



**Group Against Smog and Pollution Inc.**  
1133 South Braddock Avenue, Suite 1A, Edgewood, PA 15218  
(Tel) 412-924-0604 [www.gasp-pgh.org](http://www.gasp-pgh.org)

via email  
<http://www.regulations.gov>  
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Air Quality Designations for 2010 Sulfur Dioxide National Ambient Air Quality Standards Third Round—NRG Midwest LP/Cheswick Generating Station

**1. AERMOIST**

NRG Midwest LP/Cheswick Generating Station was designated as a source subject to Air Quality Characterization under the Data Requirements Rule for the 1-Hour Sulfur Dioxide (SO<sub>2</sub>) Primary National Ambient Air Quality Standard (NAAQS).

NRG, after discussions and communications among Pennsylvania Department of Environmental Protection (PA DEP), Allegheny County Health Department (ACHD), and AECOM (contractor for air dispersion modeling), chose to identify maximum ambient air SO<sub>2</sub> concentrations in the area around NRG Cheswick with the pathway that would “modify the air operating permit prior to January 13, 2017 such that the source would “limit short-term (1-hour) and/or longer-term (up to 30-day average) SO<sub>2</sub> emissions that, based on the results of an air dispersion modeling study conducted in 2015-2016, demonstrate that the area surrounding the source is in attainment with the SO<sub>2</sub> NAAQS, allowing the state air agency to provide a recommendation for a designation of attainment with the NAAQS. The emission limits determined from this analysis must be in place as of January 2017.”<sup>1</sup>

“The results of the study and the modeling fields will be forwarded to the PA DEP and ACHD for their review, comment, and confirmatory modeling. Following approval of the results of the modeling study, NRG will prepare and submit to the ACHD an application to modify the air operating permit for Cheswick.”<sup>2</sup>

“On October 13, 2016, PA DEP notified NRG and AECOM that, ‘the response to comment document adequately addresses [the] comments on the modeling protocol,’ and requested NRG and AECOM to prepare and forward an updated protocol.”<sup>3</sup>

NRG and AECOM used a new approach for plume rise known as AERMOIST, noting, in Section 3 of the Modeling Protocol, “Since this approach is a source characterization technique rather than a non-guideline model application, it can be

regarded as a refinement not subject to Appendix W Section 3.2.2 procedures, such that an agency approval for a non-guideline approach is not required.”

**Comment:** EPA disapproved the NRG Cheswick modeling approach<sup>4</sup> partially because AERMOIST was not yet approved by EPA. GASP agrees this technique needs to be thoroughly reviewed and that the modeling done is not adequate to demonstrate SO<sub>2</sub> air quality in the NRG Cheswick source area at this point. It would seem the Environmental Protection Agency (EPA), despite remarks that the agency is available for guidance, did not adequately engage or was not asked to consult on the use of an unapproved modeling technique to inform a new SO<sub>2</sub> limit. It would have been helpful for EPA to indicate in advance that this might be the outcome for the Cheswick model and only allow AERMOIST use after thorough vetting.

## **2. Proposed Limit for Cheswick Generating Station**

EPA notes “If emission levels would actually approach the proposed limit then the assumption that emissions from Cheswick Generating Station would not contribute to the Allegheny, PA nonattainment area would probably no longer be valid. In our opinion, the final permitted emission limit imposed on the Cheswick Generating Station should be made with some consideration to the nearby Allegheny, PA 1-hour SO<sub>2</sub> nonattainment area. Facility limits should ensure that emissions from the Cheswick Generating Station would not interfere with the Allegheny, PA nonattainment area’s ability to meet the 1-hour SO<sub>2</sub> NAAQS.”<sup>5</sup>

GASP agrees that an analysis to inform the limit should take into consideration impact on the Allegheny County 1-hour SO<sub>2</sub> nonattainment area. NRG Cheswick is the largest industrial source of sulfur dioxide emissions in Allegheny County for both 2013 and 2014.<sup>6</sup> As can be seen from the wind rose on page 71 of the *Technical Support Document: Chapter 35 Intended Round 3 Area Designations for the 2010 1-Hour SO<sub>2</sub> Primary National Ambient Air Quality Standard for Pennsylvania, Technical Analysis for the Remaining Undesignated Portion of Allegheny County. p 58*, the wind does come from the Cheswick direction towards the Allegheny County, PA nonattainment area a small percentage of the time and this is a one-hour standard.

NRG Cheswick, Allegheny County Health Department, and the PA DEP should resubmit information that is approvable by EPA to characterize the air quality around the NRG Cheswick facility with some oversight by EPA as necessary.

The Final Data Requirement Rule states “The air quality data developed by air agencies pursuant to this rule may be used by the EPA in future actions to evaluate areas’ air quality under the 2010 1-hour SO<sub>2</sub> National Ambient Air Quality Standard (NAAQS), including area designations and redesignations, as appropriate.”<sup>7</sup> This is important, as at the heart of the rule is protection of public health.

The modeling process (in part) provided from NRG Cheswick and the local and state agencies, however, was unacceptable so, partially for this reason, the NRG Cheswick-related area was designated as unclassifiable. This designation does not help

to inform the EPA in future actions. NRG Cheswick and ACHD and or PA DEP hopefully will submit approvable modeling or some other approvable submission that will be informative and properly characterize the sulfur dioxide air quality impact surrounding this major facility.

As this characterization is the goal of the Data Requirement Rule, leaving an area as unclassifiable does not seem helpful where it is clear that a renewed effort could produce the acceptable submission of information. We urge EPA to be a part of an additional process to submit acceptable information to characterize the air around the NRG Cheswick facility for ambient sulfur dioxide.

Thank you for the opportunity to submit comments.

Sue Seppi  
GASP Program Manager

1. *Air Dispersion Modeling Protocol to Determine SO<sub>2</sub> NAAQS-Compliant Emission Rates for the Cheswick Generating Station, Rev. 1, p. 1-1*
2. *Id, pages 1-2*
3. *Ibid*
4. *Technical Support Document: Chapter 35 Intended Round 3 Area Designations for the 2010 1-Hour SO<sub>2</sub> Primary National Ambient Air Quality Standard for Pennsylvania, Technical Analysis for the Remaining Undesignated Portion of Allegheny County. p. 58, quotation p. 66*  
[https://www.epa.gov/sites/production/files/2017-08/documents/35\\_pa\\_so2\\_rd3-final.pdf](https://www.epa.gov/sites/production/files/2017-08/documents/35_pa_so2_rd3-final.pdf)
5. *Id, p.77*
6. AECOM Environment Submitted for NRG Power Midwest LP Cheswick Generating Station, *Air dispersion Modeling Protocol to Determine SO<sub>2</sub> NAAQS-Compliant Emission Rates for the Cheswick Generating Station, Rev. 1, Appendix A, p. 9*
7. Data Requirements Rule for the **2010 1-Hour Sulfur Dioxide**, 80 Federal Register 51052, Summary, <https://www.federalregister.gov/d/2015-20367/page-51052>