

US EPA ARCHIVE DOCUMENT

**Technical Support Document for Lancaster, Pennsylvania  
September 2004**

**1.0 Summary**

The EPA designated this area as moderate on April 15, 2004 due to 8-hour ozone values (design value is 92 ppb). On July 9, 2004 the Pennsylvania Department of Environmental Protection submitted a request to reclassify Lancaster County from moderate to marginal ozone nonattainment.

**2.0 Introduction**

This section describes the statutory provisions and EPA guidance regarding reclassification of ozone nonattainment areas. Sections 181(a)(4) and 182(b)(3) of the Clean Air Act provide that areas may be reclassified under certain circumstances. This technical support document addresses the provisions of section 181(a)(4) and a specific request for reclassifications received by the State of Indiana. The EPA has not received any requests for reclassification under section 182(b)(3) for the 8-hour ozone standard.<sup>1</sup>

Under section 181(a)(4), an ozone nonattainment area may be reclassified "if an area classified under paragraph (1) (Table 1) would have been classified in another category if the design value in the area were 5 percent greater or 5 percent less than the level on which such classification was based." In the April 30, 2004 notice, we indicated that an area with a moderate design value of 96 ppb (or less) would be eligible to request a bump down because five percent less than 96 ppb is 91 ppb, a marginal design value.

The EPA previously described criteria to implement the section 181(a)(4) provisions in a final rule designating and classifying areas published on November 6, 1991 (56 FR 56698). As stated in that notice, the provisions of section 181(a)(4) set out general criteria and grant the Administrator broad discretion in making or determining not to make, a reclassification. As part of the 1991 action, EPA developed more specific criteria to evaluate whether it is appropriate to reclassify a particular area. The EPA also described these criteria in the April 30, 2004 final rule. The general and specific criteria are as follows:

General: The EPA may consider the number of exceedances of the national primary ambient air quality standard for ozone

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<sup>1</sup>Section 182(b)(3) specifies that EPA would approve any request from a State to reclassify to a higher classification.

in the area, the level of pollution transport between the area and other affected areas, including both intrastate and interstate transport, and the mix of sources and air pollutants in the area.

Request by State: The EPA does not intend to exercise its authority to bump down areas on EPA's own initiative. Rather, EPA intends to rely on the State to submit a request for a bump down. A Tribe may also submit such a request and, in the case of a multi-state nonattainment area, all affected States must submit the reclassification request.

Discontinuity: A five percent reclassification must not result in an illogical or excessive discontinuity relative to surrounding areas. In particular, in light of the area-wide nature of ozone formation, a reclassification should not create a "donut hole" where an area of one classification is surrounded by areas of higher classification.

Attainment: Evidence should be available that the proposed area would be able to attain by the earlier date specified by the lower classification in the case of a bump down.

Emissions reductions: Evidence should be available that the area would be very likely to achieve the appropriate total percent emission reduction necessary in order to attain in the shorter time period for a bump down.

Trends: Near- and long-term trends in emissions and air quality should support a reclassification. Historical air quality data should indicate substantial air quality improvement for a bump down. Growth projections and emission trends should support a bump down. In addition, we will consider whether vehicle miles traveled and other indicators of emissions are increasing at higher than normal rates.

Years of data: For the 8-hour ozone standard, the 2001-2003 period is central to determining classification. Data from 2004 may be used to corroborate a bump down request but should not be the sole foundation for the bump down request.

#### Limitations on Bump Downs

An area may only be reclassified to the next lower classification. An area cannot present data from other years as justification to be reclassified to an even lower classification. In addition, section 181(a)(4) does not permit moving areas from subpart 2 into subpart 1.

In 1991, EPA approved reclassifications when the area met the first requirement (a request by the State to EPA) and at least some of the other criteria and did not violate any of the criteria (emissions, reductions, trends, etc.). In our April 30, 2004 final rule on designations and classifications, we stated our intention to use this method and these criteria once again to evaluate reclassification requests under section 181(a)(4), with minor changes described in that notice. In that notice we also described how we applied these criteria in 1991. For additional information, see section 5, "Areas requesting a 5% downshift per §181(a)(4) and EPA's response to those requests," of the Technical Support Document, October 1991, for the 1991 rule. [Docket A-90-42A.]

The EPA is not basing this reclassification determination on consideration of whether the nonattainment area being reclassified does or does not cause any pollution transport. The EPA is presently addressing ozone pollution transport issues throughout the eastern part of the United States under other Clean Air Act provisions. Specifically, EPA has proposed a determination that emissions from certain states contribute significantly to downwind nonattainment for ozone under CAA section 110(a)(2)(D) through the Clean Air Interstate Rule (CAIR). The CAIR proposal, published in a Federal Register notice dated January 30, 2004, would require upwind States to eliminate emissions that contribute significantly to nonattainment in downwind States. 69 Fed. Reg. 454566. The EPA previously issued the NOx SIP call (63 FR 57356) to address interstate ozone transport. In the event of any intrastate transport issue, states have the obligation to develop attainment SIPs for each area that show timely attainment, and can address any intrastate transport issues in that context.

The April 30, 2004 notice invited States to submit the reclassification requests within 30 days of the effective date of the designations and classifications. The effective date was June 15 which means that reclassification requests were to be submitted by July 15, 2004. This relatively short time frame is necessary because section 181(a)(4) only authorizes the Administrator to make such reclassifications within 90 days after the initial classification, September 15, 2004.

### **3.0 Background**

Lancaster, PA was designated moderate nonattainment under the 8 hour ozone standard on April 15, 2004. Lancaster's design value is 92 ppb.

### **4.0 Reclassification Request by State**

The State's request is based on a comparison of Lancaster County, "marginal" nonattainment areas and other nonattainment areas within Pennsylvania. The comparison addresses: 1-hr and 8-hr design values, 8-hr ozone exceedances, 1999 NEI NO<sub>x</sub> and VOC emissions, 2000 Census population figures, an analysis of potential transport into and out of Lancaster County, an analysis of regional nonattainment designations, and an analysis of EPA's NO<sub>x</sub> SIP Call Modeling.

## 5.0 EPA Review of Reclassification Request

### 5.1 Request by State

On July 9, 2004, the Pennsylvania Department of Environmental Protection submitted a request to EPA to bump-down Lancaster, PA moderate ozone nonattainment area from "moderate" to "marginal."

### 5.2 Discontinuity

Lancaster, PA is a single county 8 hour ozone nonattainment area located immediately west of the Philadelphia moderate 8 hour ozone nonattainment area and immediately north of the Baltimore moderate 8 hour ozone nonattainment area. The counties adjacent to and surrounding Lancaster on its west and north are designated subpart 1 ("basic") 8 hour ozone nonattainment areas. Reclassification of Lancaster County will not create a discontinuity since there would be no area of one classification surrounded by areas of a higher classification.

### 5.3 Attainment

Pennsylvania's submittal included the use of EPA's NO<sub>x</sub> State Implementation Plan (SIP) call regional modeling analyses to demonstrate that Lancaster, PA can attain by the 2007 marginal classification attainment date rather than by the 2010 moderate classification attainment date. Pennsylvania correctly obtained the appropriate RRF from the NO<sub>x</sub> SIP call modeling (1996 base year and 2007 projection) but then incorrectly multiplied it with the 2003 ozone design value for Lancaster. However, applying the NO<sub>x</sub> SIP call RRF to the greater of the 1997 ozone design value or the 2003 ozone design value produced 83.6 ppb. Because the CAIR regional modeling uses more up-to-date data and methodologies than the NO<sub>x</sub> SIP Call modeling, EPA is not relying on the NO<sub>x</sub> SIP Call modeling for purposes of the bump down.

The EPA's January 2004 CAIR modeling projects attainment for Lancaster County, MD in the 2010 attainment year (83 ppb). No local air quality modeling is available. The EPA believes the CAIR modeling analysis is not conclusive with respect to Lancaster's attainment status in 2007. The analysis is not as

comprehensive an assessment as would be expected with a SIP attainment demonstration. However the CAIR analysis provides support for a decision to reclassify the area since it indicates air quality will be improving over the next several years.

#### 5.4 Emission Reductions

The emissions trend is expected to decrease due to the implementation of various regional rules, including the NO<sub>x</sub> SIP Call and rules contained in 1-hour ozone attainment plans in the Baltimore, Philadelphia and Washington D.C. areas. In addition, because the state of Pennsylvania is located in the statutorily-established Ozone Transport Region (OTR), Lancaster County has been implementing moderate nonattainment area level emission controls. Moderate area OTR controls include RACT, NSR, and Stage II comparable measures. Further, Lancaster has an OTR enhanced I/M program that became state law in November 2003 and has been implemented since February 2004. On August 23, 2004, PA submitted a list of emission control measures effective in Lancaster, PA. This list includes federal and state measures such as autobody refinishing, solvent cleaning, consumer products, portable fuel container requirements and enhanced I/M.

#### 5.5 Trends

The area's design value is 92 ppb, just one ppb above the marginal classification design value based on 2001 - 2003 data. The 17-year ozone air quality trends in Lancaster County are relatively flat. The short-term trend in the 4<sup>th</sup> highest 8-hour ozone value over the last 3 years is downward (97, 96, and 83 ppb). Further, it can be expected that ozone values will decline due to the implementation of national and regional rules relative to ozone levels in recent years.

Population growth (from 1990 to 2001) in Lancaster, PA, relative to other Region III counties is moderate while VMT growth in Lancaster (also relative to other Region III counties) is relatively high.

#### 5.6 Years of Data

Pennsylvania has appropriately evaluated Lancaster based on the 2003 ozone design value, which uses ozone data from 2001, 2002 and 2003. The 2003 ozone design value for Lancaster, PA is 92 ppb.

#### 5.7 Additional Information

On August 23, 2004, Pennsylvania submitted some additional modeling information generated using a PC-based CALGRID developed

for the Ozone Transport Commission. This modeling showed that the ozone contribution from Lancaster, PA is not significant when compared to the ozone transport contribution from the entire state of Pennsylvania and that contributions from Lancaster are generally to areas within Pennsylvania. This is supported by the relatively small VOC and NOx emissions of Lancaster, PA when compared with the total VOC and NOx emissions of Pennsylvania (4% VOC emissions and 3% NOx emissions).

## 5.8 Conclusions

The following factors support the request for reclassification to marginal for Lancaster County: the design value of 92 ppb meets our criteria to qualify for consideration of bump down, CAIR modeling indicates air quality will be improving over the next several years, and additional reductions from regional and national regulations should lower ambient ozone values.

## 5.9 EPA Action

The request meets certain criteria EPA established (request, discontinuity, emission reductions, and data) and does not violate any of the criteria (attainment and trends). Therefore, EPA is approving the reclassification request for Lancaster County.

## 6.0 Additional Information

Additional information regarding the bump down request for this area is contained in the docket for this action. This information includes the State request, supporting documents, and other necessary material.