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10 CFR Part 52

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Duke Energy Carolinas, LLC (Duke Energy)
Application for an Early Site Permit for the Duke Energy Belews Creek, NC Site
NRC Project Number 99902121

Ladies and Gentlemen:

In accordance with Title 10 of the Code of Federal Regulations (CFR), Part 52, Subpart A, *Early Site Permits*, Duke Energy Carolinas, LLC (DEC), referred to herein as “Duke Energy,” a wholly-owned subsidiary of Duke Energy Corporation, hereby submits this application for an Early Site Permit (ESP) for the Belews Creek, North Carolina (NC) site. Pursuant to 10 CFR 52.26(a), Duke Energy requests that the NRC issue an ESP for the proposed site described in this application for a period of 20 years from the date of issuance. The information in this application has been developed to support the issuance of that permit.

The Belews Creek, NC site (Project site) is located primarily in Sauratown Township, in the southeastern corner of Stokes County, NC, with a small portion in Belews Creek Township, Forsyth County, NC. All proposed nuclear units would be in Stokes County.

A specific reactor design has not yet been selected by Duke Energy to be constructed at the Project site. However, to facilitate the NRC’s determination regarding suitability of the site for new nuclear units, Duke Energy used technical information from various reactor designs to develop a set of bounding parameters in a plant parameter envelope (PPE). The PPE approach provides the NRC with the necessary information to assess the suitability of the Project site for the reactor technologies included, while providing Duke Energy additional time to evaluate the technologies and select the technology best suited for the site and Duke Energy’s customers.

To grant an ESP to Duke Energy for the Project site, the NRC must be assured, among other things, that a nuclear reactor (or reactors) with characteristics within the site parameters can be constructed and operated safely, without undue risk to the health and safety of the public. The specific issuance criteria are set forth in 10 CFR 52.24. This early site permit application (ESPA) was prepared in accordance with 10 CFR 52, Subpart A. Site safety issues, environmental issues, and major features of an emergency plan are addressed as part of this ESPA.

~~Enclosure 3 contains information that is being withheld from public disclosure under 10 CFR 2.390. Upon separation from Enclosure 3, this letter is decontrolled.~~

This ESPA is composed of the following parts:

- Part 1 – Administrative Information
- Part 2 – Site Safety Analysis Report (SSAR)
- Part 3 – Environmental Report (ER)
- Part 5 – Emergency Plan
- Part 7 – Exemptions, Departures, and Variances
- Part 8 – License Conditions; Inspections, Tests, Analyses and Acceptance Criteria
- Part 9 – Withheld Information
- Part 10 – Quality Assurance Program Description
- Part 11 – Supplemental Information (Limited Work Authorization)

Duke Energy is not requesting a limited work authorization, therefore a Site Redress Plan, per 10 CFR 52.17(c), is not being provided. This ESP application is in preparation for a potential construction permit or combined license application in the future.

This ESPA consists of the following three Enclosures:

- Enclosure 1: Affidavit Pursuant to 10 CFR 2.390
- Enclosure 2: Duke Energy Carolinas, LLC, Belews Creek, NC Site, Early Site Permit Application (Public Version)
- Enclosure 3: Duke Energy Carolinas, LLC, Belews Creek, NC Site, Early Site Permit Application (including Part 9), 10 CFR 2.390 Withheld Information (Non-Public Version)

This ESPA contains no Restricted Data or classified National Security information requiring separation in accordance with 10 CFR 50.33(j). Part 9 of this application contains the information that Duke Energy is requesting the NRC to withhold from public disclosure in accordance with the requirements of 10 CFR 2.390, including sensitive, unclassified, or non-safeguards information (SUNSI).

Enclosure 3 contains the non-public version of the application, including Part 9, with identified information to be withheld. An affidavit supporting Duke Energy's request for withholding is included as Enclosure 1. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR 2.390(b)(4). Accordingly, it is respectfully requested that the information be withheld from public disclosure in accordance with 10 CFR 2.390. A redacted, public version is provided in Enclosure 2.

If you have additional questions, please contact Sherry Andrews, Lead Regulatory Affairs Specialist, at Sherry.Andrews@duke-energy.com or by phone at (803) 701-3424.

There are no regulatory commitments contained in this letter.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 30, 2025.

Sincerely,

A handwritten signature in black ink, appearing to read "Rounette K. Nader". The signature is fluid and cursive, with the first name being more prominent.

Rounette K. Nader
Vice President
New Nuclear Generation & License Renewal

Enclosures:

Enclosure 1: Affidavit Pursuant to 10 CFR 2.390

Enclosure 2: Duke Energy Carolinas, LLC, Belews Creek, NC Site, Early Site Permit Application
(Redacted Public Version)

Enclosure 3: Duke Energy Carolinas, LLC, Belews Creek, NC Site, Early Site Permit Application
(including Part 9), 10 CFR 2.390 Withheld Information (Non-Public Version)

CC: W/O Enclosures:

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Enclosure 1

Affidavit Pursuant to 10 CFR 2.390

AFFIDAVIT of Rounette K. Nader

1. I am Vice President of New Nuclear Generation & License Renewal, Duke Energy Carolinas, LLC, and as such have the responsibility of reviewing the information sought to be withheld from public disclosure in connection with the Early Site Permit Application (ESPA) for Duke Energy's Belews Creek Project site and am authorized to apply for its withholding on behalf of Duke Energy.
2. I am making this affidavit in conformance with the provisions of 10 CFR 2.390 of the regulations of the Nuclear Regulatory Commission (NRC) and in conjunction with Duke Energy's application for withholding which accompanies this affidavit.
3. I have knowledge of the criteria used by Duke Energy in designating information as sensitive, proprietary or confidential. I am familiar with the Duke Energy information contained in Enclosure 3 of Duke Energy letter RA-25-0239 regarding the request to approve the ESPA.
4. The information that should not be released to the public is contained in Enclosure 3 to the application.
5. Pursuant to the provisions of paragraph (a)(3) of 10 CFR 2.390, the following information is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld.
 - a. The information sought to be withheld from public disclosure is owned by Duke Energy and has been held in confidence by Duke Energy and its consultants. The ESPA includes information related to archaeological and cultural resources. The U.S. Code Title 54, Section 100707, Confidentiality of Information, concerning the nature and location of archaeological resources, and the National Historic Preservation Act of 1966, Section 106, as amended, and North Carolina General Statutes, Chapter 70 (NCGS 70-18) require that these historical locations not be publicly disclosed.
 - b. The information sought to be withheld from public disclosure is identified in Part 9 of the ESPA and is marked as it appears in the application.
 - c. The information was transmitted to the NRC in confidence and under the provisions of 10 CFR 2.390, it is to be received in confidence by the NRC.
6. Pursuant to the provisions of paragraph (a)(9) of 10 CFR 2.390, the following information is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld.
 - a. The information is of the type that would customarily be held in confidence by Duke Energy. The ESPA contains geological and geophysical information and data, including maps, concerning private water wells.
 - b. The information sought to be withheld from public disclosure is identified in Part 9 of the ESPA and is marked as it appears in the application.
 - c. The information was transmitted to the NRC in confidence and under the provisions of 10 CFR 2.390; it is to be received in confidence by the NRC.

7. Pursuant to the provisions of paragraph (d)(1) of 10 CFR 2.390, the following information is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld.
- a. The information sought to be withheld from public disclosure is owned by Duke Energy and has been held in confidence by Duke Energy and its consultants. The ESPA contains sensitive, non-safeguards physical security related information. Public disclosure of this information is likely to cause harm to Duke Energy because it would identify details or features of the plant that could be an aid to a potential adversary. In addition, Duke Energy has identified certain information that might identify potential vulnerabilities to the critical energy infrastructure.
 - b. The information sought to be withheld from public disclosure is identified in Part 9 of the ESPA and is marked as it appears in the application.
 - c. The information was transmitted to the NRC in confidence and under the provisions of 10 CFR 2.390; it is to be received in confidence by the NRC.
8. The information is the sort of information regularly and customarily held in confidence by Duke Energy based on the statutes requiring the withholding of such information; and is, in fact, so held.

Rounette K. Nader affirms that she is the person who subscribed her name to the foregoing statements, and that all the matter and facts set forth herein are true and correct to the best of her knowledge.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 30, 2025.



Rounette K. Nader