INCOG

INDIAN NATIONS COUNCIL OF GOVERNMENTS

Tulsa Metropolitan Area 8-Hour Ozone Flex Plan

A TULSA AREA PARTNERSHIP

2008 8-O_3 Flex Program

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1

1.0 Introduction and Executive Summary

The future of the Tulsa metropolitan area holds new business opportunities, existing business expansion, economic prosperity and excellent quality of life for our community. Economic growth however, is joined with the challenge of maintaining regional air quality.

The Tulsa metropolitan area has a long proven history of air quality improvement at the local level. With the Environmental Protection Agency Region 6 (EPA R6), the local Tulsa area proudly developed and implemented the first Ozone Alert! Program and the first Flexible Attainment Region Agreement in the nation. Voluntary and common-sense initiatives through exemplary business and community partnership are the core reasons that the air shed remains in compliance with the federal ozone standard today.

Continued compliance with the ozone standard is by no means assured. With the ozone monitors at near non-attainment levels, local governments, businesses and the Tulsa community, through the Indian Nations Council of Government's (INCOG) Air Quality Committee, have determined to carry on a proactive commitment to explore additional strategies for air quality improvement.

The 8-O_3 Flex Plan is a voluntary local approach to ozone attainment to provide a structure and framework for local actions to improve air quality by reducing ozone forming emissions and thus maintain the 8-hour ozone NAAQS.

EPA issued guidance supporting the 8-O3Flex program in May of 2006. In March 2007, the Tulsa area submitted to EPA R6 its letter of intent to participate. Working together with local, state and federal officials, some of the essential facets of the 8-O3Flex Plan include early planning, implementation of emission reduction measures, broad-based public input and local control, and state support to ensure the technical integrity.

The INCOG Air Quality Committee, the Oklahoma Department of Environmental Quality, and the represented local stakeholders to this agreement respectfully request that the EPA agree to the terms set forth in this 8-O_3 Flex Plan.

Background

The Indian Nations Council of Governments (INCOG) is a voluntary association of local governments serving Creek, Osage, Rogers, Tulsa, and Wagoner counties. INCOG provides local and regional planning, information, coordination, communications, implementation and management services to member governments and their constituent organizations. Working through a voluntary assembly of area elected officials, INCOG seeks to build consensus in solutions to regional problems. The information INCOG provides assists both the public and private sectors in decision-making and in solving local and regional problems.

INCOG is widely recognized as the planning agency for air quality issues in the Tulsa metro area. The metro area consists of Tulsa County and portions of the surrounding Creek, Osage, Rogers and Wagoner Counties. Together, communities in the Tulsa metro area total approximately 700,000 in population.

The Tulsa area regained its attainment status in 1990 just before the enactment of the revisions to the Clean Air Act. Prior to that, Tulsa County had been a non-attainment area for ozone. To achieve attainment status, Tulsa County enacted various SIP measures including Stage I Vapor Recovery and industrial coating treatment requirements.

Tulsa area monitors experienced two exceedances of the one-hour ozone standard in June 1991. To develop a pro-active program to diminish the chances of slipping back into non-attainment, the City of Tulsa and other area officials turned to INCOG, the regional planning agency in the Tulsa area. INCOG formed an Air Quality Committee composed of local public agencies, the business community, environmental interest groups, and other interested citizens and established what is now the nationally acclaimed Ozone Alert! Program. The program was developed and implemented in just two weeks time - a record for a public endeavor. The Tulsa City-County Health Department and the National Weather Service developed a model to forecast conditions for a high potential to exceed the ozone standard. Parameters including temperature, wind speed and direction and cloud cover were used to gauge the potential for levels of ozone. The purpose of the Ozone Alert! Program was twofold. Its primary goal was to improve the air quality in the Tulsa area, and secondly it was the committee's intent that the reduction in hydrocarbon emissions resulting from the success of the program would support the continued demonstration of attainment.

Tulsa Area Flexible Attainment Region Agreement (FAR)

INCOG developed and implemented the Tulsa Area FAR in 1995. The first of its kind, the FAR defined proactive voluntary emission reduction strategies which the Tulsa area put into place upon designated ozone design values or 'triggers'.

The 1-Hour Ozone Flex Agreement

With the revised 8-hour National Ambient Air Quality Standard (NAAQS) on the horizon, the Tulsa was again facing the very real possibility of a non-attainment designation. In order to ensure continued attainment of the 1-hour ozone standard, the INCOG Air Quality Committee pulled together area stakeholders and the Tulsa Area Ozone Plan was developed. The Ozone Flex was signed and implemented in August 2002.

Tulsa Area Voluntary Low RVP Gasoline Program

An integral component of Tulsa area voluntary air quality improvement and initiative is the voluntary low Reid Vapor Pressure gasoline program. During the first 1991 ozone season, the Reid Vapor Pressure (RVP) of the gasoline provided at Tulsa area fuel stations was 8.5 psi or lower rather than the maximum 9.0 psi which would have otherwise been supplied.

In 2000, with Tulsa's ozone design value again at critical levels, the INCOG Air Quality Committee held a series of local roundtable stakeholder discussions concerning the voluntary gasoline program. Although gasoline prices that summer were spiking across the nation, with the continued spirit of local area initiative, Tulsa's voluntary summer gasoline program was modified to the 7.8 psi RVP that it remains today.

8-Hour Ozone Early Action Compact (EAC)

In December 2002, INCOG notified the EPA of its intent to participate in a new air quality strategy called the 8-Hour EAC. The EAC was a Memorandum of Agreement (MOA) between INCOG, representing the local governments within the Tulsa Transportation Management Area (TTMA), the ODEQ and the EPA R6. The purpose of the EAC was to develop and implement a Clean Air Action Plan (CAAP) that will reduce ground-level ozone concentrations in the Tulsa area to comply with the 8-hour ozone standard by December 31, 2007, and to maintain the standard through 2012.

In March 2004, INCOG submitted a Clean Air Action Plan (CAAP) for inclusion in the EAC to ODEQ. The CAAP reduced transportation related emissions by improving traffic flow and reducing congestion throughout the region. The transportation emission reduction strategy consisted of a cumulative compilation of transportation improvement projects, implemented and quantified as a single control strategy. All projects were fully implemented and all agreement milestones met.

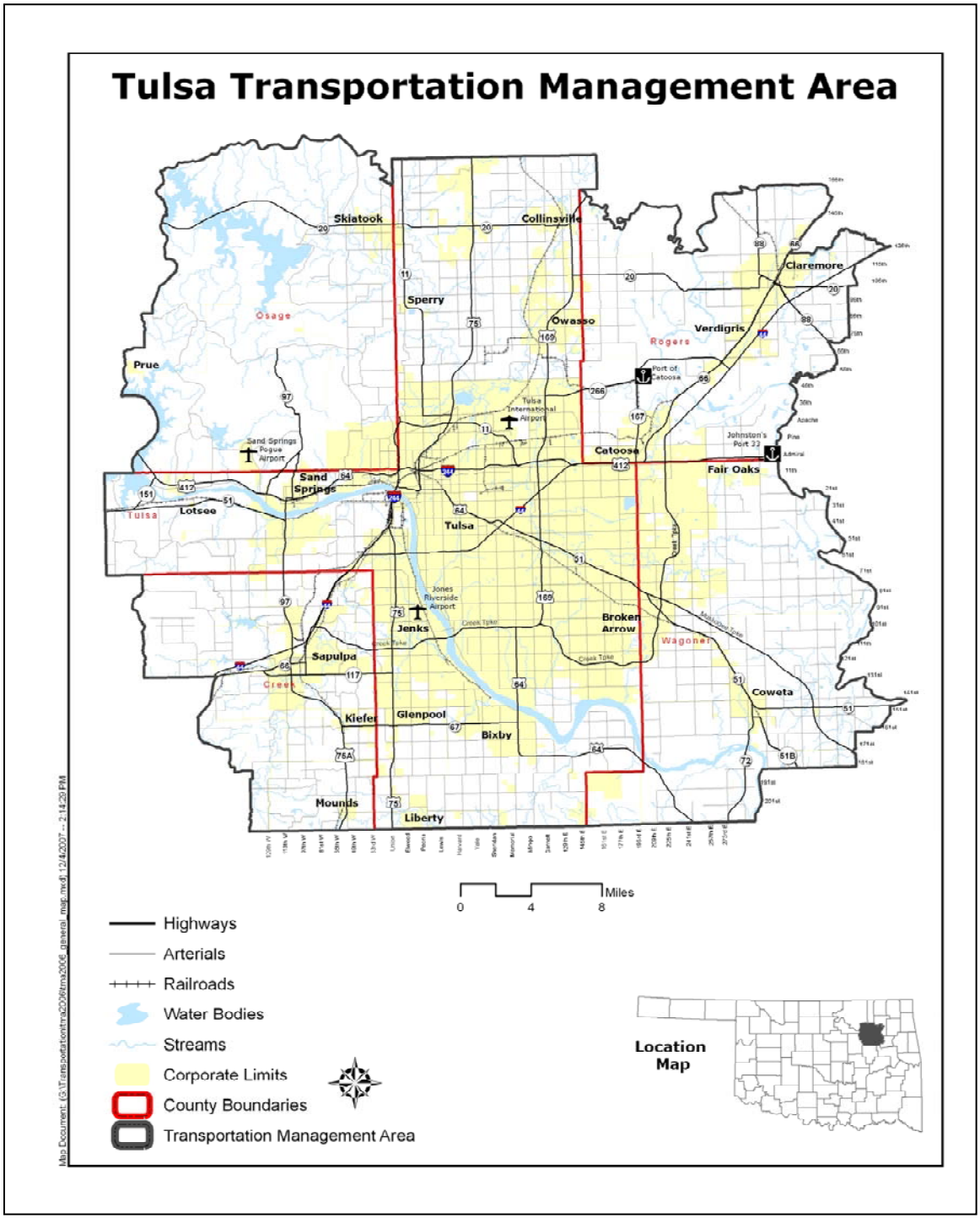
Geographic Coverage of the 8-O_3 Flex Plan

The Tulsa Transportation Management Area (TTMA), which comprises all of Tulsa County and portions of Creek, Osage, Rogers and Wagoner Counties, is the area covered by this 8-O_3 Flex Program. (Figure 1-1) The TTMA is viewed locally as the boundary most appropriate to a potential non-attainment area of the 8-hour ozone standard, supported by the density of development and commuting patterns within this area. The TTMA includes the urbanized area of the seven county Tulsa Metropolitan Statistical Area as defined by the Bureau of the Census. Additionally, the TTMA is the geographic boundary of the earlier EAC and 1-hr Ozone Flex Plan. The TTMA has been the study area used by ODEQ and INCOG for numerous air pollution control planning activities, including the FAR, the Ozone Alert! Program, 1-hour Ozone Flex, and the EAC Program. The TTMA is also the transportation planning area for which INCOG has kept an extensive database for transportation related activities. The Tulsa air shed and the TTMA are used interchangeably in this document.

The Map in Appendix A identifies the Tulsa air shed in relation to the MSA and the state.

Figure 1-1:

The Tulsa Transportation Management Area (TTMA)
Tulsa Air Shed

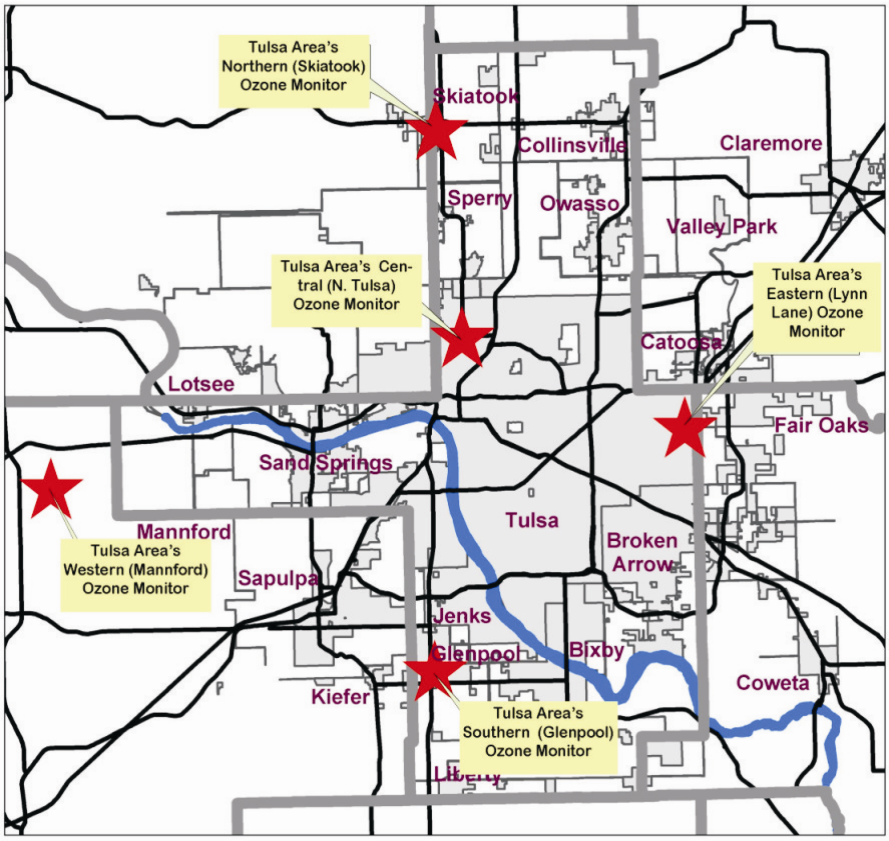


Current Monitoring and Air Quality Status

The Tulsa metropolitan statistical area, which includes the TTMA also defined as the Tulsa air shed, was designated attainment of the National Ambient Air Quality Standard for ozone in March 2004. Ozone levels are routinely monitored at five locations in the Tulsa air shed. Figure 1-2 provides a map of the current ozone monitoring sites in the Tulsa area.

Figure 1-2:

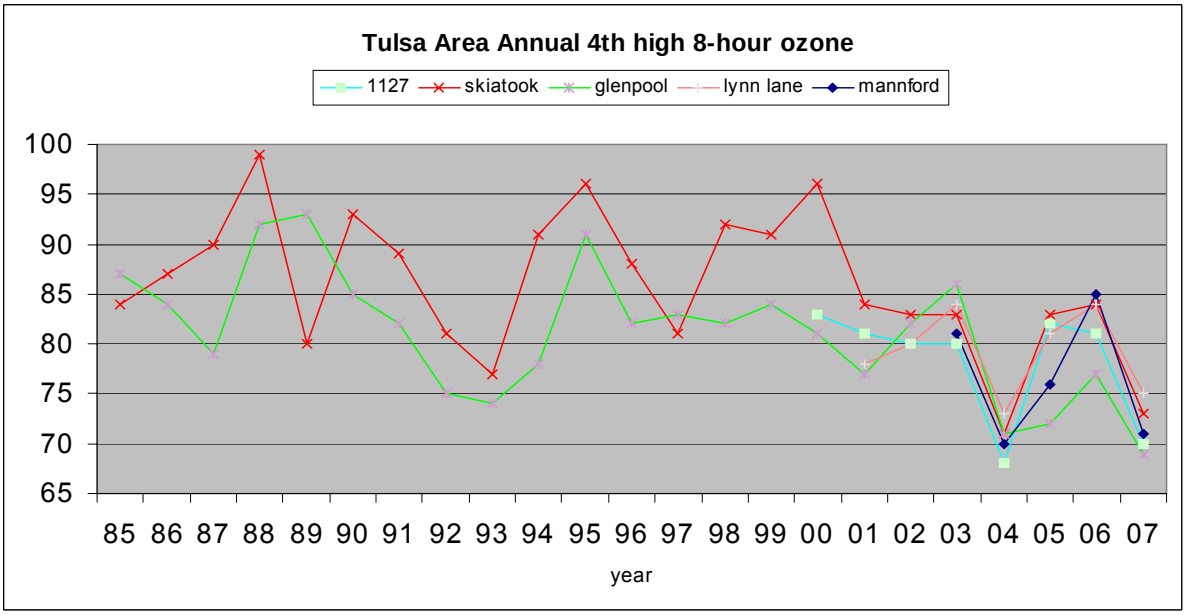
Tulsa Area Ozone Monitoring Sites



High Ozone Episodes

Monitoring indicates that the Tulsa air shed area encounters episodes of elevated ozone readings that occasionally exceed the daily standard of the National Ambient Air Quality Standard. Historical ozone levels indicate the area has experienced fluctuating 8-hour ozone values, in fact, for the past many years. High ozone episodes are generally characterized by hot, sunny days; cloudless skies; light south, southeasterly, or east winds; and high background levels of ozone and ozone precursors associated with an inbound air-mass. Figure 1-3 shows the 8-hour annual ozone 4th highest values since 1985. The chart plots the five current and existing ozone monitors.

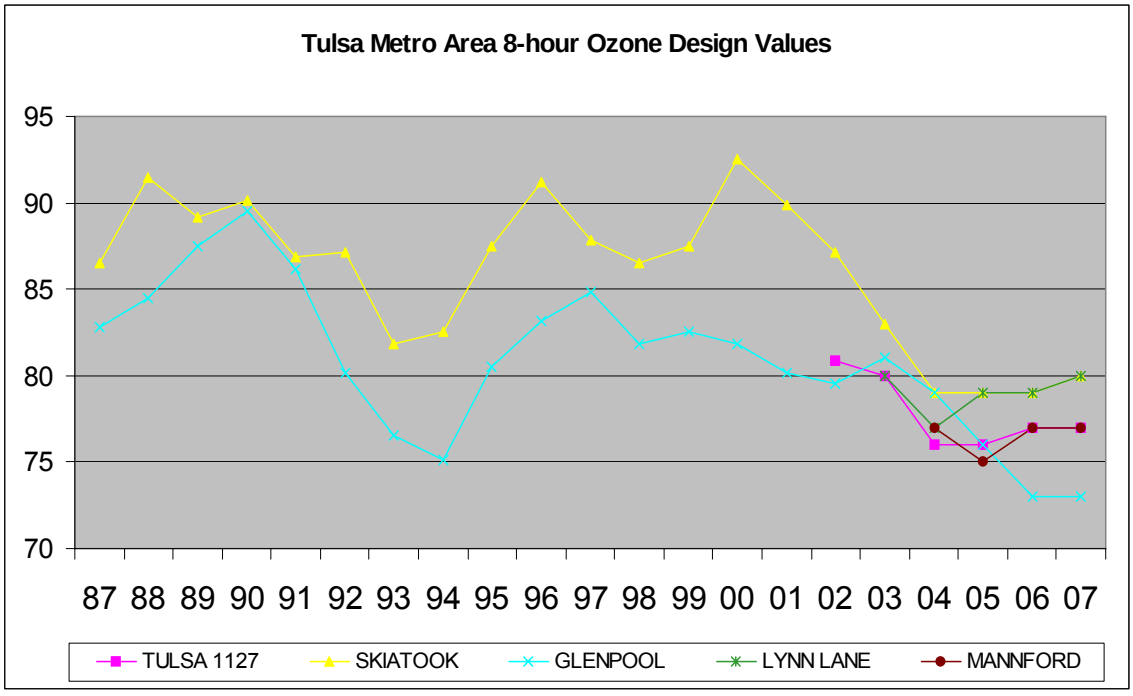
Figure 1-3:



The 8-hour ozone standard is based on averaging three years of the fourth highest 8-hour ozone levels for each monitor in an area. This number, called the design value, must be lower than .085 parts per million (ppm) to meet the standard. Currently, the Tulsa area design value (averaging 2005, 2006, and 2007) is .080 ppm. Despite annual fluctuations and observed improvements in the design value, it is understood that long-term air quality may not improve without a concerted emission-reduction effort.

Figure 1-4 shows the Tulsa area ozone design value for each monitor.

Figure 1-4:



The ozone scorecard (Figure 1-5) displays the four highest ozone readings at each monitoring station during the summer of 2007 and the exceedances recorded. The Tulsa area experienced two days when ozone levels exceeded the federal standard in 2007 (three separate monitor exceedances).

Figure 1-5:
2007 Ozone 8-Hr Avgs., Three-year 4th Highest Avgs. and Ozone Exceedances

Monitor Site			2007 8-Hr. Ozone Averages (1st through 4th highest readings)				2005-2007 3-Yr. Average
2004 4th High	2005 4th High	2006 4th High	1st Highest *date*	2nd Highest *date*	3rd Highest *date*	4th Highest *date*	2005 – 2007 3-yr Avg of 4th Highs
CENTRAL *(#1127 Tulsa)*							
0.068	0.082	0.081	**0.078** 15-Aug	**0.074** 14 Aug	**0.071** 16-Aug	**0.070** 13-Aug	**0.077**
NORTH *(#137 Skiatook)*							
0.071	0.083	0.084	**0.080** 3-Aug	**0.075** 3-Sept	**0.073** 25-Jul	**0.073** 2-Aug	**0.080**
SOUTH *(#174 Glenpool)*							
0.071	0.072	0.078	**0.092** 13-Aug	**0.072** 29-Aug	**0.070** 15-Aug	**0.069** 21-Apr	**0.073**
EAST *(#178 Lynn Lane)*							
0.073	0.081	0.084	**0.095** 14-Aug	**0.094** 13-Aug	**0.078** 15-Aug	**0.075** 2-Aug	**0.080**
WEST *(#144 Mannford)*							
0.071	0.076	0.085	**0.072** 15-Aug	**0.072** 21-Apr	**0.071** 2-Aug	**0.071** 1-Sept	**0.077**

Tulsa Transportation Management Area Sources of Pollutants and Emissions Inventories

Emissions data developed to support the EAC modeling has been deemed by ODEQ to be the most appropriate data set for the 8-O_3Flex program. Emissions inventories used for the EAC effort were base 1999 National Emissions Inventory (NEI) and performed by ODEQ. EAC photochemical modeling efforts indicate that both Nitrogen Oxides (NOx) and Volatile Organic Compounds (VOCs) have a significant influence on the ozone values in Oklahoma. The inventories were conducted in the entire state.

Figures 1-6 and 1-7 represent NOx and VOC emission inventory data for tons-per-day by county, and category specific emissions data used for the EAC modeling.

Figure 1-6

Estimated 2007 NOx Emissions (Tons Per Day)

2007		Tulsa MSA NOx Emission Sources by County						
		Area	Off-road	On-road	Combined Mobile	Low Pts	Elv Pts	**ALL**
	NOx	*Sum of NOx-wkd*	*Sum of NOx-wkd*	*Sum of NOx-wkd*		*Sum of NOx-wkd*	*Sum of NOx-wkd*	
	Tulsa County	**22.49**	***19.28***	***50.23***	**69.51**	**0.55**	**29.24**	**121.79**
Tulsa MSA	Creek County	1.01	*3.48*	*3.33*	6.81	1.08	3.43	*12.33*
	Osage County	0.16	*3.86*	*1.84*	5.7	1.52	0.07	*7.45*
	Rogers County	0.64	*5.6*	*3.91*	9.51	0.16	65.21	*75.52*
	Wagoner County	1.51	*3.71*	*2.26*	5.97	0.02	4.37	*11.87*
TOTAL		25.81	*35.93*	*61.57*	97.51	3.33	102.31	**228.96**

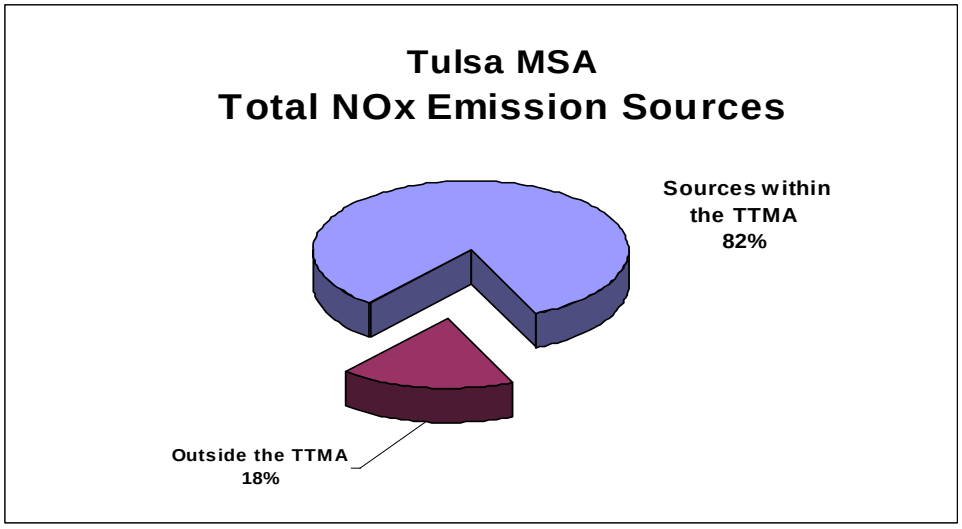
Figure 1-7

Estimated 2007 VOC Emissions (Tons Per Day)

2007		Tulsa MSA VOC Emission Sources by County						
		Area	Off-road	On-road	Combined Mobile	Low-Pts	Elv-Pts	**ALL**
	VOC	*Sum of VOC-wkd*	*Sum of VOC-wkd*	*Sum of VOC-wkd*		*Sum of VOC-wkd*	*Sum of VOC-wkd*	
	Tulsa County	**34.43**	***10.49***	***39.26***	**49.75**	**6.26**	**1.88**	**92.33**
Tulsa MSA	Creek County	7.37	*0.67*	*3.79*	4.46	0.78	0.2	*12.81*
	Osage County	2.76	*2.13*	*2.25*	4.38	1.38	0.01	*8.53*
	Rogers County	4.92	*1.34*	*4.66*	6	0.24	0.67	*11.83*
	Wagoner County	3.73	*0.82*	*2.79*	3.6	0.03	0.46	*7.82*
	TOTAL	53.21	*15.45*	*52.74*	68.19	8.7	3.22	**133.31**

Of the total TMSA NOx and VOC emissions, 82% percent of the NOx emission sources and 87% of the VOC emission sources are also within the TTMA (figure 1.8) .

Figure 1-8



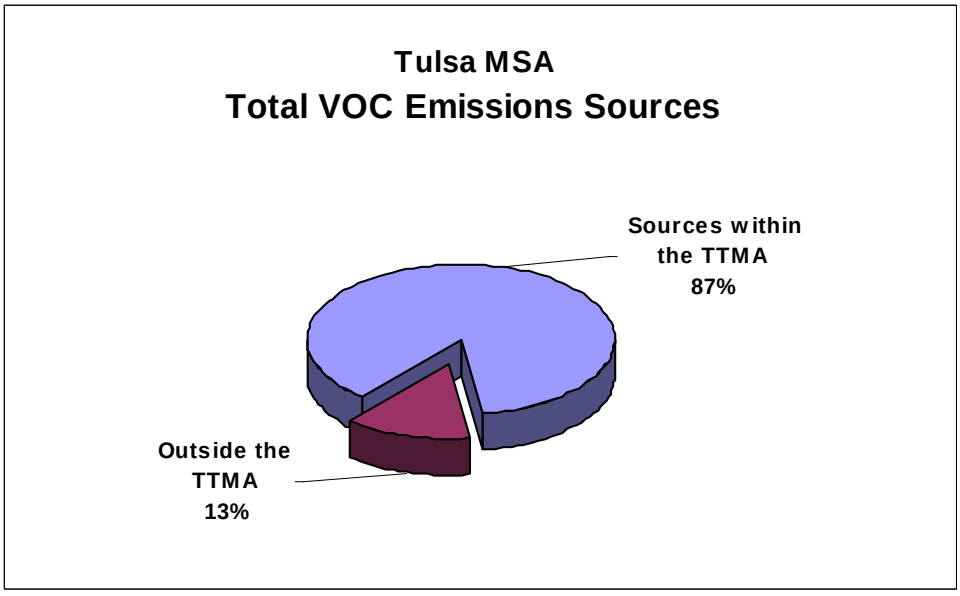
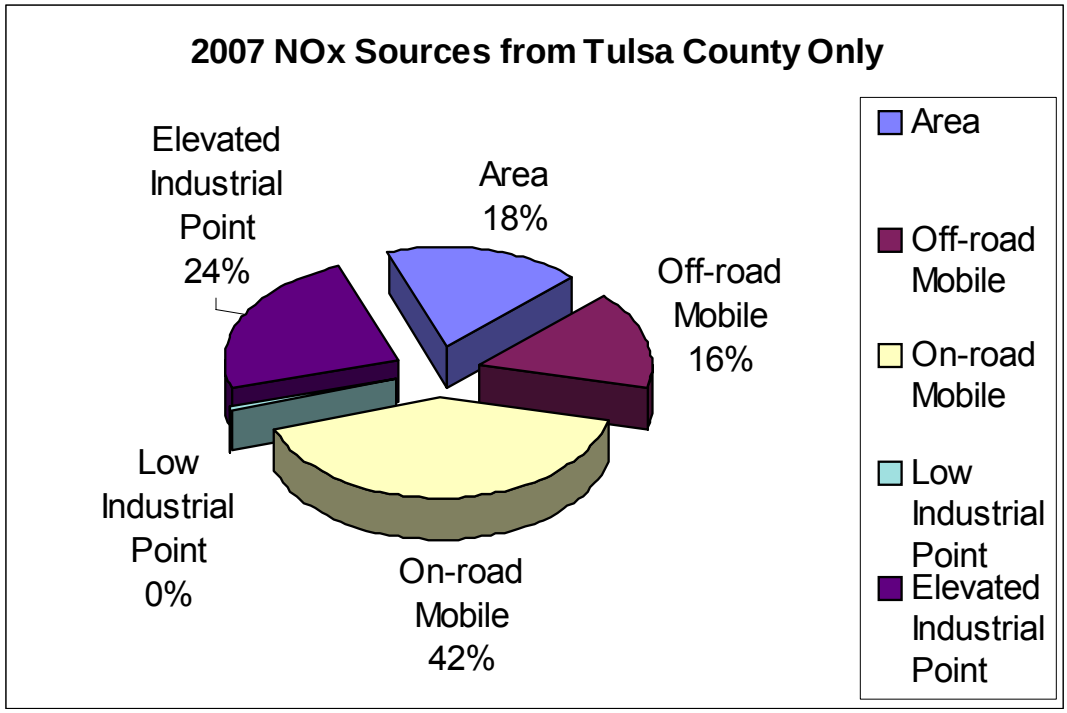
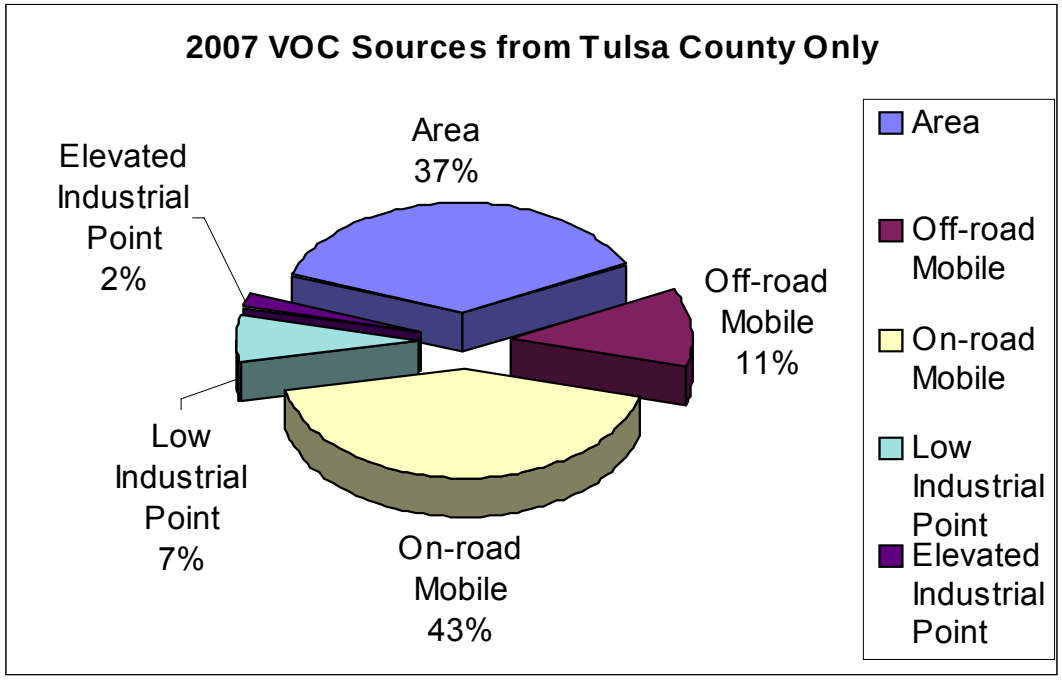


Figure 1-9 identifies the NOx and VOC emissions sources within Tulsa County. Emissions inventory estimates for the TTMA are determined by proportionate county population percentages as defined by the 2000 Census.

Figure 1-9





Inbound transport

The geographic location of the state of Oklahoma, along with unique regional weather conditions during the ozone season, have a significant influence on ozone levels. Since 1999, ODEQ has located ozone monitoring sites close to the southern border of the state to measure the influence of transport from the south, which includes Texas.

Area sources

Based on the studies, area sources (emitters too small to account for individually) contribute 18 % of NOx, and over 37 %of VOC emissions within Tulsa County.

Mobile sources

The EAC Emissions Inventory also indicates that mobile sources, both on and off road, account for more than 58% of NOx and 54 % of VOC emissions in Tulsa County.

Stationary point sources

The EAC emissions data indicates a minimal influence from heavy industry (point sources that report to ODEQ).

Section

2

2.0 Action Plan - Planning Measures and Voluntary Emission Reduction Control Measures

Local entities in the Tulsa TMA have joined with INCOG, the ODEQ and the EPA to create a plan that improves air quality in a common-sense approach. The 8-O_3 Flex Plan makes it possible to design significant and practical mobile, business, industrial and public emission reduction strategies through local partnership efforts while protecting the region's economy. This plan is designed to provide for the continued attainment of the eight-hour ozone NAAQS using accelerated and reasonable control measures developed at the regional level.

Citizens, businesses and local governments in the Tulsa air shed will voluntarily implement identified control measures to reduce ozone precursors. When available, estimates of NOx and VOC reductions for the voluntary control measures in this document are provided. In some cases, the voluntary emission reductions for selected strategies are not readily quantifiable. If at all possible, these reductions will be provided as part of the first annual review process.

All terms and conditions specified in the EPA 8-O_3Flex Guidance are included in this plan. The Action Plan identifies 'first year planned control measures' as well as additional potential measures to be selected throughout the duration of the plan. Contingency control measures have been identified and provided for implementation upon 'triggered' ozone monitor design values.

In demonstration to the importance of air quality improvement through voluntary reductions, this plan further provides a list of planned control measures to be implemented outside of the first year but within the 5-year term of this agreement. Of significance, Terra Nitrogen, Terra Industries, Inc. provides commitment to voluntary reduce NOx emissions from its Tulsa area facility by approximately 425 tons per year. The installation of ultra low NOx burner technology to an existing ammonia reformer will reduce the unit's NOx emissions by approximately 60% at a projected capital cost of two million dollars.

PLANNED FIRST YEAR CONTROL MEASURES

The following control measures will be implemented within one year of the final signatory date on this agreement. Upon project completion, estimated NOx and VOC emission reductions will be calculated for the measures which can be quantified. The quantified reductions and methodology will be submitted to EPA in the semi-annual progress report.

Metropolitan Tulsa Transit Authority (MTTA) Clean Diesel Retrofit Project

MTTA maintains a fleet of approximately 100 vehicles. Sixty-one are traditional diesel fleet passenger busses used for fixed routes. Of these, MTTA has identified twenty-six older model fixed route passenger busses as candidates for clean diesel retrofit technologies. Through a $100,000 Federal Highway Department reimbursement allocation of Congestion Mitigation and Air Quality (CMAQ) funds by INCOG, MTTA will implement Clean Diesel Retrofit Technology projects on these selected older model year passenger busses. The project will include diesel oxidation catalyst retrofits for sixteen 1998 model year busses and diesel engine rebuilds for approximately ten engine model year 2000 busses.

This project targets both VOC and NOx emission reductions. Emission reduction estimates were determined using the EPA on-line Diesel Emissions Quantifier (http://cfpub.epa.gov/quantifier/view/). Actual emissions reductions achieved will be quantified upon project implementation and provided in the semi-annual progress report.

Estimated emission reductions :

Project Vehicle	*# of buses*	*Engine Model Year*	*Retrofit Year*	Technology Description	*Fuel Type*	*VMT/Year/ vehicle*	NOx Reduced (tons/year)	VOC Reduced (tons/year)
Transit Bus	*16*	*1998*	*2008*	Diesel Oxidation Catalyst	*Regular Diesel (ULSD), 15 ppm*	*35,000*	0	0.08
Transit Bus	*10*	*2000*	*2008*	Engine Rebuilding	*Regular Diesel (ULSD), 15 ppm*	*35,000*	4.46	0
						TOTAL	**4.46**	**.08**

City of Tulsa Compressed Natural Gas (CNG) Infrastructure, Fleet Vehicles and Refuse Truck Project

The City of Tulsa maintains a fleet of approximately 2000 vehicles including light and heavy duty as well as off and on road. Vehicles are fueled at several central locations throughout the Tulsa metro area. A City of Tulsa CNG fueling station

exists at a key location, however it is currently not operational due to outdated equipment needing technology upgrades and re-certification. Through an $82,000 Federal Highway Department reimbursement allocation of Congestion Mitigation and Air Quality (CMAQ) funds by INCOG, the City of Tulsa will purchase two dedicated CNG fleet vehicles, one CNG Refuse Hauler, and will reinstate their CNG compressor and dispensing station.

- The purchase and fleet implementation of one CNG refuse truck for fleet utilization. This will be the first CNG refuse truck in the City of Tulsa, replacing a 2000 model year Crane Carrier ISC 260 diesel.
- Two dedicated CNG fleet vehicles, retiring two older conventional gasoline-fueled fleet vehicles.
- The upgrading and recertification of the City of Tulsa's natural gas compressor and CNG dispensing station.
- Promoting and active pursuit of CNG projects for the City of Tulsa, including continued CNG implementation for refuse utilization.

This project targets both VOC and NOx emission reductions. Emission reduction estimates will be determined using EPA MOBILE6 upon project implementation and provided in the semi-annual progress report.

Description	Technology Description	*Approximate VMT/Year*	NOx Reduced (pounds/year)	VOC Reduced (pounds/year)
City of Tulsa CNG Refuse Vehicle	Remove 2000 model HDDV Refuse Truck – Replacing with CNG fuel 2008 ISC 260	*17,000*	n/a	n/a
City of Tulsa Purchase of 2 CNG Fleet light duty vehicles	Remove two 1998 model fleet vehicles – replacing with two 2007 CNG Honda Civics	*12,000*	n/a	n/a

Enhanced public awareness, outreach and regional participation in Tulsa area air quality programs

Implementing voluntary emissions reduction measures requires identifying measures or changes in behavior that will result in reduced air emissions, and communicating with people engaged in those behaviors to inform them of what they can do and why they should do it. Public awareness, notification and participation programs are critical to achieving the goal of this agreement and to maintain attainment of the ozone standard. Activities will be planned and implemented in coordination with

INCOG staff, the INCOG Air Quality Committee, local governments and the community within the Tulsa air shed.

These regional air quality programs include:

- Enhancements, growth and expanded participation of the Tulsa area Ozone Alert! Program throughout all media venues including web sites, television, radio, civic and neighborhood associations, schools and community organizations, weather information channels, and weather radio

- Tulsa Area Outdoor Air Quality Educational curricula to be developed and made available to school districts, teachers and students throughout the community

- Air quality public education and emission reduction information contributions will be made to newsletters and trade journals of local civic and business groups.

- Tulsa Metro Area ***Green Traveler*** Program promoting car-pooling, green transportation, bike trails, transit, and other alternative transportation options.

- Implementation of Ozone Alert! Day messages, alternate route, and congestion minimization" messages on ODOT intelligent message system and variable highway signs.

This strategy targets VOC and NOx emission reductions. Because of the complexities and inconsistencies associated with measuring reductions from public education and outreach programs, emission reduction quantifications will not be provided for this project.

Heavy Duty Vehicle Anti-Idling Public Education Program

Local public education program developed and implemented to promote reduced and limited fleet idling for emission reductions. Strategy may include promoting 5-minute or less idling during summer months; education and promotion to diesel fleets managers for installation of idle shutdown system that automatically turns the engine off after 5 minutes of continuous idle operation. The outreach program will include promotion of long-range alternative idle reduction strategies for heating and air conditioning cab comfort, auxiliary power units, and truck stop electrification system promotion.

Local heavy duty diesel fleets will be requested to sign a Memorandum of Understanding (MOU) in commitment to reducing emissions from diesel vehicle idling. Appendix C provides a sample/draft copy of the MOU.

This strategy targets NOx emission reductions as well as VOC reductions. Because of the complexities in attempting to quantify public education programs, quantified emission reductions from this project will be provided only on the basis of the fleet commitments through MOUs.

Transportation Systems Management (TSM) Projects

This strategy will reduce transportation-related emissions by improving traffic flow and reducing congestion throughout the Tulsa air shed. The combined project efforts of signal improvements, signal coordination efforts and enhancements to bicycle and pedestrian facilities will reduce energy consumption and vehicle emissions.

Appendix D identifies the specific traffic signal coordination projects to be implemented within one year of the final signatory date of this agreement.

This is a VOC and NOx reduction strategy. Emission reduction estimates will be quantified and provided in the semi-annual progress report following full implementation of the project.

PLANNED ADDITIONAL VOLUNTARY CONTROL MEASURES

The following control measures will be voluntary implementation within the five-year term of this agreement:

Terra Nitrogen LP, Verdigris Plant: Reformer Furnace Project - Installation of Ultra Low NOx Burners

Terra Nitrogen's manufacturing facilities produce ammonia, UAN, urea and ammonium nitrate. Terra's Verdigris Plant is located within the Tulsa air shed in Claremore, Oklahoma and has a long history of community support through environmental improvements. In outstanding proactive partnership with the Tulsa area's ozone-reducing strategies and this 8-O3Flex Plan, Terra Nitrogen will install ultra low NOx burners on an older ammonia unit. The capital investment cost projected is approximately $5,000 per ton of NOx reduced, and will effectively reduce the unit's NOx emissions by 425 tons per year. The burners on the existing unit were installed in the 1970's and are fully in compliance with local, state and federal regulations. See Appendix B.

Control Measure	Projected NOx Reduced (tons/year)	Projected Implementation Date
Terra Nitrogen LP, Verdigris Plant: Reformer Furnace Project - Installation of Ultra Low NOx Burners	425	Dec. 2009

City of Tulsa: Energy Conservation and Reduction Plan 2007

The City of Tulsa will implement the strategy recommendations within its 'Energy Conservation and Efficiency Plan'. The plan is included in Appendix E.

Control Measure	Projected NOx Reduced	Projected VOCs Reduced
City of Tulsa: Energy Conservation and Reduction Plan 2007	5 – 10%	5 – 10%

Traffic Signal Energy Efficiency Projects

The City of Tulsa is proactively exchanging its less-efficient traffic signals for energy efficiency upgrades and LED technology. The City currently has 265 intersections using LED's. This project will include the modification of 165 additional traffic signals to utilize LED technology. NOx emission reductions are targeted.

Other Transportation Systems Management (TSM) Projects

In addition to the TSM projects committed to within the first year of this plan, additional TSM projects will further reduce transportation-related emissions by improving traffic flow and reducing congestion throughout the Tulsa air shed.

Appendix D identifies the specific traffic signal coordination projects to be considered for voluntary implementation with the five-year terms of this agreement. This project targets both NOx and VOC emission reductions.

OTHER POTENTIAL CONTROL MEASURES

The following control measures will be considered for voluntary implementation within the five-year term of this agreement:

American Airlines Voluntary Implementation of Decision Matrix of VOC Solvent Process Reactivity to minimize ozone-forming emissions

The Environmental Protection Agency (EPA) is encouraging the application of recent scientific information on the photochemical reactivity of volatile organic compounds in developing VOC control measures. "It is generally understood that not all VOCs are equal in their effects on ground-level ozone formation. By distinguishing between more reactive and less reactive VOCs, however, EPA

believes that it may be possible to develop regulations that will decrease ozone concentrations further or more efficiently than by controlling all VOCs equally".

In a proactive effort to identify areas of ozone-forming hydrocarbon reduction, American Airlines has elected to voluntarily implement a decision making process for the selection of certain aerospace technology solvents.

When possible and in accordance with FAA regulations, American Airlines will implement a decision matrix for solvent usage whereby new solvent alternatives will be evaluated and used according to standards that will additionally include reactivity. American Airlines also volunteers to maintain a speciated VOC emission inventory for the purpose of identifying opportunities for reducing highly reactive VOCs.

Building on American Airlines' initiative and voluntary commitment, a collaborative effort will be made to educate, promote and encourage additional local companies within the Tulsa air shed to also discriminate between VOCs, where possible, and to thereby begin the process of developing internal speciated VOC emissions inventories.

VOC emissions are targeted for this reduction strategy.

Small engine catalyst; stationary natural gas compressor engine retrofit project

Cooperative partnership: MIRATECH and local industries to be determined. Voluntary installation and maintenance of one to five small natural gas compressor engine catalyst elements to reduce NOx emissions in the Tulsa air shed.

Through voluntary Memorandum of Understanding (MOU) industrial engine owner/operators will partner with MIRATECH for the implementation of this project. The MOU will define that MIRATECH will provide the engine catalyst elements and the engine operator provides a "catalyst-ready" engine: maintained per the engine manufacturer's recommendations for operation with a 3-way catalyst; air/fuel ratio control system installed and operational; catalyst housing installed and ready to accept catalyst elements; the operator takes ownership of the equipment and its maintenance going forward.

Engines will be 4-stroke, rich burn, natural gas fueled stationary engines running continuous duty (6000 – 8000 hours/year, typical of a stationary gas compressor application) and located within the Tulsa air shed.

Emission Reduction Methodology: Engine Example – 200 bhp, 4-stroke rich burn natural gas engine running 8000 hours per year. Uncontrolled NOx at 18 g/bhp-hr = 7.2 tons per year NOx output. Controlled NOx at 1.0 g/bhp-hr = 0.4 tons per year NOx output.

Total estimated emission reduction from this five engine catalyst retrofit project is 35 tons/year of NOx emissions.

PSO-AEP NOx Reduction Strategies

Carbon Capture project at Northeastern Station

AEP PSO will be considering implementation of a new carbon capture control technology in 2012 at their Northeastern Station power station, located in Oologah, a coal-fired unit. As part of that project, PSO plans to install NOx control equipment that is expected to produce at minimum a 50% reduction of the NOx emissions from that unit. This project is contingent on successful operation of the same technology on a smaller scale at a PSO coal unit in West Virginia, which should occur in 2008. As available, the Carbon Capture project implementation and technology results will be provided in Tulsa's semi-annual progress reports

Gas-fired Tulsa and Jenks Units low-NOx boiler optimization

PSO continues its commitment to Tulsa's ozone season reductions by optimizing the NOx reductions at their gas-fired boilers at the Tulsa and Jenks power stations. During the ozone season, these units will operate at the lowest and safest NOx rate possible.

PSO-AEP has provided a letter of commitment to these NOx reduction strategies in Appendix F. The low-NOx boiler optimization strategy is planned for implementation at minimum, during each Tulsa ozone season throughout the duration of this 8-O3Flex Agreement. The Carbon Capture project at Northeastern Station is being considered for implementation in 2011 and is contingent upon successful technology and 2008 proposed implementation of a smaller scale coal unit in West Virginia.

Alternative Fuel and Reduced-Emissions Vehicle Projects

- Biodiesel Fuel Fleet Projects
- CNG Fuel Fleet Projects
- Hybrid-Electric Vehicle Promotion

VOC infra-red camera for emissions leak detection Program

Industrial deployment of infra-red cameras to assist in detecting VOC emissions for the purpose of identifying voluntary emissions reductions in the Tulsa air shed.

Area Business Energy Efficiency Projects

Building on the City of Tulsa Energy Plan, a public education and outreach program will be developed and implemented to encourage local businesses to seek energy efficiency and conservation strategies. Businesses will be encouraged to perform energy usage audits and asked to make a 5% (or more) energy reduction commitment. Recent studies have shown that regional energy efficiency and conservation programs can provide significant reduction in power plant emissions. INCOG will encourage businesses to make these commitments through MOU and submitted to INCOG.

Additional Ozone Season Reductions through Voluntary Industrial Strategies

- Promoting industrial turnarounds to be scheduled to benefit ozone season emission reductions

- Local industry commitments to test backup generators in evening hours during ozone season

Table 1: Summary of Controls with Implementation Schedule/Milestones

PROJECTED TIMELINE	MILESTONE			CONTROL MEASURE	Targets NOx	Targets VOC	Organization Implementing
2008	2/29/08	✓	Tulsa Area 8-O3Flex Signing				All Partners
				Clean Diesel Retrofit Project	√	√	MTTA
				CNG Infrastructure, Vehicle and Refuse Truck Project	√	√	City of Tulsa
				Enhanced public awareness, outreach and participation	√	√	INCOG
				Heavy Duty Vehicle Anti-Idling Program	√		INCOG
				Transportation Systems Mgmt. Projects	√	√	City of Tulsa
	8/31/08	✓	Semi Annual Review and Progress Report				INCOG
2009	2/28/09	✓	Semi Annual Review and Progress Report	**1st Yr Measures Implementation Complete**			INCOG
				Reformer Furnace- Ultra Low NOx Burner Project	√		Terra Nitrogen LP
				Energy Conservation and Reduction Plan 2007	√	√	City of Tulsa
	8/31/09	✓	Semi Annual Review and Progress Report				INCOG
	12/31/09			Reformer Furnace Project Complete			Terra Nitrogen LP
2010	2/28/10	✓	Semi Annual Review and Progress Report				INCOG
				Traffic Signal Energy Efficiency Projects	√		City of Tulsa
				Transportation Systems Mgmt. Projects	√	√	City of Tulsa
	8/31/10	✓	Semi Annual Review and Progress Report				INCOG
2011	2/28/11	✓	Semi Annual Review and Progress Report				INCOG
	8/31/11	✓	Semi Annual Review and Progress Report				INCOG
2012	2/28/12	✓	Semi Annual Review and Progress Report				INCOG
	8/31/12	✓	Semi Annual Review and Progress Report				INCOG
2013	2/28/13	✓	Semi Annual Review and Progress Report				INCOG
	8/31/13	✓	Semi Annual Review and Progress Report				INCOG
2/29/08 – 12/31/13				**Selective Implementation of Other Measures:**			
				Traffic Signal Energy Efficiency and Other TSM Projects	√	√	City of Tulsa
				American Airlines Decision Matrix of VOC Solvent Reactivity		√	American Airlines
				Small engine catalyst; NG compressor engine retrofit project	√		MIRATECH
				PSO-AEP NOx Reduction Strategies	√		AEP-PSO
				Alternative Fuel and Reduced-Emissions Projects	√	√	Various
				VOC infra-red camera for emissions leak detection Program		√	Various
				Area Business Energy Efficiency Projects	√	√	Various
				Additional Ozone Season Industrial Strategies	√	√	Various
	12/31/13	✓	Remaining in Attainment of 8-Hr Ozone Standard				

CONTINGENCY MEASURES; CONTROL MEASURE TRIGGERS

The aforesaid measures are expected to be sufficient to minimize exceedances and prevent a violation of the 8-hour standard. If, however, exceedances or a violation should occur, this plan identifies contingency measures designed to respond to the unplanned increase in ozone concentration and avoid a possible violation of the 8-hour ozone standard. 8-O_3Flex guidance requires that areas must respond, at minimum, to a violation of the standard (.085 design value) by implementing one or more mandatory measure.

Because the Tulsa area is committed to air quality improvement, signatories to this plan agree to the contingency measures, triggered values and reduction strategies below:

.084 PPM DESIGN VALUE TRIGGER

In the event of a .084 ppm design value, INCOG will begin administration of a Clean Diesel grant program to initiate projects consistent with the US EPA's National Clean Diesel Campaign.

The program will consist of $150,000 Federal Highway Department reimbursement allocation of Congestion Mitigation and Air Quality (CMAQ) funds, through the OK Department of Transportation to INCOG. These projects, administered by INCOG, will require a 20% match.

Clean diesel projects may include diesel oxidation catalyst retrofits, engine repowering and engine rebuilding for school and transit fleet vehicles. Priority ranking will be given to projects reducing diesel emissions during the ozone season. Actual emissions reductions targeted and achieved will be quantified by project.

.085 PPM DESIGN VALUE TRIGGER

In the event of a .085 ppm design value, the .084 contingency control measure will be implemented; and the Oklahoma Department of Environmental Quality will develop a proposed rule revision requiring the implementation of a Stage 1 vapor recovery system on certain service stations within the Tulsa Transportation Management Area, but outside Tulsa County, thus not currently under present SIP regulation. This will apply to stations with 2,000 – 40,000 gallon tanks with a throughput of more than 120,000 gallons per year. Upon recording a .085 ppm design value, the rule will be proposed at the first available regularly scheduled meeting of the Air Quality Advisory Council for subsequent adoption by the Environmental Quality Board.

In the event that unforeseen circumstances dictate a different strategy(ies) relative to the reduction of ozone precursors would be more appropriate than the implementation of Clean Diesel project implementation and Stage I vapor recovery, INCOG and ODEQ reserve the right to submit such strategy(ies) to Region 6 for approval. Should an alternate strategy(ies) be submitted, it will be equivalent or greater to the reductions of ozone precursors identified in this plan.

Section 3

3.0 Coordination and Stakeholder Participation

The coordination and public participation process of the Tulsa Area 8-O_3Flex Program began in earnest in August of 2006 with the introduction of the program to a group of regional stakeholders. Since that time, INCOG has initiated a comprehensive process of communication and interaction regarding the formation of the 8-O_3Flex Program and this document.

Public involvement was conducted in all stages of the planning and implementation process and involved a variety of communication mediums. The process was used to raise awareness regarding issues, opportunities for involvement in the planning process, implementation of control strategies, and any other issues important to the program. Interested stakeholders were involved in the planning process as early as possible, months before the region forwarded its official letter of intent.

8-O_3Flex Stakeholder Group

Local area businesses, governments, environmentally concerned citizens and membership of the INCOG Air Quality Committee have played a critical role in the development of this document. With INCOG staff, these 8-O_3Flex Stakeholders have regularly met for discussions and development of this plan. Through INCOG Air Quality Committee direction, this 8-O_3Flex Stakeholder group will remain throughout the term of the 8-O_3 Flex Plan. As has been the case since the inception of the INCOG Air Quality Committee, it will continue to meet regularly and as needed for program oversight and monitoring. The Tulsa area Air Quality Committee and 8-O_3Flex Stakeholders are listed in Appendix G.

INCOG additionally and regularly discussed the development of the 8-O_3Flex program over the course of several months at meetings of the INCOG Transportation Technical Advisory Committee, the Transportation Policy Committee and the INCOG Board of Directors. The latter committees are mostly comprised of elected and appointed officials as well as transportation managers and planners from local member governments of INCOG. The diversity of the board assures a wide range of interests and experiences. INCOG currently has 53 member governments,

consisting of city, town and county jurisdiction. Together, communities in the Tulsa metro area total approximately 700,000 in population.

Written Correspondence

INCOG distributed letters to the Tulsa metropolitan area's largest emitters and employers. The intent of the letters was to inform the recipients of the 8-O_3Flex Program and to initiate action. Initial letters were sent in the spring of 2007 and requested participation and attendance in the stakeholder meetings. The receiving agency was asked additionally if they were conducting emission reduction strategies or activities that could be included in the program. Extensive follow-up correspondence, via email or in-person, was conducted by INCOG. The letter is provided in Appendix H.

Individual and Small Group Interaction

Throughout the 8-O_3Flex program development process, INCOG staff initiated, participated or attended many meetings with individuals, small groups, businesses, corporations, organizations and city, county, state and appointed and elected officials. The intent was to meet with and involve as many local entities as possible in the development process of this plan. Throughout this process and when applicable, additional stakeholders were added. While a majority of the meetings were initiated by INCOG, a large percentage of the meetings were conducted as follow-up communication generated from the letters.

Media Relations

Air quality issues in the Tulsa air shed are well covered by local media. Through already established media venues, INCOG was able to promote the 8-O_3Flex Program throughout the development process via multiple print, radio and television news coverage. As a result of media coverage, the workgroup was able to showcase to the public the intent of the program, and generate further interest from potential stakeholders.

Implementation of Public and Stakeholder Participation

All of the components of the development process advocated a consensus of support regarding the proposed control measures. The process incorporated input from contributing stakeholders. Meetings were open to the public, with posted meeting times and locations and the drafting process provided sufficient opportunities for comment from all interested stakeholders.

Section 4

4.0 Agreement, Schedules and Reporting

General Objectives and Commitments

The principles of the 8-hour Ozone Flex action plan to be executed by Local, State and EPA officials are:

- Early planning, implementation, and emission reductions leading to air quality improvement and continued maintenance of the 8-hour ozone standard.
- Local emission reduction strategies to be designed and implemented by broad-based stakeholder, public and community participation.
- State support to ensure technical integrity of the action plan.
- Local emission reduction strategies to be specific, quantified, permanent and enforceable when and where applicable. The strategies will also include specific implementation dates and detailed documentation and reporting processes.
- Additional strategies to be implemented if initial strategies fail.

Signatories and their Responsibilities

The representing entities that will sign this 8-O_3Flex plan are: the Chairman of the INOG Board of Directors, the Chairman of the INCOG Air Quality Committee, the Director of the Air Quality Division for the Oklahoma Department of Environmental Quality and the Administrator for EPA Region 6.

The local entities whose representatives support and sign the 8-O_3Flex plan are committed to holding primary responsibility for the development and implementation of the action plan, and for maintaining communication with all parties. These commitments by local agencies are enumerated below.

Local Government Responsibilities

The governments within the Tulsa air shed, represented by INCOG, agree to implement an 8-O_3Flex action plan that will assist the area in maintaining the 8-hour ozone standard through 2012. Implementation of this plan will be in coordination with ODEQ, EPA, stakeholders and the public.

In the event a development or issue arises that may impact performance or progress toward milestones (including if a milestone will be missed and/or if a modification has been requested), INCOG or the signatory party responsible will notify all other signatories, including EPA, as soon as possible and work with local stakeholders to determine equivalent replacement projects.

- *Milestones and Reporting*

In order to facilitate self-evaluation and communication with EPA, ODEQ, stakeholders, and the public, INCOG will assess and report progress towards milestones in a regular, public process, at least every six months, beginning with a semi-annual report at the six month anniversary of the signing of this document. Each report will document the latest information on implementation of control measures, ozone monitoring data and the success of the current measures. A summary of the Section 2.0 Action Plan strategies and implementation schedule is attached as Appendix I.

- *Public Involvement*

Public involvement is an important component of the entire 8-O_3Flex planning process, and will continue to play a role throughout implementation during the term of the plan. Through local committed and future stakeholders and the INCOG Air Quality Committee, meetings and public education programs will be used to raise awareness regarding issues, opportunities for involvement in the planning process, implementation of emission reduction strategies, and other issues important to air quality improvement.

The Oklahoma Department of Environmental Quality

The state, represented by ODEQ, will continue to partner in the development/ implementation of the action plan through:

- Providing support and the necessary information on all Federal and State adopted emission reduction strategies which affect the area.

- Providing technical and strategic assistance in the local area selection and implementation of emission reduction strategies.

- Maintenance of monitors and reporting and analysis of monitoring data.

- Support for public education efforts.

    - Coordinate communication between local areas and EPA to facilitate continuing EPA review of local work.

    - Adoption of appropriate emission reduction strategies into the SIP as expeditiously as possible.

The Environmental Protection Agency

EPA supports flexible approaches that account for the complex nature of ozone formation and has provided SIP credit for communities that adopt quantifiable measures for ozone reduction plans that may be required in the future. Should a violation occur, EPA would consider factors in section 107(d)(3)(A) of the Clean Air Act. These include "air quality data, planning and control considerations, or any other air quality-related considerations the Administrator deems appropriate," including time to allow the implemented contingency measures to work. As long as the 8-O_3Flex agreement and control measures in the agreement are being fully implemented, EPA would consider that circumstance in exercising its discretion in making a decision to redesignate the area to non-attainment.

Expected Duration

The Tulsa Area 8-hour Ozone Flex action plan is designed to enable a local, proactive approach to ensure attainment of the 8-hour ozone NAAQS, and to protect human health. This agreement relates to the 8-hour ozone standard effective at the date of signature and modifications may be made in accordance with the Conditions for Modification or Early Termination as specified below. Unless modified, this agreement remains in effect until December 31, 2013, or until designations are made under a revised 8-hour ozone standard. The region will begin implementing emission reduction measures within one year of signing the agreement.

Conditions for Modification or Early Termination

- This agreement may be modified by mutual consent of all signatory parties.
- This agreement may be modified by mutual consent to update or revise accordingly should State/Tribal or Federal law change during the agreement period, including 8-hour Ozone Flex Agreement modifications resulting from a revised 8-hour ozone standard.
- Any signatory party may withdraw from the agreement if provisions of the agreement are not carried out by the other signatory parties. As a voluntary program, the area can choose to end its participation at any time.
- Failure to abide by the terms of the agreement will result in the area's forfeiture of participation in the program and, should a violation of the 8-hour standard occur, could lead to redesignation as nonattainment for the 8-hour standard.

Tulsa Area 8-O3Flex Memorandum of Agreement

Tulsa Area Agreement Signatures

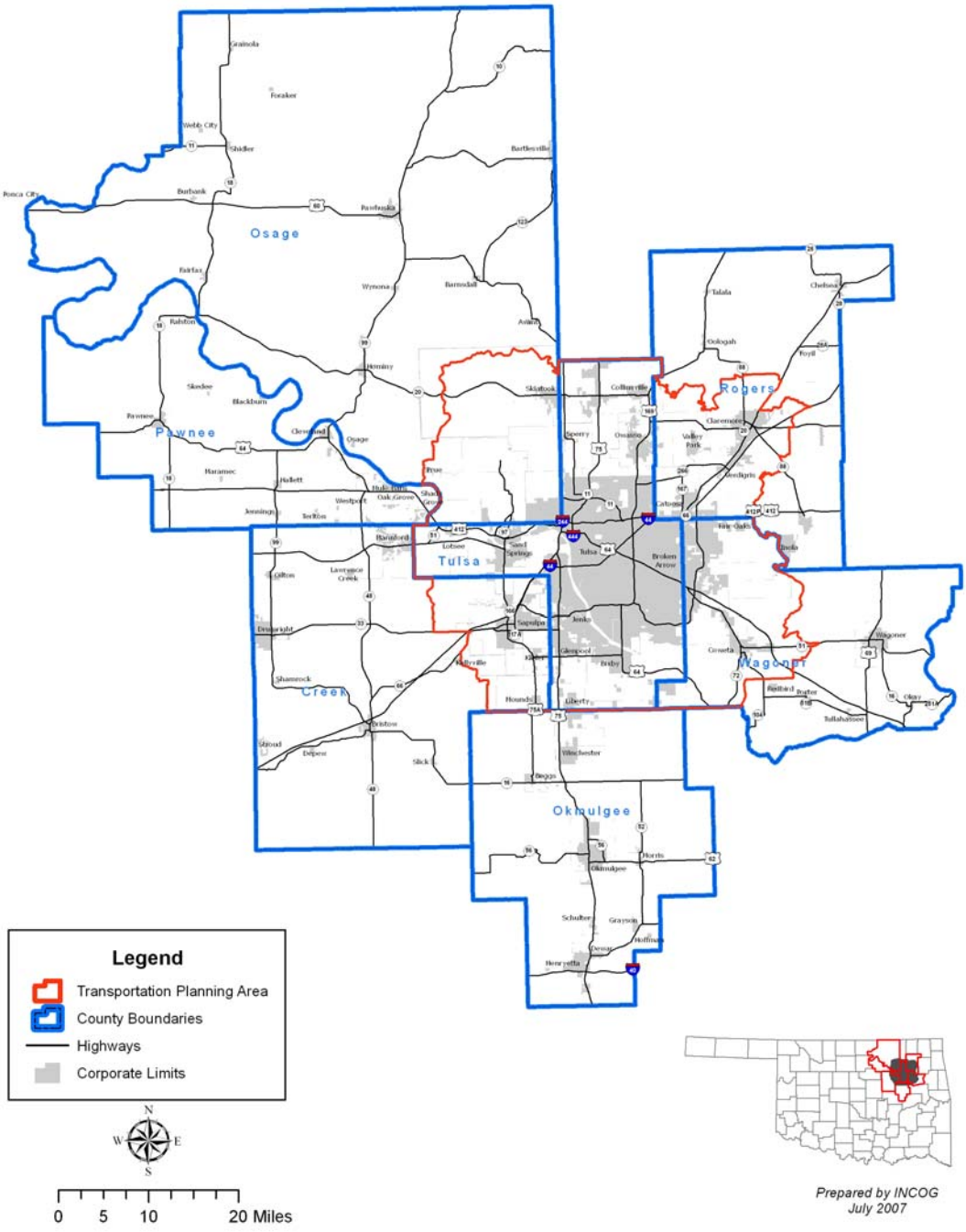
This Agreement is between the local governments within the INCOG region, the Oklahoma Department of Environmental Quality (ODEQ), and the United States Environmental Protection Agency (EPA) for the purpose of reducing ground-level ozone concentrations in the Tulsa Transportation Management Area (TTMA) using local control measures.

_____	_____
John Selph Date	Kathy Taylor Date
Chair, INCOG Board of Directors and INCOG Air Quality Committee	Mayor City of Tulsa
_____	_____
Eddie Terrill Date	Richard E. Greene, Date
Director, Air Division - OK Department of Environmental Quality	Regional Administrator, Region 6 U.S. Environmental Protection Agency

Appendix A

The Tulsa Air Shed

Within the Tulsa Metropolitan Statistical Area



Appendix B

VOLUNTARY EMISSION REDUCTION AGREEMENT

improving air quality in partnership with the

TULSA AREA 8-O_3FLEX PLAN

WHEREAS, the Indian Nations Council of Governments (INCOG) represents some fifty-two local governments located in Creek, Osage, Tulsa, Wagoner, Rogers and Muskogee counties in Northeastern Oklahoma; and

WHEREAS, INCOG serves as the Metropolitan Planning Organization for the Tulsa Transportation Management Area; and

WHEREAS, the INCOG region is meeting the 8-hour National Ambient Air Quality Standard (NAAQS) for ozone established by the US Environmental Protection Agency (EPA); and

WHEREAS, Terra Nitrogen, LP owns and operates the Verdigris Plant manufacturing facility within the Tulsa air shed in Claremore, Oklahoma; and

WHEREAS, Terra Nitrogen, LP strongly supports efforts to improve regional air quality and maintain ozone attainment status; and

WHEREAS, the INCOG region is proactively working to reduce regional ozone air pollution and has developed a voluntary emission reduction agreement, the 8-O3 Flex Plan, with the Environmental Protection Agency (EPA) Region 6 and the Oklahoma Department of Environmental Quality (ODEQ); and

WHEREAS, the Tulsa Area 8-O3Flex Plan intends to ensure clean air and continued attainment of the ozone standard;

NOW THEREFORE, in outstanding support of air quality improvement through partnership with the Tulsa Area 8-O3Flex Plan, Terra Nitrogen, LP voluntarily agrees to:

> Provide significant NOx reductions at their Verdigris, Oklahoma manufacturing plant through replacing the burners of one ammonia reformer unit with ultra low NOx burner technology. This voluntary capital investment will result in a NOx reduction of approximately 425 tons per year at a projected capital investment of $2,000,000.

SIGNED this day of March 13, 2008

_____	_____
John Selph	Richard S. Sanders
Chairman	Vice President, Manufacturing
INCOG Board of Directors	Terra Nitrogen Inc.

Terra Nitrogen, Limited Partnership
Verdigris Plant
6606 East 540 Road
Claremore, OK 74019
(918) 266-1511

January 29, 2008

Ms. Nancy Graham
Indian Nations Council on Government (INCOG)
201 West 5th Street, Suite 600
Tulsa, OK 74103

RE: Terra Nitrogen, LP – Letter of Intent
Voluntary Contribution to Tulsa Area 8-O_3Flex Agreement

Dear Ms. Graham,

Terra Nitrogen, LP strongly supports the efforts to improve regional air quality and maintain ozone attainment status. We are also pleased to partner with INCOG, the City of Tulsa, ODEQ, EPA Region 6 and other organizations in the Tulsa Area 8-O_3Flex Agreement.

By this letter of commitment, Terra Nitrogen, LP provides our intent to voluntarily replace burners for one of the Verdigris Plant ammonia reformers with ultra low NO_x burner technology, thereby reducing NO_x emissions from the facility by approximately 425 tons per year. Installation of the ultra low NO_x burners for this unit will result in a NO_x emissions decrease of approximately 60% at a projected capital cost of $2,000,000. The project is expected to begin in 2008 with an estimated implementation date of December 2009.

We are pleased to provide this significant NO_x reduction strategy for the Tulsa Area 8-O_3Flex Agreement, and we remain committed to air quality in the Tulsa area.

If you need additional information, please contact the Verdigris Plant EHS & QC Manager, Gary Collins at the above address.

Sincerely,

Dallas Robinson
Plant Manager

cc: G. Collins

Appendix C

Diesel Engine Idle Reduction

Memorandum of Understanding

In a determined effort to reduce ozone-forming emissions and improve air quality in the Tulsa metropolitan area, the undersigned organization commits to minimize or eliminate all unnecessary diesel engine idling throughout all aspects of daily fleet operation.

Applicability:
This policy applies to the operation of every owned and/or contracted diesel vehicle in the fleet.

Rationale:

- Diesel exhaust is hazardous to human health. Exposure to diesel exhaust can cause lung damage and respiratory problems.
- Excessive and needless diesel vehicle idling waste's resources and contributes to air pollution.

Guidance:

- Limit idling time during warm-up to what is recommended by the engine manufacturer (generally less than five minutes).
- When arriving at loading or unloading areas, vehicles should be turned off as soon as possible to eliminate idling time and reduce harmful emissions.
- Routes should be scheduled to avoid caravanning and the cleanest vehicles assigned to the longest routes.
- All drivers shall receive a copy of this policy.

This Memorandum of Understanding is not intended to, and does not create any contractual rights and obligations with respect tot the signatories or any other parties. This MOU shall become effective upon signage.

Organization Name: _____

Diesel Vehicle Fleet Size:_____ Date: _____

_____ _____
Signature Title

_____ _____
Printed name Address

_____ _____ _____
Phone Fax City, State, Zip

_____
Email

Appendix D

Transportation Systems Management (TSM) Projects

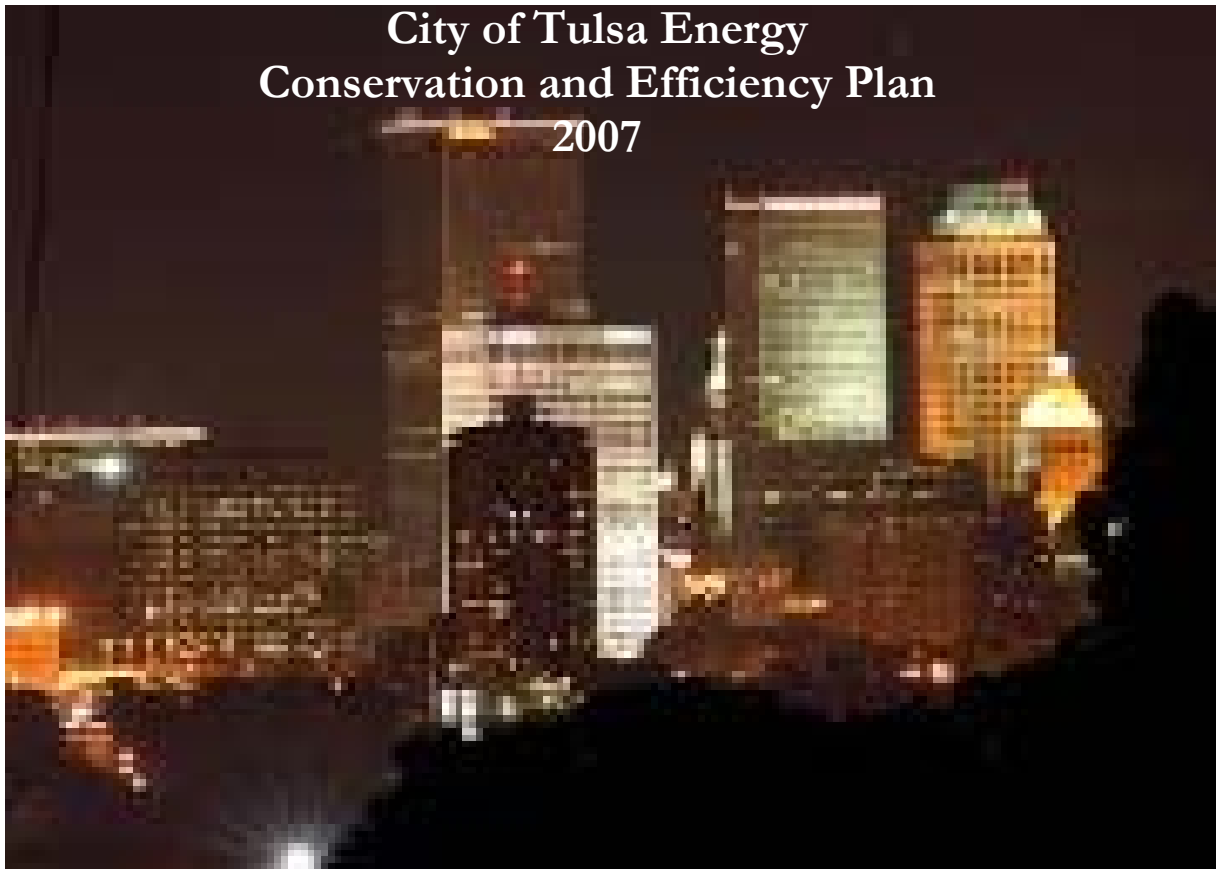
FIRST YEAR MEASURE
Traffic Signal Coordination Projects; City of Tulsa

Project Description	Programmed Fiscal Year	Year
71st - Garnett to 73rd E. Ave	2008	July 2007 - June 2008
71st - 73rd E. Ave. to Riverside Dr.	2008	July 2007 - June 2008
Memorial - 31st to 101st	2008	July 2007 - June 2008

5-YEAR MEASURE
Traffic Signal Coordination Projects; City of Tulsa

Project Description	Programmed Fiscal Year	Year
Yale - 15th to 101st	2008	July 2008 - June 2009
Riverside - 31st to 101st	2009	July 2008 - June 2009
Sheridan - 31st to 101st	2010	July 2009 - June 2010
Harvard - 21st to 61st	2010	July 2009 - June 2010
21st - Gate 12 to Pittsburg	2010	July 2009 - June 2010
21st - 101st E. Ave. to 145th E. Ave.	2010	July 2009 - June 2010
31st - Harvard to 129th E. Ave.	2010	July 2009 - June 2010
41st - Harvard to 129th E. Ave.	2010	July 2009 - June 2010
Mingo - 41st to 101st	2010	July 2009 - June 2010

Appendix E



The full version of the City of Tulsa Energy Conservation and Efficiency Plan 2007 is located:
http://www.cityoftulsa.org/Environment/Energy/documents/CityofTulsaEnergyConservationandEfficiencyPlan.pdf

Performance Measures: All Motor Fuel Consumption In Gallons, Not Dollars

	Fiscal Year Last Total '06	% Target Consumption Reduction	FY 2008 Total Consumption Target	Target FY 2008 Met? Y/N*
Public Works	1,050,508	10%	945,000	
Police	1,003,614	10%	903,253	
Fire	175,367	10%	158,000	
Parks	83,261	10%	74,935	
Equipment Management	20,682	10%	18,614	
Parks Golf Course	18,138	10%	16,235	
Tulsa Transit Authority	12,846	10%	11,562	
Telecommunications	11,456	10%	10,311	
Neighborhood Inspection	7,545	10%	6,791	
TDA 2004	6,713	10%	6,042	
Library	6,171	10%	5,554	
Metropolitan Environmental Trust	3,148	10%	2,834	
Convention Center	2,910	10%	2,619	
Human Resources	2,467	10%	2,221	
River Parks	1,768	10%	1,592	
UDD Employment and Training	1,518	10%	1,367	
Human Rights	1,017	10%	916	
Gilcrease	605	10%	545	
UDD Planning Economic Dev.	214	10%	193	
Legal	175	10%	158	
Finance Treasury	157	10%	142	
Municipal Courts	132	10%	119	
Finance Purchasing	111	10%	100	

*All Departments That Have Not Met the Target in FY '08 Shall Raise to a Department That May be Targeted for Budget Reduction

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Performance Measures:

Heat/Cooling

1)

If City Hall and the Other Proposed Sites Move to One Technology the Estimated Heat and Cooling Energy Savings Will Be Significant.

(At 72 Degrees)

FY '06 Spend Total City Hall	Target Reduction	2008 One Tech Reduction Spend Target	Goal Met? Y/N (Adjusted Price Per Sq. Ft.)
Heating $233,894	50%	$116,947	
Cooling $472,381	10%	$425,143	

2)

If City Hall and the other Proposed Sites Do not Move to One Technology Other Steps may be Taken to Reduce Spend on Heat and Air.*

***This Solution Will First Require an Ordinance Change and is Subject to that Prerequisite.**

3 Degrees Difference will typically result in 10% cost savings.

FY '06 Cooling Spend Total City Hall	3 Degrees + or - = 10% Less Spend	2008 City Hall Reduction Spend Target	Goal Met? Y/N (Adjusted Price Per Sq Ft.)
Heating $233,894	10%	$210,505	
Cooling $472,381	10%	$425,143	

If the Desired Cost Savings are Not met in FY 2008, then Re-Evaluation of Temperature Setting Will Follow.

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Authorities, Boards, and Commissions: Member's Participation in the Plan

- In an effort to positively change Tulsa into a culture which values air quality and healthy habits, all people appointed by the Mayor shall be encouraged by written letter to be ambassadors for environmentally sound practices and efforts.
- When using City facilities, each Authority, Board, and Commission shall turn off the lights if another group is not using the facility immediately after their meeting.
- Because all members of Authorities, Boards, and Commissions are chosen among the most capable and conscientious of Tulsans, they shall be challenged to be leaders in the effort to keep Tulsa breathable and healthy.

The Mayor shall include as part of the application process for ABCs a line which asks the applicant what steps, if any, they have taken to do their part in environmental responsibility. The Mayor may, as part of the appointment and reappointment process evaluate applicants' and appointees' efforts in environmental responsibility.

The Mayor will communicate by e-mail to all the members of ABCs ways in which they are called to help ensure that Tulsa is a leader in environmental responsibility, including forwarding OZAP e-mails. These encouraged practices shall include:

1) Observing all Ozone Alert Days by not using, or permitting others to use, lawn care equipment which operates from fossil fuels, including, but not limited to: mowing, trimming, and edging equipment.

2) Car Pooling and encouraging others to car pool on Ozone Alert Days.

3) During the summer months and on all Ozone Alert Days, for all members of ABC to choose to fill their tanks after 6:00 PM and for all members of ABCs to be environmental ambassadors to encourage others in the Tulsa region to do the same.

4) All members of ABCs are strongly encouraged to choose to participate in Tulsa's recycling program in an effort to reduce the amount of recyclable and renewable materials buried.

5) Where feasible, to purchase alternatively fueled vehicles or hybrid vehicles as their primary form of transportation in Tulsa; members of ABCs shall encourage other Tulsans to use alternatively fueled vehicles or hybrid vehicles.

6) All Authority, Board, and Commission members shall be encouraged to try public transportation for a day.

City of Tulsa: Employee's Participation in the Plan

Mayor Taylor encourages all employees of the City of Tulsa to ensure the air quality and environmental health of the City. She has chosen to use a hybrid vehicle as her primary form of transportation. In the same spirit, she asks other City employees to engage in environmentally responsible choices by:

1) Observing all Ozone Alert Days by not using, or permitting others to use, lawn care equipment which operates from fossil fuels, including, but not limited to: mowing, trimming, and edging equipment.
2) Forwarding OZAP e-mails to family and friends in Tulsa.
3) Car Pooling and encouraging others to car pool on Ozone Alert Days.
4) During the summer months and on all Ozone Alert Days, all City of Tulsa employees to choose to fill their tanks after 6:00 PM and for all City of Tulsa employees to be environmental ambassadors for others in the Tulsa region to do the same.
5) For all City of Tulsa employees to choose to participate in Tulsa's recycling program in an effort to reduce the amount of recyclable and renewable materials buried in the Tulsa area.
6) Where feasible, to purchase alternatively fueled vehicles or hybrid vehicles as their primary form of personal transportation in Tulsa; City of Tulsa employees shall encourage other Tulsans to use alternatively fueled vehicles or hybrid vehicles.
7) All employees shall be encouraged to try public transportation for a day and, if they will, purchase a bus pass and encourage others to take public transportation.

All Year Zero – Idling Plan for City of Tulsa Vehicles and Other Equipment

Public Works

The Public Works Division shall observe a zero idling policy as part of this plan. Under no circumstances shall a City vehicle or piece

of equipment run unless it is absolutely necessary for a required task. Idling City vehicles or equipment on Ozone Alert Days shall result in disciplinary action including possible termination.

Police

In an effort to reduce spend on fuel and decrease CO2 Emission in the City of Tulsa, the Police Division shall implement and observe a zero idling policy as part of this plan. Idling shall be defined as leaving the engine running where it is not critical in protecting health or safety of people in Tulsa. Idling City vehicles or equipment on Ozone Alert Days shall result in disciplinary action including possible termination.

Fire

In an effort to reduce spend on fuel and decrease CO2 Emission in the City of Tulsa, the Fire Division shall implement and observe a zero idling policy as part of this plan. Idling shall be defined as leaving the engine running where it is not critical in protecting health or safety of people in Tulsa. Idling City vehicles or equipment on Ozone Alert Days shall result in disciplinary action including possible termination.

Parks and Recreation

The Parks Division shall observe a zero idling policy as part of this plan. Under no circumstances shall a City vehicle or piece of equipment run unless it is absolutely necessary for a required task. Idling City vehicles or equipment on Ozone Alert Days shall result in disciplinary action including possible termination.

All Other City Vehicles

All other City vehicles shall observe a zero idling policy as part of this plan. Idling City vehicles or equipment on Ozone Alert Days shall result in disciplinary action including possible termination.

Energy Efficiency and Conservation Possibility: Moving and Replacing City Hall

One of the most radical shifts in City of Tulsa spend reduction is the proposal to move City Hall from 200 Civic Center to One Technology Center. This move would have a greater impact on utility conservation and efficiency than any other plan for modification of use within City Hall itself.

The proposed relocation of various departments to one central and energy efficient location would have a dramatic impact on consumption and spend for City government.

The potential to encourage the building of a LEED (Leadership in Energy and Environmental Design) -certified building on the current City Hall site would have both positive economic and environmental results. This would not only increase the efficiency by consolidating 12 sites into One Technology, but would also increase the overall character and sustainability of Tulsa in replacing the current City Hall site and the other sites with silver, gold, or platinum certificate LEED certified Buildings. Green rooftops shall also be encouraged.

Tulsa would no doubt be viewed as a "best of the best practices" city in a double effort of consolidating outdated facilities into a state of the art building and then stipulating to the buyers of the sites that any replacement building be LEED certified. This would likely have a net positive impact for national and international promotion, sustainability, and recruitment for Tulsa. The U.S. Conference of Mayors publishes a best practices book on environmental practices yearly.

Any new construction should assess the feasibility of green rooftops. This concept has growing support in Tulsa and should be implemented in new construction. The U.S. Green Building Council offers a "Green Building Toolkit" to aid public and private entities in green construction. Green construction is not only more cost efficient, but adds to the overall attractiveness of a community and adds a sense of place.

Currently, the City has entered into an option to purchase the One Technology Center building. The purchase, if it happens, will occur by Fall 2007.

Moving in the Right Direction with Motor Fuels –Biodiesel

There are currently a number of local alternative energy companies in Tulsa and the Tulsa area who would like to partner with the City of Tulsa to supply cleaner-burning locally produced biodiesel. This fuel, the City has been told, will be less expensive than what we are currently paying for diesel. The immediate appeal of biodiesel is that its use does not usually require retrofits, but only requires a choice to fill responsibly.

In addition to the environmental and financial benefits, these nascent companies will create jobs in an industry which will round out Tulsa's energy profile. In the same spirit that led many pioneering individuals to Tulsa, these alternative fuel ventures are forging a new vision for stronger domestic energy security and responsibility.

The City of Tulsa will likely experience a net benefit from their use. Where at all feasible, partnerships with local clean fuel suppliers should be strengthened. These suppliers include, but in no way are limited to, Tulsa Biofuels, which plans to start production at 6th and Peoria in July 2007. Green Country Biodiesel, just east of Tulsa in Chelsea, is also making plans to launch production within the next year.

As of April 2007, the City is paying $ 2.31 per gallon for diesel. Tulsa Biofuels has reported to the Mayor's Office that they would be able to sell biodiesel to the City for $2.20 per gallon starting in Fall 2007.

Moving in the Right Direction with Motor Fuels –Natural Gas

America imports 62% of its foreign oil. Natural gas is an Oklahoma resource with amazing potential for municipal fleet use. Natural gas is about a dollar cheaper per equivalent gallon.

The Mayor's office has been hosting energy meetings over the last few months. Companies including, but not limited to, Clean Energy, Tulsa Gas Tech, GasTech, and ONEOK offer solutions for natural gas use. Local Tulsa companies, such as Crane Carrier, are currently building refuse trucks that incorporate this clean, inexpensive, natural gas technology.

Natural gas emits 50% less NOX, 80% less particulate matter, and 30% less CO2.

In addition to these positive traits, natural gas when procured from various suppliers is about half the price of gasoline. The City of Tulsa being required by law to weigh the most cost effective option, and the price of gasoline on the rise, natural gas lends itself as a prime choice. If ½ of Tulsa's fleet were CNG, Tulsa would save over one million dollars a year on fuel.

Companies that are able to lock in a price for natural gas supply, such as Clean Energy, usually require a minimum of 250,000 gallons per year of service. To put this in perspective, this amount is equivalent to the gallons of fuel used just for Police take home vehicles in 2007.

Two months ago, the City of Tulsa purchased two CNG dedicated vehicles using Federal CMAQ grant money. The reality of increased deep and broad support for alternative energy is an emerging zeitgeist here to stay.

The next page outlines what the City of Dallas has done with locking in low CNG prices.

Electricity and Lighting

Electricity is among the most difficult commodities to control. From the large scale level with complicated energy arrangements with electric suppliers, to use, a compilation of thousands of individual consumers with various electrical needs, steps may be taken to turn the curve on electrical consumption by all departments.

TEAM meetings, held in the Mayor's Office, will continue to explore working with suppliers for municipal rate reduction. These meetings will also assess the increased feasibility of energy independence through: Hydroelectric, Solar, Wind, Biomass, Landfill Methane Recovery, and other technologies which could lead City government to energy independence. This could also be used to leverage existing energy rates. Experts from around the country will continue to be consulted, as they have recently been, on cleaner, more cost-efficient, and renewable solutions. It is not a question of if, but when.

Public Works

Light emitting diode (LED) street lights, according to the 2007 U.S. Conference of Mayors "Best Practices Guide," cost less than half what incandescent lights do, yet use less electricity and last five times longer.

City-Wide

In an effort to save electricity, all City computers are to be turned off at night unless it is absolutely necessary not to do so.
All lights are to be turned off when leaving a room.
There will be increased use of motion detection switches as opposed to manual on/off switches.
Turn coffee warmers off when the pot of coffee will no longer be served. Use a coffee mug, not a disposable cup.
Lights are to be turned off in areas where work is not done or where natural light is sufficient.
City of Tulsa employees shall not use plug in fans or heaters.
City employees are to avoid using lamps that are mostly aesthetic in purpose.
Energy saving light bulbs shall be used, where feasible, in replacement of inefficient and hot incandescent bulbs.

Appendix F

AEP
PUBLIC SERVICE COMPANY OF OKLAHOMA
A unit of American Electric Power

Public Service Company of Oklahoma
212 East Sixth Street
Tulsa, OK 74119
aep.com

Stuart Solomon
President & COO

918-599-2555
Fax 918-599-3388

April 30, 2007

Mr. Jerry Lasker
Executive Director
Indian Nations Council of Governments
201 West 5th Street, Suite 600
Tulsa, OK 74103-4236

Dear Mr. Lasker:

Thank you for your recent letter concerning EPA's 8-hr Ozone Flex Program. Public Service Company of Oklahoma (PSO) has been an active member of INCOG's Air Quality Task force since its inception in 1991, and has worked diligently to educate our employees and take positive steps to reduce ozone precursor emissions. We understand that clean air is a vital component of maintaining a thriving, beautiful city and PSO is committed to doing our part. This letter discusses our commitment to participate in the Tulsa 8-hr Ozone Flex program.

On March 15th, PSO announced plans to develop an innovative carbon capture project at one of our Northeastern Station coal units in 2011. As part of that project, PSO plans to install NOx control equipment that is expected to produce at least a 50% reduction of the NOx emissions from that unit.

This project is contingent on successful operation of the carbon capture technology on a smaller scale at another coal unit at a sister electric utility company in West Virginia, which should occur in 2008, as well as appropriate regulatory approvals. Also, detailed engineering has not been completed to determine the exact amount of reduction that would occur at Northeastern.

PSO is also committed to continuing our practice of boiler optimization on our gas-fired units in Tulsa and Jenks. The optimization process makes sure that our boilers operate at the lowest and safest NOx rate possible. The reductions in NOx cannot be quantified until after the optimization is complete.

PSO appreciates the opportunity to participate in the 8-hr Ozone Flex program and to be part of the solution for improving the air quality in Tulsa. If you have any questions or need further information, please contact Mr. Howard Ground, PSO's Manager of Environmental Affairs, or me.

Sincerely,

Stuart Solomon

cc: Mayor Kathy Taylor, City of Tulsa
John Selph, Chair, INCOG Board of Directors
Nancy Graham, INCOG
Richard Smith, INCOG
Howard Ground, PSO
Gary Knight, PSO

Appendix G

INCOG Air Quality Committee
2007 Stakeholder Membership

*Chairman

Air Quality Committee

Nadine Barton, CASE
Bill Breisch, Breisch & Associates, Inc.
Bill Cartwright, Tulsa Transit
Gary Collins, Terra Nitrogen
Gary Corino, Federal Highway Administration
Gary Gamino, Syntroleum
Bill Geubelle, ConocoPhillips
John Goodwin, Sinclair Oil Corporation
Michael Graves, Hall Estill Law Firm
Howard Ground, AEP-PSO
Bruce Heine, Magellan Midstream Partners, L.P.
Michael Henk, DELPHI, Retired
Ben Henneke, Jr., Clean Air Action
Jerry Lasker, INCOG
Marshan Marick, American Lung Association
Randi Miller, Tulsa County
Mike Neal, Tulsa Metro Chamber
Lee Paden, Paden Law Firm
Michael Patton, MET
Steve Piltz, National Weather Service
Bill Potter, University of Tulsa
Don Pugh, American Airlines, Inc.
John Selph, INCOG Board of Directors*
David Streb, ODOT
Kathy Taylor, Mayor, City of Tulsa
Eddie Terrill, ODEQ
Mark Turri, Sunoco, Inc.
Randle White, ODOT

Appendix H

March 6, 2007

XXXXX

Dear XXXXX

The Tulsa area has enjoyed the continued success of attainment of EPA's National Ambient Air Quality Standards. However, the challenge of maintaining our attainment status is becoming increasingly difficult. In fact, Tulsa's ozone levels are critically near violating the standard, and the uncertainties of a typical Oklahoma summer provide no assurance for the 2007 season.

EPA has offered the Tulsa area the opportunity to participate in its new 8-hr O_3Flex Program. This program is similar in nature to the Early Action Compact program which the Tulsa area recently successfully completed. The main difference is that the Ozone Flex program must identify at least one emission control strategy that will be implemented within the first year of the program and additional strategies to be completed throughout the five year duration of the program. In return, should we violate the ozone standard EPA will consider a delay in designating Tulsa to non-attainment to give us time to re-achieve attainment status. We intend to submit this Ozone Flex Action Plan in the spring of 2007, or as early as emission control strategies can be identified and offered for future implementation. Near-violation levels at the ozone monitors have established the critical nature of our developing and submitting it before the start of the 2007 ozone season.

Voluntary and proactive ozone-reducing initiatives are not new to Tulsa. We have a long and successful history of industry and government working together to improve local air quality and maintain the ozone standard. We believe that these voluntary initiatives are the key to our attainment status. You may be aware that Tulsa area refineries and fuel providers voluntarily supply a local clean summer gasoline blend comparable to the cleaner fuel required by many non-attainment areas. The significance of this voluntary initiative is tremendous – both to fuel suppliers' financial contributions and to our ozone levels. While the voluntary lower emissions gasoline program is expected to continue, the potential introduction of ethanol in the blending process, per federal regulations, will result in a higher RVP gasoline being available thus compounding our problem and forcing us to seek additional emission reductions.

The primary purpose of this letter is two-fold: First, to ask your assistance in securing critically needed emissions reduction strategies for the Tulsa area's 8-O_3Flex Plan. Specifically, does your company have any planned emissions reduction initiatives on the

drawing board within the next 5 years? Will you consider and evaluate potential ozone-forming emissions reductions to meet our short-term air quality critical need?

Secondly, this letter is to request your attendance at an important upcoming meeting. The INCOG Air Quality Committee will hold an open meeting on Tuesday, March 13, 2007 at 10 a.m. at the Metro Tulsa Chamber second floor Conference Room A, Two West 2nd Street (W. 2nd Street and Boulder Avenue), Downtown Tulsa. Representatives from the U.S. EPA Region 6, ODEQ and INCOG will be on hand for presentations and roundtable discussion concerning the critical need to secure ozone-forming emission reductions in the very near future. A meeting agenda with location and directions to the building is included with this letter.

We value your partnership with this important effort to maintain attainment and clean air status in the Tulsa area.

If you have any questions or concerns, please don't hesitate to contact Nancy Graham, INCOG's Air Quality Program Manager, at (918) 584-7526. Additionally, your RSVP for this important meeting is appreciated via phone or email (ngraham@incog.org).

Sincerely,

Jerry Lasker
Executive Director

Enclosure

cc:

John Selph, Chair INCOG Air Quality Committee
Kathy Taylor, Mayor, City of Tulsa
Mike Neal, Tulsa Metro Chamber

INCOG

Appendix I

8-O_3FLEX Action Plan Control Measures Summary

PLANNED FIRST YEAR IMPLEMENTATION MEASURES

- Metropolitan Tulsa Transit Authority (MTTA) Clean Diesel Retrofit Project
- City of Tulsa Compressed Natural Gas (CNG) Infrastructure, Fleet Vehicles and Refuse Truck Project
- Enhanced public awareness, outreach and regional participation in Tulsa area air quality programs
- Heavy Duty Vehicle Anti-Idling Public Education Program
- Transportation Systems Management (TSM) Projects

ADDITIONAL CONTROL MEASURES for implementation within 5-Years

- Terra Nitrogen LP, Verdigris Plant: Reformer Furnace Project - Installation of Ultra Low NOx Burners
- City of Tulsa - Energy Conservation and Reduction Plan 2007
- Traffic Signal Energy Efficiency Projects
- Additional Transportation Systems Management (TSM) Projects

OTHER CONTROL MEASURES for consideration within 5-years

- Traffic Signal Energy Efficiency and Other Transportation Systems aManagement Projects
- American Airlines Voluntary Implementation of Decision Matrix of VOC Solvent Process Reactivity to minimize ozone-forming emissions
- Small engine catalyst; stationary natural gas compressor engine retrofit Project
- PSO-AEP Carbon Retrofit Project
- Alternative Fuel, Clean Diesel and Reduced-Emissions Vehicle Projects
- VOC infra-red camera for emissions leak detection project
- Area Business Energy Efficiency Projects
- Additional Ozone Season Reductions through Voluntary Industrial Strategies

CONTINGENCY CONTROL MEASURES (to be implementation within 24 months of triggered design value)

At .084 PPM Design Value

- Clean Diesel Grant Program -- $150,000 CMAQ funding/ 20% match

At .085 PPM Design Value Violation

- Clean Diesel Grant Program

AND

- Stage 1 Vapor Recovery Systems - within the Tulsa Transportation Management Area and outside Tulsa County