

US EPA ARCHIVE DOCUMENT

**Technical Support Document for Kent and Queen Anne's Counties, MD
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 95 ppb). On July 15, 2004 the Maryland Department of the Environment submitted a request to reclassify Kent and Queen Anne's Counties 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.¹

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

¹Section 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

Kent/Queen Anne's, MD were designated moderate nonattainment under the 8 hour ozone standard on April 30, 2004. All of these areas have 2003 ozone design values that are within 5% of the 91 ppb marginal classification threshold. Kent/Queen Anne's design value is 95 ppb. Kent and Queen Anne's Counties, MD are located on Maryland's eastern shore.

4.0 Reclassification Request by State

In addition to the design value being within 5% of the marginal classification, Maryland states there are numerous other compelling statistics that point to these two counties being more of a marginal nonattainment area than a moderate nonattainment area. The counties' attainment of the 1-hr standard, ozone violation statistics, pollution transport arguments, the mix of sources and air pollutants in the area, emission reductions over time, and trends in demographics were all reviewed during the development of this reclassification request.

5.0 EPA Review of Reclassification Request

5.1 Request by State

On July 15, 2004, the Maryland Department of the Environment (MDE) submitted a request to EPA to bump-down Kent and Queen Anne's, MD from moderate to marginal ozone nonattainment.

5.2 Discontinuity

Reclassification of Kent and Queen Anne's Counties will not create a discontinuity since there would be no area of one classification surrounded by areas of a higher classification. All of the other counties immediately bordering Kent and Queen Anne's Counties are either designated as attainment or moderate nonattainment.

5.3 Attainment

The MDE believes that early attainment of the 8-hr Ozone Standard is possible based on the following factors: reduced transport emissions, monitoring trends showing an improvement in air quality, the recent attainment of the 1-hr ozone standard in these two counties, and the proposed benefits of recent EPA modeling (CAIR) show attainment of the standard in the 2010 timeframe.

MDE submitted a modeling study that was performed as part of an earlier effort related to the Early Action Compact (EAC) program. This modeling was performed in accordance with EPA guidance. Initially, however, Maryland had applied the relative reduction factor (RRF) to the wrong ozone design value year. This was remedied by applying the RRF to the larger of the 2000 or 2003 ozone design value. When this correction was made, a value of 82.3 ppb was obtained, demonstrating that these counties should attain the ozone standard by 2007.

The EPA's January 2004 CAIR modeling projects nonattainment for

Kent County, MD in the 2010 attainment year (86 ppb). Because EPA guidance indicates that smaller scale modeling is generally more appropriate for attainment demonstrations, EPA believes that the local scale air quality modeling (EAC modeling) which projects attainment in 2007 should carry more weight. In summary, both modeling analyses indicate air quality will be improving over the next several years and EPA believes the EAC modeling analysis strongly indicates the area will attain the ozone standard by 2007.

5.4 Emission Reductions

Reductions made under the 1-hr ozone standard, including the installation of SCR due to the NO_x SIP Call, the new mobile diesel rules, and early reduction progress for the 8-hour ozone standard will all assist Kent and Queen Anne's Counties in attaining the new standard. Lacking any large emission sources, the MDE believes that the main culprit in bad air quality for these two counties is transport primarily from the west and south. MDE believes the timing of the NO_x SIP Call implementation and the Federal mobile rules will show substantial benefits.

The emissions trend is expected to decrease due to the implementation of various regional rules, including the NO_x SIP Call and regional rules contained in 1-hour ozone attainment plans in the Baltimore and Washington D.C. area. In addition, because the state of Maryland is located in the statutorily-established Ozone Transport Region (OTR), Kent and Queen Anne's Counties have been implementing several moderate nonattainment area level emission. Moderate area OTR controls include RACT, NSR, and Stage II comparable measures. Queen Anne's county, being part of the 1990 Baltimore Metropolitan Statistical Area (MSA) was also required under the OTR requirements, to implement a high enhanced I/M program and has been doing so.

5.5 Trends

Monitoring trends for the 1-hr ozone standard show that the total number of violations in Millington are decreasing with time. MDE expects these improvements in monitored values to continue with time allowing an earlier attainment of the new standard.

From the 8 hour ozone designations analysis, the population growth (from 1990 to 2001) and VMT growth in these two Maryland counties is low relative to other Region III counties.

The 17-year ozone air quality trends in Kent county (Queen Anne's does not have an ozone monitor) are relatively flat. The last two years of complete data, however, may mark the beginning of at

least a short term air quality trend downward. The 4th highest values for ozone from 2002 and 2003 are 103 and 86 ppb, respectively. 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.

5.6 Years of Data

Maryland has appropriately evaluated Kent and Queen Anne's counties based on the 2003 ozone design value, which uses ozone data from 2001, 2002 and 2003. The 2003 ozone design value for Kent and Queen Anne's counties is 95 ppb.

5.7 Additional Information

The VOC emissions in Kent and Queen Anne's counties from the 1999 NEI are 7,349 TPY. The NO_x emissions in these counties are 3,293 TPY. There are no power plants in these counties. There has been no study of Kent and Queen Anne's specific transport contribution. Given these counties' low emissions and the fact that they are already subject to moderate area controls due to their membership in the OTR, further emission reductions in Kent and Queen Anne's counties due to being designated moderate nonattainment are unlikely to help reduce downwind ozone levels.

The high level of emissions control achieved in these rural counties already is a major factor to MDE in requesting the bump down. Very few, if any, cost-effective controls remain available in these rural and economically fragile counties. Most of the Severe Nonattainment area controls being applied to the Washington and Baltimore regions were adopted statewide in Maryland, meaning that while these two rural counties were classified as marginal most of their control requirements mirrored a severe nonattainment area.

5.8 Conclusions

The following factors support the request for reclassification to marginal for Kent and Queen Anne's Counties: the design value of 95 ppb meets our criteria to qualify for consideration of bump down, local modeling provides strong evidence that the area will attain by 2007, 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, attainment, and data) and does not violate any of the criteria (trends). Therefore, EPA is approving the reclassification request for Kent and Queen Anne's

Counties.

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.