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Lone Star Chapter

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**VIA ELECTRONIC MAIL**

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**Comments of the Lone Star Chapter of the Sierra Club**

The Lone Star Chapter of the Sierra Club appreciates the opportunity to provide these brief comments to both the Clean Air Scientific Advisory Committee (CASAC) and to the EPA in response to the EPA's recent February 2014 documents regarding their second external review draft of the Ozone standard

The Lone Star Chapter represents 22,000 Sierra Club members throughout Texas, including many areas that are currently considered non-attainment for ozone such as Houston and Dallas-Fort Worth, as well as other areas like Beaumont-Port Arthur, Corpus Christi, Tyler-Longview, Waco, Austin and San Antonio, all of which currently at times violate the current 75 PPB ozone standard, and would certainly violate levels of 60, 65 or 70, as is being reviewed.

We would reiterate comments provided by the Sierra Club itself, which point out that the science supports a standard of 60 – AT THE HIGHEST – because of the special populations who are particularly at risk for high ozone levels. In particular, children are more susceptible to high ozone levels, as are children with preexisting asthma conditions. We agree with those comments.

As an example, in the document entitled "Health Risk and Exposure Assessment for Ozone: Second External Review Draft," Page 5-69 shows four graphs which show the percentage of children who would be exposed to unsafe levels of ozone between 2006 and 2010. Even at 60 PPB, there are a significant number of school children which are exposed to at least one day of high levels of ozone which impact their respiratory

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function. As an example, the maximum number of children who could have been exposed to at least one day of ozone levels above 60 PPB (but below 65) was 0.8% in Houston and 2.4% in Dallas over the 2006 to 2010 period. But considering the populations of these areas, that is literally thousands of children who could have suffered health impacts because of this single day of high ozone levels, that was above 60 PPB but below 65 PPB. Thus, while only a small percentage, because there are a large number of school-age children living in inner-city Houston, Dallas and Fort Worth, EPA should adopt the precautionary principle and protect these children.

We are also concerned about the premature mortalities of such sensitive children, who find it hard to breathe outside on high ozone days, and deaths of asthmatic children is a concern when their airways can not open. By tightening the ozone standard and reducing smog-forming pollution, these children would be better protected and would have fewer breathing concerns outside. We hear the concerns of their parents having to give these children inhalers so they can breathe to stay alive on bad air days.

The table below shows the numbers for the EPA document for Houston and Dallas, the two areas in Texas that have consistently had the highest ozone levels. Thus, just reducing the ozone standard from the current 75 to 65 would more than double the number of children protected, while reducing the ozone level to 60 would protect nearly all school children in Texas's two largest cities.

While we don't dispute that reaching ozone levels of 60 PPB will be extremely challenging in Texas, the science and the public health benefits more than outweigh the costs. We do agree that there will need to be reasonable timelines and a framework to give urban areas time to reach these health-based standards.

We note that similar concerns were expressed about the possible inability of Houston, Dallas-Fort Worth, El Paso, and Beaumont-Port Arthur non-attainment areas in meeting the old 1-hour ozone standard. Today we do not hear such concerns anymore about the old 1-hour ozone standard. The good news, is that, except for Houston, all other Texas urban areas safely meet the old 1-hour standard, and Houston is very close having only a few 1-hour violation days each year. Yet some in Houston thought it would be impossible for the heavy industrialized region to ever reach attainment for the old 1-hour standard.

**Table A. Percentage of School-Age Children Exposed to High Levels of Ozone in 2006-2010 in Houston and Dallas Non-Attainment Areas**

	2006-2010 -- Average Percentage of Children with At Least One 8- hr Daily Max Exposure	2006-2010 -- Maximum Percentage of Children with At Least One 8- hr Daily Max Exposures	2006-2010 -- Average Percentage of Children with at Least Two 8- Hr Daily Max Exposures	2006-2010 -- Maximum Percentage of Children with At Least Two 8-hr Daily Max Exposures
% of Houston Children at 60 PPB	0.4%	0.8%	0%	0%
% of Houston Children at 65 PPB	2.4%	6%	0.8%	1%
% of Houston Children at 70 PPB	6.4%	12%	1.8%	3.0%
% of Houston Children at 75 PPB	10.8%	17.6%	3.6%	6.6%
% of Dallas Children at 60 PPB	0.8%	2.4%	0.1%	0.2%
% of Dallas Children at 65 PPB	2.8%	8%	0.6%	2.0%
% of Dallas Children at 70 PPB	6.8%	16%	2.0%	7.0%
% of Dallas Children at 75 PPB	12%	18.4%	4.6%	11.0%

*Source: EPA, Health Risk and Exposure Assessment for Ozone: Second External Review Draft, February 2014, Page 5-69.*

**Special considerations in Texas**

Texas is a unique state. Large, geographically diverse, high winds, and a population concentrated generally in the eastern part of the state, Texas faces challenges in meeting its ozone level obligations. In fact, while local areas can make significant reductions in ozone-formation, ultimately meeting more rigorous standards to reduce ozone levels will need regional solutions. We address this later in our comments, and believe that special attention must be paid to nitrogen oxide emissions from large industrial sources,

including coal-fired power plants, cement kilns, and increasingly, emissions related to oil and gas facilities.

**Which non-attainment areas would be impacted by 60 PPB standard**

Lowering the ozone standard from 75 PPB to a lower number would raise the number of areas in Texas unable to meet the standard. On Page 4-4 of the aforementioned report, EPA shows 8-hour ozone design values between 2008 and 2010 that shows that with the possible exception of the Valley and Laredo, all Central, Eastern and Northern Texas locations would not be able to meet either a 60 or 65 PPB standard. The table below, culled from TCEQ data available online for 2011 to 2013 shows similar results, with every single area not able to meet a 60 PPB standard. Even most areas – with the exception of the Valley and Laredo would be unable to meet a 65 PPB standard. Note that these three-year averages are a straight average of the fourth highest-ozone levels over those three years, and are not necessarily tied to a single monitor, meaning the actual design values would be different, but the table does make it clear that all of Eastern Texas plus El Paso would have difficulty staying in compliance with either a 65 PPB or 60 PPB standard.

**Table B. Fourth Highest 8-Hour Ozone Levels in Texas airsheds, 2011-2013**

Area	2011	2012	2013	Three-year Average
Dallas-Fort Worth	97	92	85	91
Tyler-Longview-Marshall	82	78	71	76
El Paso	80	74	73	75
Waco	78	78	72	76
Beaumont-Port Arthur	84	81	67	78
Austin	77	76	75	76
Houston-Galveston-Brazoria	88	92	84	88
San Antonio	79	87	83	83
Corpus Christi-Victoria	78	70	73	73
Lower Rio Grande Valley	66	61	62	63
Laredo	67	61	65	64

Source: TCEQ, Four Highest Eight-Hour Ozone Concentrations, 2011-2013, available at <http://www.tceq.state.tx.us>.

### So can Texas reasonably meet a lower standard?

While the CASAC and EPA have an obligation to set a health-based ozone standard based on the science, and the Sierra Club supports a 60 PPB standard, we acknowledge that it will be very challenging for potential non-attainment areas to meet a 60 or 65 PPB standard.

### Emissions from Point Sources

Texas keeps tracks of its emissions of criteria pollutants through its annual Point Source Emissions Inventory. A quick look at the 2012 Emissions Inventory shows that the major sources of ozone-forming pollutants comes from power plants, cement plants, refineries, organic chemical plants and natural gas transmission and processing facilities.

**Table C. Texas Nitrogen Oxide and Volatile Organic Chemical Emissions from Major Point Sources in 2012**

Sector	SIC Code	NOx Emissions	VOC Emissions
Electric Services (Powerplants)	4911	112,997	3,532
Natural Gas Liquids	1321	34,176	10,281
Industrial Organic Chemicals	2869	26,040	16,791
Crude Petroleum and Natural Gas Processing Facilities	1311	23,643	9,351
Petroleum Refining	2911	21,472	18,266
Natural Gas Transmission	4922	16,151	3,178
Cement Manufacturing	3241	16,100	896
Flat Glass Manufacturing	3211	5,021	64
Plastic Materials	2821	4,601	4,661
Carbon Black	2895	3,618	247
Paper Mill Manufacturing	2621	2,551	3,293
Industrial Inorganic Chemicals	2819	2,178	482
Lime	3274	2,127	33
Blast Furnaces and Steel Mills	3312	1,035	512
Synthetic Rubber	2822	380	2,100
Special	4226	187	3,635

Warehousing and Storage			
Crude Petroleum Pipe Lines	4612	133	669
Petroleum Bulk Stations & Terminals	5171	110	2,047
Plastic Products	3089	93	1,683
Motor Vehicles	3711	78	1,159
Refined Petroleum Pipelines	4613	27	1,008
<b>GRAND TOTAL</b>		<b>297,944</b>	<b>101,151</b>

### Coal Plants

In addition to local efforts to lower emissions of industry, area and mobile sources, Texas requires regional approaches to lower emissions of nitrogen oxides and volatile organics. According to the 2012 Point Source Emissions Inventory managed by the TCEQ, the top 13 sources of nitrogen oxide emissions are all coal-fired power plants. The Table below shows these sources, whether or not they have modern SCR controls on their units, and whether or not they always run their pollution equipment. The table makes clear that coal plants continue to be the major point source of NOX emissions in Texas, and most continue to be largely unregulated. Texas cities that are influenced by emissions from coal plants, like Tyler-Longview, Dallas-Fort Worth, Waco, Austin and San Antonio can not meet ozone standards without significant emissions reductions from coal plants located in northeast and central Texas. We would note that a special case are the coal plants owned by Luminant, which are large and located primarily in areas that influence ozone formation in Dallas and Waco. In 2008, they were purchased by a holding company known as EFH, which made a commitment to add SCR on many of their units, including Martin Lake, but have thus far failed to do so. Collectively, the Martin Lake units contributed more than 11,500 tons of nitrogen oxide in 2012, the highest single source in the state.

**Table D. Coal Plant NOx Emissions in Texas in 2012 and Amount with Pollution Control Equipment**

Category	Value
Number of Coal Units with No Announced Retirement	32
Number of Coal Units with No SCR Controls	24
Number of Coal Units with SCR	8
Total MWs of Coal with No Announced Retirement	22,922
Total MWs of Coal Units with No SCR Controls	16,922
Tons of NOx from Units with No SCR	78,437
Tons of NOx from Units Operating with SCR	9,304
Tons of NOx from Units Not Operating SCR or Other Controls at Full Capacity	12,625

Note: Units in 2012 with no SCR included Big Brown (2 units), Coletto Creek, Gibbons Creek, HW Pirkey, Harrington (3 units), JK Spruce (1 Unit), Limestone (2 units), Martin Lake (3 units), Monticello (3 Units), Oklaunion, Twin Oaks (2 units), Sam Seymour (3 Units), San Miguel, Sandow Station (2 Units), Tolk Station (2 Units), and Welsh (2 Units).

Source: TCEQ, PSD 2012 and Sierra Club, March 14<sup>th</sup> Comment Letter on Ozone Standard, Appendix.

### **Cement Kilns**

While cement plants do not contribute the same level of NOx emissions as coal plants do, they are a significant source of pollution in central Texas. Overall, in 2012, cement plants released more than 16,000 tons of nitrogen oxides. While huge reductions in their emissions have been made, many still lack the best available control technology to control their emissions. Thus, currently there are four cement plants in Texas that emit more than 2,000 tons of NOx, and another four that emit more than 1,000 tons of NOx. While the largest sources are located near San Antonio, several other large sources are located in close proximity to Dallas. Modern equipment must be required if Texas is to make serious inroads into reducing ozone levels in our urban areas.

### **Oil and Gas**

Sierra Club was supportive of recent standards to require much tighter air emission controls on storage tanks, wells, compressor stations and other oil and gas facilities recently promulgated by the EPA. However, these MACT standards covered only certain facilities and only certain new wells. While many of the larger natural gas and oil

compressor stations, processing facilities and pipelines are in the emissions inventory, many are much smaller and are not required to report annually. TCEQ has relatively flexible standards for oil and gas facilities and most are simply registered through Permit-by-Rule with minimal standards. Gas is frequently vented and flared in Texas, particularly in South Texas – and venting and flaring rules have not been updated in decades. While TCEQ has developed an emissions inventory for oil and gas facilities, it is certainly inaccurate, and has not kept up with the 20,000 wells permitted to be constructed per year in Texas by the Railroad Commission of Texas. While some facilities have begun implementing their own air emission and methane capture requirements, Texas has not been a national leader in this effort. Again, we believe particularly for the Houston, San Antonio and Dallas, significant regional approaches to reduce emissions from oil and gas facilities must be made to lower ozone levels.

Thus, without action on coal plants, cement manufacturing facilities, and oil and gas drilling, exploration and processing facilities, Texas cities will not be able to meet the ozone standards and protect its citizens from pollution that hurts children, the elderly, and those with special conditions, as well as the general population.

### **Conclusions**

EPA and CASAC must set a new, more rigorous ozone standard. While meeting this standard in Texas will be challenging, opportunities to take strong action to protect our citizens from emissions from coal plants, cement plants and oil and gas facilities can meet both the existing and any new ozone standard. But leadership from both EPA and the Texas Commission on Environmental Quality will be needed.

We appreciate the opportunity to submit these brief comments,

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