

Muhlenberg, KY Sulfur Dioxide Maintenance Plan

Effective Redesignation Date: 09/18/1995 (63 FR 44143)

Background of the Plan: In a Federal Register document published March 3, 1978, (see 43 FR 8962) Muhlenberg County was originally designated nonattainment for the primary and secondary sulfur dioxide(SO₂)National Ambient Air Quality Standard (NAAQS). The nonattainment designation was due to noncompliance of the Tennessee Valley Authority (TVA) Paradise Plant and the Kentucky Utilities' Green River Plant. In a June 24, 1983 Federal Register, (see 48 FR 28988) EPA approved a redesignation request for Muhlenberg County from nonattainment to attainment for the SO₂ primary NAAQS. The redesignation request for attainment of the primary standard was approved based on the fact that the Kentucky Utilities' Green River Plant had already achieved final compliance with its modeled SO₂ emission limit of 3.5 lbs/MMBTU in 1980 and that the TVA Paradise Plant had achieved compliance with its modeled SO₂ emission limit of 5.2 lbs/MMBTU. Both of these emission limitations were determined by modeling to be adequate to attain and protect the primary SO₂ NAAQS. Additionally, in the same June 24, 1983, Federal Register indicated that a modeled SO₂ emission limitation of 3.1 lbs/MMBTU was required for TVA Paradise Plant in order for the area to achieve and maintain the SO₂ secondary NAAQS. The TVA Paradise Steam Plant has and continues to comply with the more stringent SO₂ emission limitation which is the basis for the request for secondary redesignation. The Commonwealth of Kentucky Natural Resources and Environmental Protection Cabinet (the Cabinet) submitted air quality data showing that Muhlenberg County has attained the SO₂ secondary NAAQS since 1982. During that period there were no exceedances, and hence, no violations of the SO₂ NAAQS. EPA approved the redesignation to attainment request on August 18, 1998.

Summary of the Plan: On November 21, 1997, the Cabinet submitted a request for redesignation of Muhlenberg County, Kentucky, to attainment for the secondary sulfur dioxide (SO₂) NAAQS. The secondary nonattainment designation for SO₂ was based on the fact that the TVA Paradise Steam Plant was out of compliance with its allowable emission limit. The Cabinet submitted air dispersion modeling which demonstrates that the secondary NAAQS for SO₂ are now being maintained.

Control Measures: The modeled SO₂ emission limitation of 3.1 lbs/MMBTU was required for TVA Paradise Plant in order for the area to achieve and maintain the SO₂ secondary NAAQS. The TVA Paradise Steam Plant has and continues to comply with the more stringent SO₂ emission limitation which is the basis for the request for secondary redesignation.

Contingency Measures: A Prevention of Significant Deterioration (PSD) program exists in Kentucky and applies to Muhlenberg County. By administering the requirements of PSD in Muhlenberg County, any new or modified source must address the potential impacts of SO₂ emissions in that area. This would include modeling to assess the potential ambient impact in the vicinity of the TVA Paradise Steam Plant. These requirements will protect the SO₂ NAAQS in the Muhlenberg County area.

Emission Reductions: The TVA Paradise Plant and the Kentucky Utilities' Green River Plant are the only two significant sources of SO₂ in Muhlenberg County. New emission standards were established for the Green River and TVA Paradise plants. The Green River Plant achieved compliance with its new 3.5 lbs/MMBTU emission limit for SO₂ in 1980 and the TVA Paradise Plant achieved compliance with its new 3.1 lbs/MMBTU for SO₂ in 1983 (see 48 FR 28988).

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