

**TESTIMONY OF
RAMON ALVAREZ, PH.D.
SCIENTIST
ENVIRONMENTAL DEFENSE**

**BEFORE THE
SUBCOMMITTEE ON ENERGY AND AIR QUALITY
OF THE
COMMITTEE ON ENERGY AND COMMERCE
OF THE
U.S. HOUSE OF REPRESENTATIVES**

July 22, 2003

Good morning. My name is Ramon Alvarez and I am an atmospheric scientist in the Austin, Texas office of Environmental Defense, a non-profit, non-partisan, non-governmental environmental organization representing approximately 300,000 members nationally. Thank you for the invitation to share with you the experience of the Dallas/Fort Worth ozone nonattainment area with EPA's attainment date extension policy.

Summary

Achieving the ozone standard in the Dallas/Fort Worth (DFW) area and other U.S. communities is of vital importance to public health. Ozone impairs the body's respiratory system, aggravates existing respiratory diseases, and has been associated as a causative factor in the development of asthma in children. Unfortunately, the DFW area has made little progress in reducing ozone pollution since the passage of the 1990 Clean Air Act Amendments.

The DFW region twice failed to meet the ozone standard, in 1996 (due to a scientifically flawed plan) and in 1999 (after failing to develop a plan prior to the clean air deadline). After EPA threatened sanctions, a new clean air plan was developed in April 2000. In 2001, EPA proposed to approve this plan, including the request from Texas to extend the attainment date to 2007 without reclassifying the area to severe nonattainment. EPA has indicated that it will not finalize this approval in light of the appellate court decisions on the attainment date extension policy.

As discussed below, transported pollution from Houston has only a minor and infrequent impact on the DFW area. EPA's transport policy, even if legal, was thus erroneously applied in the DFW area, since the evidence shows DFW could attain the ozone standard even if Houston were to do nothing to clean up its air pollution.

As public concern about local air pollution has increased, stakeholders in the DFW area are now more actively working together to agree on a path forward to clean up the region's air. Legislative proposals to extend attainment deadlines pose a serious risk of disrupting these ongoing negotiations that have a good likelihood of reaching a solution that meets the needs of all the parties involved. Moreover, any further delay in deadlines for the DFW area would mean that thousands of children and other sensitive individuals will continue to suffer the adverse health effects associated with ozone pollution.

Failure to Reduce High Ozone Levels Seriously Threatens Public Health.

Inhaling ozone significantly harms human health: ozone can burn cell walls in the lungs and air passages, causing tissues to swell, chest pain, coughing, irritation and congestion. Other effects include decreased lung function, aggravation of asthma, increased susceptibility to bacterial infection, and generation of scar tissue and lesions in the respiratory system.

In reviewing recent evidence of the harm caused by ozone, EPA reached an ominous conclusion on the effects of repeated and long-term exposure to ozone:

EPA has concluded that repeated occurrences of moderate responses, even in otherwise healthy individuals, may be considered to be adverse since they could well set the stage for more serious illnesses.¹

EPA's conclusion was confirmed by new evidence showing that children who participate in high activity, outdoor sports in portions of the Los Angeles air basin are 3.3 times more likely to develop childhood asthma than children who play equally active sports in communities with low ozone environments.² For most children who develop asthma, it is an incurable lifetime affliction. EPA recognizes that whatever the effect of ozone inhalation on average adults, the impact on those who suffer from asthma, the elderly, outdoor workers, and active children are far more severe.³

¹ 66 Fed. Reg. 57275 (November 14, 2001)

² McConnell et al., "Asthma in exercising children exposed to ozone: a cohort study," Lancet, V. 359, 386-391 (Feb. 2, 2002). Other recent studies have also linked ozone to serious health effects, including birth defects, decreased lung capacity in girls, and acute stroke mortality.

³ 66 Fed. Reg. 57276-78 (November 14, 2001)

A lifetime of asthma is a high price to exact from our children for failing to reduce ozone to safer levels. Any further delay in deadlines to meet the ozone standard would mean that hundreds of thousands of American children and other sensitive individuals will suffer the adverse health effects associated with ozone pollution.

How did Dallas/Fort Worth come to rely on the attainment date extension policy?

The Dallas/Fort Worth area has had little success in curbing ozone air pollution since the passage of the 1990 Clean Air Act Amendments. Both the frequency of ozone exceedances and the peak levels monitored each year have remained largely unchanged since the late 1980s. (See Exhibit 1). The Dallas/Fort Worth area continues to routinely record 1-hour ozone exceedances, including this year's high value to date of 161 parts per billion.⁴

Under the 1990 Clean Air Act Amendments, the 4-county Dallas/Fort Worth area was classified as a moderate nonattainment area and required to meet the health standard for ozone by 1996. The State Implementation Plan (SIP) submitted to EPA in 1994 contained only the Act's minimum mandatory reduction (15% of the emissions of volatile organic compounds).⁵ Notably, this plan lacked any measures to reduce nitrogen oxides, significant reductions of which are now accepted to be essential to achieving the ozone standard.⁶ Not surprisingly, the minimalist VOC-only plan of 1994 failed to bring

⁴ The 1-hour National Ambient Air Quality Standard for ozone is 120 parts per billion (ppb).

⁵ Ozone is not directly emitted by sources. It is formed by the reaction of volatile organic compounds (VOC) with nitrogen oxides (NOx) in the presence of sunlight.

⁶ The 1994 SIP claimed the 15% VOC reductions would be enough for the region to meet the ozone standard. Texas applied for and received a waiver from § 182(f) of the Clean Air Act regarding NOx emission reductions. The DFW area did not begin reducing NOx emissions until after the NOx waiver was rescinded in 1999. The April 2000 SIP will reduce total NOx emissions by approximately 40 percent.

the region into attainment by the 1996 deadline. EPA reclassified (“bumped up”) the Dallas/Fort Worth nonattainment area from moderate to serious in March 1998.

The bump-up to serious required Texas to prepare a new SIP by March 1999. The SIP Texas submitted was, by its own admission, inadequate. Accordingly, EPA found the SIP incomplete and started the sanctions and Federal Implementation Plan clocks.

The looming threat of sanctions spurred the development and submission in April 2000 of a new SIP. This plan relies on EPA’s 1998 attainment date extension policy, which is the subject of today’s hearing. In January 2001, EPA proposed to approve the April 2000 SIP and extend the attainment date to November 2007 while retaining the area’s serious classification.⁷

Transport from Houston does not prevent the Dallas/Fort Worth area from attaining

EPA’s proposed extension of the DFW area’s attainment date is based on a claim that transported pollution from Houston jeopardized the DFW area’s ability to attain the ozone standard. The evidence, however, does not support that claim. We accept the notion that emissions from the Houston/Galveston nonattainment area can contribute to observed ozone levels in the DFW area on some days. Since 1996 we have argued that the control strategy for the DFW area must address ozone transport. However, we do not believe that ozone transported from Houston/Galveston would alone prevent the DFW area from attaining the ozone standard.

⁷ 66 Fed. Reg. 4764 (January 18, 2001). EPA has not taken final action on this proposal but has indicated that it will not finalize approvals of any more SIPs relying on the attainment date extension policy.

EPA justified its proposed extension of the DFW area's attainment date largely on two analyses performed by Texas:⁸

- Ozone source apportionment analysis. On the day with the highest modeled ozone, 2 to 4 ppb of ozone in some portion of the DFW area came from Houston sources.
- Back trajectory analysis. Air masses entering the DFW area had trajectories going back to the Houston area on approximately 10 percent of the days when ozone exceedances were recorded in DFW between 1993 to 1998.

The only conclusion that can be reached from the analyses contained in the administrative record is that on a small number of days, there may be a small amount of additional ozone in the DFW area that came from Houston. Such a result is not surprising – ozone air pollution is known to travel over even longer distances such as from the Midwest to the Northeast. However, the fundamental question that was never answered by Texas or EPA is whether the small amount of ozone originating in Houston that might occasionally arrive in the DFW area is enough to prevent DFW from attaining the ozone standard before Houston's attainment date.

A fair evaluation of the evidence would lead to the conclusion that the Dallas/Fort Area could still attain the ozone standard even if Houston did nothing to clean up its air pollution. For example,

⁸ 66 Fed. Reg. 4758 (January 18, 2001).

Houston's emissions could be expected to impact the DFW area less than one time per year.⁹ Even if all of the monitored ozone on those relatively rare days came from Houston,¹⁰ the DFW area could still comply with the 1-hour standard, which allows for 1 exceedance per year. Thus, EPA's transport policy, even if it were legal, was erroneously applied in the DFW area.

Because transport from Houston is only a minor component of Dallas/Fort Worth's ozone air pollution, attainment of the 1-hour ozone standard will only be achieved after sufficient local controls are in place to eliminate the vast majority of exceedances that are the result of ozone precursor emissions generated within the DFW area itself. It is misguided to blame the small amount of transport from an upwind area as the reason to once again extend a deadline established to ensure the DFW area's more than 4 million residents can breathe healthier air.

Legislation threatens locally-driven, win-win solutions

In both the Dallas/Fort Worth and Beaumont/Port Arthur areas, legislative proposals at this time pose a serious risk of disrupting ongoing negotiations that have a good likelihood of reaching a solution that meets the needs of all the parties involved.

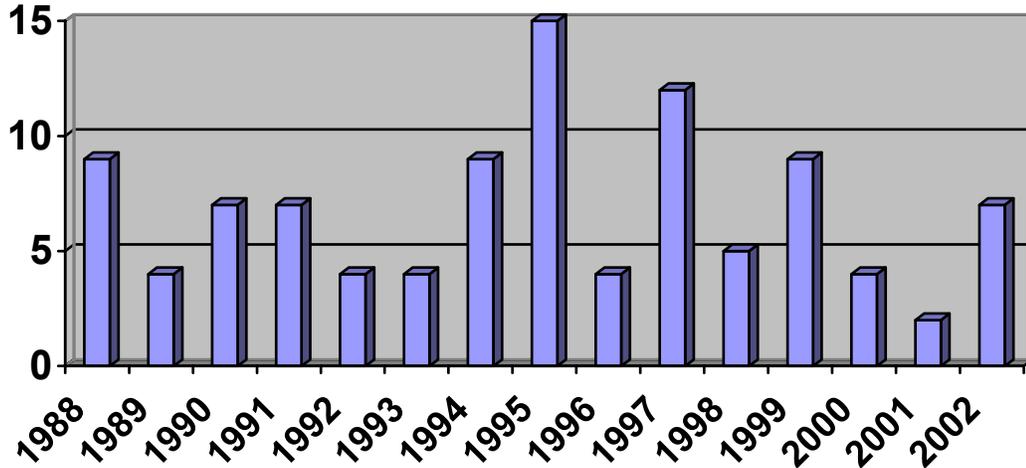
⁹ The 1-hour ozone standard was exceeded in the DFW area on 102 days between 1988 and 2002, or roughly 7 times per year. Since 10% of exceedances were identified to involve some level of transport from Houston, Houston's emissions would have impacted the DFW area an average of roughly 0.7 days per year.

¹⁰ In fact, the opposite is true. The amount of ozone due to home-grown emissions far outweighs the amount of ozone blowing in from Houston. Even a worst-case modeling simulation using "synthetic winds" to carry Houston's air pollution plume directly into the DFW area shows only modest impacts. The synthetic winds were manufactured by choosing the wind speed and direction to maximize the amount of pollution that would reach the DFW area. When all of the man-made emissions of NOx and VOC in the Houston area were removed from the model, ozone levels in the DFW area are reduced by up to 10 ppb. Even this modest estimate is unrealistically high since the winds would never carry Houston pollution in a straight line to Dallas/Fort Worth and all Houston emissions could not be eliminated. (Texas Natural Resource Conservation Commission, DFW Attainment Demonstration SIP - April 2000, p. 6-42)

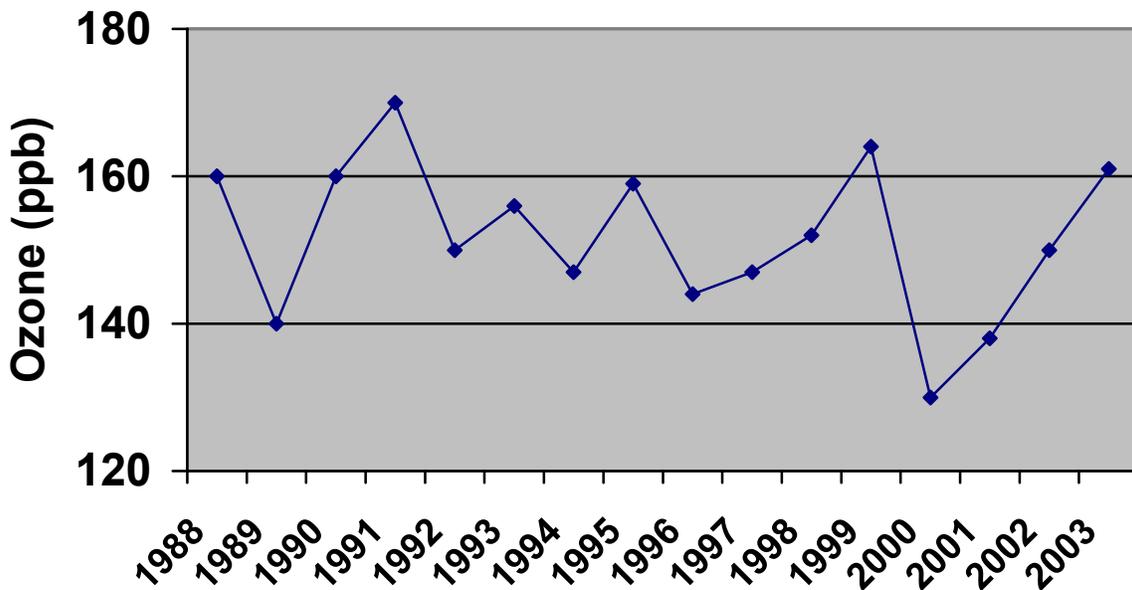
In the Dallas/Fort Worth area, local government officials, business leaders, EPA, the Texas Commission on Environmental Quality and environmental groups are working in a cooperative spirit to agree on a path forward to cleaning up the region's air. One outcome might be expeditious attainment of the 1-hour standard and early compliance with the 8-hour ozone standard now being implemented by EPA. I and other DFW area stakeholders feel that the current air quality challenges facing the region can best be handled at the local level and that federal legislation on the attainment date extension policy is not needed. (See for example Exhibit 2, email from Ron Harris, Collin County Judge)

In Beaumont/Port Arthur (BPA), discussions are actively taking place between all the parties (including the environmental plaintiffs, regulated industry, Texas and EPA) to respond to the 5th Circuit Court decision on EPA's use of the attainment date extension policy for the BPA area. These discussions could lead to a negotiated agreement whereby the area would not be bumped up to severe. EPA has already demonstrated the Act's potential flexibility by proposing, in the alternative, a single or double bump up for BPA.

Annual DFW 1-hour Ozone Exceedances 1988-2002



Peak Ozone Levels in Dallas/Fort Worth 1988-2003



Source: Texas Commission on Environmental Quality

Exhibit 2, R. Alvarez

Text of email from Ron Harris dated 7/19/2003

TO: Ramon Alvarez

FROM: Ron Harris, Collin County Judge
Co-Chair, North Texas Clean Air Steering Committee

As we discussed yesterday, please relay to the House Committee hearings on delay of attainment dates the following:

The North Texas Area is currently working closely with both local government, business, EPA, Texas Commission on Environmental Quality and specifically Environmental Defense along with Public Citizen to continue efforts at cleaning up the air in North Texas.

The efforts include working with the Texas Clean Air Working Group and the Texas Legislature. In my opinion, we are making progress toward attainment of the National Clean Air Standard.

At this juncture, I think it would be better left to local partnerships to work and not change the rules again, until such partnerships become unsuccessful and mistrust from those involved results in a slowing down of the clean air goals.