

Winyah Generating Station 2023 Annual Progress Report for Permanent Cessation of Coal Combustion Subcategory Under 2020 ELG Rule

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Water & CCR Environmental Services

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1 Introduction

Santee Cooper submitted a Notice of Planned Participation (NOPP) for the permanent cessation of coal combustion (retirement) subcategory in October 2021, including all the information required under 40 CFR 423.19(f) as established by the 2020 ELG Rule.

The 2020 ELG rule also required submittal of annual progress reports. Per the rule, the annual report should include the following:

- 40 CFR 423.19(f)(3) *Annual Progress Report* - Annually after submission of the Notice of Planned Participation in paragraph (f)(1) of this section, a progress report shall be filed with the permitting authority, or control authority in the case of an indirect discharger.
- 40 CFR 423.19(f)(4) *Contents* - An Annual Progress Report shall detail the completion of any interim milestones listed in the Notice of Planned Participation since the previous progress report, provide a narrative discussion of any completed, missed, or delayed milestones, and provide updated milestones.

2 Ongoing Plans for Winyah Retirement

The 2020 Integrated Resource Plan explained that the retirement of Winyah Generating Station would require the addition of significant replacement capacity. In December 2021, as required under the terms of the Coordination Agreement (CA) between Santee Cooper and Central Electric Cooperative, Santee Cooper proposed a shared resource (PSR) to provide replacement capacity for the Winyah retirement. A Natural Gas Combined Cycle (NGCC) facility was proposed to be built at the site of the existing Winyah Generating Station, with a start-up date of January 1, 2029. A study on gas supply was completed in early 2022, identifying potential routes and associated challenges for a supply pipeline to Winyah.

In April 2022, Central notified Santee that they were opting out of the PSR, thus triggering the need for each party to provide a Non-Shared Resource to meet their load share ratio of the PSR. Santee Cooper evaluated several sites in its service territory for a new non-shared resource NGCC throughout 2022 and extending into 2023.

The latest NOPP update was filed on October 6, 2022, and a number of events that affect the retirement of Winyah have since occurred:

- In October 2022, Central notified Santee Cooper of the portfolio of Non-Shared Resources they would be providing to meet their obligation, and did not choose to participate jointly in the development of a new NGCC. This had the effect of significantly changing the plans for a large NGCC unit intended to provide replacement capacity for a retired Winyah Generating Station and raised concerns that replacement generation for Winyah may not be available by December 31, 2028.
- On February 8, 2023, Santee Cooper and Central signed a Memorandum of Understanding documenting an agreement to pursue the BAT technology as the

primary compliance strategy for Winyah. The Bureau of Water was notified by letter dated February 21, 2023. Santee Cooper requested that retirement and VIP pathways in the NPDES permit currently being drafted be maintained as well to allow alternative, parallel compliance pathways.

- By November 2022, Santee Cooper had begun discussions with Dominion Energy South Carolina about the consideration of a jointly developed shared generating resource. This was recognized to mutually benefit Santee Cooper and Dominion customers by taking advantage of the economies of scale of a larger unit that would meet the identified need of both utilities. A Memorandum of Understanding was signed to this effect on November 28, 2022, and discussions are continuing.
- Santee Cooper and Central communicate regularly about changes in their load forecasts. In late 2022 and early 2023, a number of new loads were identified that will likely be added to the Santee Cooper-Central Combined System. Agreeing to upgrade Winyah to comply with the ELG Rule rather than take the retirement option allowed Santee Cooper the option to choose a retirement date based upon system need as well as the availability of replacement generation, rather than a fixed date of December 31, 2028.

Integrated Resource Plan (IRP) Process

The IRP process also bears significantly upon plans for Winyah retirement. As we noted in our 2022 annual report, the 2023 IRP was under development in 2022 to be filed with the Public Service Commission by May 15, 2023.

Early portfolio analysis was focused on a 2028 Winyah retirement date. Santee Cooper's approach used the portfolio analysis coupled with other relevant information and risk mitigation strategies to inform the development of a Preferred Portfolio which would be presented to the Public Service Commission in its IRP. In the final Preferred Portfolio in the 2023 IRP, Santee Cooper revised the retirement date of Winyah to operate through 2030. The benefits described for this decision included the addition of near term flexibility and reliability to effectively manage higher load cases, and opportunities to collaborate with Dominion Energy South Carolina to achieve greater economies of scale. Santee Cooper filed its 2023 IRP on May 15, 2023¹, with the recommendation to extend the retirement date of Winyah Generating Station included.

The 2023 IRP is currently being litigated, and hearings are planned for December 2023, with a decision expected by the Public Service Commission in March 2024. Given the developments of the past year coupled with the challenges associated with the development of a NGCC unit, Santee Cooper recognizes that a retirement of Winyah by the end of 2028 is unlikely. Once the 2023 Integrated Resource Plan is finalized, Santee Cooper will inform the appropriate agencies of future plans for the Winyah Generating Station.

¹ Santee Cooper 2023 Integrated Resource Plan, May 15, 2023. <https://www.santeecooper.com/About/Integrated-Resource-Plan/>, accessed October 3, 2023.

Evaluation of Technology Alternatives for the ELG Rule

Given the uncertainty associated with EPA’s stated intent to rewrite the 2020 Rule along with the circumstances complicating Winyah retirement, Santee Cooper seriously evaluated other technology options in 2023.

Santee Cooper carefully evaluated the membrane technology which is the technology basis for the 2020 ELG Rule’s Voluntary Incentive Program (VIP) for both Cross and Winyah, even going so far as to request bids for this technology at the same time we requested bids for the generally applicable BAT technology option. This review continued into fall 2022. Ultimately, the bid was awarded to a company for installation of a physical-chemical and biological treatment system consistent with the 2020 Rule’s generally applicable BAT category.

3 Ongoing Planning and Coordination Efforts

Although the 2023 IRP has not yet been approved, Santee Cooper is moving forward with the generation plan it contains. As a result, as noted previously Santee Cooper is currently pursuing implementation of BAT technology by the end of 2025 as its primary compliance pathway, but has requested that both the retirement and VIP subcategories remain as alternative, parallel processes in the NPDES permit currently being drafted. Currently we understand that DHEC is likely to require final notification of technology selection by December 31, 2024. Also, we note that EPA’s ongoing effort to rewrite the rule has added additional uncertainty, including the possibility of an expanded retirement subcategory if and when a new final rule is released.

4 Timeline for Winyah Retirement or Installation of New Technology

Progress toward the milestones Santee Cooper suggested in its 2021 NOPP submittal is below. Comments on milestone initiation and completion are italicized. New milestones since 2021 are shaded.

Table 1. Updated Milestones.

Milestone	Estimated Completion Date
Select site, initiate project to allow for Winyah replacement	12/31/2021 <i>Completed 1/11/2022; however, efforts had to be redirected to a new non-shared resource on 4/28/2022 given Central’s decision to opt-out. Siting efforts continued into early 2023.</i>

Procure consultants, select technology for Winyah replacement	6/30/2022 <i>This effort moved forward on schedule, but will need to be reinitiated given Central's decision to opt-out on 4/28/2022.</i>
Evaluate alternative technologies for ELG compliance, obtain bids, award contract	<i>This effort concluded on 4/4/2023 when physical-chemical and biological treatment was selected to meet the requirements of the ELG rule for Winyah.</i>
Submit construction permit application for physical-chemical and biological treatment	<i>Submitted to DHEC 9/7/2023. Permit needed 1/1/2024.</i>
Notify DHEC of desire to choose alternative parallel pathway (VIP or retirement)	TBD by DHEC, likely December 31, 2024
(or) obtain operating permit for physical-chemical and biological treatment and begin operating under generally applicable limits	12/31/2025
(or) if retirement alternative previously selected and determined infeasible, submit transfer NOPP to pursue VIP option as necessary.	12/31/2025
Apply for and receive federal and state permits, initiate construction upon receipt, commission new asset.	12/31/2028 <i>Initiation of the permitting effort has been delayed given the new need for a non-shared resource and associated state approvals.</i>
Permanently idle all Winyah units	12/31/2028
(or) operate under the VIP option	

5 Additional Information

Santee Cooper provides some additional information related to the project and our previous correspondence as follows:

- As noted in the 2022 annual update, Winyah Unit 4 was returned to service in 2023 due to recent load growth.