

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

Regulatory Basis:

Licenses are required by 10 CFR 51.53(c)(1) to submit with its application a separate document entitled "Applicant's Environmental Report—Operating License Renewal Stage." The 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 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21189A139). The staff also participated in breakout sessions for each resource area with applicant personnel to gather information that will likely be used in the SEIS. 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 ALT-1

Section 2.6.2 of the ER indicates that Duke Energy Carolinas, LLC., (Duke Energy) relied upon the 2020 South Carolina Integrated Resource Plan (IRP) for screening, selecting, and evaluating replacement power alternatives for Oconee Nuclear Station (Oconee). Duke Energy subsequently filed a Modified IRP on August 27, 2021 that includes additional scenarios for meeting system generation needs. Based on the NRC staff's review Section 7.2.1 and 7.2.2 of the ER and information discussed during the environmental audit session pertaining to alternatives for providing replacement power, please confirm:

The additional scenarios and results of the Modified IRP do not affect the underlying bases discussed in Section 7.2.1 supporting the range of reasonable alternatives to Oconee relicensing, or the bases discussed in Section 7.2.2 for eliminating the use of renewable energy sources as discrete alternatives for replacing the full capacity currently being provided by Oconee. The Modified IRP primarily focused on factors that would tend to drive higher levels of solar adoption, which in turn could possibly influence the relative contribution from renewables supporting a combination alternative.

2) Info Need ALT-3

To support the audit, Duke Energy posted a new figure to the portal (NRC Audit_ALT-3 Alternatives_v2.pdf) depicting the areal extent and acreages associated with three expanses on and adjacent to Oconee that could serve as potential locations for siting replacement power alternatives. Duke Energy subsequently included this figure as Attachment 1 to environmental report (ER) Supplement 1 submitted on 11/11/2021. The total acreage and locations of the parcels depicted in the figure (135 acres, 107 of which are onsite) differ slightly from the total acreage and locations described throughout Chapter 7 of the ER (approximately 130 acres, of which approximately 100 are onsite). Please confirm that the 135-acre total depicted on the figure should supersede the 130-acre value presented in the ER.

3) Info Need AQN-3

Section 3.4 of the ER identifies that Oconee did not receive noise complaints during the 2014-2018 time period. During the environmental audit, Air Quality and Noise breakout session, and in response to information need AQN-3, Duke Energy stated that there have been no noise complaints related to Oconee plant operations since 2018. Please confirm that Duke Energy has not received noise complaints as a result of Oconee plant operations since 2018.

4) Info Need EJ-1

Section 3.11.3 of the ER states that no additional subsistence studies have been conducted, but plant staff living and working in the area are not aware of any cases of subsistence activity in the vicinity of Oconee. During the environmental audit, environmental justice break-out session, and in response to information need EJ-1, Duke Energy discussed the process used to seek information from plant staff regarding subsistence activity. Please confirm that Duke Energy conducted desktop level reviews for articles or reports of subsistence populations in the Oconee vicinity and interviewed plant staff that live in proximity to Oconee that could have knowledge of local subsistence populations.

5) Info Need HH-2

Please confirm that Duke Energy conforms to Occupational Safety and Health Administration regulations including the citing of 29 CFR 1910.269, "Power Generation, Transmission, and Distribution," in Duke Energy's electrical safety program and procedures.

6) Info Need HH-3

Please confirm that based on a search of available resources, such as South Carolina Department of Health and Environmental (SCDHEC) websites, there have been no changes to the conditions of Lake Keowee that would increase the risk of waterborne diseases.

7) Info Need HH-6

Please confirm that the transmission line clearance evaluation performed by ENERCON for the Oconee subsequent license renewal (SLR) application applied the 2017 issuance of the National Electrical Safety Code where all in-scope transmission lines were found to have adequate clearance.

8) Info Need HH-7

Please confirm that Oconee's electrical safety program has been reviewed and found satisfactory by outside organizations such as the Nuclear Safety Council (NSC) and the Institute of Nuclear Power Operations (INPO).

9) Info Need LU-1

Please confirm construction of five new observation towers began and were completed in 2020, that the five towers were built on developed land (paved or gravel) requiring no clearing, and that the tower bases are 25x25 feet with heights of 30 feet (two towers), 40 feet (one tower), and 50 feet (two towers). In addition, confirm a total of 5.07 acres of onsite forested areas was cleared for line of sight for the towers and has now been converted to open space. Please confirm that for the line-of-sight cleared areas, the trees were chipped and used as mulch for ground cover and rip rap and sediment blankets used to control erosion.

10) Info Need LU-2

Please confirm that the new watercraft barrier design and construction plans were submitted to the SCDHEC in June 2019 for a construction stormwater permit. Confirm that after application review, a revised design was submitted August 11, 2020, and construction was completed November 30, 2020. In addition, confirm that a total of 1,800 square feet (.0413 acres) was disturbed for the construction of both concrete lock anchors, and that the operation of each anchor requires a 20x20 square foot footprint resulting in 800 square feet of impervious area (.0183 acres).

11) Info Need LU-3

Please confirm that the Oconee onsite Independent Spent Fuel Storage Installation (ISFSI) configuration was expanded with construction beginning in 2016 and completed in 2019. Confirm that a total of 2.42 acres of woodlands was cleared for construction and staging of the ISFSI expansion and an additional 3.2 acres was permanently cleared for the operation of the ISFSI expansion. In addition, confirm that no wetlands were impacted by construction or operation of the ISFSI expansion.

12) Info Need LU-4

Please confirm that the area north of the current ISFSI could be used to support expanded spent nuclear fuel storage capacity following the SLR term. Confirm that this northern expansion area is previously disturbed, developed land that is currently used for site support buildings. Confirm that no wetlands are anticipated to be disturbed in the construction or operation of the northern ISFSI expansion area.

13) Info Need SNF-1 with link to LU-4 (a) and (f)

Please confirm that the Oconee Nuclear Station ISFSI currently has nine spent fuel storage pads accommodating 166 containers in concrete-and-steel horizontal storage casks, where each canister can store 24 fuel assemblies. Also confirm that there is enough storage capacity once it is expanded to 14 pads to store spent nuclear fuel for the subsequent license renewal period.

14) Info Need SOC-4

Section 2.5 of the ER states that during refueling outages, the workforce typically consists of 800 to 900 contingent workers onsite. Section 2.5 of the ER also states that the 2020 workforce at the Oconee site consists of 1,936 persons, including 698 Oconee full-time employees and additional 1,238 persons that include contingent and outage workers. During the environmental audit, Socioeconomics break out session, and in response to information need SOC-4, Duke Energy stated that of the 1,238 workers, 548 persons were contingent non-outage workers, and 690 persons were outage worker. Please confirm that in 2020, of the 1,238 workers, 548 persons were contingent non-outage workers, and 690 persons were outage worker.

15) Info Need SOC-5

Section 3.9.5 of the ER identifies that Duke Energy employees and the Duke Energy Foundation community grants have contributed over \$109,000 to Oconee County. During the environmental audit, Socioeconomics break out session, and in response to information need SOC-5, Duke Energy clarified that the Oconee staff's community contributions is on an annual basis and the \$109,000 contribution was for 2018. Please confirm that the Oconee staff's community contributions is on an annual basis and that the \$109,000 contribution amount referenced in the ER was for 2018.

16) Info Need SSH-4

During the environmental site audit, NRC staff reviewed records of an April 2020 meeting between Duke Energy, ENERCON, and the U.S. Fish and Wildlife Service (FWS) concerning the proposed subsequent license renewal of Oconee. Please confirm that during this meeting, the FWS stated that no federally listed endangered or threatened species or designated critical habitats occur within six miles of the Oconee site and that the FWS has no objection to the proposed action.

17) Info Need SW-1

Based on the staff's review of the ER, including ER Appendix B, and information presented during the environmental audit, please confirm: (1) the SCDHEC is still reviewing Duke's National Pollutant Discharge Elimination System (NPDES) permit renewal application (permit no. SC0000515) for Oconee that was transmitted to SCDHEC in March 2013. (2) Duke is not aware of any issues or problems with the renewal, and SCDHEC has not provided Duke with an expected issuance date.

18) Info Need SW-2

Based on the staff's review of the ER, including Table 9.1-1, and information presented during the environmental audit, please confirm: (1) Duke applied for continued coverage under National Pollutant Discharge Elimination System (NPDES) General Permit No. SCG16006 for Oconee (issued under SCDHEC General Permit SCG160000) prior to the permit's expiration date and received notification from SCDHEC on April 1, 2021 that the permit coverage was extended. (2) Duke paid its annual fee for continued permit coverage under NPDES General Permit SCR000074 issued to Oconee, which provides Oconee with coverage under the SCDHEC-issued General Permit SCR000000. Although General Permit SCR000000 expired on September 30, 2021, permit coverage remains in effect

(administratively extended) for Oconee's industrial stormwater while SCDHEC updates and renews the statewide-general permit.

19) Info Need SW-4

Based on the staff's review of the ER and information presented during the environmental audit, please confirm: (1) Since October 2020, Duke has only received one Notice of Violation (NOV) for Oconee involving an exceedance of the oil and grease limit at NPDES Outfall 002. The exceedance was documented in Oconee's December 2020 Discharge Monitoring Report (DMR). SCDHEC issued Duke a NOV by letter dated February 23, 2021. The letter summarized the oil and grease exceedance at Outfall 002 where the discharge on December 31, 2020, at a concentration of 10.9 mg/L exceeded the daily maximum limit. SCDHEC stated in the letter that no response was required by Duke Energy since an explanation was submitted in the DMR.

20) Info Need TER-2

Please confirm that Duke Energy's pesticide management plans include procedures for recognizing and avoiding rare, threatened, and endangered species. Duke Energy's Pesticide Discharge and Management Plan has procedures for Adverse Incident to Threatened or Endangers Species or Critical Habitat. "If Duke Energy becomes aware that a spill has resulted in an adverse impact to a federally listed, threatened, or endangered species, or its federally-designated critical habitat, Duke Energy will immediately notify the NMFS [National Marine Fisheries Service]...or the FWS.... "

21) Info Need TER-3

Please confirm that Duke Energy has performed five ecological studies associated with onsite projects within the past 10 years that included evaluations for State listed species or their habitats.

22) Info Need TER-5

Please confirm that Duke Energy performed bald eagle surveys in June, July, and August 2015 in areas where timber was to be removed for the Operations Training Center and ISFSI expansion. Confirm that no eagles or eagle nests were observed.

23) Info Need TER-6

Please confirm that Duke Energy scientists performing surveys for Federally listed species in the ISFSI expansion area did not observe any State-listed threatened or endangered species in the area.

24) Info Need VIS-1

Please confirm that there are three private residences with Lake Keowee water frontage where Oconee structures and activities may be visible and that these residences are located approximately 1.2 miles northeast, 1.03 miles north northwest, and 1.04 miles northwest of Oconee.

25) Info Need WM-3

Please confirm that there were no inadvertent radioactive liquid or gaseous releases between 2014 and 2018 other than those discussed in WM-1 and WM-2 in the information needs list for the audit.

26) Info Need WM-4

Please confirm that there have not been any reportable unplanned releases of radioactive materials that would trigger a notification requirement since the ER was written.

27) Info Need WM-5

Please confirm that there have not been any reportable inadvertent nonradioactive spills that would be classified as an incidental spill since the ER was written.

28) Info Need WM-6

Please confirm that there have not been any discharges that triggered the reporting provisions of 40 CFR 110 since the ER was written.

29) Info Need WM-8

Please confirm that no releases of hazardous waste subject to reporting under 40 CFR 262.34(d)(5)(iv)(C) have occurred at Oconee since the ER was written.

30) Info Need WM-9

Please confirm that no releases subject to reporting under SC R. 61-92.280.60 have occurred from Oconee's underground storage tanks since the ER was written.

31) Info Need WM-10

Please confirm that the waste minimization measures applicable to solid waste and hazardous waste are listed in the plant's applicable waste management and recycling procedures. Confirm that the measures applicable to hazard waste include:

- Where possible, replace halogenated solvents used for cleaning with environmentally safe, non-halogenated cleaners.
- To minimize the volume of hazardous waste produced, segregate waste materials as much as possible to minimize the amount of non-hazardous waste that is mixed with hazardous waste.
- Minimize the use of halogenated solvents in spray cans and use substitutes where possible.
- Keep the number of chemical materials with a short shelf-life to a minimum.
- Use all the products in cylinders.
- Obtain only the amount of materials needed for a job.

In addition, confirm that other sections of the applicable waste management and recycling procedures specifically address waste stream recycling.

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

1) Document requests

Please submit the following documents on the NRC docket.

AQ-2

[HDR] HDR, Inc. 2020. Clean Water Act 316(b) Compliance Submittal. Prepared for Duke Energy Carolinas LLC. November 10, 2020. 1198 pp.

GW-7

1. SME 2009 Site Characterization Report, with figures and tables;
2. SME 2011 Site Characterization Report Addendum, with figures and tables.
3. SME 2020 Annual Groundwater Monitoring Report Duke Energy ONS Class Two Landfill - Permit No. 373303-1601.
4. SME 2019 2019 Updated Groundwater Drawings Report.

SSH-4

U.S. Fish and Wildlife Service. 2019. Letter from T.D. McCoy, Field Supervisor, FWS, to J. Ed Burchfield, Jr., Vice President, Duke Energy. Subject: Oconee Nuclear Station Units 1, 2, & 3, License Renewal, Oconee and Pickens Counties, South Carolina, FWS Log No. 2020-TA-0144. November 18, 2019. 6 pp.

TER-1

Duke Energy. 2021. Oconee Nuclear Station Avian Mortality 10-Year List. 1 p. (Only the columns showing species, date, cause, and number taken are necessary.)

2) Info Need CI-1

REQUIREMENT: 10 CFR 51.53(c)(3)(ii)(O) requires that applicants provide information about other past, present, and reasonably foreseeable future actions occurring in the vicinity of the nuclear plant that may result in a cumulative effect. Table B-1 of 10 CFR Part 51, Appendix B to Subpart A-Cumulative Impacts, requires that the NRC staff evaluate the cumulative impacts of continued operations and refurbishment associated with license renewal in conjunction with regional resource characteristics, the resource-specific impacts of license renewal, and the cumulative significance of other factors affecting the resource. Section 4.12 of NUREG-1555, Supplement 1, Revision 1, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Operating License Renewal," directs the staff to "identify and calculate the likely cumulative environmental impacts for the area(s) or region(s) currently or likely to be affected by power plant operations and/or refurbishment activities associated with license renewal."

ISSUE: An environmental audit breakout session was held on 10/15/2021 to address the NRC staff's Information Need CI-1, which requested the name, description, location, and status of any additional past, present, or reasonably foreseeable projects or actions that have been identified since the Environmental Report (ER) was prepared. Duke Energy staff identified one new proposed project at Oconee that was not previously addressed in Section 3.1.4 of the ER; specifically, the installation of bullet traps at the Oconee Firing Range. The NRC staff requires the information posted to the portal and discussed during the breakout session to be docketed in order to assess the potential cumulative impact of this project.

REQUEST: Please provide a summary of the environmental audit discussion held on 10/15/2021 addressing the narrative response to Information Need CI-1, including necessary excavation, removal the knee wall, and management of the associated hazardous waste.

3) Info Need CI-2

REQUIREMENT: 10 CFR 51.53(c)(3)(ii)(O) requires that applicants provide information about other past, present, and reasonably foreseeable future actions occurring in the vicinity of the nuclear plant that may result in a cumulative effect. Table B-1 of 10 CFR Part 51, Appendix B to Subpart A-Cumulative Impacts, requires that the NRC staff evaluate the cumulative impacts of continued operations and refurbishment associated with license renewal in conjunction with regional resource characteristics, the resource-specific impacts of license renewal, and the cumulative significance of other factors affecting the resource. Section 4.12 of NUREG-1555, Supplement 1, Revision 1, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Operating License Renewal," directs the staff to "identify and calculate the likely cumulative environmental impacts for the area(s) or region(s) currently or likely to be affected by power plant operations and/or refurbishment activities associated with license renewal."

ISSUE: An environmental audit breakout session was held on 10/15/2021 to address the NRC staff's Information Need CI-2, which requested the current status of four projects discussed in Section 3.1.4 of the ER, specifically:

- a) Implementation of Oconee thermal margin recapture uprates of 15 MWe per unit;
- b) Upgrades to add 335 MWe to the Bad Creek pumped storage hydro station;
- c) Installation of a water intake on Lake Keowee for the City Walhalla;
- d) Installation of new shoreline rock barrier and fencing at the Lake Keowee Fall Creek Landing Site.

The NRC staff requires the information posted to the portal and discussed during the breakout session to be docketed in order to assess the potential cumulative impact of this project.

REQUEST: Please provide a summary of the environmental audit discussion held on 10/15/2021 addressing the narrative response to Information Need CI-2, including clarification that Item d was in reference to southern-most Fall Creek Landing site.

4) Info Need HCR-3

REQUIREMENT: 10 CFR 51.53(c)(3)(ii)(K) requires that all applicants identify any potentially historic or archaeological properties and assess whether any of these properties

will be affected by future plant operations and any planned refurbishment activities in accordance with the National Historic Preservation Act of 1966 (NHPA). Section 106 of the NHPA directs Federal Agencies to take into account the effects of their undertakings on historic properties. Section 106 of the NHPA requires that Federal Agencies consult with the State Historic Preservation Officer (SHPO) and in accordance with 36 CFR 800.1(c), the NRC must complete the Section 106 process prior to making a decision on the licensing action. In accordance with 36 CFR 800.4(b), in consultation with the SHPO, the NRC shall take the steps necessary to identify historic properties within the area of potential effect.

ISSUE: Appendix D of the ER includes correspondence from the SCDAH dated December 5, 2019, recommending in part, that Duke Energy: 1) evaluate Oconee structures for NRHP eligibility once they reach 50 years of age; and 2) develop a cultural resource management plan for the evaluation of the associated structures for NRHP eligibility, a plan for conducting cultural resources surveys if ground-disturbing activities are proposed, and any avoidance and buffering measures that are in place.

REQUEST: Please provide a summary of the environmental audit discussion held on 10/15/2021 addressing the narrative response to Information Need HCR-3 pertaining to 1) the survey of onsite structures for NRHP eligibility and 2) the handbook and multiple procedures that Duke Energy has in place to protect cultural resources. Also provide a copy of 1) the Oconee Architectural Survey/NRHP Evaluation Draft Report (redacted as necessary to remove sensitive or proprietary information); 2) the associated September 15, 2021 cover letter transmitting the draft report to the SHPO; and 3) the associated October 7, 2021 correspondence providing SCDAH's response to the report.

5) Info Need SOC-1

REQUIREMENT: 10 CFR 51.53(c)(2) requires, in part, that applicants describe in detail in their environmental report the affected environment around the plant. Section 3.7 of NUREG-1555, Supplement 1, Revision 1, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Operating License Renewal," directs the staff to describe the socioeconomic characteristics of the counties within the region of influence, including tax payment information to local tax authorities (i.e., county, public school district) directly affected by plant operations.

ISSUE: Section 3.9.5 of the ER states that Duke Energy has contested the State of South Carolina's decision that a power company does not qualify as a manufacturer under the property tax exemption (SC Revenue Ruling #18-13).

REQUEST: Provide a status update and any new information pertaining to this contention?

6) Info Need SW-5

REQUIREMENT: 10 CFR 51.53(c)(2) requires that applicants describe in detail in their environmental report the affected environment around the plant, the modifications directly affecting the environment or any plant effluents, and any planned refurbishment activities. In addition, the applicant shall discuss any other matters described in 10 CFR 51.45. In accordance with 10 CFR 51.53(c)(3)(iv), the environmental report must also contain any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware. Section 4.4.1 of NUREG-1555, Supplement 1, Revision 1, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Operating

License Renewal," directs the staff to describe the analysis of continued plant operations and refurbishment regarding water use conflicts, including its consideration of any new information.

REQUEST: Please provide an update to ER Table 3.6-4a ("ONS Yearly Surface Water Withdrawal Summary for Years 2014–2018") that includes surface water withdrawal data for calendar years 2019 and 2020 (based on Duke's Water Use Reports that are submitted to SCDHEC).