

**Commonwealth of Pennsylvania
Department of Environmental Protection**



**Conewango Township,
Pleasant Township, Glade Township,
and City of Warren, Warren County
Sulfur Dioxide Maintenance Plan**

May 2004

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Warren County Sulfur Dioxide Maintenance Plan
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MAINTENANCE PLAN

Section 107(d)(3)(E) of the Clean Air Act (CAA) requires that a maintenance plan be fully approved by U.S. Environmental Protection Agency (EPA) before an area can be redesignated as attainment. (42 U.S.C.A. §7407(d)(3)(E).) The maintenance plan is considered a State Implementation Plan (SIP) revision under Section 110 of the CAA (42 U.S.C.A. §7410). Under section 175A(a) of the CAA, the maintenance plan must show that the national ambient air quality standards (NAAQS) for sulfur dioxide (SO₂) will be maintained for at least 10 years after redesignation. (42 U.S.C.A. §7505a(a).) The maintenance plan must also include contingency measures to address any violation of the NAAQS.

To show that future emissions over the 10-year period of analysis will not lead to any exceedances of the standard, allowable emission inventories for 2003 and 2015 have been developed. SO₂ levels from the United Refinery facility are capped by federally enforceable permit conditions. Significant permanent reductions have occurred that were not included in the modeled attainment demonstration, due to the Reliant Energy power station having shutdown and generated emission reduction credits (ERCs). If these ERCs were used to offset emissions for a new unit, the emission rate limit in the attainment SIP modeling demonstration would be applicable. The total potential SO₂ emission rates in the area are, therefore, capped at the attainment demonstration levels. When the area is redesignated to attainment, a prevention of significant deterioration (PSD) analysis would require that any new units be capped at rates below that required to ensure continued attainment and protection of any applicable PSD increments.

The year 2015 was determined to be the appropriate year for preparation of this maintenance plan through consultation with EPA Region III staff. Eight years following

redesignation, the Commonwealth will submit a revised plan that ensures attainment through 2025, pursuant to section 175A(b) of the CAA (42 U.S.C.A. §7505a(b)).

A. MAXIMUM POTENTIAL EMISSIONS: 2003 AND 2015

This section contains the detailed SO₂ emissions data for 2003 and 2015. No growth in emissions is possible owing to the caps on existing stationary sources that are contained in the SIP revision approved by EPA, effective March 18, 2003, and the permitting requirements for potential new sources that would require new source review (NSR) offsets. After redesignation to attainment, a PSD evaluation would require emission limits sufficient to ensure continued attainment and protection of any applicable PSD increments. SO₂ emissions from area and mobile sources are not included because the cause of the air quality formally being nonattainment was due to emissions of stationary sources. Mobile and area emissions were and remain insignificant in comparison to the point source inventory and the estimated background concentrations used in the attainment modeling demonstration.

1. 2003 Base Year Emissions (emissions used in the attainment demonstration)

Reliant Energy emissions = 5197 TPY / 4620 lbs/hr

United Refining permitted allowable = 3946 TPY / 903 lbs/hr maximum rate.

Total emissions = 9143 TPY / 5523 lbs/hr

2. 2015 Projected Emissions

The maximum projected emissions are quantified below, and are considerably lower than the level of emissions used in the attainment demonstration. The Reliant Energy facility has been permanently shutdown since September 28, 2002, and no new SO₂ emitting plants are anticipated; however, if a new plant were proposed within the five-year PSD netting window, the maximum emissions allowable would be limited to 3998 TPY, based on the following: The Reliant Energy emission reductions or ERCs amount to 5197 TPY. At an offset ratio of 1.3 to 1 for flue emissions, the maximum amount of emissions that could be permitted by the use of these ERCs as offsets would be 3998 TPY at a maximum rate of 583 g/s or 2.31 tons/hr (the rate used in the attainment modeling). These are the only ERCs available for use in the area. As required under 25 Pa. Code § 127.206(f), the ERCs expire for use as offsets 10 years from shutdown date or five years from shutdown if the emission reductions are utilized in an applicability determination (“netting” analysis).

Reliant Energy ERCs = 3998 tons/yr @ 4620 lbs/hr

United Refining - total emissions = 3946 tons/year @ 903 lbs/hr

Maximum total emissions = 7944 tons/yr @ 5523 lbs/hr

B. ATTAINMENT EMISSIONS INVENTORY

Emission levels from the attainment demonstration were used as the 2003 base year emissions, set forth above. This data, with the control factors described below, was also used to estimate SO₂ emissions in 2015.

C. PERMANENT AND ENFORCEABLE CONTROL MEASURES

This section describes the permanent and enforceable adopted control measures that are in effect that will prevent emissions growth. Pennsylvania has submitted and EPA has approved all of the required enforceable measures applicable to this area. The new source review requirements applicable in SO₂ nonattainment areas will remain in effect until the effective date of the redesignation of the area to attainment. On December 7, 1997, EPA granted “limited” approval of the revised Pennsylvania’s nonattainment new source review (NNSR) program and published a final rule in the Federal Register. See, 62 FR 64722. On October 19, 2001, EPA subsequently converted the limited approval to “full” approval for all areas of the Commonwealth except the five-county Philadelphia area (Bucks, Chester, Delaware, Montgomery and Philadelphia Counties). (66 FR 53094)

1. Stationary Source Control Measures

a. Permit limits on existing sources

The emissions listed for United Refining are the maximum allowable emissions contained in the federally enforceable Title V permit and which were submitted as a part of the attainment demonstration SIP revision and are thereby permanent and federally enforceable control measures.

b. Reliant Energy Warren ERCs

The SO₂ ERCs generated by Reliant Energy, reduced by the 1.3 to 1 offset ratio, represent the maximum allowable emissions that could be permitted for any new source. The attainment demonstration emission rate used in the modeling translates into a rate limitation as required under the NSR regulations. The emissions that could be permitted with the use of the ERC’s are preserved in the SIP inventory for the area and are required to be counted as actual emissions for planning purposes until the area is redesignated to attainment, after which the ERCs will become moot.

c. Prevention of Significant Deterioration

If a new source is constructed after EPA redesignates the area attainment, a PSD permit analysis and permit will limit emissions to a level below that needed to assure attainment of the SO₂ NAAQS and protection of all applicable PSD increments. On or after the date the area is redesignated to attainment, any new stationary source constructed or existing stationary source that is modified would be subject to the Pennsylvania SIP-approved minor and major source permitting requirements, including those for PSD. Those requirements include provisions for implementation of Best Available Control Technology (BACT) and the performance of ambient air quality analyses to ensure the protection of the NAAQS and PSD increments. Pennsylvania's PSD program was approved by EPA on August 21, 1984 (49 FR 33128) and codified at 40 CFR § 52.2058. Furthermore, even if the new stationary source constructed or existing stationary source that is being modified is defined as "minor" under the Pennsylvania SIP, if emissions or stack configurations differ from those of the modeled attainment demonstration such that it no longer can be relied upon as the technical basis to ensure protection of the NAAQS, the SIP provides the Commonwealth the authority to require the applicant to perform ambient air quality analyses to ensure the protection of the NAAQS.

D. CONTINGENCY MEASURES

Emissions monitoring will continue throughout the term of this maintenance plan. The Commonwealth will also continue to operate the air monitoring network in accordance with 40 CFR Part 58, with no reductions in the number of sites from those in the existing network unless pre-approved by EPA. The Commonwealth will track the attainment status of the SO₂ NAAQS in the Warren County area by reviewing air quality and emissions data during the maintenance period.

If an exceedance of an SO₂ NAAQS occurs, the Commonwealth will expeditiously investigate and determine the source(s) that caused the exceedance and/or violation and enforce any SIP or permit limit that is violated. In the event that all sources are found to be in compliance with applicable SIP and permit emission limits, the Commonwealth shall perform the necessary analysis to determine the cause(s) of the exceedance, and determine what additional control measures are necessary to impose on the area's sources to continue to maintain attainment of the NAAQS. The Commonwealth shall inform any affected source(s) of the potential need for additional control measures. If there is a violation of the SO₂ NAAQS, the Commonwealth shall, within six months of the violation, issue a permit(s) imposing additional control measures and requiring compliance with those additional control measures no later than 18 months from the date of the recorded violation. The additional control measures will be submitted to EPA for approval and incorporation into the SIP.

E. PUBLIC PARTICIPATION

Notice was provided in the Pennsylvania Bulletin on March 20, 2004. Newspaper advertising of the proposed SIP revision and public hearing was published in the Warren Times Observer on March 17, 2004. A public hearing was conducted to receive comments on the SIP revision on Wednesday, April 21 at 1:00 pm in the Fleur De Lis Meeting Room at the Holiday Inn, 210 Ludlow Street, Warren, Pennsylvania 16365. The public comment period closed on April 24, 2004. No public comment was received at the hearing or in writing.