

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

Response to Comments

Public Notice #16-011-TV-IV-RE

South Carolina Electric & Gas Company – A. M. Williams Station

Title V Permit (incorporates Title IV Permit)

A. M. Williams Station , Berkeley County, South Carolina

Permit No. TV-0420-0006

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 24 – March 24, 2016, regarding the draft operating permit for South Carolina Electric & Gas (SCE&G) Company – A. M. Williams Station at 2242 Bushy Park Road, Goose Creek, Berkeley 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 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.

1. Emission Standards

- a. The commenter stated that the heat input (million BTU per hour) rating of the boiler (UB1) should be an enforceable permit condition. Commenter also stated that a higher heat input may require the lb/million Btu emission rates to be lowered in order to assure compliance with the 1-hour NAAQS for NO_x and SO₂.

Department's response:

The pounds per million BTU pollutant limits listed in the Title V operating permit were calculated based on a nominal rating of 5,500 million BTU per hour heat input capacity of the boiler. Appropriate monitoring is established in the permit in order to ensure compliance with these limits. The commenter stated that there was the potential for the facility to exceed these limits if they went above the 5,500 million BTU per hour rating on the boiler; however, this is not the case, as the facility is required to demonstrate compliance with the limits established in the Title V operating permit.

In addition, when air dispersion modeling has been required, the facility has demonstrated compliance with the applicable ambient standards using rates higher than the established limits or by using the potential to emit limits. These limits also have associated averaging periods established, ranging from 3-hour block averages to 24-hour block averages dependent upon the pollutant, which account for variation in boiler operations and the nominal heat input.

The Williams facility originally started construction in 1969 under the initial PSD permit. In 2002 the facility installed a selective catalytic reduction (SCR) system for the main boiler. Although the control device is voluntary at this point, its use has significantly

lowered the NO₂ emissions. No permit action has required a modeling analysis for the 1-hour NO₂ standard at this time. A construction permit review would be required should Williams propose new construction or a modification to existing sources that caused an emission increase. As part of that review, the facility would be required to submit air dispersion modeling or other information to demonstrate that emissions would not interfere with attainment or maintenance of any state or federal standard. Additionally, the South Carolina Air Monitoring Network demonstrates the state is in attainment with the NO₂ NAAQS.¹

Concerns with 1-hour SO₂ standard are addressed in the response under (1)(d).

- b. The commenter stated that opacity limit must apply at all times during startup and shutdown.

Department's response:

The opacity limit referenced is from SC R. 61-62.5, Standard 1 – Fuel Combustion. The Standard 1 regulation was incorporated into the SC State Implementation Plan (SIP) in 1972. This regulation specifically excludes startup, and shutdown events from having to comply with the opacity limitation. The EPA published a final rule addressing the issue of SSM SIP provisions on June 12, 2015. The Department has 18 months from the date the EPA notified the state to submit revisions to the EPA addressing this issue. As such, the Department has until November 22, 2016, to submit the required information. The Department initiated the statutory process to amend R. 61-62 to address this issue by publication of a Notice of Drafting in the S.C. State Register on February 26, 2016. Permit changes will be made after this entire process is complete. Until such time Standard 1 remains in place as is, and the Title V permit accurately reflects those requirements.

- c. The commenter stated that the draft permit doesn't include requirements for PM₁₀ and 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 Williams 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 Williams 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

¹ National Ambient Air Quality Standards.

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.

impact review will be required and emission limits specific to PM_{2.5} will be applied to that source.

Similarly should Williams propose a modification that would cause a net emission increase of PM₁₀ at or above 15 tons per year, then a BACT analysis and air dispersion modeling impact review will be required and emission limits specific to PM₁₀ will be applied to that source.

The surrogacy policy (and elimination thereof) impacted any newly issued PSD permit. The elimination of the surrogacy policy does not require the establishment of any new emission limits via the Title V permit. Title V does require each applicable requirement be incorporated; however, there are no PM₁₀ or PM_{2.5} source-specific applicable requirements that would be reflected in this Title V permit. There are only PM 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 PM₁₀ and 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 also stated that “sources will be required to include their PM_{2.5} emissions in their Title V permit applications, in any corrections or supplements to these applications, and in applications submitted upon modification and renewal”.³ The facility did include both PM₁₀ and PM_{2.5} emission rates in the TV application. These emission rates are also listed in the Statement of Basis.

The commenter indicates that in the draft permit “both PM₁₀ and PM_{2.5} should be clearly regulated in the Draft Permit to assure compliance with their respective NAAQS”. There is no such requirement for a Title V permit. However, to address the commenter’s concerns, the Department offers the following:

The Williams facility originally started construction in 1969 on a No.6 oil fired boiler that became commercially available on July 12, 1973. The boiler was modified in 1979 to fire coal. The facility installed an electrostatic precipitator (ESP) in 1983. The ESP significantly controls PM emissions, including PM₁₀ and PM_{2.5} emissions.

As part of the Title V renewal, the facility submitted an air dispersion modeling analysis for PM₁₀ and PM_{2.5} for both the NAAQS and the PSD increments. Note that the PM_{2.5} PSD increments do not apply to the Williams facility since this facility has not had an increase of PM_{2.5} emissions since the major source baseline date and the minor source baseline date has not been set in Berkeley County. The results of that modeling, which are tabulated below, indicate that the Williams facility will be in compliance with all applicable PM₁₀ and PM_{2.5} ambient air quality standards.

| STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS ANALYSIS | | | | | | | |
|--|-----------------------|--------------|---|--|-------------------------------------|--|----------------------|
| Pollutant | Averaging Time | Basis | Maximum Concentration⁽¹⁾ (µg/m³) | Background Concentration⁽²⁾ (µg/m³) | Total (µg/m³) | Standard (µg/m³) | % of Standard |
| PM ₁₀ | 24 Hour | AERMOD | 22.7 | 49.0 | 72 | 150 | 48 |
| PM _{2.5} | 24 Hour | AERMOD | 5.7 | 20.0 | 26 | 35 | 74 |
| | Annual | AERMOD | 0.9 | 8.2 | 9 | 12 | 75 |

³ Comments submitted by the Southern Environmental Law Center March 24, 2016 p7.

| STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS ANALYSIS | | | | | | | |
|---|----------------|-------|--|---|---------------------------------------|--|---------------|
| Pollutant | Averaging Time | Basis | Maximum Concentration ⁽¹⁾ ($\mu\text{g}/\text{m}^3$) | Background Concentration ⁽²⁾ ($\mu\text{g}/\text{m}^3$) | Total ($\mu\text{g}/\text{m}^3$) | Standard ($\mu\text{g}/\text{m}^3$) | % of Standard |
| (1) Design value concentration | | | | | | | |
| (2) Representative monitoring background concentration | | | | | | | |

| STANDARD NO. 7 - CLASS II PREVENTION OF SIGNIFICANT DETERIORATION ANALYSIS | | | | | |
|---|----------------|--------|--|--|---------------|
| Pollutant | Averaging Time | Basis | Maximum Concentration ($\mu\text{g}/\text{m}^3$) ⁽¹⁾ | Standard ($\mu\text{g}/\text{m}^3$) | % Of Standard |
| PM ₁₀ | 24 Hour | AERMOD | 19 | 30 | 63 |
| | Annual | AERMOD | 2 | 17 | 12 |
| (1) The highest-first-high modeled concentration was used for annual averaging periods and the highest-second-high was used for the 24-hr averaging period. | | | | | |

Thus, there is no evidence that the Williams facility has caused or contributed to a violation of the PM₁₀ or PM_{2.5} ambient air quality standards and no evidence that there is need for a PM₁₀ or a PM_{2.5} emissions limit for the Williams facility.

d. Sulfur Dioxide National Ambient Air Quality Standard

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

Department's response:

The Williams facility originally started construction in 1969 under the initial PSD permit. In 2007, the facility installed a wet flue gas desulfurization (FGD) system for the main boiler. This control significantly lowered the SO₂ emissions. Air dispersion modeling analysis submitted September 2013 and April 2015 demonstrate compliance with all applicable SO₂ standards. Since that time, the Williams facility has not had any permit actions that have included a regulatory requirement for submittal of an air quality analysis for SO₂.

The emission limit of 2.3 pounds per million BTU is required by SC R. 61-62.5 Standard No.1 - Emissions From Fuel Burning Operations. This limit is an applicable requirement as per the Title V regulation and has therefore been appropriately included in the Title V permit. Williams' fuel burning source has demonstrated compliance with the 2.3 pounds per million BTU limits.

The commenter also mentioned 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 Williams 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.

- e. The commenter stated that emission limits should be based on averaging periods that match the applicable standard (this is listed as comment 1.d. in comments submitted).

Department's response:

Both the Sunflower expansion project in Kansas and the Mississippi Lime Company project were PSD projects. 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 Williams Station; therefore, a modeling analysis is not required for the 1-hour SO₂ standard.

The Williams facility is subject to a SO₂ emission limit required by SC R. 61-62.5 Standard No.1 - Emissions From Fuel Burning Operations. This limit applies to the coal fired boiler as well as the two auxiliary boilers. 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.

- f. The commenter stated CSAPR needs to be addressed (this is listed as comment 1.e in comments submitted) in the draft permit.

Departments Response:

The D.C. Circuit did lift the stay on the Cross-State Air Pollution Rule (CSAPR) on October 23, 2014. The EPA issued an "Interim Final Rule with request for comment" on CSAPR on December 3, 2014. The comment period for this action closed on February 2, 2015. The EPA then issued a proposed rule update on December 3, 2015⁴. This update includes an action to remove South Carolina from the CSAPR NO_x ozone-season trading program.⁵ The comment period for this action closed on February 1, 2016. The EPA issued a Memorandum on June 27, 2016, regarding their plan to address the Phase 2 SO₂ budgets for South Carolina.⁶ Until such time that final decisions has been made to this rule, , the

⁴ The EPA is proposing to update CSAPR to address interstate emission transport with respect to the 2008 ozone NAAQS. The proposal also responds to the July 29, 2015 remand by the Court of Appeals for the District of Columbia Circuit of certain states' ozone-season NO_x emissions.

⁵ 80 Fed.Reg. 75,706, 75,708 (Dec. 3, 2015).

⁶ Memorandum from USEPA dated June 27, 2016 "The U.S. Environmental Protection Agency's Plan for Responding to the Remand of the Cross-State Air Pollution Rule Phase 2 SO₂ Budgets for Alabama, Georgia, South Carolina and Texas.

Department will continue to include a place holder condition only within the Title V permit. After a final decision has been made, the Title V permit will be modified to include the applicable requirements.

2. The commenters stated that the draft Title V permit fails to include sufficient monitoring to ensure compliance with the PM limit established under SC R. Standard No. 1 – Emissions from Fuel Burning Operations.

Department's Response:

The Title V regulation requires the Department to establish appropriate monitoring of each applicable limit. In this comment the commenters are specifically referring to the Standard No. 1 PM limit, which is 79.2 pounds per hour. The Title V permit requires that source testing be performed semiannually for Standard 1, unless three (3) consecutive stack test results demonstrate that the boiler is operating at less than 80% of either of the PM limits, in which case stack testing can be conducted on an annual basis. The stack testing is required to be performed under worst case conditions, including soot blowing events. A review of the last stack testing results for the facility show PM emission rates well below the PM limit, at 8.47 pounds per hour. Opacity data from both a method 9 and the COMs taken during the stack tests demonstrate that the opacity is well below the required 20%. Any exceedances of the opacity limit (20%) may result in the Department requiring additional PM testing; however, not all exceedances of a COMs would require re-testing of the boiler, as the Department would need to review all information related to such exceedances before determining the most appropriate action. The facility is also subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM). The facility is using PM₁₀ as a surrogate for PM. The facility is complying with CAM by utilizing opacity as a correlation to demonstrate continuous compliance with the PM limits. This correlation was derived from stack test data, which demonstrated compliant operation of the equipment. Based on this, the Department has determined that no additional periodic monitoring is necessary to ensure compliance with the PM limitation within the draft Title V permit.

There is no Title V regulatory requirement for the installation of a PM CEMS at the facility. Furthermore, the EPA in its response to a Title V Petition stated that “although CEMS may be the preferred type of monitoring in some instances, CEMS are not always necessary to assure compliance with applicable requirements. Section 504(b) of the Act provides that ‘continuous emissions monitoring need not be required if alternative methods are available that provide sufficiently reliable and timely information for determining compliance.’”⁷ As such, no requirement for the installation of a PM CEMS will be added to the permit.

3. Reporting requirements inadequate

- a. The commenter stated that the facility should be required to report excursions and exceedances immediately and that this information be made available to the public.

⁷ 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.12 (citing 42 U.S.C. § 7661c(b); *In re Alliant Energy WPL-Edgewater Generating Station*, Order on Petition, Petition Number V-2009-02 (August 17, 2010), at 11).

Department's response:

As per SC R. 61-62.70.6(a)(iii) "With respect to reporting, the permit shall incorporate all applicable reporting requirements and require the following: (A) Submittal of reports of any required monitoring at least every 6 months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with Section 70.5(d)." Since neither the Title V regulations nor the 40 CFR Part 64 (CAM) regulations require immediate reporting of excursions or exceedances such a requirement will not be added to the permit.

The commenter stated that information regarding excursions and exceedances be made available to the public. Any information submitted to the Department can be requested through the Freedom of Information Office <http://www.scdhec.gov/Agency/RequestCopiesofRecords/> or 803-898-3882.

- b. The commenter stated that compliance reporting must be more detailed.

Department's response:

NSPS provides an example format for COM summary reports, found in 40 CFR 60.7, which lists several causes for opacity exceedances, including startup/shutdown, control equipment problems, process problems, other known causes, unknown causes, etc. Per 40 CFR 60.7(d)(2), if the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in §60.7(c) shall both be submitted.

In the 3rd Quarter 2011 report, the facility acknowledges an emission control equipment malfunction and also states the corrective action of, "Isolate, Inspect, and Replace Damage Particulate Bags." The facility is reporting per SC R. 61-62.5, Standard No. 1 and 40 CFR Part 60 requirements.

The commenter stated that the Department should make COMS raw data easily accessible and that vague summaries impede compliance assurance and accountability. The Title V permit and NSPS only require the submittal of COM summary reports and if needed, as mentioned above, excess emissions reports when applicable. Title V permit conditions require the facility to maintain records for a period of five years and that these records shall be made available to a Department representative upon request. As stated in 3.a. above, any information submitted to the Department can be requested through the Freedom of Information Office <http://www.scdhec.gov/Agency/RequestCopiesofRecords/> or 803-898-3882.

4. Mercury and Air Toxics Standards

The commenter stated that the draft permit must be revised to include the specific MATS requirements currently applicable to the Cope 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 Williams Station is an existing facility under this regulation and as such is required to be in compliance with the regulation by April 16, 2015. However on February 4, 2015, the Department granted the Williams Station a one year compliance extension in accordance with 40 CFR 63.6(i)(4)(i)(A) for the installation of activated carbon controls. As such the new compliance date for the Williams Station was April 16, 2016.

An "applicable requirement" as per the definition in SC R. 61-62.70.2(f)... "means all of the following as they apply to emissions units in a Part 70 source subject to these regulations including requirements that have been promulgated or approved by EPA through rulemaking at the time of issuance but have future-effective compliance dates." This definition indicates that the MATS requirements should have been incorporated into the draft permit for the Williams Station.

The Department is currently in the process of reviewing the Notice of Compliance Status (NOCS) submitted by SCE&G for the Williams Station. Until the NOCS has been completely reviewed and approved the place holder language will remain in the permit. After approval of the NOCS the Title V permit will be modified to include the applicable MATS requirements.

5. Other changes made to the Title V operating permit

- a. Typographical errors were found by the Department in the Draft Statement of Basis. On page 14 in the controlled/limited potential emissions the PTE for PM₁₀ filterable should be 79.7 TPY, not 79.884.4. On page 18 in the Table for SC R. 61-62.5, Standard 1 the PM controlled emission rate (lb/hr) should be 79.2, not 81.379.2.
- b. The draft permit and statement of basis have been updated to reflect that start of construction of UB1 commenced in 1969, but it wasn't commercially available until 1973. SC R. 61-62.5, Standard 1 applicability has also been clarified.
- c. The draft permit and statement of basis have been updated to reflect potential applicability to the provisions of S.C. Regulation 61-62.60 and New Source Performance Standards (NSPS), 40 CFR 60 Subpart A, General Provisions and Subpart DDDD – (Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units).