

Testimony to the House Environmental Regulation Committee Regarding SB 16, Article 11

Air Quality Permitting Requirements, Cumulative Effects on Ozone Formation

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The new permitting provisions in Article 11 of SB 16 significantly exceed federal requirements. These requirements could limit Texas' economic growth, increase electric costs, and decrease reliability—as similar regulatory strictures have impacted California.

The environmental concern raised in Article 11 relates to the “cumulative” impacts on ozone formation from a group of sources located some distance outside an ozone non-attainment area. The concern is that multiple sources as far as one hundred miles away, i.e., outside the federally delineated ozone non-attainment area, would increase ozone levels in a non-attainment area (NAA).

Individual Permits in Non-Attainment Areas and Attainment Areas: Distinguished From Control Measures in Ozone State Implementation Plan (SIP)

To understand the implications of the cumulative effects provisions in Article 11, enter the technically arcane world of EPA's air quality permit schemes. Consider the difference between permitting requirements for individual sources, e.g., a new power plant, and control measures in the ozone State Implementation Plan (SIP). One must also consider the federal Clean Air Act's (CAA) two different permitting requirements for new emission sources inside a federally delineated non-attainment area (New Source Non-Attainment Area Review Permits) and sources outside a non-attainment area, (Prevention of Significant Deterioration Permits-PSD).

Distinction Between Individual Permits and SIP Control Measures

An individual permit for a new or expanded source of emissions is not the appropriate method for addressing cumulative effects. TCEQ already addresses cumulative or combined impacts through the complex ozone State Implementation Plans. These SIPs include comprehensive inventories of distant sources and, if needed, can include mandatory control measures (adopted in state rule) covering a group of similar, distant sources such as power plants. SIP control measures are a more environmentally effective, cost-efficient, and equitable means of reducing ozone-forming emissions.

Ozone Is Not Directly Emitted by a Single Source

Ozone is unlike other criteria pollutants for which EPA establishes National Ambient Air Quality Standards (NAAQS). Ozone is not directly emitted but is the result of a photochemical reaction of oxides of nitrogen (NO_x) and Volatile Organic Compounds (VOC). Weather, i.e., temperature, cloud cover, wind trajectory and speed, is a key determinant of ozone formation. Sheer volume of ozone precursor emissions (NO_x and VOCs) do not arithmetically translate to ozone formation. TCEQ, through the most sophisticated ozone science in the nation, is identifying regionally specific variables in ozone formation. For example, the coastal meteorology of the Houston region plays a major role in ozone formation. Thus, it is difficult—if not impossible—to measure the impact of the new NO_x emissions from a single

new power plant on ozone formation in an area perhaps 100 miles from the plant. PSD permitting does estimate ozone impacts through air dispersion modeling, a NO_x to VOC ratio in the plant's emissions and other methods. The SIP modeling, however, remains the most technically accurate method.

Senate Bill 16 addresses ozone impacts from distant sources through individual permitting requirements for new power plants in areas attaining the federal ozone standard. These requirements would exceed federal requirements for permitting facilities outside a non-attainment area—treating the new source in an attainment area as if in a non-attainment area. Article 11's permitting requirements would unfairly penalize a new facility by measuring emissions from a single source as the sum of the new emissions plus the emissions from existing facilities. This unfairly penalizes the new source, although per force cleaner, with much lower emission rates than older facilities.

Permit Requirements Inside an Ozone Non-Attainment Area Shackle Economic Growth

Wisely, federal permitting requirements are different for new sources inside an NAA than outside an NAA. The stricter requirements inside an NAA can shackle or bar growth. Economic growth inside an NAA is difficult to impossible. This is a key reason why the Texas Gulf Coast (within the Houston-Galveston area ozone NAA) has not had new or expanded refineries for many years. In recent years, this has led to a deficit in U.S. refining capacity, forcing importation of refined product.

Mobile Sources—Not Industrial Sources—Drive Ozone Formation in DFW

Recall that the dominant drivers of ozone formation in DFW—and most other urban areas—are mobile sources and not major industrial or point sources. TCEQ monitored data shows that peak ozone levels in the DFW area

typically arise from ground level sources in the heart of the non-attainment area on hot, still days. This pattern of ozone exceedance indicates that transport of emissions from distant industrial sources is not a regular cause of ozone levels above the federal standard. Further, TCEQ modeling of ozone precursor emissions from all power plants east of I-35 showed only a modest 3 percent contribution to ozone in contrast to more than 70 percent from mobile sources inside the NAA.

New = Cleaner. New Power Plants Have Much Lower Emission Rates

New power plants can operate with emission rates remarkably lower than older Electric Generating Units because the new plants can be designed and equipped with state-of-the-art control technology. This is particularly true for new coal-fired power plants.

Texas power plants east of I-35 have among the lowest emission rates in the country, achieved through already strict federal and state requirements as well as voluntary effort by the power industry to retrofit plants with ever-advancing control technology.

Texas has achieved both robust economic growth and steadily improving environmental quality. The California approach of excessive regulation has led to neither. Among the 10 most populous states, Texas power plants have the lowest average emission rates of the ozone precursor NO_x—other than California. California comes in first only because it generates a significant amount of electricity from coal-fired plants outside the state. ★

