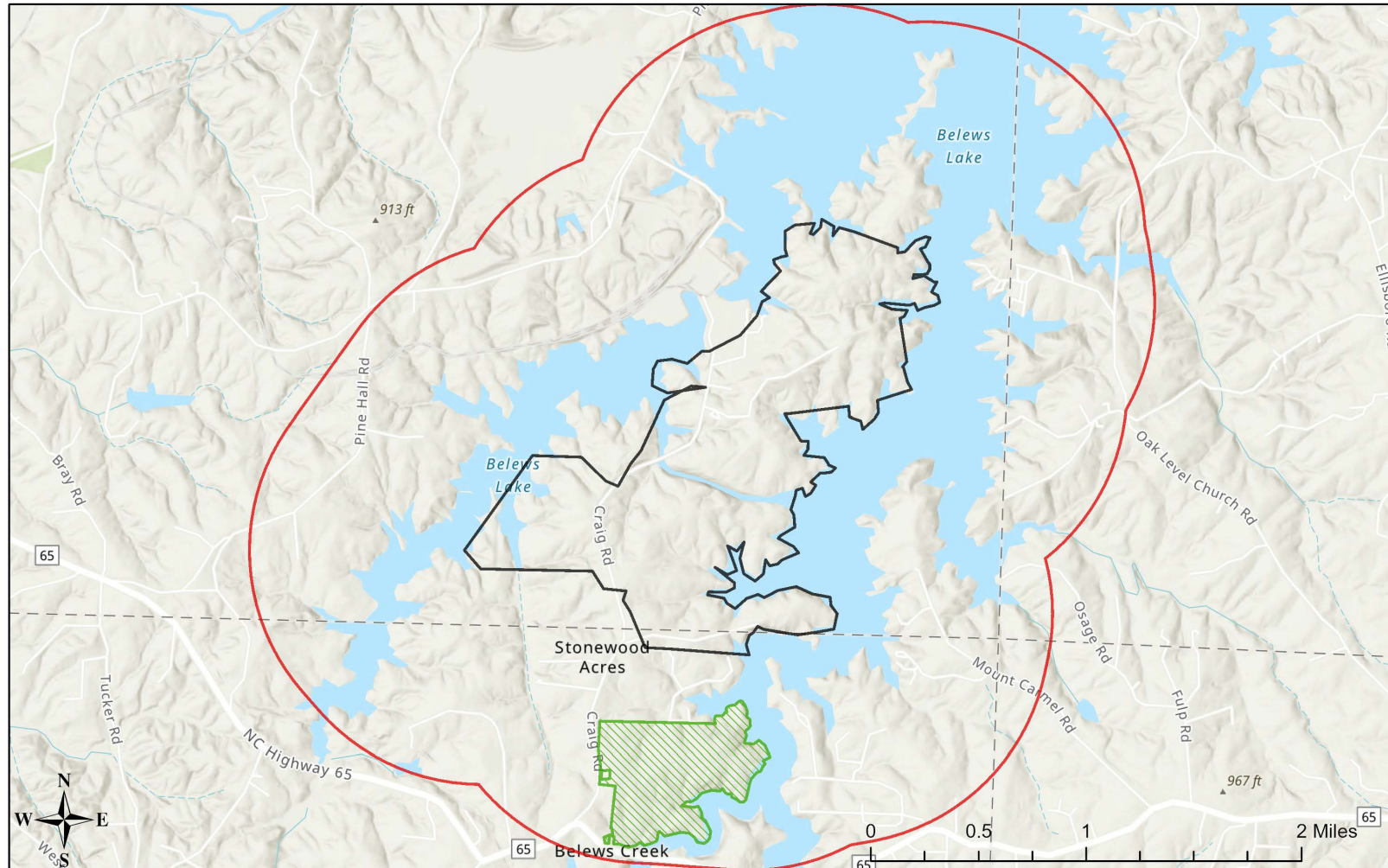
No Natural Areas are Documented Within a One-mile Radius of the Project Area

Managed Areas Documented Within a One-mile Radius of the Project Area




Managed Area Name	Owner	Owner Type
NC Land and Water Fund Conservation Agreement	NC DNCR, NC Land and Water Fund	State

Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/help>. Data query generated on September 30, 2024; source: NCNHP, Summer (July) 2024. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

# NCNHDE-27245: Proposed Small Modular Reactor Nuclear Plant



September 30, 2024

-  Managed Area (MAREA)
-  Buffered Project Boundary
-  Project Boundary

Esri, NASA, NGA, USGS  
State of North Carolina DOT, Esri, TomTom, Garmin, SafeGraph,  
GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS



M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
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o: 704.382.7426

July 18, 2024

Renee Gledhill-Early  
Environmental Review Coordinator  
N.C. State Historic Preservation Office  
4617 Mail Service Center  
Raleigh, NC 27699-4617

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Ms. Gledhill-Early:

This letter is intended to provide you with some additional background information on Duke Energy's development of an application for an Early Site Permit (ESP) application currently planned to be submitted to the U.S. Nuclear Regulatory Commission (NRC) in the 4<sup>th</sup> quarter of 2025. We appreciate your previous review and approval of the Project Review Checklist submitted on March 19, 2024 (ER 24-0833). The Phase-I survey field work is complete with a report expected to be submitted this fall. It is our intent to communicate early and often with regulatory agencies and so, to that extent, we are interested in providing a project overview and answering any questions you and your staff have about this project at a time and cadence you prefer. We are in contact with your staff to arrange a project overview meeting should one be desired. I've provided some general project information below.

The project site is in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is technology neutral using a plant parameter envelope that bounds multiple SMR technologies. The ESP is separate from, and prior to, any decision to apply for a license to construct and/or operate a nuclear power plant.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to assess the environmental impacts of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

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<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.



The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the NC SHPO to support our scoping efforts and to identify notable permits, authorizations, recommended tribal interactions, or additional stakeholders that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of NUREG 1555 and RG 4.2, Rev. 3, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We look forward to working with the NC SHPO in obtaining the necessary reviews, permits and approvals to support authorization of this important project.

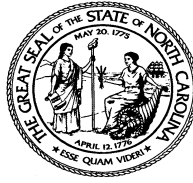
If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement





**North Carolina Department of Natural and Cultural Resources  
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper  
Secretary D. Reid Wilson

Office of Archives and History  
Deputy Secretary, Darin J. Waters, Ph.D.

August 14, 2024

Matt McKinney  
Duke Energy  
13339 Hagers Ferry Road  
Huntersville, NC 28078

[matt.mckinney@duke-energy.com](mailto:matt.mckinney@duke-energy.com)

Re: Construct Small Modular Reactor (SMR), Belews Creek, Stokes County, ER 24-0833

Dear Mr. McKinney:

Thank you for your letter of July 24, 2024, regarding the above-referenced undertaking. We have reviewed the submission and offer the following comments.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or [environmental.review@dncr.nc.gov](mailto:environmental.review@dncr.nc.gov). In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

for Ramona Bartos, Deputy  
State Historic Preservation Officer



June 14, 2024

Vann Stancil  
Habitat Conservation Biologist  
North Carolina Wildlife Resources Commission  
1701 Mail Service Center  
Raleigh, NC 27699-1701

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Mr. Stancil:

Thank you for meeting with our staff on May 21, 2024, to discuss the work underway to develop an application for an Early Site Permit (ESP) that Duke Energy plans to submit to the U.S. Nuclear Regulatory Commission (NRC) in the 4<sup>th</sup> quarter of 2025. As discussed, the project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is technology neutral using a plant parameter envelope that bound multiple SMR technologies. The ESP is separate from, and prior to, any decision to apply for a license to construct and/or operate a nuclear power plant.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the effects of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting information and input from the North Department Wildlife Resources Commission to support our scoping efforts and to identify notable environmental permits, authorizations, or conditions that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of NUREG 1555 AND RG 4.2, Rev. 3, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity. We respectfully request your review and comments by July 26, 2024, for our consideration in the development of licensing application materials.

We look forward to working with the North Carolina Wildlife Resources Commission in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Nolan", with a stylized flourish at the end.

M. Christopher Nolan, VP  
New Nuclear Generation Strategy & Regulatory Engagement



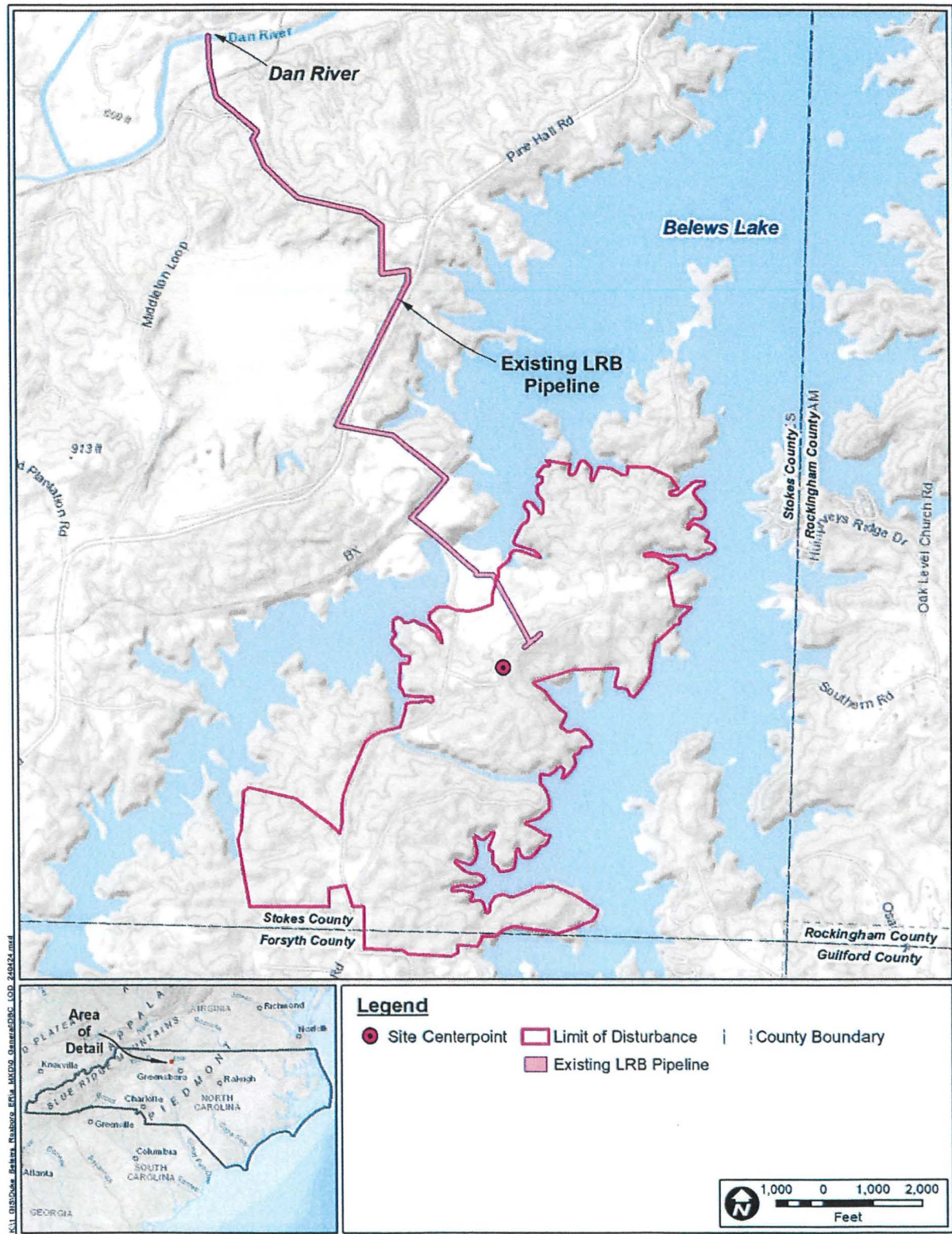


Figure Error! No text of specified style in document.-1 Belews Creek, NC, Site





## North Carolina Wildlife Resources Commission

Cameron Ingram, Executive Director

### MEMORANDUM

TO: M. Christopher Nolan, VP  
Duke Energy - New Nuclear Generation

FROM: Vann F. Stancil  
Multi Region & Research Coordinator *Vann F. Stancil*  
Habitat Conservation Program

DATE: July 26, 2024

SUBJECT: Scoping Comments on Belews Creek as a Potential Site for a  
Proposed Small Modular Reactor Nuclear Plant.

The North Carolina Wildlife Resources Commission (NCWRC) has reviewed Duke Energy's request for information on a proposed small modular reactor (SMR) nuclear plant. The potential site for this SMR project is on a peninsula of Belews Lake in Stokes and Forsyth counties adjacent to Duke Energy's Belews Creek Steam Station. Representatives of Duke Energy and the NCWRC met on May 21, 2024 to discuss the application for an Early Site Permit (ESP) and tour the proposed site. Our scoping comments are in response to a letter from Duke Energy dated June 14, 2024 and are in accordance with certain provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e).

Duke Energy is developing the ESP as a first step towards using SMR technology to generate power at the Belews Creek plant. The ESP would approve the site as a suitable location for future construction of a nuclear generation facility; the ESP is separate from a decision to apply for a license for a nuclear power plant. The Project Site consists of approximately 1,041 acres along a peninsula of Belews Lake in southern Stokes County (and a small portion of northern Forsyth County) located to the south and east of Duke Energy's Belews Creek Steam Station. Duke Energy is also considering work along an existing pipeline corridor to the Dan River; this corridor is approximately 3.7 miles and would include an additional 45 acres. Duke Energy is investigating options to install up to six SMRs on the site with a maximum output of 2,200 megawatts electric (MWe). Each SMR would have a cooling tower and various supporting facilities and structures.

Belews Lake is an impoundment of Belews Creek and several tributaries. Belews Creek flows for approximately 3,800 feet from the dam to the confluence with the Dan River. NCWRC operates the Pine Hall and Piney Bluff Boating Access Areas on the 3,864-acre reservoir, which is popular for fishing, boating, and other activities. The proposed nuclear plant would be located within the southern half of Belews Lake on a peninsula that separates West Belews Creek and Belews Creek. There is no public access to the West Belews Creek arm of Belews Lake south of the Belews Creek Steam Station. To maintain water levels in Belews Lake, Duke Energy withdraws water from the Dan River using an intake located near the confluence of the Dan River and Belews Creek.

There are records for several rare aquatic species in the Dan River in Stokes and Rockingham counties. Federal listed aquatic species known to occur in the Dan River near the project site or downstream are: Atlantic Pigtoe (*Fusconaia masoni*) (Threatened), James Spiny mussel (*Parvaspina collina*) (Endangered), and Roanoke logperch (*Percina rex*) (Endangered). In addition, Green Floater (*Lasmigona subviridis*) was proposed as Threatened in 2023. Notched Rainbow (*Villosa constricta*) and Bigeye Jumprock (*Moxostoma ariommum*) are state threatened while riverweed darter (*Etheostoma podostemone*) is significantly rare. Additional federal listed species that may be affected by the project include tricolored bat (*Perimyotis subflavus*) that was proposed as Endangered in 2022, Schweinitz's sunflower (*Helianthus schweinitzii*) (Endangered), and Monarch butterfly (*Danaus Plexippus*) (Candidate). Given the extended time frame and complexity of this SMR project, additional species may be listed, or currently listed species may be downlisted or delisted before this project is completed.

The NCWRC is particularly concerned with how operations at the proposed nuclear project will affect Belews Lake and the Dan River. We are particularly interested in learning more about anticipated changes to water quality and chemistry in Belews Lake as well as the potential for increased water level fluctuations in the reservoir. We need more information about water needs for the SMR project and how this may increase water loss from Belews Lake and how this may affect withdrawal rates from the Dan River to maintain suitable water levels in the lake. We are concerned about how water withdrawals will affect Dan River flows, especially during periods of low flow and the potential impacts to freshwater mussels and fish, especially during important life stages such as spawning. Increasing water withdrawals also increases the potential to impinge and entrain aquatic organisms.

The NCWRC requests information about the radioactive waste that will be produced by the SMR project, including details about constituents, storage and disposal. We are concerned about the potential discharge of radioactive waste to the Dan River and request information regarding the composition and volume of radioactive waste, the frequency of discharges, and alternatives to discharging to the Dan River. The NCWRC is concerned with potential impacts to federal and state listed species in the Dan River from the discharge of radioactive materials. We recommend a robust long-term study of the aquatic community of the Dan River above and below the discharge location to monitor any changes over time that may result from the discharge of radioactive material as well as changes due to water withdrawal from the river.

Each SMR will operate individually and have a controlled area around the perimeter of the unit to prevent unauthorized access. Given the landscape of the Project Site, portions of some coves of Belews Lake may be within controlled areas. As more details become available, the NCWRC

requests additional information about which, if any, areas of Belews Lake will no longer be accessible to the public.

Duke Energy has already cleared approximately 25 acres of land encircling a new meteorological tower constructed on the northern end of the Project Site; vegetation within this area must remain low to the ground. As discussed during the site visit, this area provides a unique opportunity to plant and manage native vegetation suitable for pollinators and other wildlife. We recommend planting native, wildflower seed mixes that will create pollinator habitat and avoid using invasive and/or non-native species such as Bermudagrass, redtop, tall fescue, and lespedeza. A list of alternatives to non-native species has been attached separately. Alternatively, use a grain, such as oat, wheat, or rye for temporary cover and native seed mixes for permanent seeding. We encourage incorporating wildflower seed mixes and native plants at additional areas near and within the SMR controlled areas as practicable.

To minimize impacts to the tricolored bat, we recommend not clearing trees during the coldest winter months (December 15 to February 14) and pup rearing months (April 15 -July 31). Tricolored bats are known to roost in culverts and in bridges, including in the winter in the Piedmont of North Carolina. Therefore, any existing culverts greater than 3 feet wide and bridges within or adjacent to the project should be surveyed for bats within 15 days of construction. All surveys should be conducted in accordance with the National White-nose Syndrome Decontamination Protocol and the U.S. Fish and Wildlife Service Range-wide Indiana Bat & Northern Long-Eared Bat Survey Guidelines ([USFWS Bat Survey Guidelines](#)).

Detailed information on impacts to streams, wetlands, and aquatic and terrestrial wildlife habitats, as well as mitigation measures to avoid, minimize or compensate for lost wildlife habitats (uplands, wetlands, streams, etc.) should be provided in future documents. Additional information on secondary and cumulative impacts, habitat fragmentation, sedimentation and erosion control and efforts to reduce impacts should also be provided.

Thank you for the opportunity to comment on this proposed SMR project. The NCWRC welcomes continued updates and coordination as this project moves forward. Please contact me at [vann.stancil@ncwildlife.org](mailto:vann.stancil@ncwildlife.org) or 919-248-5218 if you have any questions.

cc: Andrea Leslie, Olivia Munzer, TR Russ, & Kin Hodges, NCWRC  
Bryan Tompkins, USFWS





M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

July 18, 2024

Sam Dailey  
Charlotte Regulatory Field Office Chief  
U.S. Army Corps of Engineers  
8430 University Executive Park Drive, Suite 615  
Charlotte, North Carolina 28262

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Ms. Dailey:

I understand that Mr. Steve Cahoon with Duke Energy has been in contact with you to facilitate a meeting to provide you with some background information on Duke Energy's development of an application for an Early Site Permit (ESP) currently planned to be submitted to the U.S. Nuclear Regulatory Commission (NRC) in the 4<sup>th</sup> quarter of 2025. It is Duke Energy's understanding that, in accordance with the 2008 update to the Memorandum of Understanding between the US Army Corps of Engineers (USACE) and the NRC (ML082540354), the NRC may request USACE involvement as a Cooperating Agency in the development of an EIS if the project is anticipated to require a USACE individual permit. As such, Duke Energy proposes to conduct interactions with the USACE early in the pre-application stage to provide information regarding the project. We look forward to the opportunity to discuss this project in the future and I have provided initial background information below for reference.

The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is technology neutral using a plant parameter envelope that bounds multiple SMR technologies. The ESP is separate from, and prior to, any decision to apply for a license to construct and/or operate a nuclear power plant.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will assess the impacts on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

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<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the USACE to support our scoping efforts and to identify notable environmental permits, authorizations, or conditions that should be considered in the environmental review of the proposed action.** Because final design is not complete, it is unclear if an individual permit will be required, however, a project of this type may require placement of water intakes structures, discharge structures, water access control structures and potentially some other unavoidable impacts. We can discuss this type of info in a project overview meeting when scheduled.

In conjunction with the guidance of NUREG 1555 and RG 4.2, Rev. 3, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We look forward to working with the USACE in obtaining the necessary reviews, permits and approvals to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement

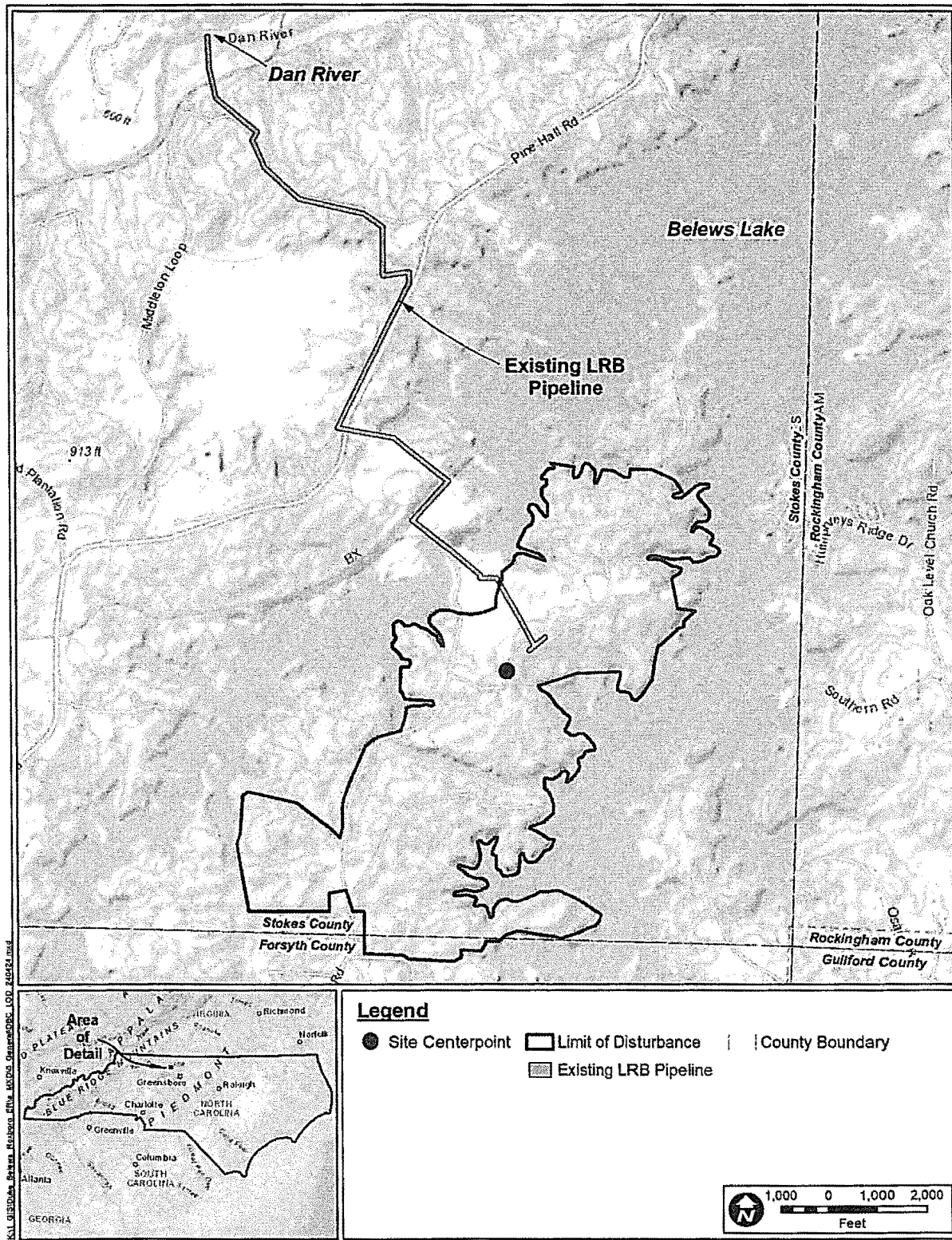


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## Alsina, Kendall M

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**To:** Albright, Maria; Langley, Shannon  
**Cc:** Elzinga, William; McNicholas, Pam; Gay, Jan; Zmuda, Joseph J; Finch, Paul Lynn; Cahoon, Steve; Light, Russell S; Glenn, Elizabeth; Johnson, Brenda  
**Subject:** RE: [EXTERNAL] JD CONCURRENCE: SAW-2024-01909 / Belews Creek Nuclear Site / Duke Energy / Stokes County

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**From:** Dailey, Samantha J CIV USARMY CESAW (USA) <[Samantha.J.Dailey@usace.army.mil](mailto:Samantha.J.Dailey@usace.army.mil)>  
**Sent:** Thursday, January 16, 2025 1:31 PM  
**To:** Cahoon, Steve <[Steve.Cahoon@duke-energy.com](mailto:Steve.Cahoon@duke-energy.com)>; Langley, Shannon <[Shannon.Langley@duke-energy.com](mailto:Shannon.Langley@duke-energy.com)>; Nolan, Chris <[Chris.Nolan@duke-energy.com](mailto:Chris.Nolan@duke-energy.com)>  
**Cc:** Gay, Jan <[jan.gay@wsp.com](mailto:jan.gay@wsp.com)>; Greer, Emily C CIV USARMY CESAW (USA) <[Emily.C.Greer@usace.army.mil](mailto:Emily.C.Greer@usace.army.mil)>  
**Subject:** [EXTERNAL] JD CONCURRENCE: SAW-2024-01909 / Belews Creek Nuclear Site / Duke Energy / Stokes County

**\*\*\* CAUTION! EXTERNAL SENDER \*\*\* STOP. ASSESS. VERIFY!!** Were you expecting this email? Are grammar and spelling correct? Does the content make sense? Can you verify the sender? If suspicious report it, then do not click links, open attachments or enter your ID or password.

Good afternoon,

Please reference your DELINEATION CONCURRENCE request for the above referenced property, Corps Action ID: SAW-2024-01909. By copy of this e-mail, we are confirming that the delineation depicted on the enclosed maps *Figure 6 – Potential Waters of the U.S. and Wetlands Datapoints Map (Sheets 1 – 9)* and part of the July 2024 *Duke Energy Belews Creek, NC Site Waters of the U.S. Delineation Report*, is verified by our office and is a sufficiently accurate representation of the geographic boundaries of the aquatic resources located on the site.

Regulatory Guidance Letter (RGL) 16-01 provides guidance for Jurisdictional Determinations (JDs) and states, “The Corps generally does not issue a JD of any type where no JD has been requested” and in “certain circumstances where a JD would not be necessary.” This delineation may be relied upon for use in the permit evaluation process with our office, including determining proposed impacts and compensatory mitigation. This delineation verification is not an Approved Jurisdictional Determination (AJD) and is not an appealable action under the Regulatory Program Administrative Appeal Process (33 CFR Part 331).

Unless a future request is received that requires additional review, no further correspondence will be forthcoming, and the Corps considers this request complete.

Best Regards,

Sam Dailey (she/her)  
Chief, Charlotte Regulatory Field Office  
U.S. Army Corps of Engineers, Wilmington District  
8430 University Executive Park Drive, Suite 615  
Charlotte, NC 28262

Email: [Samantha.J.Dailey@usace.army.mil](mailto:Samantha.J.Dailey@usace.army.mil)  
Cell: (704) 589-8397

June 19, 2024

Janet Mizzi  
Field Office Supervisor  
U.S. Fish & Wildlife Service  
Asheville Field Office  
160 Zillicoa Street  
Asheville, NC 28801

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Ms. Mizzi:

Thank you for meeting with our staff on May 23, 2024, to discuss the work underway to develop an application for an Early Site Permit (ESP) that Duke Energy plans to submit to the U.S. Nuclear Regulatory Commission (NRC) in the 4<sup>th</sup> quarter of 2025. As discussed with Bryan Tompkins and Gary Peeples, the project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is technology neutral using a plant parameter envelope that bound multiple SMR technologies. The ESP is separate from, and prior to, any decision to apply for a license to construct and/or operate a nuclear power plant.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the effects of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting information and input from the U.S. Fish & Wildlife Service to support our scoping efforts and to identify notable environmental permits, authorizations, or conditions that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of NUREG 1555 and RG 4.2, Rev. 3, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity. We respectfully request your review and comments by July 26, 2024, for our consideration in the development of licensing application materials.

We look forward to working with the U.S. Fish & Wildlife Service in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Christopher Nolan'.

M. Christopher Nolan, VP  
New Nuclear Generation Strategy & Regulatory Engagement









# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Asheville Field Office  
160 Zillicoa Street Suite B  
Asheville, North Carolina 28801

July 16, 2024



Mr. Christopher Nolan  
New Nuclear Generation  
13225 Hagers Ferry Road  
Mail Code: MG7419EX  
Huntersville, North Carolina 28078

Subject: Federally Listed Species Assessment, Duke Energy's Proposed Small Modular Reactor Nuclear Plant Project, located in Belews Creek Township, adjacent to the Belews Creek Steam Station, in Stokes and Forsyth Counties, North Carolina

Dear Mr. Nolan:

On May 23, 2024, Mr. Gary Peebles and Mr. Bryan Tompkins of our staff met with Duke Energy representatives to discuss the subject project. On June 24, 2024, we received your letter dated June 19, 2024, requesting our review and comments on the subject project. We have reviewed the information presented in your letter and at the May 23, 2024, meeting. The following comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. § 4321 et seq.) and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

According to the information provided, Duke Energy proposes to construct an advanced electric generation facility that utilizes small modular nuclear reactors (SMRs). The proposed project consists of constructing multiple SMRs on a 1,041-acre tract adjacent to the existing Belews Creek Steam Station. The project will also require construction work along an existing 3.7-mile-long pipeline corridor from the project site to the Dan River. These construction activities will require an additional 45-acres of site work. The project site currently consists of forested areas of mixed hardwood/pine, open-maintained fields, developed areas associated with the Belews Creek Steam Station, and electric transmission line rights-of-way. No details were provided in your letter regarding the presence of aquatic resources (streams, wetlands) on the project site. Duke is evaluating the deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts of electricity. Development on the project site would include required supporting facilities and systems including the reactor building, other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and temporary construction staging areas.

### **Federally Listed Species**

Based on the information you provided and a review of our records, there is suitable summer roosting habitat on the proposed project site for tricolored bat (*Perimyotis subflavus*) which is currently a Candidate for federal listing. The proposed site also contains suitable habitat for Schweinitz's sunflower (*Helianthus schweinitzii*), which is currently federally listed as an endangered species, and monarch butterfly (*Danaus plexippus*) which is currently a Candidate for federal listing. Additional information on these species is as follows:

#### **Tricolored Bat (*Perimyotis subflavus*) [Candidate]**

On September 14, 2022, the Service published a proposal in the Federal Register to list the tricolored bat as endangered under the Act. The Service has up to 12-months from the date a proposal publishes to make a final determination, either to list a species under the Act or to withdraw the proposal. Species proposed for listing are not afforded protection under the Act; however, as soon as a listing becomes effective (typically 30 days after publication of the final rule in the Federal Register), the prohibitions against jeopardizing its continued existence and "take" will apply. To avoid the disruption of ongoing or planned actions, conferencing procedures for this species are being followed. The conference can be adopted as concurrence if a final rule for this species becomes effective during the life of the project. We believe the best way to avoid impacts to this species is to conduct any tree removal during the winter from October 15 – April 1 when tricolored bats are hibernating and not using trees for summer roosting. Should this species become federally listed, we could concur with a "may affect, not likely to adversely affect" determination if tree clearing associated with the project is conducted outside of the summer roosting period. If tree clearing will be necessary during the tree roosting period (April 1 – October 15), acoustic or mist net surveys for tricolored bat will be necessary. If surveys are conducted and the species is found to occur within the project site, additional consultation with this office will be required.

#### **Schweinitz's sunflower (*Helianthus schweinitzii*) [Endangered]**

Suitable habitat for Schweinitz's sunflower is located on the site. Surveys for Schweinitz's sunflower should be conducted in all areas of suitable habitat during the blooming period for the species. The optimal survey period for Schweinitz's sunflower is August - October. Surveys should be conducted during this period by qualified botanist(s) familiar with the species.

#### **Monarch butterfly (*Danaus plexippus*) [Candidate]**

We have occurrence records of Monarch butterfly around the project area. Monarch butterfly is currently a Candidate for federal listing but is not yet listed or proposed for listing. A review for listing is proposed to occur in 2024. Open areas within the project site appears to contain suitable foraging habitat and possibly contains suitable breeding habitat (if *Asclepias* sp. plants exist). Though no restrictions or surveys are required, we request that conservation measures be implemented into the project plans to avoid or minimize any impacts that could occur to this species. If the species is formally federally listed as threatened or endangered before the project is completed, additional consultation with this office may be necessary.

Additionally, there are other federally listed aquatic species that occur in the vicinity of the project, specifically in the Dan River. Federally listed species such as Green Floater (*Lasmigona subviridis*) (Proposed Threatened), Atlantic Pigtoe (*Fusconaia masoni*) (Endangered), James Spiny Mussel (*Parvaspina collina*) (Endangered), and Roanoke logperch (*Percina rex*) (Endangered) are known to occur in the Dan River at and/or downstream of the project site. Information obtained during the May 23, 2024 meeting indicated that the project will result in evaporative water loss from reactor cooling towers and that additional water may be pumped and piped from the Dan River to the cooling towers. For these reasons, we recommend that potential indirect effects to these species from water withdrawals and water loss in the watershed should be assessed. Surveys for these species is also recommended in the Dan River at and downstream of the confluence with Belews Creek and in the Dan River adjacent to the proposed pipeline work (included as part of the project scoping area).

### **Bald and Golden Eagle Protection Act**

We have records of bald eagles nesting in the area and adjacent to Belews Lake. The bald eagle has been removed from the federal list of endangered and threatened species due to its recovery. However, this species continues to be afforded protection by the Bald and Golden Eagle Protection Act (16 U.S.C. 668668d) and the Migratory Bird Treaty Act (16 U.S.C. 703712). The Bald and Golden Eagle Protection Act, enacted in 1940, and amended several times, prohibits anyone without a permit issued by the Secretary of the Interior from “taking” bald eagles, including their parts, nests, or eggs. “Take” is defined as to “*pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.*” “Disturb” means “*to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment.*” In addition to immediate impacts, these definitions also cover impacts that result from human induced alterations initiated around a previously used nest site during a time when eagles are not present if, upon an eagle’s return, such alterations agitate or bother the eagle(s) to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits and causes injury, death, or nest abandonment.

If any active nests are located within ½ mile of the project site, we request work at the site be restricted from mid-December through July to prevent adverse impacts to the bald eagle. This will prevent disturbance of the eagle(s) during the egg laying period until the young fledge, which encompasses their most vulnerable life stages. We ask that you consult with this office before construction begins to confirm that the eagle(s) have left the nest. Once this has been confirmed, construction may begin. If construction during the restricted time period of mid-December through July cannot be avoided, then consultation with this office will be necessary and a “take” permit must be obtained. More information on bald eagle management, conservation measures, and obtaining a “take” permit for bald eagles can be found at the following website:

<https://www.fws.gov/program/eagle-management/what-we-do#PermitTypes>

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (16 U.S.C. 703712) implements four treaties that provide for the international protection of migratory birds. The Migratory Bird Treaty Act prohibits taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. Bald and golden eagles are afforded additional legal protection under the Bald and Golden Eagle Protection Act (16 U.S.C. 668668d).

For many industries/activities, the U.S. Fish and Wildlife Service has developed activity specific guidance found at the following website:

<https://www.fws.gov/birds/management/project-assessment-tools-and-guidance.php>.

These guidance documents are designed to help industry and project developers implement measures to reduce activity specific impacts to migratory birds. These documents provide important background on the applicable laws and policies, helping clarify standards and expectations and/or offering suggested best practices to avoid or minimize negative impacts to birds.

### **Pollinators**

Pollinators, such as most bees, some birds and bats, and other insects, including moths and butterflies, play a crucial role in the reproduction of flowering plants and production of most fruits and vegetables. Over 75 percent of flowering plants and about 75 percent of crops are pollinated by these types of fauna. A recent study of the status of pollinators in North America by the National Academy of Sciences found that populations of honey bees (which are not native to North America) and many wild pollinators are declining. Declines in wild pollinators are a result of disease and the loss, degradation, and fragmentation of habitat. Because loss of habitat and diminished native food sources have decreased the populations and diversity of pollinators throughout the country, we recommend that development projects be sited in areas that are previously disturbed (fallow fields, closed industrial sites, etc.) or sites that do not impact mature forests, streams, or wetlands. To reduce development impacts to pollinators and/or to increase the habitat and species diversity within the project area, we recommend the following measures be incorporated into project designs:

- 1) Throughout the site, avoid non-native seed mixes and plants. Instead, sow native seed mixes and plant species that are beneficial to pollinators.
  - a. Avoid seed mixes and plants that have been pre-treated with insecticides, such as neonicotinoids.
  - b. Taller growing pollinator plant species should be planted around the periphery of the site and anywhere on the site where mowing can be restricted during the summer months. Taller plants, not mowed during the summer, would provide benefits to pollinators, habitat for ground nesting/feeding birds, and cover for small mammals.
  - c. Native low growing groundcover species should be planted in areas that need to be maintained. This would provide benefits to pollinators while also minimizing the amount of maintenance, such as mowing and herbicide treatment.
  - d. Using a seed mix that includes milkweed species (*Asclepias* spp.) is especially beneficial for monarch butterflies. The following website provides additional information and a comprehensive list of native plant species that benefit pollinators: <http://www.xerces.org/pollinator-resource-center/mid-atlantic>. We also offer our assistance with developing seed mixes that can be used in conjunction with fast growing erosion control seed mixes for overall soil stability and pollinator benefits.
  - e. Additional information regarding plant species, seed mixes, and pollinator habitat requirements can be provided upon request.
- 2) Mowing and grounds maintenance, including pesticide use, should be scheduled to reduce harm to pollinators. We advise mowing in the fall or winter when flowers are not in bloom.



- 3) Provide nesting sites for pollinator species. Different pollinators have different needs for nesting sites. Therefore, we recommend project designs include a diverse array of habitats to accommodate varied pollinators. For example:
  - a. Hummingbirds typically nest in trees or shrubs.
  - b. Many butterflies lay eggs on specific host plants.
  - c. Most bees nest in the ground and in wood or dry plant stems.
  - d. For additional information and actions that can be taken to benefit pollinators please visit the following website: <https://www.fws.gov/pollinators/>.
- 4) Minimize effects of outdoor light pollution. Recent studies indicate that artificial lighting disrupts the natural reproduction and feeding patterns of nocturnal pollinators such as beetles and moths. This disruption results in a decrease of pollination rates in plants and a decrease in the health and diversity of nocturnal pollinators. When developing an outdoor lighting plan or installing any outdoor lighting devices, we recommend the following measures be considered to minimize potential adverse effects of outdoor lighting:
  - a. Decrease the number of light fixtures, as practicable, to meet lighting objectives.
  - b. Install lighting only in areas that need illumination for safety (e.g. paths, roads, etc.). Avoid lighting landscape features such as trees, shrubs, or building facades.
  - c. Install fully shielded lights that direct light downward.
  - d. Use only low-pressure sodium (LPS), high-pressure sodium (HPS), or light emitting diode (LED) light sources that emit “warm” light. “Warm” light sources are those that contain low amounts of blue light in their spectrum. Choosing light sources with a color temperature of no more than 3,000 Kelvins will minimize the effects of blue light exposure.
  - e. For additional information and actions that can be taken to reduce outdoor light pollution, please visit the following website: <https://www.darksky.org/our-work/lighting/lighting-for-citizens/lighting-basics/>.

### **Erosion and Sedimentation Control**

Construction activities near aquatic resources, streams, and wetlands have the potential to cause bank destabilization, water pollution, and water quality degradation if measures to control site runoff are not properly installed and maintained. To effectively reduce erosion and sedimentation impacts, best management practices specific to the extent and type of construction should be designed and installed prior to land disturbing activities and should be maintained throughout construction. Natural fiber matting (coir) should be used for erosion control as synthetic netting can trap animals and persists in the environment beyond its intended purpose. Land disturbance should be limited to what can be stabilized quickly, preferably by the end of the workday. Once construction is complete, disturbed areas should be revegetated with native riparian grass and tree species as soon as possible. For maximum benefits to water quality and bank stabilization, riparian areas should be forested; however, if the areas are maintained in grass, they should not be mowed. The Service can provide information on potential sources of plant material upon request.

### **Stormwater Control**

Stormwater runoff is generated from rain and snowmelt that flows over land or impervious surfaces (e.g., paved streets, parking lots, roofs) and does not soak into the ground<sup>1</sup>. Studies<sup>2</sup> show that areas of 10 to 20 percent impervious surface double the amount of stormwater runoff compared to natural

vegetative cover and decreases deep infiltration (groundwater recharge) by 16 percent. At 35 to 50 percent impervious surface, runoff triples, and deep infiltration is decreased by 40 percent. Stormwater runoff collects pathogens, metals, sediment, and chemical pollutants and quickly transmits them to receiving waters. Some stormwater runoff from roads and highways is considered nonpoint source pollution. Nonpoint source pollution is one of the major threats to water quality in the U.S.<sup>3</sup>, poses risks to aquatic life<sup>4</sup>, and is linked to chronic and acute illnesses in humans<sup>5</sup>. Increased stormwater runoff also causes streambank and stream channel scouring, directly damaging aquatic and riparian habitat. Impervious surfaces reduce groundwater recharge, resulting in lower-than-expected stream flows during drought periods, which can induce potentially catastrophic effects for fish, mussels, and other aquatic life. Use of stormwater control measures (SCMs) will decrease the quantity and increase the quality of stormwater runoff. We provide the following recommendations to help with stormwater management at the project site:

1. All development projects should implement stormwater retention and treatment measures designed to replicate and maintain the hydrograph at the preconstruction condition.
2. Use low impact development techniques,<sup>6</sup> such as reduced road widths, grassed swales in place of curb and gutter, rain gardens, and wetland retention areas for retaining and treating stormwater runoff rather than more traditional measures (e.g., retention ponds). These designs often cost less and reduce the environmental impacts of development.
3. Where detention ponds are used, stormwater outlets should drain through a vegetated area prior to reaching any natural stream or wetland. Detention ponds should be designed to allow for the slow discharge of stormwater, attenuating the potential adverse effects of stormwater surges; thermal spikes; and sediment, nutrient, and chemical discharges.
4. Because the purpose of SCMs is to protect streams and wetlands, no SCMs should be installed within any stream (perennial or intermittent) or wetland.
5. Consider the use of pervious materials (i.e., pervious concrete, interlocking/open paving blocks) for the construction of roads, driveways, sidewalks, etc. Pervious surfaces minimize changes to the hydrology of the watershed and can be used to facilitate groundwater recharge. Pervious materials are less likely to absorb and store heat and allow the cooler soil below to cool the pavement. Pervious concrete requires less maintenance and is less susceptible to freeze/thaw cracking.
6. Ensure SCMs work as intended by performing routine inspection and maintenance.

At this stage and without more specifics about construction locations or techniques, it is difficult for us to fully assess potential environmental impacts (direct, indirect, secondary and cumulative) of this project. We therefore recommend that any environmental document prepared for this project include the following (if applicable):

1. A detailed analysis of stream and wetland impact areas and locations, particularly the locations of proposed pump stations and the construction techniques proposed for the stations as part of the project. Plans for all proposed impact areas should include a complete analysis and comparison of the available construction techniques and alternatives (including a no-build alternative).
2. A description of the fishery and wildlife resources within existing and required additional rights-of-way and any areas, such as borrow areas, that may be affected directly or indirectly by the proposed project.

3. An assessment of all expected secondary and cumulative environmental impacts associated with this proposed work. The assessment should specify the extent and type of development proposed for the project area once the work is complete and how future growth will be maintained and supported regarding sewer lines, water lines, parking areas, and any proposed roadways.

4. A discussion about the extent to which the project will result in the loss, degradation, or fragmentation of wildlife habitat from direct construction impacts and from secondary development impacts. The acreage and location of upland habitat, by cover type, that will be eliminated because of the proposed project must be noted.

5. Mitigation measures that will be employed to avoid, eliminate, reduce, or compensate for habitat value losses (wetland, riverine, and upland) associated with any phase of the proposed project

We appreciate the opportunity to provide these comments. If we can be of assistance or if you have any questions, please contact Mr. Bryan Tompkins of our staff at 828/450-7586 or via email at [bryan\\_tompkins@fws.gov](mailto:bryan_tompkins@fws.gov). In any future correspondence concerning this project, please reference our USFWS Project Code: 2024-0116237/Log Number 4-2-24-035.

Sincerely,

Janet Mizzi  
Field Supervisor





M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

August 20, 2024

Mr. Mike Oetker  
Acting Regional Director  
EPA Region 4  
Sam Nunn Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303-8960

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Mr. Oetker:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the U.S. Environmental Protection Agency to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action. Please note a similar request has been submitted to the North Carolina Department of Environmental Quality.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the **U.S. Environmental Protection Agency** in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement









M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

August 20, 2024

Mr. Eddie M. Buffalo, Jr., Secretary  
North Carolina Department of Public Safety  
4201 Mail Service Center  
Raleigh, NC 27699-4201

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Secretary Buffalo:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the NC Department of Public Safety to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the NC Department of Public Safety in obtaining the necessary permits to support authorization of this important project.

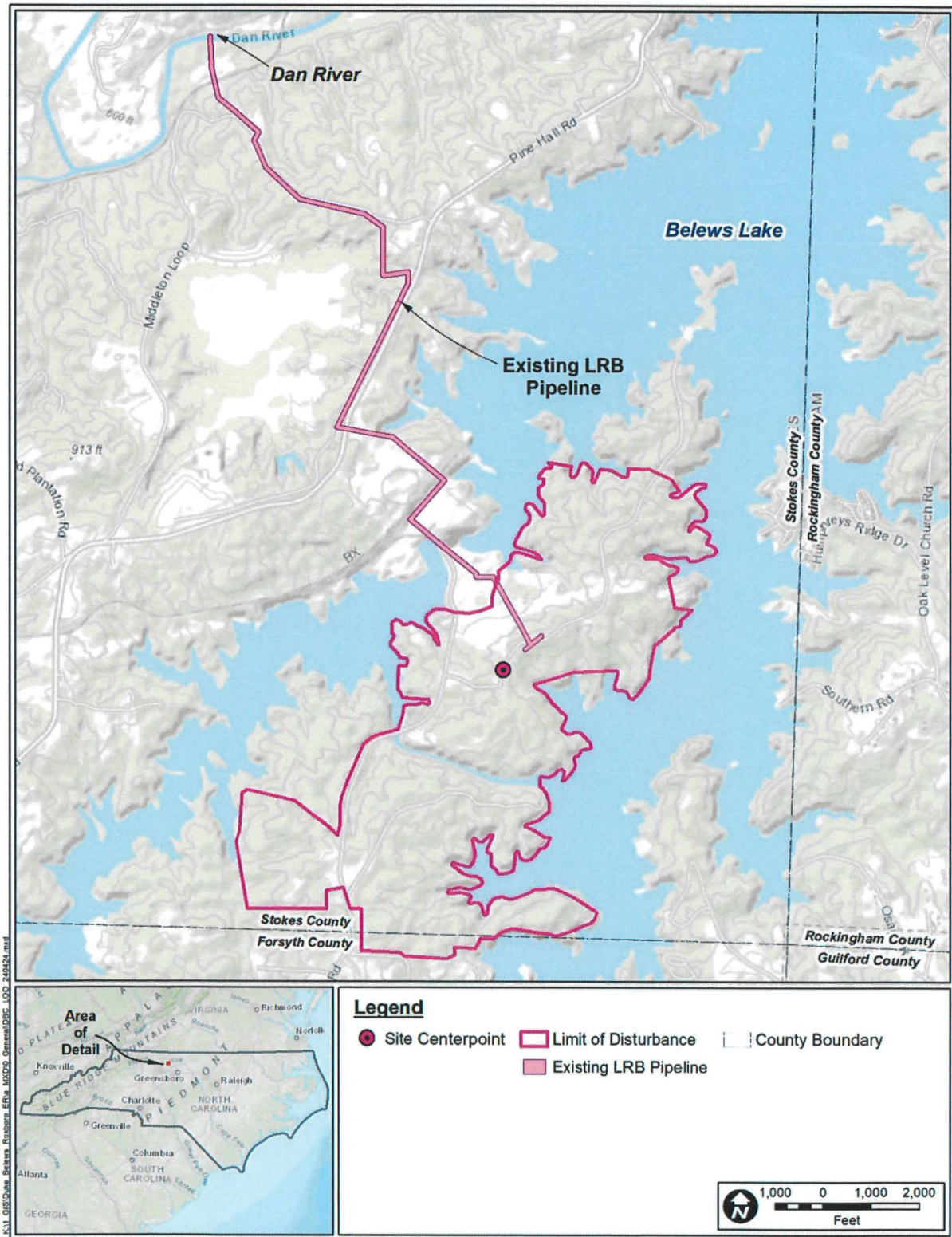
If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement





**Figure Error! No text of specified style in document.-1      Belews Creek, NC, Site**



NC Department of Public Safety  
OFFICE OF THE SECRETARY

Roy Cooper, Governor

Eddie M. Buffaloe Jr., Secretary

November 13, 2024

M. Christopher Nolan  
Vice President, New Nuclear Generation  
Strategy & Regulatory Engagement  
Duke Energy  
13225 Hagers Ferry Road  
Huntersville, NC 28078

Dear Mr. Nolan,

We sincerely appreciate your request for input from the North Carolina Department of Public Safety (NCDPS) regarding the scoping efforts for the proposed Small Modular Reactor (SMR) within Stokes and Forsyth Counties. As Duke Energy initiates the process of seeking approval for this advanced nuclear electric generation facility, coordination among both local and state emergency management and public safety partners will be critical for successful implementation.

We understand the Early Site Permit (ESP) being prepared by the Duke Utility will be reviewed by the Nuclear Regulatory Commission (NRC) which will address site-related issues early in the licensing process. From there, the permitting process would involve a preliminary environmental study which, if approved, would allow the Utility to proceed with further licensing applications, construction permits, and emergency preparedness planning.

Should the Duke Utility select a specific SMR design, we respectfully request that North Carolina Emergency Management, along with Stokes and Forsyth County Emergency Management Agencies, be provided with emergency preparedness information during the ESP process. This may include site-specific constraints, population distribution, transportation routes, considerations for protecting food ingestion pathways, proposed emergency plans and preparedness information, and certifications of participation by local, state, and federal agencies, or alternative assurances of adequate protective measures.

For your planning purposes, the North Carolina Emergency Management Act, Chapter 166A-29, establishes emergency planning requirements and associated charges or fees for those licensed to construct or operate a fixed nuclear facility to produce electricity. This includes an annual fee to NCDPS for each fixed nuclear facility located within the State, as well as a separate fee to the Radiation Protection Section within the Department of Health and Human Services. These fees are applied to the costs of planning and implementing emergency response activities as required by the Federal Emergency Management Agency (FEMA) for the operational of nuclear facilities.



512 N. Salisbury Street Raleigh, NC 27604 | 4201 Mail Service Center Raleigh, NC 27699-4201

Phone: 919-710-8885 Fax: 919-715-0389 919-715-8477 [www.ncdps.gov](http://www.ncdps.gov)

*An Equal Opportunity Employer*



Additional SMR sites in North Carolina would increase the established responsibility and workload associated with effective preparedness and response and NCDPS would evaluate the necessary fee increases associated with new sites.

NCDPS recognizes the necessity to evaluate overall suitability and supports these scoping efforts as initial steps towards the potential construction of an SMR in North Carolina. We would also encourage the Duke Utility to seek additional feedback from the NC Department of Environmental Quality and the Wildlife Resources Commission who may also have relevant information that could assist in preparing the Environmental Impact Statement (EIS) application.

Thank you for your support and partnership.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eddie M. Buffaloe, Jr.", with a stylized flourish at the end.

Eddie M. Buffaloe, Jr.  
Secretary/Homeland Security Advisor



M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

August 20, 2014

Mr. Jerry Parker  
Division Environmental Supervisor  
North Carolina Department of Transportation  
375 Silas Creek Parkway  
Winston Salem, NC 27127

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Mr. Parker:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the North Carolina Department of Transportation to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity. For additional reference, descriptions of sections of the ER being prepared that already consider Transportation components can be reviewed in the RG 4.2, Rev. 3 documents descriptions of sections 2.4.2, 2.8.3, 4.4.1, 4.8.3, 5.8.6, 6.2 and 7.5.4.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the North Carolina Department of Transportation in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement



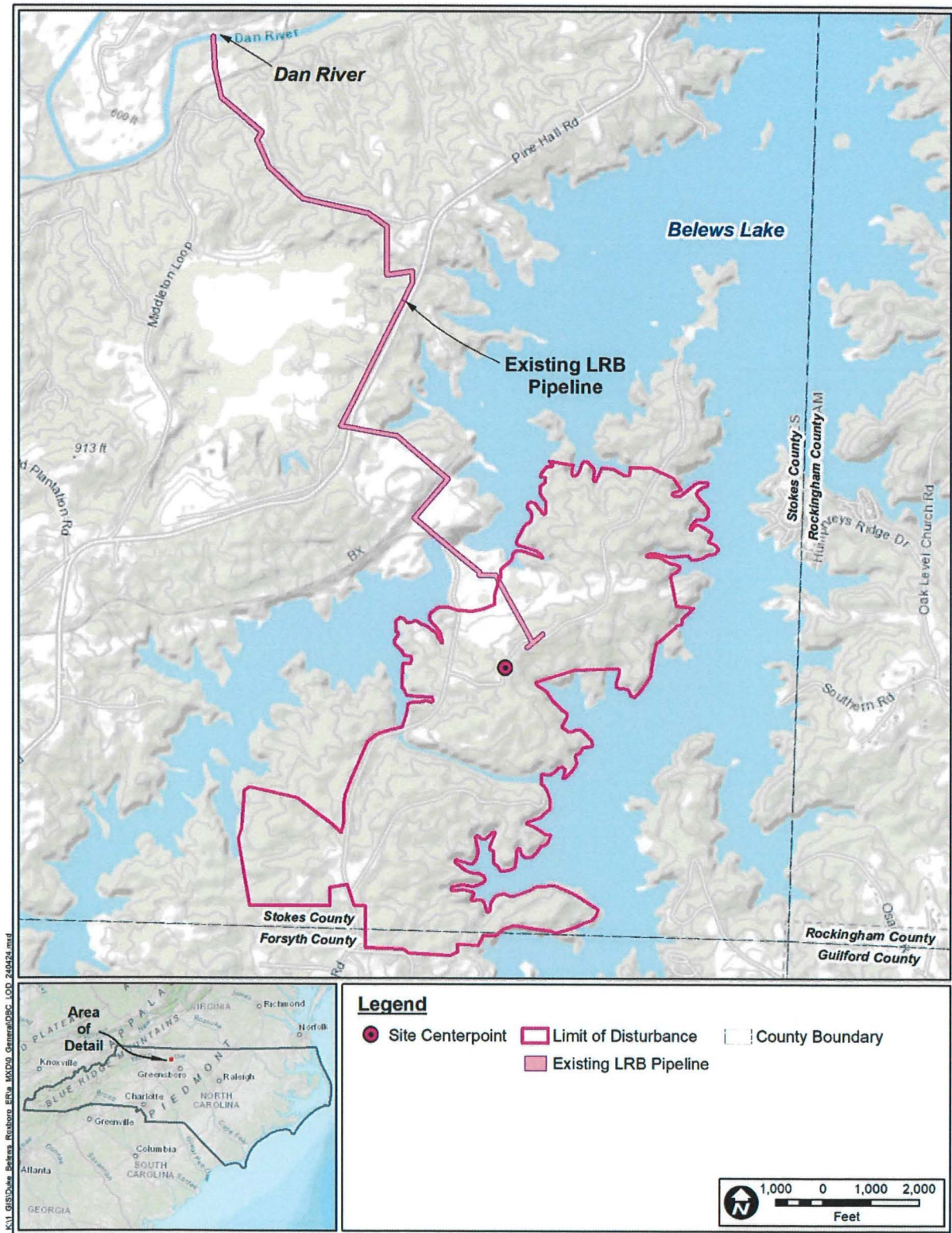


Figure Error! No text of specified style in document.-1 Belew Creek, NC, Site





M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

August 20, 2024

Mr. Brian Strong, Director  
North Carolina Division of Parks and Recreation  
1615 Mail Service Center  
Raleigh, NC 27699-1615

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Mr. Strong:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the NC Division of Parks and Recreation to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the NC Division of Parks and Recreation in obtaining the necessary permits to support authorization of this important project.

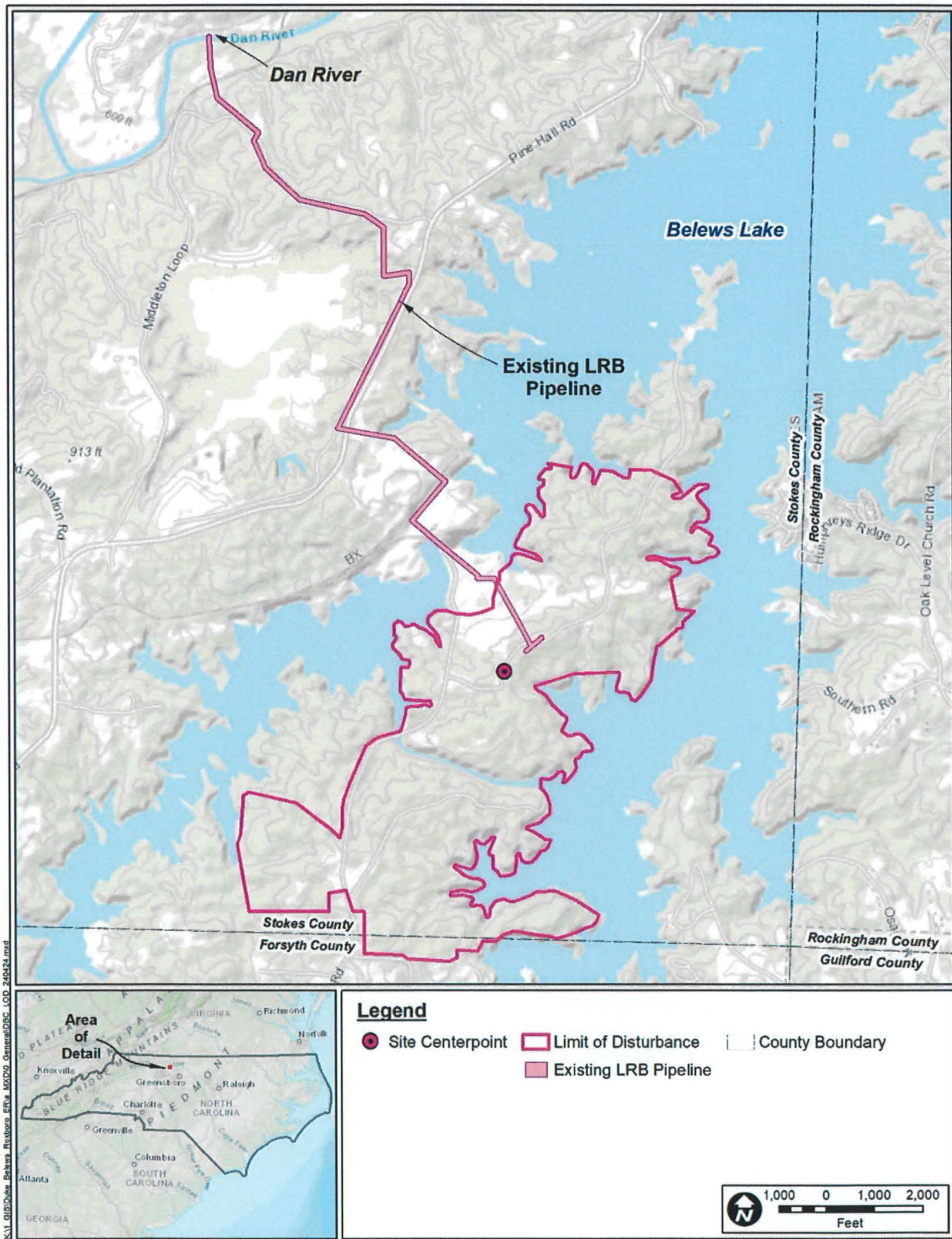
If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement





**Figure Error! No text of specified style in document.-1 Belews Creek, NC, Site**



M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

August 20, 2014

Mr. John Mintz  
State Archeologist  
4619 Mail Service Center  
Raleigh, NC 27699-4619

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Mr. Mintz:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.



The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the North Carolina Office of State Archaeology to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action. Please note a similar request has been submitted to the NC SHPO office for review and input.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the North Carolina Office of State Archaeology in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement

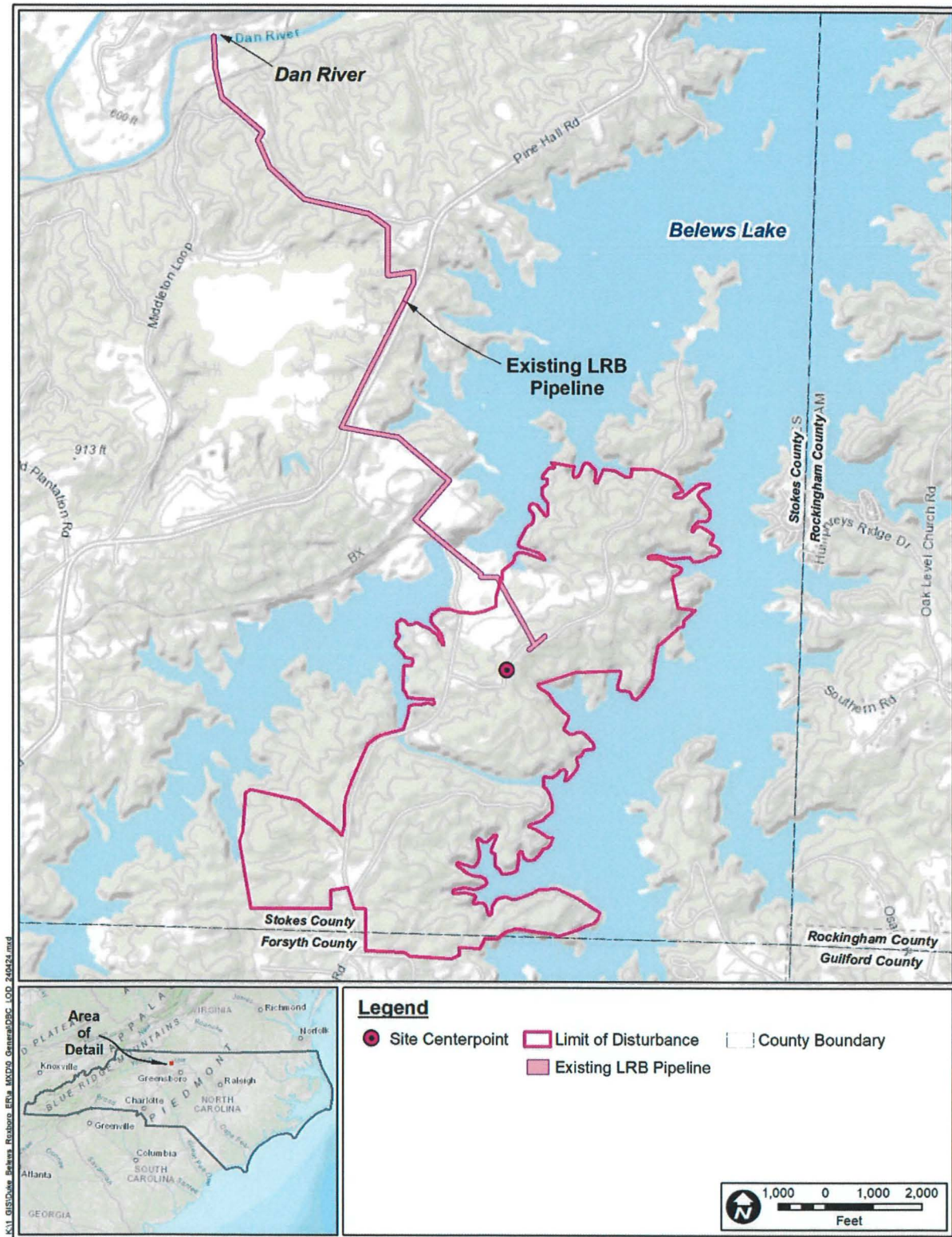


Figure Error! No text of specified style in document.-1 Belews Creek, NC, Site





M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG7419EX  
Huntersville, NC 28078  
o: 704.382.7426

August 20, 2024

Mr. Timothy Beard  
State Conservationist  
USDA NRCS  
4407 Bland Road Suite 205  
Raleigh, NC 27609

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Mr. Beard:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the USDA Natural Resources Conservation Service to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the USDA Natural Resources Conservation Service in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement



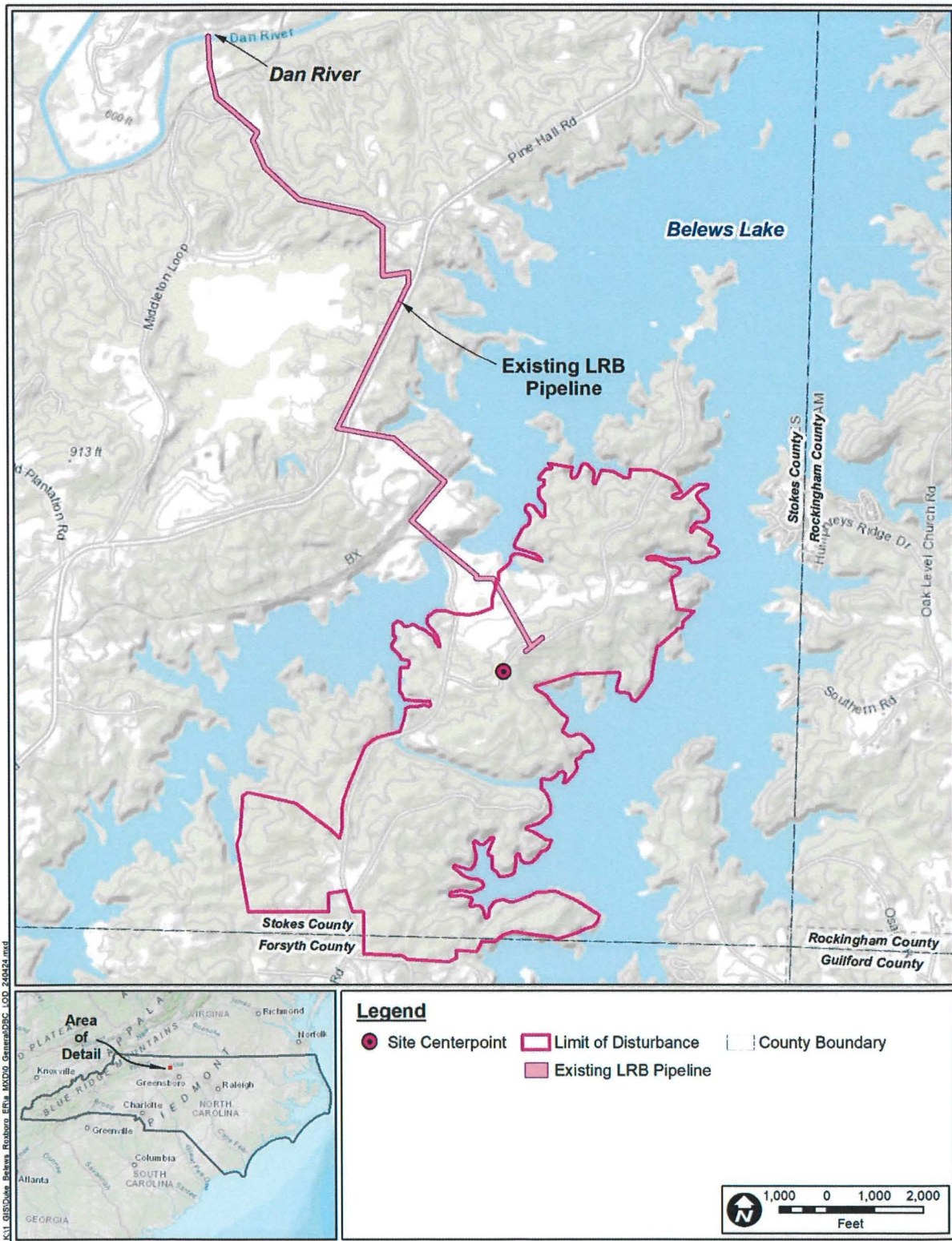


Figure Error! No text of specified style in document.-1 Belew Creek, NC, Site



M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
MG011E  
Huntersville, NC 28078  
o: 704.382.7426

Sent via email

January 23, 2025

Mr. Brian Yeich  
Assistant Regional Forester  
North Carolinas Forest Service  
3490 Big Woods Road  
Chapel Hill, NC 27517

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Mr. Yeich:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to be submitted to the U.S. Nuclear Regulatory Commission (NRC). The project site is located in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018).

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River,

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<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

which includes an additional 45 acres. This wastewater pipeline is labelled as "Existing LRB pipeline" on Figure 1.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,250 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Duke Energy is aware of plans for an Educational State Forest being developed on the Shoebuckle property adjacent to Dan River northeast of the Project Site. Accordingly, we are requesting any additional information and input from the North Carolina Forest Service (NCFS) to support our scoping efforts and to identify notable permits, authorizations, or additional input about the future use of the Shoebuckle property that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the NCFS in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,



M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement



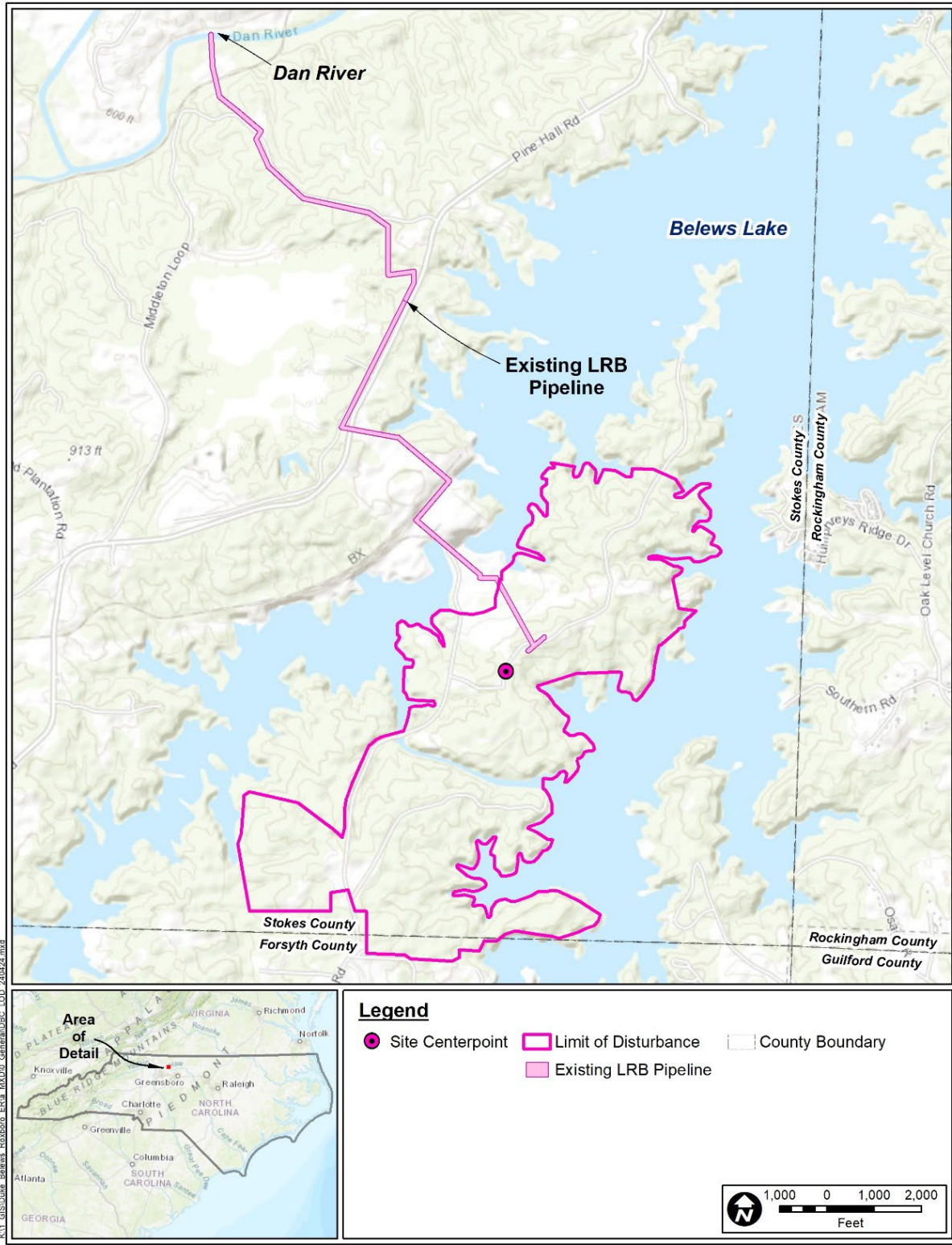


Figure 1-1 Belews Creek, NC, Site

**From:** [Yeich, Brian](#)  
**To:** [Langley, Shannon](#)  
**Cc:** [Money, Keith](#)  
**Subject:** RE: [External] Initial scoping letter for Duke Energy project in Stokes County  
**Date:** Friday, March 14, 2025 2:17:58 PM  
**Attachments:** [image003.png](#)  
**Sensitivity:** Confidential

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**\*\*\* CAUTION! EXTERNAL SENDER \*\*\* STOP. ASSESS. VERIFY!!** Were you expecting this email? Are grammar and spelling correct? Does the content make sense? Can you verify the sender? If suspicious report it, then do not click links, open attachments or enter your ID or password.

Shannon, at the present time the Shoebuckle Property along the Dan River (Dan River Educational State Forest) is unstaffed. The hope is that in the future the NC Forest Service can acquire funding to staff positions and build infrastructure. At that time the property would mainly be used for doing educational programs for school aged children and hiking area, with trails, for the public. The property may also be part of the mountain to sea trail in the future. There are also possible plans to put in a canoe/kayak boating access to the Dan River. Where you project is located I don't see that it would have an impact on the NC Forest Services plans for the Shoebuckle property along the Dan River.

Please let me know if you have any further questions.

Brian



[www.ncforestservice](http://www.ncforestservice)

Brian L. Yeich, R.F.

N.C. Forest Service  
Assistant Regional Forester  
Forest Management  
NC Registered Forester #1432  
ISA Certified Arborist SO-7281A

Region 2 Headquarters  
3490 Big Woods Road  
Chapel Hill, NC 27517

Office: (919) 542-1515  
Cell: (919) 815-3785

**"Ethical behavior is doing the right thing when no one else is watching—even when doing the wrong thing is legal."**

**-Aldo Leopold (1887-1948)**

*Email correspondence to and from this address may be subject to the NC Public Record Law and may be disclosed to third parties unless the content is exempt by statute or other regulation.*

---

**From:** Langley, Shannon <Shannon.Langley@duke-energy.com>  
**Sent:** Monday, January 27, 2025 10:38 AM  
**To:** Yeich, Brian <brian.yeich@ncagr.gov>  
**Subject:** [External] Initial scoping letter for Duke Energy project in Stokes County  
**Sensitivity:** Confidential

You don't often get email from [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com). [Learn why this is important](#)

**CAUTION:** External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

Brian,

Good morning. I'm following up on a call we had a week ago about a project in Stokes County. Please see the attached request for review and comment as we are performing environmental evaluations for future activity at our Belews Creek, NC site. Any comments you have are helpful, but as noted in the letter, I'd appreciate any specific comments and details you have as to plans for the Shoebuckle property along the Dan River.

Feel free to give me a call at the number below if there are questions.

Thank you!

Shanno Langley

*E. Shannon Langley*

Principal Environmental Specialist  
410 South Wilmington Street, Raleigh NC 27601  
919.219.0905 (c)



BUILDING A **SMARTER** ENERGY FUTURE®





M. Christopher Nolan  
Vice President  
New Nuclear Generation  
Strategy & Regulatory Engagement  
13225 Hagers Ferry Road  
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Huntersville, NC 28078  
o: 704.382.7426

07 November 2024

John Pierce  
Monacan Indian Nation Tribal Office  
357 South Main Street  
Amherst, VA 24521

Subject: Request for Information on Potential Site for a Proposed Small Modular Reactor  
Nuclear Plant

Dear Mr. Pierce:

Duke Energy is conducting environmental evaluations to support an application for an Early Site Permit (ESP), including limited work authorization (LWA) activities at the Duke Energy Belews Creek, NC, site (Project Site) to the U.S. Nuclear Regulatory Commission (NRC). The project site is in Belews Creek Township, Stokes and Forsyth Counties, North Carolina, adjacent to the existing Belews Creek Steam Station (Figure 1-1). Sections of Belews Lake and a supplemental river pumping station that would support the proposed facility are in Rockingham County, NC.

An ESP would approve the site as a suitable location for future construction and operation of an advanced nuclear electric generation facility that utilizes small modular reactors (SMRs). Duke Energy is applying for an ESP that is neutral with respect to any specific SMR technology. This is separate from, and prior to, the filing of a combined license application (COLA) or a construction permit application (CPA) for such a facility.

In accordance with NRC regulations, Duke Energy will prepare an Environmental Report (ER) to analyze the environmental effects of construction, operation, and decommissioning of multiple SMRs at the project site. The ER will be prepared pursuant to NUREG-1555<sup>1</sup> "Standard Review plans for Environmental Reviews for Nuclear Power Plants" (NRC 2007)<sup>2</sup> and Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 3 (RG 4.2; NRC 2018). The ER will provide an analysis of the effects on the environment from site preparation, construction, operation, and decommissioning of multiple SMRs at the Belews Creek, NC site.

The NRC decision to issue an ESP is considered a major federal action subject to the requirements of National Environmental Policy Act (NEPA), which will require that an Environmental Impact Statement (EIS) be prepared by the NRC pursuant to 10 CFR Part 51 to evaluate Duke Energy's permit application.

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<sup>1</sup> In general, a NUREG publication is prepared by NRC and documents regulatory decisions, results of research, results of incident investigations, and other technical and administrative information. NUREG 1555 provides guidance to the NRC staff in implementing provisions of 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," related to nuclear power plants.

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC), 2007. NUREG-1555. Environmental Standard Review Plan. Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Revision 1. Office of New Reactors, Washington, DC 20555-0001. July.

The Project Site consists of approximately 1,041 acres. Duke Energy is also considering work along an existing wastewater pipeline corridor (i.e., approximately 3.7 miles) to the Dan River, which includes an additional 45 acres.

The ESP application will evaluate the potential deployment of multiple SMRs on the project site having a maximum output of 2,200 megawatts electric (MWe) for the site. The project site has the available space needed for all activities associated with the proposed SMR facilities. Additional development on the project site would include required supporting facilities and systems including the reactor building and other power block features, cooling towers, transmission lines, pipelines, site-specific stormwater drainage and management ponds, warehouses, administrative support buildings, access roads, parking areas, and areas used temporarily during construction.

As part of the planning and evaluation process, and to meet requirements of NUREG-1555 and RG 4.2, Rev. 3, we are evaluating the impacts of construction and operation on a full range of interdisciplinary resources, including conducting relevant field studies as required. **Accordingly, we are requesting any additional information and input from the Monacan Indian Nation to support our scoping efforts and to identify notable permits, authorizations, or additional input that should be considered in the environmental review of the proposed action.**

In conjunction with the guidance of RG 4.2, Rev. 3 and NUREG-1555, a full range of environmental resources will be considered in the preparation of the ER. To assist your consideration of this request, please find attached a figure depicting the project site and vicinity.

We respectfully request your review and any input within 30 days of the letter date for our consideration in the development of licensing application materials and we look forward to working with the Monacan Indian Nation in obtaining the necessary permits to support authorization of this important project.

If you have any questions or comments about the proposed Duke Energy Belews Creek, NC site or the materials provided, please contact Shannon Langley, Principal Environmental Specialist, at 919.219.0905 or [shannon.langley@duke-energy.com](mailto:shannon.langley@duke-energy.com).

Sincerely,

A handwritten signature in black ink, appearing to read "M. Christopher Nolan".

M. Christopher Nolan  
Vice President, New Nuclear Generation Strategy & Regulatory Engagement

**Figure Error! No text of specified style in document.-1      Belews Creek, NC, Site**

