

NEW MEXICO STATE IMPLEMENTATION PLAN

REVISION

TO SATISFY THE REQUIREMENTS OF CLEAN AIR ACT 110(a)(2)(D)(i)(II) WITH RESPECT TO VISIBILITY FOR THE 8-HOUR OZONE AND PM 2.5 NAAQS PROMULGATED IN JULY 1997

I. Background

A. Regulatory History

Under Clean Air Act (“CAA”) Section 110, certain revisions to state implementation plans (“SIPs”) are required within three years of the promulgation or revision by the Environmental Protection Agency (“EPA”) of any National Ambient Air Quality Standard (“NAAQS”).

The required contents of such SIP revisions are specified in CAA § 110(a)(2). Most of these requirements address air quality within the state submitting the SIP, however the provisions at CAA § 110(a)(2)(D)(i) address *interstate* transport of pollutants. As summarized by EPA:

Section 110(a)(2)(D)(i) contains four distinct requirements related to the impacts of interstate transport. The SIP must prevent sources in the state from emitting pollutants in amounts which will: (1) Contribute significantly to nonattainment of the NAAQS in other states; (2) interfere with maintenance of the NAAQS in other states; (3) interfere with provisions to prevent significant deterioration of air quality in other states; or (4) interfere with efforts to protect visibility in other states. 75 Fed. Reg. 72,688, 72,689-90, Nov. 26, 2010

In July, 1997, EPA promulgated simultaneous revisions to the NAAQS for ozone and fine particles (“PM_{2.5}”) (62 Fed. Reg. 38,652 (July 18, 1997)), triggering a three year

deadline for SIP revisions to address, among other things, the interstate transport provisions of CAA § 110(a)(2)(D).

After delays caused in part by litigation over the 1997 NAAQS revisions, EPA on August 15, 2006 issued *Guidance for the State Implementation Plan Submissions to Meet Current Outstanding Obligations Under Section 110(a)(2)(D)(i) for the 8-Hour Ozone and PM_{2.5} National Ambient Air Quality Standards*, EPA (“2006 Guidance”).

On September 17, 2007, New Mexico submitted a SIP to EPA addressing each of the four elements, in accordance with the 2006 Guidance. EPA approved this SIP with respect to element (1) on June 11, 2010 (75 Fed. Reg. 33,174), and approved it with respect to elements (2) and (3) on November 26, 2010 (75 Fed. Reg. 72,688).

With respect to the fourth and final element, regarding visibility, the September 17, 2007 SIP stated that New Mexico would submit an approvable SIP for regional haze by December, 2007. This commitment was in accordance with the 2006 Guidance, which provided that “a state could meet the visibility prong of the transport requirements of section 110(a)(2)(D)(i)(II) of the CAA by submission of the RH SIP, due in December 2007.” 76 Fed. Reg. 491, 496 (Jan. 5, 2011). See also 2006 Guidance, pp. 9-10.

However, New Mexico did not in fact submit an approvable regional haze SIP by December, 2007, and on January 15, 2009, EPA published a “Finding of Failure to Submit State Implementation Plans Required by the 1999 Regional Haze Rule.” 74 Fed. Reg. 2,392 (Jan. 15, 2009). New Mexico subsequently submitted a complete regional haze SIP, which was approved by the Board on June 3, 2011 and submitted to EPA by Governor Martinez on June 29, 2011.

In a separate action, EPA had previously entered into a consent decree with WildEarth Guardians as a result of that group’s complaint alleging that EPA had failed to perform a non-discretionary duty to either approve SIPs or promulgate FIPs to satisfy the requirements of CAA § 110(a)(2)(D)(i), for several states including New Mexico. *WildEarth Guardians v. Lisa Jackson*, Case No. 4:09-CV-02453 (USDC N. Cal).

In August, 2011, EPA disapproved New Mexico’s September 17, 2007 CAA § 110(a)(2)(D) SIP with respect to the visibility element. 76 Fed. Reg. 52,388. EPA noted that “[t]he 2007 submission by New Mexico anticipated that the State would submit a substantive RH SIP to meet the requirements of section 110(a)(2)(D)(i)(II).” EPA acknowledged that New Mexico did submit a regional haze SIP, received by EPA on July 5, 2011, but explained that it “would not have been possible for EPA to review [that] SIP . . . propose a rulemaking, and promulgate a final action by the dates required by the [WildEarth Guardians] consent decree.” 76 Fed. Reg. 52,388, 52,389-90 (Aug 22, 2011).

In the August 22, 2011 final rule (and the proposed rule of January 5, 2011, 76 Fed. Reg. 491), EPA explained its rationale for determining what emissions limits were required in

New Mexico in order to comply with the interstate transport provisions of CAA § 110(a)(2)(D), as explained below.

B. Emissions Reductions Necessary To Satisfy § 110(A)(2)(D)

In order to determine whether New Mexico emissions would interfere with other state's regional haze SIPs, EPA looked to New Mexico's and other western states participation in the Western Regional Air Partnership (WRAP) to collaboratively develop regional haze strategies. EPA reasoned that "[i]n setting reasonable progress goals, States in the West generally relied on" air quality modeling conducted by the WRAP which assumed certain emission reductions from each state. 76 Fed. Reg. at 52,390.

Using the WRAP modeling inputs as a yardstick, EPA determined that "New Mexico sources, other than the SJGS [San Juan Generating Station], *are sufficiently controlled to eliminate interference with the visibility programs of other states* because the federally enforceable emission limits for these sources are consistent with those relied upon in the WRAP modeling." *Id.* (emphasis added).

With respect to the SJGS, EPA stated that the "SO₂ and NO_x emissions relied upon in the WRAP modeling are not federally enforceable" and thus did not satisfy CAA § 110(a)(2)(C). *Id.* For SO₂ from the SJGS, the WRAP modeling assumed an emission rate of 0.15 lbs/mmBtu for all four units, and therefore EPA established in the final rule an SO₂ limit of 0.15 lb/MMBtu on 30 day rolling average on a boiler operating day basis. *Id.*

With respect to NO_x from the SJGS, as EPA had previously noted in the proposed rule, the WRAP modeling assumed NO_x emission rates of 0.27 lb/MMBtu for Units 1 and 2, and 0.28 lbs/MMBtu for Units 3 and 4. 76 Fed. Reg. at 497. Thus, 0.27 – 0.28 lb NO_x/MMBtu was the level relied upon by other states in shaping their visibility strategies. However, EPA did not use those rates to set NO_x limits for the SJGS, explaining:

We are choosing, however, not to use the WRAP assumptions to make a determination on the enforceable NO_x controls necessary to prevent visibility interference, as we are doing for the SO₂ controls. Instead, we are addressing NO_x control for the SJGS by fulfilling our duty under the BART provisions of the RH rule to promulgate a RH FIP for New Mexico to address . . . the requirement for BART. We do not believe it is prudent to delay a NO_x BART determination for the SJGS, *because we have determined that the BART requirements are more stringent than the visibility transport requirements.* *Id.* (emphasis added).

EPA thus proceeded to promulgate a BART FIP for the SJGS with a much more stringent emission limit of 0.05 lb/MMBtu, based on installation of selective catalytic reduction (SCR) technology. That BART FIP is currently under review in the U.S. Court of Appeals for the Tenth Circuit. *Martinez v. EPA*, No. 11-9567 and consolidated cases. However, New Mexico, PNM and EPA have reached a tentative settlement agreement.

Under the terms of the tentative agreement, which are contained in a “Term Sheet” signed on February 15, 2013 (Attachment 1), the SJGS would completely shut down Units 2 and 3 by the end of 2017 and install on Units 1 and 4 selective non-catalytic reduction (SNCR) technology with an emission rate of 0.23 lb/MMBtu, within 15 months of EPA’s approval of this SIP.

In summary, EPA adopted the WRAP assumptions for SJGS of 0.27 – 0.28 lbs/mmBtu for NO_x and 0.15 lbs/mmBtu for SO₂ as the criteria for approvability of a CAA § 110(a)(2)(D) implementation plan. Although EPA imposed a different NO_x emission as a BART limit (which is also a subject of the tentative settlement), the WRAP modeling assumptions remain the benchmark for purpose of determining compliance of CAA § 110(a)(2)(D).

C. Satisfaction of the CAA § 110(a)(2)(D) Requirements for the SJGS

1. NO_x

Under the provisions of the Term Sheet, the NO_x emission rate for SJGS Units 1 and 4 will be no greater than 0.23 lb/MMBtu, and for Units 2 and 3 will be zero, upon the shutdown of those Units in 2017. This will clearly result in lower NO_x emissions than the WRAP assumptions of 0.27 lb/MMBtu on Units 1 and 2 and 0.28 lb/MMBtu on Units 3 and 4. Specifically, based on an 85% capacity factor, the WRAP assumptions result in 19,324 tons NO_x per year, while the Term Sheet scenario results in only 8,011 tons NO_x per year, an improvement of more than 58% as compared to the WRAP assumptions.

The NO_x emissions resulting from the Term Sheet scenario therefore satisfy the requirements of CAA § 110(a)(2)(D) as defined by EPA.

2. SO₂

EPA’s final rule established an SO₂ emission rate of 0.15 lb/MMBtu for each unit on a 30 day rolling average basis, in accordance with the WRAP assumption. PNM voluntarily requested a permit modification to incorporate that limit, and the permit modification was issued on May 16, 2011 (NSR Permit No. 0063-M6R2).

Under the provisions of the Term Sheet, SO₂ emissions will be further reduced by lowering the SO₂ permit limit at Units 1 and 4 to 0.10 lb/MMBtu (33% lower than the WRAP’s assumed emission rate) and by shutting down Units 2 and 3. This will result in a 67% reduction in emissions from the WRAP assumptions, from 10,535 tons per year to 3,483 tons per year.

The SO₂ emissions resulting from the Term Sheet scenario therefore satisfy the requirements of CAA § 110(a)(2)(D) as defined by EPA.

II. Requirements Applicable to SJGS Pursuant to CAA § 110(a)(2)(D)

In accordance with the Term Sheet, the following requirements apply to the San Juan Generating Station:

- a. Fifteen (15) months after EPA final approval of this revised SIP, no earlier than January 31, 2016, Public Service Company of New Mexico (PNM) will complete installation of selective non-catalytic reduction (SNCR) technology on SJGS Units 1 and 4 of no greater than 0.23 lb/MMBtu on a daily rolling 30-day average basis.
- b. Testing Program. PNM shall comply with the following. Dates that follow with an asterisk(*) in items (i) – (iv) shall be revised accordingly if the installation date extends past January 31, 2016 due to delay in EPA’s SIP approval:
 - i. PNM will commence a program of testing and evaluation, after the installation of the SNCRs. The Testing Program consisting of SNCR Performance Testing, Fuel Performance Testing, and Long-Term Performance Evaluation is to be completed no later than January 31, 2017,* unless the Long-Term Performance Evaluation is delayed per the language in paragraph b.iv below.
 - ii. SNCR Performance Testing will be conducted to develop a targeted ammonia/urea injection rate range at various load levels without exceeding a to-be-agreed-upon preliminary slip limit of between 5 and 10 ppm, with the goal of minimizing NOx emissions. PNM shall provide the results of the performance tests, recommended final slip limit, and target ammonia/urea injection rates to NMED and EPA by April 1, 2016.* PNM will allow up to April 30, 2016* for the agencies to either concur with PNM’s slip limit recommendation or to concur on a different slip limit that PNM will comply with for Units 1 and 4.
 - iii. PNM will conduct Fuel Performance Testing (in conjunction with the SNCR Performance Testing) of its pre-treated coal technology, so long as it has not been previously determined to result in any detrimental effect to SJGS Units 1 and 4 or their operation, with the objective of further reducing NOx emissions. If the Fuel Performance Testing demonstrates that it does not: (i) measurably increase NOx emissions, or (ii) adversely impact overall unit operations, PNM shall also use such pre-treated coal for the 9-month Long-Term Performance Evaluation Period described below. PNM will also use pre-treated coal on Units 2 and 3 when used on Units 1 and 4.
 - iv. Long-Term Performance Evaluation Period. PNM will begin collecting NOx emission and ammonia/urea injection rate data from Units 1 and 4 on a daily rolling 30-day average basis for nine continuous months beginning on May 1, 2016* and provide such data and any recommendations on the NOx emission limit to NMED and EPA by February 28, 2017* or no later than 28 days after completing the Long-Term Performance Evaluation Period. PNM may request more time if a

slip limit is not agreed upon by April 30, 2016.* The Long-Term Performance Evaluation Period must include 60 days between June 1st and August 30th and 60 days between December 1st and February 28th. The Demonstrated Emission Rate will be the highest daily rolling 30-day average emission rate during the 9-month Long-Term Performance Evaluation Period (not including periods of malfunction or abnormal operating conditions) adjusted to three significant digits. If the Demonstrated Emission Rate is greater than or equal to 0.200 lb/MMBtu on a daily rolling 30-day average basis, no adjustment to the NOx emission rate for Units 1 and 4 will be made. If the Demonstrated Emission Rate is less than 0.200 lb/MMBtu on a daily rolling 30-day average basis PNM will apply for a permit modification by March 31, 2017* (or no later than 60 days after completing the Long-Term Performance Evaluation Period) to reduce the permitted emission rate by 60% of the difference between 0.23 lb/MMBtu and the Demonstrated Emission Rate, provided the revised emission rate does not adversely impact overall unit operations. The permit modification will include the agreed upon ammonia slip limit.

- c. No later than six months from the Board's adoption this SIP revision, PNM will comply with a sulfur dioxide ("SO₂") emission rate at Units 1 and 4 of 0.10 lb/MMBtu on a daily rolling 30-day average basis.
- d. PNM shall diligently seek all necessary regulatory approvals to allow for retirement of SJGS Units 2 and 3 by December 31, 2017, and if such approvals are granted, shall retire SJGS Units 2 and 3 by December 31, 2017.