



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

September 18, 2015

Heather McTeer Toney
Regional Administrator
USEPA Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Subject: 2010 1-Hour Sulfur Dioxide Boundary Recommendation for Brunswick County
and New Hanover County

Dear Ms. Toney:

Pursuant to the requirements of the federal Clean Air Act and on behalf of Governor Pat McCrory, I am submitting to you and your colleagues at the U.S. Environmental Protection Agency (EPA), the State of North Carolina's recommendation concerning the boundaries within Brunswick County and New Hanover County that attain or do not attain the June 2, 2010, 1-hour National Ambient Air Quality Standard (NAAQS) for sulfur dioxide (SO₂). Our recommendation is in response to the EPA letter to the Department of Environment and Natural Resources (DENR) that identified CPI Southport, Brunswick County as being subject to the Agency's next round of designations based on a consent decree entered into the U.S. District Court for the Northern District of California on March 2, 2015.

I will reiterate North Carolina's position that ambient monitoring data should be the basis of designations, and that modeling should not be relied on to designate areas as nonattainment. It should be noted that the models have been shown to over-predict ambient air quality concentrations. The Indiana Department of Environmental Management, Office of Air Quality recently completed a case study of the accuracy of American Meteorological Society/EPA Regulatory Model (AERMOD) regarding SO₂ concentrations when compared to actual monitoring data. The study concluded that "Direct comparisons of predicted and observed SO₂ levels indicate that AERMOD significantly over-predicts by more than a factor of two." The study is included as an attachment to the recommendation package. Despite the concerns regarding modeling accuracy, and due to the timeline required by the consent decree, modeling information was considered along with monitoring data from the New Hanover County site, and emissions data from the region to characterize air quality near the CPI Southport facility.

CPI Southport operates an electric power generating station in Brunswick County. Air dispersion modeling analysis of CPI Southport and two nearby facilities was performed according to EPA's guidance contained in the "SO₂ NAAQS Designations Modeling Technical Assistance Document (TAD)." The modeling indicates a maximum 1-hour concentration impact (i.e. design concentration) level of 183.3 µg/m³, which occurs just over 500 meters to the west of CPI Southport. Adding the representative background concentration of 7.9 µg/m³, obtained from the New Hanover County SO₂ monitor, to the modeled impact level gives a maximum SO₂ concentration of 191.2 µg/m³, which is less than the 1-hour SO₂ NAAQS of 196.3 µg/m³ (75 parts per billion). Based on this source specific air quality modeling, DENR is concluding that the area currently meets the SO₂ NAAQS, and no other sources cause or contribute to a NAAQS violation in the vicinity of CPI Southport.

New Hanover County is located adjacent to Brunswick County. The SO₂ monitor in New Hanover County continues to measure SO₂ concentrations well below the 2010 1-hour SO₂ NAAQS. The 99th percentile concentration for 2014 was 3 ppb and the 3-year design value (2012 -2014) was 32 ppb. The most recent monitored data shows a 99th percentile concentration of 4 ppb for 2015. This dramatic decline in measured SO₂ concentrations at the New Hanover County monitor is due to the retirement/closing of three SO₂ emitting sources (Sutton Steam Station, DAK Americas and Southern States).

Using EPA's "Updated Guidance for Area Designations for the 2010 Primary Sulfur Dioxide NAAQS," DENR has evaluated other permitted sources located in Brunswick and New Hanover Counties. All sources are located at sufficient distances that would limit contributions to SO₂ exceedances. Additionally, each source emitted less than 100 tons per year of SO₂ in 2013, which is well below the 2,000 tons per year threshold specified in EPA's recently promulgated Data Requirements Rule. Subsequently, additional air quality assessments associated with these sources are not necessary.

Based on the collective review of dispersion modeling results, air quality measurements data, emissions records, and other factors, DENR is concluding that all townships within Brunswick and New Hanover Counties be designated attainment for the 2010 1-hour SO₂ NAAQS. Due to the short averaging time of the 2010 SO₂ NAAQS, we are requesting township level designations. Development and submittal of the State's recommendations on appropriate boundaries are the first steps in the process of addressing the revised SO₂ NAAQS. We understand that if the EPA intends to designate areas that differ from the State's recommendations, the EPA is required to notify the State by no later than 120 days prior to the final designations.

DENR recognizes the health impact of SO₂. Historically, North Carolina has demonstrated its commitment to clean air, and has taken proactive steps to ensure compliance with the NAAQS. All five ambient air quality monitors are measuring below the 2010 1-hour SO₂ NAAQS. The State has and will continue to use its statutory authority to implement controls in the State as warranted.

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North Carolina is committed to protecting the health of our citizens, our environment, and our economy. Improving and maintaining air quality is critical to the health of our citizens, our future growth, prosperity and quality of life. We look forward to discussing these boundary recommendations with you. More detailed information and supporting data are included in the enclosed recommendation package.

Sincerely,

Donald R. van der Vaart, Secretary
NCDENR

SCH/ssm

Enclosure

cc: The Honorable Pat McRory
Ms. Sheila C. Holman
Ms. Leslie Rhodes
Mr. David Brigman
Mr. Minor Barnette