DOCKET NO. _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
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CHIEF CLERKS OFFICE

PETITION BY DALLAS COUNTY MEDICAL SOCIETY, FOR THE ADOPTION OF NEW RULES TO CONTROL AIR POLLUTION FROM NITROGEN COMPOUNDS BY REDUCING EMISSIONS FROM UTILITY ELECTRIC GENERATION IN EAST AND CENTRAL TEXAS THROUGH TITLE 30, PART 1, CHAPTER 117 FOR THE PURPOSE OF REDUCING AMBIENT OZONE LEVELS IN THE DALLAS-FORT WORTH NONATTAINMENT AREA, WITH BENEFITS TO THE TYLER/LONGVIEW/MARSHALL AREA.	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PETITION TO AMEND CHAPTER 117 TO REDUCE EMISSIONS OF NITROGEN COMPOUNDS FROM UTILITY ELECTRIC GENERATION IN EAST TEXAS BY 2018 AND TO ENSURE EFFECTIVE IMPLEMENTATION OF THAT STANDARD

BY

DALLAS COUNTY MEDICAL SOCIETY

To The Honorable Texas Commission on Environmental Quality:

Pursuant to Section 2001. 021 of the Texas Government Code, the Dallas County Medical Society ("Petitioner") files this petition with the Texas Commission on Environmental Quality ("Commission") requesting that the Commission hold a public hearing to accept comments on this petition and amend rules in Title 30, Part 1, Chapter 117. The current rules in Chapter 117 were adopted by the Commission to reduce emissions of nitrogen compounds from utility electric generation units in East and Central Texas for reasons including helping to bring the Dallas/Fort Worth Ozone Nonattainment Area ("DFW NAA") into attainment with the 84 ppb ozone national ambient air quality standard ("ozone NAAQS"). The purpose of the amendment proposed in this petition is to achieve greater reductions in nitrogen compound emissions than those currently mandated by Chapter 117, with the objective being lower ambient ozone levels in the DFW NAA, attainment of the ozone NAAQS, and improved public health. The petitioner is a group of practicing physicians who are aware of the health impacts of air pollution on the very young, the elderly and the population at large. Join in the petition are Public Citizen, the Lone Star Chapter of the Sierra Club, Environment Texas and Texas League of Conservation Voters.

As demonstrated in this petition, the 8 under-controlled utility electric generating units owned and operated by Luminant Generating in east Texas are among the largest sources of nitrogen oxides out of the approximately 1,900 major air pollution-emitting sources in Texas. On average, the 8 units located at Big Brown, Monticello and Martin Lake have NOx emission rates (lbs./MMBtu) far greater than what is being achieved in Texas by newer (post-2002) electric generating units, largely because the under-controlled units lack installation of best available control technology. The permits issued by the Commission for the newer units that are operating in Texas contain limits on nitrogen oxide emissions based on the best available control technology, known as selective catalytic reduction ("SCR"). Electric generating units in Texas operating successfully with SCR include lignite-fired as well as sub-bituminous coal-fired varieties, the same fuel types as the these 8 under-controlled units, which were constructed prior to 2002 and which impact the DFW NAA, are using. The Commission has published studies that demonstrate that reduced NOx emissions from east Texas utility electric generation units would significantly lower ambient ozone levels in the DFW NAA. The Dallas-Fort Worth metropolitan

area is the most populous area in Texas, the fastest growing in the U.S., and the 4th largest metropolitan area in the country. According to the 2010 Census, there are 1,735,855 children living in the Dallas-Fort Worth State Implementation Plan area. Reducing ambient ozone levels and attaining the ozone NAAQS would have substantial public health benefits to Texans in and around Dallas-Fort Worth, including reduced incidence of asthma attacks, respiratory irritation, and cardiovascular induced hospitalization.

The DFW NAA has had ground-level ozone levels that exceeded air quality standards for many years, including each of the last 5 years, with a 2012 design value of 87 ppb, as shown in Table 1. The ozone levels are higher than the standard established in 1997 of 84 ppb, and the revised 75 ppb ozone standard was adopted in March 2008 by the Bush EPA

Year	3-Year Design Value (ppb)
2012	87
2011	90
2010	86
2009	86
2008	91

Table 1. *Ozone Design Values in DFW Nonattainment Area for 2008-2012*

I. The Under-Controlled Luminant Utility Electric Generating Units in East Texas are Very Large Sources of Nitrogen Oxides Air Pollution

Luminant's 8 under-controlled utility electric generating units in east Texas are major sources of NOx emissions. Nitrogen oxides are a precursor to ground-level ozone, and the Dallas-Fort Worth nonattainment area is downwind of these sources. According to the 2012 EPA Clean Air Markets data, as a group these plants emitted approximately 22,603 tons of NOx per year. These 8 units, which are less than 1% of the number of facilities that report to TCEQ's point source emissions inventory, emitted almost 7% of the total amount of NOx emitted by all major sources in the state.

These 8 units at the Big Brown, Martin Lake and Monticello facilities emitted about 38% of all NOx emitted from power plants in east Texas in 2012. NOx from these power plants has been shown to contribute to ozone in the Dallas-Fort Worth, Waco and Tyler/Longview/Marshall regions. On a per megawatt hour basis, the TXU legacy coal

plants emit NOx at about three times the rate of power plants built in the last decade, or of the 10 best-performing old units.

Energy Futures Holdings has acknowledged it is engaging in talks about restructuring its debt and as a result these plants may be sold without retrofits needed to reduce air pollution in the DFW, Waco and Tyler-Longview-Marshall regions. This petition would assure that these plants would be required to be retrofit with modern pollution controls by June 1, 2018.

The name, age, capacity, NOx emission rates (lbs/MMBtu), and annual NOx emissions (tons/year for 2010) for each under-controlled Luminant electric generating unit in east Texas is shown in Table 2.

Luminant Coal-Fired EGU	Age	Capacity (MW)	N0x Emissions (tons per year)	N0x Emissions rate (lbs./MMBtu)
Big Brown 1	42	593	2,615	0.1320
Big Brown 2	43	593	2,429	0.1328
Martin Lake 1	36	793	3,390	0.1577
Martin Lake 2	35	793	4,074	0.1460
Martin Lake 3	34	793	4,202	0.1456
Monticello 1	39	593	1,785	0.1400
Monticello 2	38	593	1,306	0.1250
Monticello 3	35	793	2,802	0.1658

Table 2. *2012 NOx Emissions from Luminant's 8 Under-Controlled East Texas Coal-Fired EGUs*

II. Utility Electric Generating Units in Texas Equipped with Best Available Control Technology for Nitrogen Oxides are Achieving Substantially Lower Emission Rates than Under-Controlled Units

New and retrofitted coal-fired electric generating units utilizing SCR achieve far lower NOx emissions and are more protective of public health. As shown in Table 3, average NOx emissions for the newer and more well-controlled coal-fired EGUs is .063 lbs./MMBtu – far lower than Luminant's under-controlled coal-fired EGUs in east Texas.

Coal-Fired EGU	Age	Capacity (MW)	N0x Emissions (tons per year)	N0x Emissions rate (lbs/MMBtu)
Oak Grove 1	4	800	2,048.742	0.072393710
Oak Grove 2	3	800	1,985.194	0.069533940
Sandow 4	32	591	1,500.370	0.066683111

Sandow 5	4	581	1,365.524	0.064259953
J K Spruce 2	3	550	1,084.878	0.040255213
Total (tons) / Average (rate)	7.7		**9,350.232**	**0.062837581**

Table 3. *2012 NOx Emissions from 5 New or More Well-Controlled East and Central Texas Coal-Fired EGUs*

III. Studies Developed by the TCEQ Demonstrate That Nitrogen Oxides from the Under-Controlled Utility Electric Generating Units in East Texas Impact Ambient Ozone Levels in DFW

A 2006 TCEQ study, DFW Modeling - Updates 199 Base Case and Baseline, shows that reducing NOx emission is a more effective method of reducing ground-level ozone than reducing VOC emissions.

The study shows that if the same NOx emissions controls that are required in the Houston area were required in east Texas, average ground-level ozone readings at air quality monitors in the DFW NAA would be reduced by 1.1 ppb from the 2006 baseline. Midlothian would see the larges reduction at 1.6 ppb, followed up by Frisco and Arlington at 1.3 ppb.[1]

At the time the TCEQ DFW Modeling Updates were released, the ground-level ozone standard was 85 ppm and about a 6 ppb reduction was needed at the Frisco monitor to achieve attainment. Retrofitting east Texas EGUs with best available control technology would have achieved about 18% of needed ground-level ozone reductions.

In a June 22, 2006 research memo with the subject "Task 19. DFW APCA Run for 2009 with east Texas EGU Controls" Environ describes the impacts of reducing NOx emissions from east Texas EGUs on ground-level ozone readings in the DFW NAA. This modeling assumed that NOx emissions for EGUs in East Texas were reduced to .08 lbs/MMBtu for lignite-fired units and .05 lbs/MMBtu for coal-fired units. These levels of emissions controls east Texas EGU controls reduced the ground-level ozone exceedance area by 6 % in the DFW NAA. The Midlothian and Arlington monitors showed the greatest reductions at 1.5 and 1.0 ppb, respectively.[2]

[1] TCEQ. Modeling - Updates 199 Base Case and Baseline. Presentation by Pete Breitenbach. February 2, 2006. Pg. 42.
[2] Environ. Task 19. DFW APCA Run for 2009 with East Texas EGU Controls. Memorandum from Edward Tai and Greg Yarwood to Pete Breitenbach. June 22, 2006.

IV. A Revision and Strengthening of Chapter 117 Will Align with Current DFW Ozone SIP Efforts and Other Ongoing Concerns.

As of last year, the attainment standard for ground-level ozone is 75 ppb. This more protective standard is offering a fresh challenge to the DFW area. On May 12, 2012, EPA issued air quality designations for the 2008 ozone national ambient air quality standards. Ten counties in the DFW area – Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant and Wise – are classified as being in moderate non-attainment for the new 75 ppb standard.[3] In 2012, the DFW NAA experienced 7 ground-level ozone exceedance days by the old 84 ppb standard, but accumulated 36 exceedance days by the 75 ppb standard.[4]

Additional emissions reductions efforts are needed to bring the DFW NAA into attainment with the new ground-level ozone standard. Likewise, action should be taken to reduce emissions that are pushing the Tyler/Longview/Marshall (TLM) area into non-attainment with the 75 ppb ground-level ozone standard.[5]

V. The Texas Medical Association supports regulatory efforts to reduce NOx emissions from Luminant's coal-fired power plants as a means of protecting public health. The following resolution was passed by the TMA House of Delegates in May 2013:

TEXAS MEDICAL ASSOCIATION HOUSE OF DELEGATES

The Resolves in this Resolution were adopted in May 2013 (Whereas' do not reflect TMA House Policy, but are submitted by the County Delegation to the House to explain the resolution)

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http://www.tceq.texas.gov/assets/public/implementation/air/am/docs/dfw/p1/DFW_APCA%20Run_for_2009_East_TX_EGU_Controls_20060622.pdf.

[3] EPA. Air Quality Designations for the 2008 Ozone National Ambient Air Quality Standards. Federal Register Vol. 77, No. 98. May 21, 2012. Pg. 30147. http://www.gpo.gov/fdsys/pkg/FR-2012-05-21/pdf/2012-11618.pdf.

[4] 2012 DFW Ozone Season - 8-Hour Ozone Exceedance Days. Pg. 1. http://www.nctcog.org/trans/air/ozone/2012OzoneDaysCalendar_000.pdf.

[5] Environ. Conceptual Model of Ozone Formation in the Tyler-Longview-Marshall Near Non-Attainment Area 2012 Update. November 2012.

Resolution 309

A-13

Subject:	EPA-Compliant Pollution Controls on Old Coal Plants
Introduced by:	Dallas County Medical Society
Referred to:	Reference Committee on Science and Public Health

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Whereas, Three old coal-fired power plants — Big Brown, Martin Lake, and Monticello — south and southeast of the Dallas-Fort Worth area are among the state's five largest emitters of air pollution, including ozone-producing nitrogen oxides; particulate-forming sulfur dioxides; stream- and lake-polluting, brain-damaging mercury; climate-changing carbon dioxide; and cancer-producing radiation from uranium and thorium in fly ash; and

Whereas, In its 1999 electric deregulation bill, the Texas Legislature required that old coal plants in East Texas reduce ozone-producing nitrogen oxide emissions by 50 percent, reducing ozone air pollution in the DFW area, but they remain among the largest sources of pollution in North Texas; and

Whereas, Because of the age of these three plants and because they are not required to satisfy newer EPA emission standards, they generate relatively little electric power compared with newer plants for the large amount of pollution they emit; and

Whereas, When Energy Future Holdings, a conglomerate of big banks and Wall Street entrepreneurs, purchased these three plants from public stock-supported TXU Energy for approximately $10.6 billion to $13 billion in 2007, it was not required to upgrade pollution controls to meet currently tightening EPA standards; and

Whereas, Energy Future Holdings may soon go bankrupt and be forced to sell these three plants, which it purchased for $10.6 billion to $13 billion,[6] for an assumed price of $770 million to $881 million, based on recent sales[7], a price expected to attract purchasers and make the three plants profitable to operate for at least 10 more years; and

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[6] The Case to Retire Big Brown, Martin Lake and Monticello by Tom Sanzillo for TR Rose and Associate, March 2011, http://texasgreenreport.files.wordpress.com/2011/03/the-case-to-retire-big-brown-monticello-and-martin-lake-coal-plants.pdf.

[7] Recent plant sales establish new floor for coal assets, *Platts Coal Outlook*, March 18, 2013.

Whereas, The utility has begun to install cheap pollution upgrades using Selective Non-Catalytic Reduction (SNCR) pollution controls, which reduce pollution by only 35 percent from baseline, on two of the old coal plants (the remaining upgrade at Martin Lake will cost approximately $85 million) instead of the more expensive currently EPA-compliant Selective Catalytic Reduction (SCR) technology, which would reduce emissions by 90 percent from baseline (a difference of 18,000 tons less air pollution emitted into the northeast Texas atmosphere per year for the life of the plants); and retrofitting all three plants with SCR pollution controls would cost $936 million; and

Whereas, Through recent progress in energy production technology, several renewable strategies, such as geothermal at sites around the three old plants, constant on-peak wind generation on the Gulf Coast, West Texas solar, or digital controls that reduce energy use, are capable of replacing the peak demand generation of the three old plants; and

Whereas, The Texas Public Utility Commission has been authorized to extend the same renewable energy credits that catapulted the state to its lead in wind energy to these non-wind renewable energy sources but has not yet done it; therefore be it

RESOLVED, That the Texas Medical Association support legislative proposals or rulemaking by the Texas Commission on Environmental Quality to require the current EPA-compliant Selective Catalytic Reduction technology for pollution controls be installed at coal-fired power plants that change ownership in Texas and on all coal-fired power plants in East Texas within five years; and be it further

RESOLVED, That TMA support legislative and Public Utility Commission incentives to encourage the building of more energy-productive and less polluting alternatives to replace the peak energy-generating capacity of these three old plants.

VI. **We Request the Following Specific Changes to Language in the Texas Administrative Code:**

a. **Amend TITLE 30, PART 1, CHAPTER 117, SUBCHAPTER E, DIVISION 1, RULE §117.3000 as follows:**

Applicability

(a) The provisions of this division (relating to Utility Electric Generation in East and Central Texas) apply to each utility electric power boiler and stationary gas turbine (including duct burners used in turbine exhaust ducts) that:

(1) generates electric energy for compensation;

(2) is owned or operated by an electric cooperative, independent power producer, municipality, river authority, or public utility, or any of its successors;

(3) was placed into service before December 31, 1995; and

(4) is located is located in Atascosa, Bastrop, Bexar, Brazos, Calhoun, Cherokee, Fannin, Fayette, Freestone, Goliad, Gregg, Grimes, Harrison, Henderson, Hood, Hunt, Lamar, Limestone, Marion, McLennan, Milam, Morris, Nueces, Parker, Red River, Robertson, Rusk, Titus, Travis, Victoria, or Wharton County.

(b) The provisions of §117.3005 of this title (relating to Gas-Fired Steam Generation) also apply in Palo Pinto County.

(c) The provisions of §117.3010 (1)(A)(iii) (relating to Utility Electric Generation in East Texas) apply to each coal or lignite-fired utility electric power boiler Freestone, Rusk or Titus County.

b. **Amend TITLE 30, PART 1, CHAPTER 117, SUBCHAPTER E, DIVISION 1, RULE §117.3010 as follows:**

In accordance with the compliance schedule in §117.9300 of this title (relating to Compliance Schedule for Utility Electric Generation in East and Central Texas), the owner or operator of each utility electric power boiler or stationary gas turbine (including duct burners used in turbine exhaust ducts) shall:

(1) ensure that emissions of nitrogen oxides (NO X) do not exceed the following rates, in pounds per million British thermal units heat input on an annual (calendar year) average:

(A) electric power boilers:

(i) gas-fired, 0.14;

(ii) coal-fired, 0.165; and

(iii) coal-fired in Freestone, Rusk or Titus County, 0.08. This provision shall be effective June 1st, 2018.

Respectfully submitted:

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