

US EPA ARCHIVE DOCUMENT

August 11, 2004

Mr. Donald S. Welsh (3RA00)
Regional Administrator
U. S. Environmental Protection Agency Region III Office
1650 Arch Street
Philadelphia, PA, 19103-2029

RE: Delaware's Comments on MDE's Petition to Reclassify Kent and Queen Anne's
County Ozone Nonattainment Area's under the 8-Hour Standard

Dear Mr. Welsh:

We recently received a copy of the Maryland Department of Environment's (MDE) petition to EPA, to reclassify Maryland's Kent and Queen Anne's County "moderate" ozone nonattainment area (NAA) to a "marginal" classification.

As you know, over the past 30 years we have learned that our ozone nonattainment problem is pervasive, and that both the extent of the problem and the emissions that cause the problem are very large in scale. Given the pervasive nature of ozone, Delaware believes that the only solution is to subject upwind areas to the same level of control as downwind nonattainment areas (see Delaware's July 14, 2003, February 2, 2004, and February 27, 2004 letters for a detailed discussion of this issue).

Delaware acknowledges that Maryland has implemented a number of non-mandated control strategies in Kent and Queen Anne's County. Even so, Delaware believes Maryland's petition effectively reduces their responsibility as an upwind area to Delaware, and therefore requests that it not be approved by the EPA.

EPA's guidance for the ozone NAA "bump-downs" requires any bump-down request to address five issues: (1) discontinuity, (2) attainment, (3) emission reductions, (4) trends, and (5) years of data (Reference 1). In addition, Section 181(a)(4) of the Clean Air Act Amendments of 1990 (CAAA) require that any bump-down petition address the pollution

transport between the subject area and any affected areas. As a downwind state from Maryland, Delaware is providing EPA with the following comments.

1. Discontinuity

EPA guidance requires that, “a five percent reclassification must not result in an illogical or excessive discontinuity relative to surrounding areas” (Reference 1). The MDE states in its petition that approval of that petition would create no discontinuity within Maryland. However, looking beyond Maryland’s borders, a discontinuity would be created if the request were approved. All adjoining Delaware County’s are classified as moderate ozone nonattainment, so reclassifying Kent and Queen Anne’s County to marginal would create a “hole” between the Baltimore moderate NAA and the Delaware NAA. Further, MDE states in their petition, “whether comparing emissions or demographics there are very few connections between the remaining Moderate Nonattainment areas and Kent and Queen Anne’s Counties.” While this may be true within Maryland, there is a relatively strong resemblance between Kent and Queen Anne’s County and the relatively rural southern Delaware moderate NAA counties.

Attached to this letter is a comparison of 2001-2003 8-hour ozone design values between Kent and Queen Anne’s County and the three counties in Delaware (see attached Table 1). Kent and Queen Anne’s County have the highest 8-hour ozone design values in this comparison. It would be illogical to classify Kent and Queen Anne’s County as marginal nonattainment, since the adjacent counties in Delaware, with lower monitored design values, are classified as moderate nonattainment, and the Maryland Counties to the west are also classified as moderate nonattainment (i.e., based on monitoring data, going from west to east, the air quality does not get better in Kent and Queen Anne’s County, then get worse in Delaware).

2. Attainment

EPA guidance requires that when a state submits its bump-down petition it must provide evidence that the area would attain compliance with the NAAQS by the earlier date associated with the lower classification, which would be 2007 in this case. The petition provides as evidence the following: reduced transport emissions due to the NO_x SIP Call, trend of exceedances and attainment of the 1-hour ozone standard, EPA’s modeling results.

First, Delaware agrees that the NO_x SIP Call will reduce upwind emissions to both Maryland and Delaware. However, the NO_x SIP Call will not result in Kent and Queen Anne’s County attaining the 8-hour ozone standard by 2007. Additionally, base case 2010 Clear Skies Initiative modeling (see below) indicates Kent and Queen Anne’s will remain nonattainment in 2010, and since this modeling includes full implementation of the NO_x SIP Call, and other federal initiatives, Delaware believes, lacking other reductions, attainment by 2007 is unlikely.

Second, a trend of exceedances and recent attainment of the 1-hour ozone standard does not support attainment the 8-hour ozone standard in 2007. Continuous improvement

relative to the 1-hour ozone standard over the past decade is the general trend of all 1-hour ozone nonattainment areas in the nation. Attainment of, or approaching attainment of the 1-hour standard does not necessarily co-occur or guarantee attainment of the 8-hour standard, witnessed by the fact that many 1-hour attainment areas in the nation are now classified nonattainment under the 8-hour standard.

Third, the petition states that the EPA modeling efforts in the Clear Skies Initiative indicate that the Kent and Queen Anne's County may expect 5-10 ppb ozone reduction by 2010, and that "the 10 ppb benefit will get us very close to the new standard." This statement is more consistent with a moderate classification than a marginal classification (i.e., moderate areas have a 2010 attainment date). Even so, this modeling shows that in 2010 Kent County will be still above the standard (i.e., Kent will not attain by 2007 nor 2010), so it does not support a bump-down to a marginal classification.

3. Emission Reductions

The EPA's guidance requires that a bump-down request provide evidence that the area would achieve the appropriate total percent emission reduction necessary to attain in the shorter time period. As stated in the petition, Maryland has implemented numerous federal and regional measures in Kent and Queen Anne's county over the past decade or so. Delaware believes that those measures have played a critical role in controlling emissions in this region. However, these measures don't seem to have reduced the emissions in these counties significantly (see discussion in 4 below).

In Table 3 and Table 4 of the petition, emission reductions are shown for the time period 2002 to 2014. There is no emission reduction and percentage calculations for the shorter time period, i.e., from 2002 to 2007. There is no information in the petition that shows emission reductions and percentages are appropriate, and enough to enable Kent and Queen Anne's County to attain by 2007.

Delaware believes a moderate classification is consistent with Maryland's obligation to reduce emissions and mitigate their negative contribution on downwind states (see transport discussion below). For example, Rate-of-progress (ROP) emission reduction requirements are mandated in moderate NAA's by the CAAA, are subject to EPA and public review, and will help Maryland mitigate its negative impact on Delaware. No ROP reductions are required under the CAAA for marginal areas, so if the bump-down were approved Maryland emission reduction requirements would be reduced.

4. Trends

EPA guidance requires that near-term and long-term trends in emissions and air quality support a bump-down reclassification. The petition did not provide any near-term emissions trend analysis. Although emission reductions are estimated for 2002 and 2014, there is no evidence that indicates near-term reductions (i.e., before 2007) will occur. The long-term data provided in the petition actually demonstrates a net emission increase between 1990 and 2002 (for VOC emissions: 19.98 TPD in Table 1 and 15.26 TPD in Table 3, a 24%

decrease; for NO_x emissions: 9.79 TPD in Table 2 and 12.45 TPD in Table 4, a 27% increase).

Regarding evidence for air quality improvement, the petition provides monitoring data (i.e., design values), and the number of exceedances of the 1-hour ozone standard. The 8-hour ozone standard reflects the fact that citizens are more vulnerable to longer time (8 hours) exposure at lower ambient ozone concentrations. Therefore, any air quality trend analysis should evaluate 8-hour, not 1-hour ozone trends.

Based on publicly available data, Delaware conducted a trend comparison of the 8-hour ozone design values of the Millington site with the nearest monitors in Delaware, which are Lum's Pond site (Summit Bridge) in New Castle County, and Killen's Pond site (Felton) in Kent County. The 8-hour design values are the three year average of the 4th highest daily 8-hour average, truncated to three decimals. The results of the comparison are shown in Figure 1 (attached to this letter), and indicate that the 8-hour ozone trend at the Millington site is increasing, not decreasing. In addition, we reviewed the number of days exceeding the 8-hour ozone standard at the Millington site (Figure 2). Again, the trend is increasing instead of decreasing. Delaware believes that the trends in both design values and exceedance days do not show evidence of air quality improvement under the 8-hour standard.

5. Years of Data

The petition indicates the 2001-2003 design value of Kent and Queen Anne's County is 0.095 ppb. Delaware agrees that this most recent design value meets the 5% eligibility requirement for bump-down reclassification. However, as indicted above, this design value is higher than the design values of all three of Delaware's moderate nonattainment counties (see attached Table 1).

6. Transport and Contribution

The petition does not provide analysis on how it will address emission transport and contribution from Maryland to downwind states, including Delaware.

The EPA specified in its supporting document to the Interstate Transport Rule that Maryland is an upwind state contributing significantly to the 2010 8-hour ozone nonattainment in Delaware's New Castle County (Reference 2). While the Interstate Transport Rule modeling indicated that the State of Maryland significantly contributed to Delaware in 2010, it did not specifically address Kent and Queen Anne's County. To estimate the contribution of Kent and Queen Anne's County to Delaware, we conducted CALGRID modeling.

Delaware conducted CALGRID modeling using 2010 OTC NO_x Resolution emissions, which accounts for 22% NO_x reduction from CSA2003 elevated point sources. This modeling shows as much as 10 ppb contribution from Maryland's Kent and Queen Anne's County to Delaware's 1-hour ozone concentrations (see Figure 3 attached to this letter). Although this modeling is addressing the 1-hour ozone concentration, it reflects the

fact that Kent and Queen Anne's County contribute significantly to Delaware's ozone nonattainment problem.

7. Concluding Remarks

Based on this review Delaware believes:

1. The petition's use of the 1-hour ozone data to support this request is not appropriate. 8-hour ozone emission trend and air quality analysis (see attached Figures 1 and 2) does not support the petition.

2. The petition did not provide adequate evidence to show attainment of the Kent and Queen Anne's County in 2007. A bump-down could reduce Maryland emission reduction obligations, which could adversely impact its own attainment efforts and efforts of the downwind states as well.

3. The petition does not adequately address issues regarding ozone/precursor transport. Delaware is against approval of any bump-down petition, unless transport and contribution issues are addressed to our satisfaction.

4. It would be illogical to classify Kent and Queen Anne's County as marginal nonattainment, since the adjacent counties in Delaware, with lower monitored design values, are classified as moderate nonattainment, and the Maryland Counties to the west are also classified as moderate nonattainment (i.e., based on monitoring data, going from west to east, the air quality does not get better in Kent and Queen Anne's County, then get worse in Delaware).

If you have any question, or would like to discuss this matter further, please contact me at (302) 739-4791.

Sincerely,

Ali Mirzakhali
Administrator

cc: John A. Hughes
John B. Blevins
Diane L. Franks, MDE
Judith Katz
David Arnold

References

1. "Air Quality Designations and Classifications for the 8-Hour Ozone National Ambient Air Quality Standards; Early Action Compact Areas with Deferred Effective Dates", USEPA, 40 CFR Part 81, Federal Register: April 30, 2004 (Volume 69, Number 84), Rules and Regulations, Page 23857-23951.
2. Appendix G: Metrics for 8-Hour Ozone Contributions to Downwind Nonattainment Counties in 2010, Technical Support Document for the Interstate Air Quality Rule Air Quality Modeling Analyses, USEPA, January 2004.

Table 1. Comparison of 2001-2003 Design Values of Kent/Queen Anne's NAA and Delaware

| | Maryland | | Delaware | |
|-----------|-------------------|------------|----------|--------|
| | Kent/Queen Anne's | New Castle | Kent | Sussex |
| 2001-2003 | 0.095 | 0.094 | 0.090 | 0.091 |

Figure 1. Comparison of the 8-hour ozone design values.

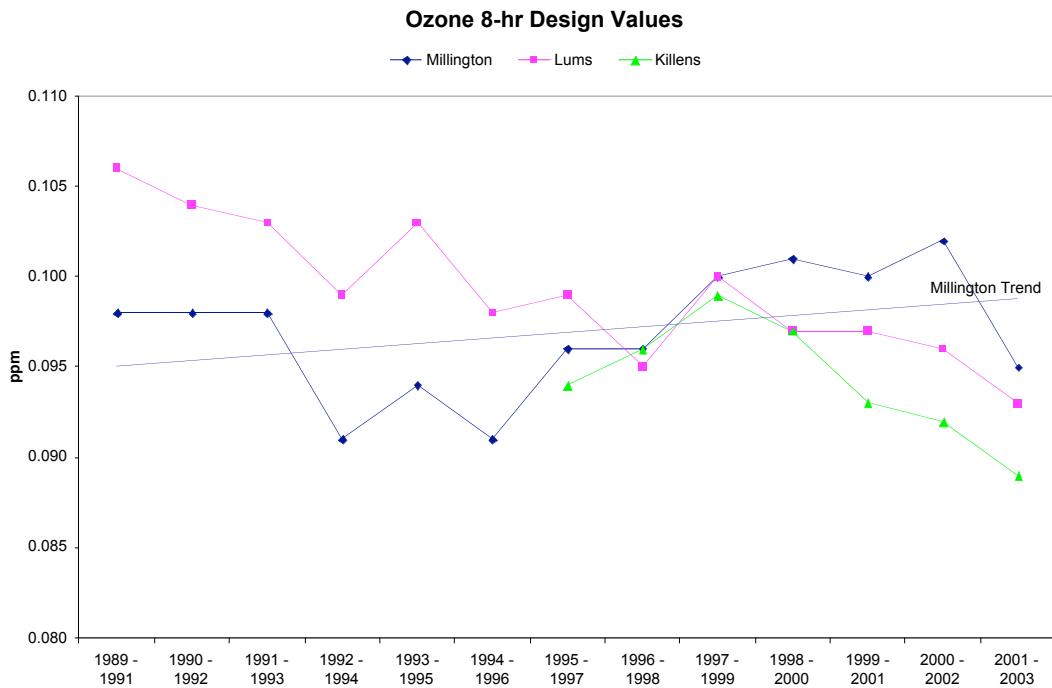


Figure 2. Trend of number of days exceeding the 8-hour ozone standard at Millington.

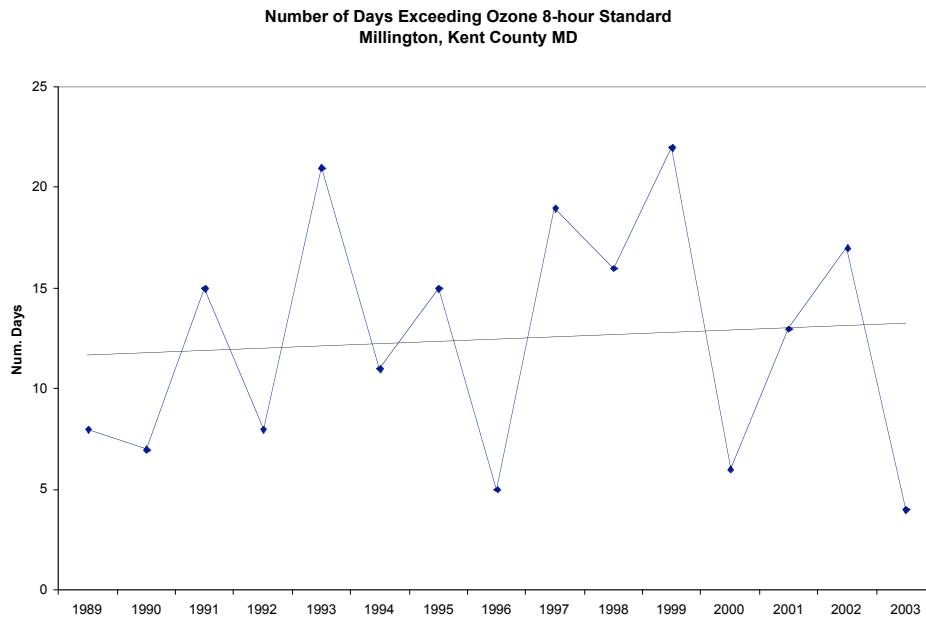


Figure 3. Kent/Queen Ann's contribution to Delaware.

Ozone(ppb) at 50m on CALGRID 2.0 Domain
2010 OTC NOx Resolution:Base Case MD: Kent & Queen Anne's County Emissions Impact
Hour 12 on June 19, 1995

