

ATTACHMENT-1

A Comparison of New Jersey's current N.J.A.C. 7:27-18 (Emission Offset Rule) with the 40 CFR 51.165, 52.24 and Appendix S to 40 CFR 51 (NSR reform rules) demonstrating that the existing Emission Offset Rule is at least as stringent as EPA's base program

BACKGROUND:

EPA adopted the December 31, 2002 NSR reform rules, provisions of which are codified at 40 CFR 51.165 (Permit requirements), 51.166 (Prevention of significant deterioration of air quality), 52.21 (Prevention of significant deterioration of air quality), and 52.24 (Statutory restriction on new sources), affecting how New Jersey implements the Prevention of Significant Deterioration (PSD) and non-attainment NSR permit programs. As provided in the preamble to the NSR reform rules, New Jersey is required to revise its Emission Offset Rule implementing the NSR reform rules and Appendix S to part 51 (Emission Offset Interpretative Ruling) or demonstrate that its existing Emission Offset Rule is at least as stringent as EPA's base program. For New Jersey's PSD program, the January 2, 2006 deadline is not applicable because New Jersey is a PSD delegated state.

NJDEP, in this submittal, has demonstrated that its existing Emission Offset Rule is at least as stringent as EPA's base program. On November 29, 2005, EPA published revisions to the Emission Offset Interpretative Ruling that will become effective on January 30, 2006. Since we have had insufficient time to evaluate the appendix S revisions, and they are not yet in effect, the demonstration in this submittal is based on the former Emission Offset Interpretative Ruling.

The Clean Air Act (CAA) allows New Jersey to adopt its own emission standards and limitations in its SIP, as long as its SIP is not less stringent than federal requirements. Section 116 of CAA (Retention of State authority) provides, in relevant part,

nothing in this chapter shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section 7411 or section 7412 of this title, such State or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent than the standard of limitation under such plan or section.

STRINGENCY OF NEW JERSEY’S EXISTING EMISSION OFFSET RULE:

The following provisions of the New Jersey’s existing Emission Offset Rules are more stringent than the December 31, 2002 NSR rule and, therefore, satisfy the “at least as stringent as” requirement for state rules that differ from EPA rules. We are unaware of any parts of Emission Offset Rule that are less stringent than the EPA’s current rules. However, the complexity of the EPA NSR Reform I rules makes their provisions difficult to evaluate. If EPA believes there are any less stringent provisions in the New Jersey rules, EPA should find that the following more stringent provisions provide for stringency offset.

1. 1-hour and 8-hour standards for ozone non-attainment area:

New Jersey’s current Emission Offset Rule is based its treating entire state as “severe” non-attainment for the 1-hour ozone standard. This treatment is more stringent than the former and the current EPA base programs. EPA recently adopted 8-hour ozone standard designations that lowered New Jersey’s classification to “moderate”. The “non-attainment area” in N.J.A.C. 7:27-18.1 is broadly defined and now applies to the 8-hour ozone non-attainment designations. Hence, New Jersey’s emission offset rule is more stringent than the EPA NSR rule in these areas. New Jersey’s 1-hour and 8-hour designations and classifications under the Clean Air Act are provided in Table-1 below.

TABLE-1- EPA NONATTAINMENT DESIGNATIONS AND CLASSIFICATIONS

Area Name	New Jersey 1-Hour County Designations	New Jersey 1-Hour Classifications	New Jersey 8-Hour County Designations	New Jersey 8-Hour Classifications
Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD	Burlington Camden Cumberland Gloucester Mercer Salem	Severe	Atlantic Burlington Camden Cape May Cumberland Gloucester Ocean Mercer Salem	Moderate
New York-N. New Jersey-Long Island, NY-NJ-CT	Bergen Essex Hudson Hunterdon Middlesex Morris Monmouth Ocean Passaic Somerset Sussex Union	Severe	Bergen Essex Hudson Hunterdon Middlesex Morris Monmouth Passaic Somerset Sussex Union Warren	Moderate
Allentown-Bethlehem-Easton, PA-NJ	Warren	Marginal	Included Above	N/A
Atlantic City, NJ	Atlantic Cape May	Moderate	Included Above	N/A

2. More stringent ozone non-attainment classifications are used in New Jersey:

The Emission Offset Rule treats the entire New Jersey State as “severe” non-attainment area for the 1-hour ozone standard although the state contained some “marginal” and “moderate” ozone non-attainment areas as shown in Table-1 above under 1-hour ozone classification. This was done to be consistent with the fact that ozone is affected by the transport of air pollutants, and non-attainment requirements should apply to larger areas than the minimum federal requirements. The EPA ozone non-attainment area classification and associated offset requirements specified in Section 181 of the Clean Air Act are provided in the Table-2 below:

TABLE-2- EPA REQUIRMENTS FOR NSR

	“Major source” Thresholds for ozone [Major Source Trigger Potential to Emit] (Tons/Year)	“Significant net emission increase” for ozone [Modification Trigger] (Tons/Year)	Offset Ratio
Marginal	100	40	1:1 : 1
Moderate	100	40	1.15 : 1
Serious	50	25	1.2 : 1
Severe	25	25	1.3 : 1
Extreme	10	0	1.5 : 1

New Jersey’s “major source” triggers, “modification” triggers and minimum “offset ratios” in N.J.A.C. 7:27-18.2(a)1, N.J.A.C. 7:27-18.7, and N.J.A.C. 7:27-18.5, respectively, for the ozone non-attainment area are shown in Table-3 below:

TABLE-3 NEW JERSEY REQUIRMENTS FOR NSR

	“Major source” Thresholds for ozone [Major Source Trigger Potential to Emit] (Tons/Year)	“Significant net emission increase” for ozone [Modification Trigger] (Tons/Year)	Offset Ratio
NOx & VOC Nonattainment Requirements	25	25	1:3:1

New Jersey adopted “severe” non-attainment requirements for the purpose of ozone non-attainment review and adopted uniform major source threshold, and offset ratios for entire state. In addition, New Jersey adopted offset ratios for all pollutants (except lead) which increase with distance from the source. This approach is more stringent than that required under both the former and current EPA base program and the CAA. EPA has re-designated New Jersey to

“moderate” for ozone nonattainment. New Jersey’s “major source” triggers, “modification” triggers and the minimum “offset ratios” are substantially more stringent than those required under NSR reform rules for “moderate” areas.

3. State of the art (SOTA):

New Jersey’s minor NSR program requires SOTA review for installation of advances in the art of air pollution controls if there is an emission increase for an emission unit that has the potential to emit 5 tons per year (TPY). The definition of SOTA is similar to BACT. The 5 TPY trigger requires BACT-like control on substantially more equipment than 40 CFR 52.165.

The most economical and technically feasible time to control emissions from a source operation is during the initial construction, reconstruction or modification of a source. Under New Jersey’s minor NSR program, any newly constructed, reconstructed or modified equipment and control apparatus with a potential to emit 5 tons or more of a criteria air contaminant is subject to the SOTA review. The SOTA requirements help the Department to comply with the SIP commitments to attain and maintain the national and State ambient air quality standards. New Jersey’s minor NSR program make its overall NSR program substantially more stringent than the federal NSR program.

4. Baseline Emissions:

New Jersey’s Emission Offset Rule contains provisions to calculate “significant net emission increase” that are more stringent compared to the “baseline actual emissions” of the NSR reform rules.

EPA’s NSR reform rules require a determination of baseline emissions (source’s emissions before the change) based on “actual” emissions using the following elements:

- a. A source uses any consecutive 24 months during the 10-year period preceding the change to represent the annual average actual emissions preceding the change. This allows the source to select the highest baseline in 10 years to avoid a significant net increase.
- b. A source uses a different consecutive 24-month period for each regulated NSR pollutant. This allows the source to select the highest baseline for each pollutant to avoid a significant net increase for each pollutant.

New Jersey’s current Emission Offset Rule contains provisions that are more stringent than these provisions in the EPA NSR reform rules.

- a. Instead of using any consecutive 24 months during EPA's 10-year period, a source accounts emission increases and decreases during New Jersey's "contemporaneous period" which begins 5 year before the construction or alteration of equipment or control apparatus begins, and ends when operation of the new or altered equipment or control apparatus begins, generally resulting in a lower baseline, which is more likely to trigger NSR.
- b. Instead of using a different consecutive 24-month period for each regulated NSR pollutant, the use of the same "contemporaneous period" is required for all regulated pollutants (SO₂, TSP, PM-10, NO_x CO, lead and VOC), generally resulting in lower baselines, which are more likely to trigger NSR.

5. Applicability Test:

New Jersey's current Emission Offset Rule contains provisions to calculate "significant net emission increase" that are more effective, accurate, straightforward, easy to implement and certain compared to the EPA NSR reform rules.

EPA's NSR reform rules require an applicability determination based on the following elements:

- a. "Projected actual emissions" - A source predicts what the unit's actual emissions will be for 5 years after the project. Of particular concern, there appears to be no requirement for the unit's emissions to remain below the projected emissions which were used to avoid NSR.
- b. "Demand growth" - A source deducts increases that the source predicts could be accommodated without change if there are production increases ("demand growth exclusion"). This, in practice, converts an "actual to projected actual" test to a "potential to actual" test. See Appendix 3 for a mathematical evaluation, which shows this is the least stringent of any combination of tests based on actual and potential emissions.
- c. "Reasonable possibility" - Existing emission units are subject to the monitoring and record keeping requirements for changes only where there is a "reasonable possibility" that a significant emissions increase would occur. Under the federal base program, most sources would not even have to report physical or operational changes based on this unenforceable criteria. Without record keeping and reporting, there is little accountability, which encourages the under estimation of the emission consequences of a change to avoid a NSR permit. Therefore, the "actual to projected actual" test, as adopted by EPA, is likely to result in higher emission increases that can not be clearly linked back to past changes which should have been subject to NSR. This problem has been

compounded by the fact that EPA has been vague as to the consequence of exceeding a projected actual emission level. EPA does not mandate that the equipment then become subject to NSR.

New Jersey's current Emission Offset Rule is clear and enforceable. N.J.A.C. 7:27-18.7 sets forth a formula for determining the net emission increase, which takes into account allowable emission increases and actual emission decreases that occurred during the "contemporaneous" period. The significant net emission increase calculations are straightforward and less confusing than the EPA rule. Determination of "allowable" or "potential to emit" emissions is relatively easy and accurate compared to "future actual" emissions.

The netting analysis procedures specified in N.J.A.C. 7:27-18.7 provide certainty and encourage facilities to voluntarily implement pollution prevention measures to avoid NSR applicability. The netting analysis procedures specified in N.J.A.C. 7:27-18.7 allow for effective enforcement since allowable emissions are documented in the permit application files and permit conditions.

While we believe the New Jersey applicability triggers to be more stringent than the current EPA rule, we are considering rule changes to make them even more stringent, including use of EPA's previous "actual to potential" test.

6. The applicability triggers:

The applicability triggers in New Jersey's Emission Offset Rule are more stringent than the NSR reform rules:

"Major stationary source" in 40 CFR 51.165(a)(1)(iv)(A) is defined as

- (1) Any stationary source of air contaminants which emits, or has the potential to emit 100 tons per year or more of any regulated NSR pollutant, or
- (2) Any physical change that would occur at a stationary source not qualifying under paragraph (a)(1)(iv)(A)(1) as a major stationary source, if the change would constitute a major stationary source by itself.

"Major modification" in 51.165(a)(1)(v)(A) is defined as

Any physical change in or change in the method of operation of a major stationary source that would result in:

- (1) A significant emission increase of a regulated NSR pollutant ; and

- (2) A significant net emission increase of that pollutant from the major stationary source.

In order to trigger EPA’s non-attainment regulations pursuant to these definitions, the source must first be a major stationary source for that pollutant and then show a projected actual significant emissions increase for that same pollutant.

The applicability of New Jersey’s Emission Offset rule is more stringent for several reasons. As previously discussed, New Jersey’s major source threshold for ozone is more stringent than required by EPA. Also, if a facility is major for one criteria pollutant, the facility is considered major for all the criteria pollutants. At a major facility, a significant emissions increase of any pollutant triggers NSR. See N.J.A.C. 7:27-18.7(a). The following significant net emission increases at the facility trigger an NSR review, including air quality modeling in attainment areas to ensure that the National Ambient Air Quality Standards are not exceeded.

NEW JERSEY SIGNIFICANT NET EMISSION INCREASES

Air Contaminant	Significant Net Emission Increase Levels (tons per year)
SO ₂	40
TSP	25
PM-10	15
NO _x	25
CO	100
Pb	0.6
VOC	25

The levels defining a significant emissions increase are typically lower than the levels defining a major source. As a result, more new and modified sources are potentially subject to NSR in New Jersey’s rule, than under EPA’s current rule. These lower applicability levels also provide incentives to further minimize emission increases for all pollutants at a major source facility, not just those for which the facility is major.

Also, New Jersey’s definition of major modification does not require that the change would result in a “significant increase of a regulated NSR pollutant”, EPA’s criteria (1) above. In New Jersey, a less than significant emission increase can result in a major modification (triggering NSR), if there is a significant net emission increase of that pollutant. This addresses accumulations of smaller than significant increases. While EPA advises it will be addressing accumulation of such increases in future rulemaking, it has not done so to date.