

**South Carolina Department of Health and Environmental Control
Bureau of Air Quality**

**Response to Comments
Public Notice #14-012-TV/IV-RE
Santee Cooper Winyah Generating Station
Title V Permit (incorporates Title IV Permit)
Georgetown, Georgetown County, South Carolina
Permit No. TV-1140-0005**

The following document is the SC Department of Health and Environmental Control's (DHEC) Bureau of Air Quality (Department) response to the comments made during the formal comment period held February 7, 2014 – March 8, 2014, regarding the draft operating permit for Santee Cooper – Winyah Generating Station at 661 Steam Plant Drive, Georgetown County, South Carolina. The written comments received regarding the draft permit are available for viewing at the SC DHEC Columbia office located at 2600 Bull Street, Columbia, SC 29201, or on the SC DHEC webpage
<http://www.scdhec.gov/Environment/AirQuality/ConstructionPermits/PermittingDecisions>, or hardcopies can be requested by contacting our Freedom of Information Office at (803) 898-3817.

The following comments were received from the Southern Environmental Law Center, on behalf of itself, the Catawba Riverkeeper, the Sierra Club, the South Carolina Coastal Conservation League, and the Southern Alliance for Clean Energy.

1. Mercury and Air Toxics Standards:

- a. The commenter stated that the draft permit must be revised to include the specific MATS requirements currently applicable to the Winyah Station.

Department's response:

The 40 CFR 63, Subpart UUUUU "Standards for Hazardous Air Pollutants from Coal- and Oil- fired electric Utility Steam Generating Units," hereby referred to as the "MATS" became effective on April 16, 2012. The Winyah Station is an existing facility under this regulation and as such is required to be in compliance with the regulation by April 16, 2015.

An "applicable requirement" as per S.C. Regulation 61-62.70.2(f)... "including requirements that have been promulgated or approved by EPA through rulemaking at the time of issuance but have future-effective compliance dates," indicates that the MATS requirements should have been incorporated into the draft permit for the Winyah Station. However, as per an EPA TV Petition¹ for five Georgia Utilities, EPA determined that for existing sources subject to a MACT with a future compliance date including only a placeholder is sufficient.

¹ Order responding to Petitioners' Request that the Administrator Object to Issuance of State Operating Permits. Petition numbers IV-2012-1, IV-2012-2, IV-2012-3, IV-2012-4 and IV-2012-5. Dated April 14, 2014, p.9-10.

A placeholder condition was added into the draft permit, along with the existing units that would be potentially subject. The draft permit will be changed to remove the listing of the equipment and the placeholder condition will be changed, as outlined below. The reason for changing the placeholder condition is to ensure consistency with other coal fired utility permits. Additionally, the specific components of the MATS regulation will not be added.

Placeholder condition from draft permit:

“These sources are subject to the provisions of 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants, Subparts A and NESHAP For Coal- And Oil-Fired Electric Utility Steam Generating Units. Existing affected sources shall comply with the applicable provisions by the compliance date specified in Subpart UUUUU. Any new affected sources shall comply with the requirements of these Subparts upon initial start-up unless otherwise noted.”

Updated placeholder condition:

“This facility has processes subject to the provisions of S.C. Regulation 61-62.63 and 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants, Subparts A and Subpart UUUUU “National Emission Standards for Hazardous Air Pollutants from Coal and Oil-Fired Electric Utility Steam Generating Units.” Existing affected sources shall be in compliance with the requirements of these Subparts on the compliance date, unless otherwise noted.”

- b. The commenter stated that a plan and schedule for compliance with all applicable MATS requirements must be included in the permit.

Department’s response:

The commenter stated that the facility has not demonstrated that it is in compliance with the MATS requirements, and must therefore provide a schedule of compliance in accordance with S.C. Regulation 61-62.70.5(c)(8)(i)(C). The Department respectfully disagrees. The requirement to provide a schedule of compliance, as per S.C. Regulation 61-62.70.5(c)(8)(i)(C), refers to sources that are not in compliance with applicable requirements at the time of permit issuance. The MATS does not require a facility to be in compliance until the compliance date. The commenter has not provided any information that would require an existing facility to demonstrate compliance with the regulation prior to the compliance date. The MATS also allows for different compliance strategies, for which a facility may not yet have made a final decision. As such adding the MATS placeholder language to the draft permit will suffice.

The commenters did note that the facility is currently required to submit semi-annual reports of its compliance status. That is correct, however these reports are specifically related to the Consent Decree that the facility is required to comply with. The facility is not required to include any information as it relates to MATS compliance in this report.

2. Sulfur Dioxide National Ambient Air Quality Standard

- a. The commenter stated that the Department missed its deadline to submit the infrastructure state implementation plan (ISIP) for the 1-hour sulfur dioxide (SO₂) national ambient air quality standard and must therefore place enforceable emission limits in the Title V operating permit to ensure compliance with that standard.

Department's response:

There is no Title V applicable requirement which would require placing emission limits in a permit based on an ISIP (or a missed deadline to an ISIP). An ISIP is not the same as an attainment SIP, nor does it have the same requirements. An ISIP is only a demonstration to the EPA that a state has the infrastructure, authority, and resources to comply with the NAAQS. Conversely, an attainment SIP demonstrates to the EPA how a state will achieve compliance with the NAAQS, by detailing specific emission reduction to achieve the NAAQS and how those programs will be enforced. Due to the distinct differences between these two types of SIPs, the comment on placing emission limits in a permit to demonstrate compliance with the NAAQS does not pertain to the ISIP process or the content of an ISIP. This is reinforced by the September 2013 Infrastructure SIP Guidance which states in the section titled "Which elements of CAA 110(a)(2) affect infrastructure SIPs," that sections 110(a)(2)(C) (NANSR) and 110(a)(2)(I) (SIP revisions for nonattainment areas) are not applicable for infrastructure SIPs and, as such, "Emissions limitations and other control measures needed to attain the NAAQS in areas designated nonattainment for that NAAQS will be due on a different schedule from the section 110 infrastructure elements." At this time, South Carolina's monitoring data show attainment with the 1-hour SO₂ standard. Since the EPA has deferred designations, this is the only reliable basis with which to assess SC's attainment status. As such, no further emissions limits on SO₂ emitting sources should be included in the SO₂ infrastructure SIP. Therefore, no limits will be included in the Title V operating permit. To date, the South Carolina ISIP has been drafted, noticed and submitted to the EPA for final approval.

- b. The commenter stated that the permit emission limits allowed an exceedance of the 1-hr SO₂ national ambient standard and no analysis was conducted to demonstrate compliance with that standard.

Department's response:

The four boilers at Winyah were originally constructed in 1971 (Boiler 1), 1974 (Boiler 2) and 1978 (Boiler 3 and 4). Boiler 3 and 4 had flue gas desulfurization (FGD) scrubbers installed in 1978. In 2007, the facility added FGD scrubbers to Boilers 1 and 2. This resulted in significantly lowered SO₂ emissions for those boilers. In 2009, as part of a construction permit application for the use of S-Sorb sorbent to reduce emissions of SO₂, the facility submitted a facility-wide air dispersion modeling demonstration. This air dispersion modeling analysis demonstrated compliance with all applicable SO₂ standards. Since that

time, the Winyah facility has not had any permit actions that have included a regulatory requirement for submittal of an air quality analysis for SO₂.

The emission limits of 3.5 pounds per million BTU is required by SC R. 61-62.5 Standard No.1- Emissions From Fuel Burning Operations, and the 2.85 pounds per million BTU was required as BACT for PSD are both applicable requirements per the Title V regulation and are therefore appropriately placed in the Title V permit. Additionally, a recent South Carolina regulation change, effective June 27, 2014, requires fuel burning sources to meet a 2.3 pounds per million BTU for SC R. 61-62.5 Standard No.1- Emissions From Fuel Burning Operations. Winyah's fuel burning sources are in compliance with this limit and the Title V permit has been changed to reflect the new limit.

No modeling analysis is required for the 1-hour SO₂ standard at this time. The EPA proposed the *Data Requirements Rule for the 1-Hour Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard (NAAQS)* on May 13, 2014. This proposed rule details the proposed requirements for a state agency to provide data to the EPA so the EPA in turn can make final SO₂ NAAQS attainment designations. The proposed rule includes an anticipated timeline for the attainment designation process. For areas that rely on a modeling analysis, it is expected that modeling will be completed and submitted to the EPA by January 2017. The timetable concludes with the EPA issuing final designations by December, 2020 and state attainment plans being due in August, 2022. The Department anticipates that the Winyah facility will be one of the facilities involved in this designation process. South Carolina will comply with the requirements as established in a final rule, including establishing any enforceable emission limits as necessary. Should this facility submit an application for an increase in SO₂ emissions that triggers the PSD regulation (SC R. 61-62.5 Standard No. 7), the facility must demonstrate the project will not cause or contribute to a violation of the 1-hour SO₂ standard. Approval for any increase, including enforceable emission limitations will be handled through the construction permit process.

The commenter also provided modeling conducted by the Sierra Club for North Carolina sources. The commenter contends that this modeling for North Carolina sources demonstrates a violation of the SO₂ standard, and alleges that this demonstration acts as a surrogate for the Winyah facility, which, in turn, should have 1-hour SO₂ permit limits. Air dispersion modeling is dependent on source-specific stack parameters, such as emissions rates but also including stack height and diameter and exit temperature and velocity. Air dispersion modeling is also location dependent with respect to surrounding terrain elevations as well as with respect to meteorology. Because of the source-specific and location-specific variables that vary between one facility and another, predicted concentrations obtained through modeling can vary significantly for different facilities at different locations. For this reason, modeling that is performed for a facility at one location should not be used to draw conclusions on what the predicted concentrations will be (or what emissions limits should be) at a different facility at a different location.

3. **Limits for fine particle pollution**

The commenter stated that the elimination of the surrogacy policy would require the Title V permit to contain source specific PM_{2.5} emission limits and a demonstration that the facility's emissions will not contribute to a violation of the NAAQS for PM_{2.5}.

Department's response:

The PM₁₀ (particulate matter less than 10 micrometers in diameter) surrogacy policy allowed permitting agencies to use PM₁₀ as a surrogate for PM_{2.5} (particulate matter less than 2.5 micrometers in diameter) in major source permitting while the EPA developed needed tools for States to fully implement PM_{2.5} permitting. That policy ended on May 16, 2011². This rulemaking impacted SIP-approved PSD programs and did not impact other portions of the SIP. The effects of this elimination meant any new construction or modification activity would require a review of PM_{2.5} emissions. If project net emission increases triggered PM_{2.5} thresholds, a PSD construction permit would be required for that proposed activity. The Winyah facility has not triggered major source permitting requirements for PM_{2.5}; therefore, no PM_{2.5} emission limits for facility sources are required. Should Winyah propose a modification that causes a net emission increase of PM_{2.5} at or above 10 tons per year, then a BACT analysis and air dispersion modeling impact review will be required and emission limits specific to PM_{2.5} will be applied to that source.

The surrogacy policy (and elimination thereof) impacted any new issued PSD permit. The elimination of the surrogacy policy does not require the establishment of any new emission limits via the Title V permit. The Title V does require each applicable requirement be incorporated; however, there are no PM_{2.5} source-specific applicable requirements that would be reflected in this Title V permit. There are both PM and PM₁₀ applicable standards which have been addressed in the permit. The Title V regulation does require the application contain a description of emissions from emissions units, including PM_{2.5} (70.5(c)(3)(i)). This information was submitted by the facility as part of the Title V renewal application process.

The commenter indicates that the draft permit "contains ...no assurance that the facility's emissions will not contribute to a violation of the NAAQS for PM_{2.5}." There is no such requirement for a Title V permit. However, to address the commenter's concerns, we offer the following. The Winyah facility was originally constructed in 1971 (Boiler 1), 1974 (Boiler 2) and 1978 (Boiler 3 and 4). Electrostatic precipitators were installed on each of the Boilers when constructed. In 2007 the electrostatic precipitators were upgraded for Boiler 2 and 4 to improve the PM removal efficiency.

As part of a 2009 construction permit application, Winyah submitted an air dispersion modeling demonstration accounting for changes as part of the S-sorb project. This modeling demonstration showed compliance with the PM₁₀ NAAQS in place at that time. Under the PM₁₀ surrogate policy then in effect, compliance for the PM_{2.5} standards was demonstrated

² USEPA Fact Sheet "Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM_{2.5})" – Final Rule to Repeal Grandfather Provision.

through the PM₁₀ surrogate. Since that time, the Winyah facility has not had any permit actions that have included a regulatory requirement for submittal of an air quality analysis.

An analysis of PM_{2.5} monitoring data indicates that the Winyah facility would not cause or contribute to a violation of the PM_{2.5} ambient air standards. All of the PM_{2.5} monitoring data for the state indicate that our state remains in attainment with both the 24-hr and annual PM_{2.5} standards. In particular, data from the two monitoring stations closest to the Winyah facility listed below show that the ambient PM_{2.5} concentrations in the area remain well below the NAAQS.

Station	2013 24-hr PM _{2.5} Design Value (ug/m3)	24-hr PM _{2.5} NAAQS (ug/m3)	2013 Annual PM _{2.5} Design Value (ug/m3)	Annual PM _{2.5} NAAQS (ug/m3)
Charleston Public Works	21	35	8.2	12
Charleston FAA Tower	20	35	8.9	12

Thus, there is no evidence that the Winyah facility has caused or contributed to a violation of the PM_{2.5} NAAQS and no evidence that there is need for a PM_{2.5} emissions limit for the Winyah facility.

4. Expressing Pollutant Limits to Mirror Applicable Standard

The commenter stated that pollutant limits needed to be expressed in terms that mirror the applicable standard. The commenter referred to an EPA comment on a Kansas Department of Health and Environment air permit (Sunflower).

Department's response:

The Sunflower expansion project in Kansas was a PSD project. A PSD project that triggers for SO₂ emissions would need to demonstrate compliance with the 1-hour SO₂ NAAQS and other source impact modeling requirements. There is no new construction taking place at the Winyah Station, so no such modeling analysis would be required for the 1-hour SO₂ standard.

The facility is subject to a SO₂ emission limit required by SC R. 61-62.5 Standard No.1-Emissions From Fuel Burning Operations. This regulation was approved in the South Carolina SIP in 1972. The emission limit was based on the federal NAAQS at that time, which was the 24-hour averaging period for the primary NAAQS. As such, the Department has determined that this averaging period is appropriate and will remain as written in the draft permit. It is important to note that averaging periods are based on the particular regulation applicable to a facility, which may or may not be reflective of the current NAAQS.

Additionally the commenters referred to a 12-month averaging of SO₂ emissions in the draft permit. This averaging period was established in a consent decree and the limits associated with that averaging period includes other Santee Copper facilities as well.

5. BAQ Issuance of Title V Permits

- a. The commenter stated that BAQ had not met deadlines in issuing the Title V permit renewal for Winyah Station and that failure to renew the Title V permit as required has allowed the facility to escape applicable regulations.

Department's response:

The Title V permit status has not allowed the Winyah facility to avoid any applicable regulations. All facilities are required to meet any new applicable requirement upon the compliance date of that regulation. Additionally, construction permit reviews are conducted for facilities that are constructing new sources or modifying existing sources (SC R 61-62.III.A.1.a). Issued construction permits contain any new applicable requirements to which the facility must comply. Any PSD construction permits must contain a source impact analysis for any triggered PSD pollutant. Facilities are required to request that construction permits be incorporated into the TV through the appropriate TV modification request. Finally, the Title V program allows facilities to continue to operate under the constraints of their operating permit, after submitting a timely and complete permit renewal application, until a final decision is issued on the operating permit renewal.

- b. The commenter requested that uncontrolled and controlled emission rates for each pollutant should be included in the statement of basis.

Department's response:

The purpose behind a statement of basis is to justify permitting decisions made for a facility. It may state why or why not the Department agrees or disagrees on regulatory issues and is used to document any decisions made that are not clearly required by regulations. A statement of basis is not a "copy and paste" of information provided in a Title V permit application. In this case all emissions data have been submitted by the facility as part of the Title V renewal application.