

OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3
SUBSEQUENT LICENSE RENEWAL APPLICATION
REQUESTS FOR CONFIRMATION OF INFORMATION
ENVIRONMENTAL REVIEW

Regulatory Basis:

Licensees are required by title 10 of the *Code of Federal Regulations* (10 CFR) part 51.53(c)(1) to submit with its application a separate document entitled "Applicant's Environmental Report—Operating License Renewal Stage." The U.S. Nuclear Regulatory Commission's (NRC) regulations at 10 CFR part 51, which implement section 102(2) of the National Environmental Policy Act of 1969, as amended (NEPA), include requirements for applicants to provide information as may be useful in aiding the NRC staff in complying with NEPA. As part of its review, the NRC staff is required to prepare a site-specific Supplemental Environmental Impact Statement (SEIS) to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants." Review guidance for the staff is provided in NUREG-1555, Supplement 1, Revision 1, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Supplement 1 – Operating License Renewal."

Request for Confirmation of Information:

During the environmental audit, the NRC staff reviewed documents that were made available on the applicant's electronic information portal in response to the staff audit needs. The staff also participated in breakout sessions for each resource area with applicant personnel to gather information that will likely be used in the site-specific environmental impact statement. To the best of the staff's knowledge, this information on the applicant's electronic information portal and discussed in breakout sessions is not currently on the docket or publicly accessible. The NRC staff requests that the applicant submits confirmation that the information gathered from the audit and listed below is correct or provides the associated corrected information.

1) Info Need GEN-2

Please confirm that there have been no unplanned releases of radioactive materials (unplanned/inadvertent radioactive liquid or gaseous releases) since Duke Energy's most recent environmental request for additional information (RAI) responses dated January 7, 2022 (ML22019A137).

2) Info Need GEN-3

Please confirm that there have been no reportable inadvertent releases or spills of nonradioactive contaminants since Duke Energy's Environmental Report (ER), Supplement 2 dated November 7, 2022 (ML22311A036).

3) Info Need GEN-4

Please confirm that Duke Energy has identified no significant new information since its June 2021 ER (ML21158A193) concerning the following site-specific (Category 2) environmental issues:

- Aquatic Resources – Impingement and entrainment of aquatic organisms (plants with once-through cooling systems or cooling ponds)
- Aquatic Resources – Thermal impacts on aquatic organisms (plants with once-through cooling systems or cooling ponds)

- Cumulative Impacts
- Environmental Justice – Minority and low-income populations (e.g., subsistence activities)
- Groundwater– Groundwater use conflicts (plants that withdraw more than 100 gallons per minute [gpm])
- Groundwater– Radionuclides released to groundwater
- Historic and Cultural Resources – Historic and cultural resources (e.g., new cultural resource surveys, new historic properties, new correspondence with Tribes or the State Historic Preservation Officer)
- Human Health – Microbiological hazards to the public
- Human Health – Electric shock hazards
- Postulated Accidents – Severe accidents
- Terrestrial Resources – Effects terrestrial resources (non-cooling system impacts)

4) Info Need AQN-4

Section 4.2.2.2 of ER Supplement 2 (ML22311A036) provides a site-specific analysis of the air quality effects of in scope transmission lines. During the April 2023 environmental audit, Air Quality and Noise breakout session, and in response to information need AQN-4, Duke Energy stated that no known field tests concerning ozone and nitrogen oxides emissions generated by Duke Energy's 230 kV and 525 kV in-scope transmission lines have been conducted. Please confirm that no field tests concerning ozone and nitrogen oxides emissions generated by Oconee Nuclear Station's 230 kV and 525 kV in-scope transmission lines have been conducted.

5) Info Need AQN-5

Section 4.3.2 of ER Supplement 2 (ML22311A036) provides a site-specific analysis of noise impacts from subsequent license renewal. During the April 2023 environmental audit, Air Quality and Noise breakout session, and in response to information need AQN-5, Duke stated that no off-site noise studies have been conducted by Duke Energy in the vicinity of Oconee Nuclear Station. Please confirm that off-site noise studies have not been conducted in the vicinity of Oconee Nuclear Station.

6) Info Need FPE-1

During the April 2023 environmental audit, the NRC staff reviewed Duke Energy's corporate Endangered Species Procedure. This procedure applies to all Duke Energy business units, including the Oconee site. The procedure summarizes the requirements of the Endangered Species Act (ESA) and how these requirements apply to Duke Energy's sites and activities. It includes checklists and protocols to ensure that Duke Energy employees and contractors adequately consider listed species before undertaking an activity that has the potential to affect such species. The procedure details how incidents should be logged and reported if a listed species is harmed. Duke Energy personnel must gather detailed information about the incident and report it to the Duke Energy wildlife team, the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service, and the appropriate State natural resource agency, as appropriate. Such reporting would also trigger a report to the NRC under 10 CFR 50.72(b)(2)(xi), as described in Section 3.2.12 of NUREG-1022, Rev. 3, "Event Report Guidelines 10 CFR 50.72 and 50.73."

Duke Energy requires that employees and contractors complete training if they could encounter listed species or have incidents during their everyday work activities. Such trainings must be conducted by a qualified subject matter expert and should be project- or species-specific. For instance, Duke Energy has recently conducted trainings for employees and contractors on protected bats, including current and likely-to-be-listed species, such as the tricolored bat, and

how Duke Energy is addressing potential impacts of its projects and activities on these species. The trainings have addressed bat life history, seasonal distributions, habitat preferences, and how to identify suitable versus non-suitable roosting trees, among other topics.

In discussions among NRC staff and Duke Energy personnel, Duke Energy shared that it is preparing a Habitat Conservation Plan (HCP) that will include the Oconee site. The HCP will address all federally protected bats, including the Indiana bat (*Myotis sodalis*), northern long-eared bat (*M. septentrionalis*), gray bat (*M. grisescens*), Florida bonneted bat (*Eumops floridanus*), and likely-to-be-listed bats, including the tricolored bat and little brown bat (*M. lucifugus*). The HCP will address potential impacts to include tree trimming and cutting, grounds maintenance, and other routine operational activities at facilities such as the Oconee site. Duke Energy is also developing facility-based bat management plans as part of this effort, which would be implemented at Oconee, among other sites. Duke Energy is coordinating with the FWS in its development of the HCP. Once drafted, Duke Energy will submit the HCP, along with an Incidental Take Permit application, to the FWS for approval in accordance with ESA Section 10. Duke Energy estimates that it will receive approval by roughly 2027.

Please confirm the above information concerning Duke Energy's actions to address potential impacts on federally listed species on the Oconee site.

7) Info Need ALT-1

Please confirm that the technical bases presented in Duke Energy's June 2021 ER (ML21158A193) and Duke Energy's response to NRC's November 23, 2021, RCI ALT-1 (ML22007A015) remain valid with respect to the identification of reasonable replacement power alternatives.

8) Info Need SOC-1

In the 2021 ER (ML21158A193) and response to request for confirmation of information SOC-4 (ML22019A137), Duke Energy reported a permanent workforce of 698 workers and 548 contingent non-outage workers for Oconee Nuclear Station. During the April 2023 environmental audit, Socioeconomics breakout session, and in response to information need SOC-1, Duke Energy stated that the workforce at Oconee Nuclear Station consists of 622 permanent full-time workers and 495 contingent non-outage workers as of March 2023. Please confirm that as of March 2023, the workforce at Oconee Nuclear Station consists of 622 permanent full-time workers and 495 contingent non-outage workers.

9) Info Need SOC-2

Table 2.5-1 of the 2021 ER (ML21158A193) provides Oconee full-time employee residence information. During the April 2023 environmental audit, Socioeconomics breakout session, and in response to information need SOC-2, Duke provided an updated version of table 2.5-1 of the 201 ER that included full-time employee residence information as of March 2023. The updated table identified that of the 622 workers, 272 live in Oconee County, 203 live in Pickens County, and 92 live in Anderson County. Please confirm that of the 622 permanent full-time workers at Oconee Nuclear Station, 272 live in Oconee County, 203 live in Pickens County, and 92 live in Anderson County.

10) Info Need SOC-3

Section 3.11.1 of the 2021 ER (ML21158A193) provides population numbers and population density within both 20- and 50-mile radius of Oconee Nuclear Station based on the 2010 census

data. During the April 2023 environmental audit, Socioeconomics breakout session, and in response to information need SOC-3, Duke Energy provided updated population numbers and population density within both the 20- and 50- mile radius of Oconee Nuclear Station using the 2020 U.S. Census data. In the response, Duke Energy stated that based on the U.S. Census 2020 block data, the 2020 50-mi population was 1,549,634, which has a population density of 197 person per square mile and the 20-mile population for 2020 was 226,363, which has a population density of 180 person per square mile. Please confirm that the 2020 50-mile population was 1,549,634 and the 20-mile population for 2020 was 226,363.

11) Info Need SOC-6

In the 2021 ER (ML21158A193) and in response to RAI SOC-1 (ML22019A137), Duke Energy discussed that on December 21, 2020, the South Carolina Administrative Law Court issued a decision and held that Duke Energy is a manufacturer for South Carolina property tax purposes and therefore the property qualifies for a partial manufacturing property tax exemption in South Carolina. Furthermore, the Court ruled that Duke Energy is entitled to the exemption for all of the property used in manufacturing, but property not used in manufacturing is not eligible for the exemption. However, a determination had not been made as to what portion of the property is eligible for the property tax exemption and on October 7, 2021, the Court issued a decision concluding that more evidence is needed to determine what portion of the property qualifies for the exemption and parties are conducting discovery. During the April 2023 environmental audit, Socioeconomics breakout session, and in response to information need SOC-6, Duke Energy provided an update regarding this matter and stated that: 1. Duke Energy resolved the exemption determination for tax years 2018 through 2020; 2. it was determined that Duke Energy received a reduction due to the exemption; and 3. and that there will be no reduction going forward because the state changed the law to exclude electric companies from the property tax exemption.

Please confirm that Duke Energy resolved the exemption determination for tax years 2018 through 2020 and that Duke Energy received a tax reduction due to the exemption and that there will be no reduction going forward because the State of South Carolina changed the law to exclude electric companies from the property tax exemption.

12) Info Need SW-1

Please confirm that based on 2019-2021 measurements, monthly average intake and discharge temperatures at Oconee Station have remained within the year-to-year variation shown in the June 2021 ER figures 3.6-4 and 3.6-5.

13) Info Need SW-2

Please confirm that the following corrective actions were taken in response to four spills described in the November 2022 ER Supplement 2, section 4.6.18.2.

- On August 15, 2022, sewage air ejectors failed, causing a 50-gallon sewage spill into the Keowee River. A janitorial contractor cleaned and disinfected the areas where the spill occurred. The sewage air ejectors were repaired, and Duke Energy notified South Carolina Department of Health and Environmental Control (SCDHEC) of the incident via ePermitting and a courtesy call to the Anderson regional office.
- On November 21, 2021, a Polyvinyl chloride (PVC) pipe cracked, spraying approximately 3-5 gallons of sewage from an air ejector into the Unit 1 and 2 Turbine Building Sump. The PVC pipe was repaired. A janitorial contractors cleaned and disinfected equipment and the floor area where the spill occurred. The spill was reported to SCDHEC.
- On February 8, 2018, approximately 4 oz of hydraulic oil leaked while testing a submersible hydraulic pump adjacent to the Keowee Hydro Station spillway. Boom and absorbent sheets

were placed in the lake to contain and remove the approximately 1 ft by 2 ft oil sheen. The National Response Center and the SCDHEC were notified of the release. The pump was removed from service. The oil sheen was removed from the lake.

- On July 20, 2014, a lubricating oil spill of approximately 5 gallons was released at the Keowee Hydro Station to the Keowee tailrace. The source of the oil was stopped. The spill reached the station sump. Two temporary booms were deployed below the station in the Keowee River. Oil was removed from the sumps, and the station sumps were cleaned of oil residue. SCDHEC was notified of the release.

OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3
SUBSEQUENT LICENSE RENEWAL APPLICATION
REQUESTS FOR ADDITIONAL OF
INFORMATION ENVIRONMENTAL REVIEW

1) Info Need GEN-1

REQUIREMENT: Title 10 of the *Code of Federal Regulations* (10 CFR) part 51.53(c)(iv) requires that environmental reports contain any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware.

ISSUE: The NRC staff is preparing a site-specific environmental impact statement (EIS) in accordance with Commission Legal Issuance (CLI)-22-02 and CLI-22-03, both dated February 24, 2022, that considers the site-specific environmental impacts of subsequent license renewal (SLR) of Oconee. Table B-2 of the draft Supplemental Environmental Impact Statement, "Operating Permits and Other Requirements," will list the permits and licenses issued by Federal, State, and local authorities for activities at Oconee, as identified in table 9.1-1 in chapter 9.0 of the Oconee Nuclear Station Subsequent License Renewal Application, appendix E, Environmental Report (ER), dated June 22, 2021 (ML21158A193). As part of preparing the site-specific EIS, the staff must consider whether there have been any changes to operating permits or other requirements.

REQUEST: Please provide any relevant updates to table 9.1-1 that have transpired since the ER dated June 22, 2021. If any permits have expired since submitting the SLR application to the U.S. Nuclear Regulatory Commission, please provide the status of those permits and/or renewals.

2) Info Needs AQN-1 & 2

REQUIREMENT: 10 CFR 51.53(c)(iv) requires that environmental reports contain any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware.

ISSUE: The NRC staff is preparing a site-specific EIS in accordance with CLI-22-02 and CLI-22-03, both dated February 24, 2022, that considers the site-specific environmental impacts of SLR of Oconee Nuclear Station. Tables 3.3-11 and table 3.3-12 of the 2021 ER (ML21158A193), presents reported annual air emissions (2015-2019) and annual greenhouse gas emissions (2015-2019) associated with operations of Oconee Nuclear Station, respectively. As part of the preparing the site-specific EIS, the staff must consider whether there has been any new information related to air emissions.

REQUEST:

- a. Provide updated estimated air pollutant emissions (2020-present) from operation of permitted sources at Oconee Nuclear Station (i.e., SO_x, NO_x, CO, PM₁₀, and VOCs).
- b. Provide updated (2020-present) estimated greenhouse gas emissions (GHG) from operation at Oconee Nuclear Station, as provided in response to information need AQN-2. As part of the response, include: 1. a brief discussion of the sources of greenhouse gas emissions, 2. explanation why GHG emissions from combustion sources provided during the April 2023 environmental audit information need AQN-2 response were lower from what was presented in table 3.3-12 of the 2021 ER; and 3. if Duke Energy anticipates additional GHG emission sources and emissions during the SLR term.

3) Info Need CI-1 & 2

REQUIREMENT: Title 10 CFR part 51.71(d) requires draft environmental impact statements include, in part, a preliminary analysis of environmental effects, including any cumulative effects, of the proposed action.

ISSUE: The NRC staff is preparing a site-specific EIS consistent with the NRC's regulations and in accordance with CLI-22-02 and CLI-22-03, both dated February 24, 2022, that considers the site-specific environmental impacts of SLR of Oconee Station.

REQUEST: Please formally provide the new information provided during the audit related to responses to CI-1 and CI-2, so they can be referenced and used as the basis for the reasonably foreseeable future actions discussion in the site-specific EIS.

4) Info Need FPE-1

REQUIREMENT: Licensees are required by 10 CFR part 51.53(c)(3)(ii)(E) to assess the impact of refurbishment, continued operations, and other license renewal-related construction activities on important plant and animal habitats. Additionally, the applicant shall assess the impact of the proposed action on threatened or endangered species in accordance with Federal laws protecting wildlife, including but not limited to, the Endangered Species Act (ESA). Additionally, the ESA regulations at 10 CFR 402.10 require Federal agencies to confer with the U.S. Fish and Wildlife Service (FWS) concerning species proposed for Federal listing under ESA Section 7.

ISSUE: The FWS published a proposed rule to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA on September 14, 2022 (87 FR 56381). In Section 3.7.7.3 of its Environmental Report dated June 22, 2021, Duke Energy describes acoustic bat surveys conducted in 2012 and 2015 that detected the presence of the tricolored bat on the Oconee site in both survey years.

REQUEST: Please provide an analysis of the potential impacts of the proposed Oconee subsequent license renewal on the tricolored bat.

5) Info Need SOC-5

REQUIREMENT: 10 CFR 51.53(c)(iv) requires that environmental reports contain any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware.

ISSUE: The NRC staff is preparing a site-specific EIS in accordance with CLI-22-02 and CLI-22-03, both dated February 24, 2022, that considers the site-specific environmental impacts of SLR of Oconee Nuclear Station. As part of the preparing the site-specific EIS, the staff must consider whether there has been any new information related to tax payment information to local tax authorities (i.e., county, public school district) directly affected by plant operations.

Table 3.9-1 of 2021 ER (ML21158A193) and Table 4.8-1 of the ER Supplement 2 (ML22311A036) present property tax payments paid by Duke Energy to Oconee County. During the April 2023 environmental audit, Socioeconomics breakout session, and in response to information need SOC-5, Duke energy provided property tax payments paid to Oconee County for 2022 and clarified that property tax payments presented in the ER's were total property taxes paid to Oconee County for all property since Duke Energy is assessed by the state as a whole system, with Oconee Nuclear Station being the largest single property in the county. Therefore, property tax payments presented in the ER are not specific to just Oconee Nuclear Station.

REQUEST: Please provide property tax payments Duke Energy pays to Oconee County exclusively for Oconee Nuclear Station for 2015-2022.

6) Info Need TR-1

REQUIREMENT: 10 CFR 51.53(c)(3)(iv) requires that environmental reports contain any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware.

ISSUE: The NRC staff is preparing a site-specific EIS consistent with the NRC's regulations and in accordance with CLI-22-02 and CLI-22-03, both dated February 24, 2022, that considers the site-specific environmental impacts of SLR of Oconee Station. As part of preparing the site-specific EIS, the staff must consider whether there has been any new information related to terrestrial resources. During the April 2023 environmental audit, terrestrial ecology breakout session, and in response to information need TR-1, Duke Energy provided a bird deaths and injury report.

REQUEST: Please provide the Oconee Station Bird Deaths and Injury Report for 2014-2022.