

# Central Oklahoma 8-Hour Ozone Flex Program

Plan for 2008-2012

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## GLOSSARY

**Association of Central Oklahoma Governments (ACOG):** An association of local governments in Canadian, Cleveland, Logan and Oklahoma counties responsible for, among other things, transportation planning in the Central Oklahoma region.

**Attainment Area:** A geographical area designated by the Environmental Protection Agency as meeting the ambient air quality standards for a specific pollutant.

**Central Oklahoma:** For the purpose of this report, the seven-county region of Canadian, Cleveland, Grady, Lincoln, Logan, McClain, and Oklahoma counties.

**Clean Air Alert Day:** A weather dispersion index created to predict when elevated levels of ozone could occur. Also known as Ozone Alert Days, or Ozone Action Days, or simply Alert Days, the forecasts are the central focus of a discretionary public education program aimed to curb air pollution caused by ground-level ozone.

**Carbon Monoxide(CO):** A colorless, odorless, toxic gas produced by any process that involves the incomplete combustion of carbon containing substances. One of the major air pollutants, it is primarily emitted through the exhaust of gasoline powered vehicles.

**Early Action Compact (EAC):** A program recognized by EPA, and similar to the FAR, that allows affected regions to have more local control over air quality programming.

**Emissions Inventory (EI):** An inventory of criteria pollutants and primary sources.

**ENERGY STAR:** ENERGY STAR is a United States Department of Energy and Environmental Protection Agency collaborative program that promotes energy efficient consumer products.

**Environmental Protection Agency (EPA):** The federal agency responsible for regulating environmental issues.

**Exceedance:** Any monitored reading that goes over the national standard. Some pollutant standards can be exceeded once per year without being in violation.

**Flexible Attainment Region (FAR):** A designation by the Environmental Protection Agency that would prevent immediate non-attainment designation in the event of a violation of federal standards, allow program participants to create a community-based plan to improve air quality using locally selected measures, and create a time frame to implement the measures and monitor their effectiveness.

**Hazardous Air Pollutant (HAP):** Substances listed as air toxics under the Clean Air Act.

**Intermodal Transportation Policy Committee (ITPC):** A committee associated with ACOG, comprised of local elected officials. The committee approves issues related to transportation planning in the Central Oklahoma region.

**Intermodal Transportation Technical Committee (ITTC):** A committee associated with ACOG, comprised of transportation planning delegates selected by eligible member communities of ACOG.

**Metropolitan Planning Organization (MPO):** A local organization designated by the federal government to be responsible for street, highway, and air quality planning for a metropolitan region.

**Metropolitan Statistical Area (MSA):** A large urban area as defined by the U.S. Census Bureau. The Oklahoma City MSA (sometimes referred to as the metropolitan area or Central Oklahoma in this report) includes all of Canadian, Cleveland, Grady, Lincoln, Logan, McClain and Oklahoma counties.

**National Ambient Air Quality Standards (NAAQS):** Standards established by the Environmental Protection Agency for the protection of the public health and welfare. Currently the NAAQS cover particulate matter, sulfur dioxide, nitrogen dioxide, ozone, carbon monoxide and lead.

**Non-attainment Area:** Geographical areas designated by the Environmental Protection Agency as not meeting the National Ambient Air Quality Standards established for a specific pollutant. Carbon monoxide non-attainment areas are classified as moderate or severe; ozone non-attainment areas are classified as marginal, moderate, serious, severe or extreme.

**Nitrogen oxides (NO<sub>x</sub>):** Reactive gasses formed from combustion engines and industrial processes. One of the primary ingredients that form ozone.

**Oklahoma City Area Regional Transportation Study (OCARTS):** The area that encompasses all of Oklahoma and Cleveland Counties and urbanized parts of Canadian, Logan, Grady and McClain Counties. This area has been recognized by the U.S. Department of Transportation in conjunction with the Oklahoma Department of Transportation (ODOT) as the focal area for transportation planning in the metropolitan Oklahoma City area.

**Oklahoma Department of Environmental Quality (ODEQ):** A state agency that regulates environmental policy in the state of Oklahoma.

**Ozone (ground level):** Ozone pollution is created when hydrocarbons and nitrogen oxides from vehicle exhausts and certain industrial emissions react in the presence of strong sunlight. Also known as smog.

**Ozone Standard:** The Environmental Protection Agency has set the acceptable standard for the ozone pollutant to be less than or equal to .08 parts (.085) per million in an eight-hour period. The fourth highest eight-hour reading taken annually and averaged over three years determines compliance.

**Social Marketing:** The application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of society; also known as Cause Marketing and Change Marketing.

**State Implementation Plan (SIP):** A SIP must be developed by the state and region. It is the plan for maintaining and/or achieving compliance with the national air quality standards. The SIP describes air quality control measures to be implemented so that an area can return to attainment (compliance) status.

**Transportation Systems Management (TSM):** Projects undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation system by using short-term, low capital transportation improvements.

**Violation:** An ozone exceedance of the federal standard once per each three-year average is defined as a violation.

**Volatile Organic Compound (VOC):** Derived from mostly man-made sources, it is a primary component that makes ground level ozone.



## INTRODUCTION

Although the Oklahoma City MSA continues to remain in compliance with the federal 8-hour ozone standard, elevated readings in summer 2006 have prompted regional leaders to aggressively explore strategies that will improve air quality and will address the consequences of violating national air quality standards if it were to happen. The Association of Central Oklahoma Governments, which serves the region as the designated Metropolitan Planning Organization, worked in concert with a number of stakeholders over the past year to develop the emission control measures for the voluntary 8-hour Ozone Flex (8-O<sub>3</sub>Flex) program.

Central Oklahoma has a long history of good air quality thanks in part to involvement in the voluntary programs offered by EPA. In addition to participating in educational efforts such as the Clean Air Alert Day Program, the Central Oklahoma Clean Cities (alternative fuels) program and the annual public education campaign, leaders in the Oklahoma City metropolitan area have committed or participated in previous initiatives such as the carbon monoxide Flexible Attainment Region program, 1-Hour Ozone Flex program and the current 8-Hour Ozone Early Action Compact.

The 8-O<sub>3</sub>Flex program is the third generation of voluntary ozone programs designed to allow participating communities greater flexibility when selecting emission reduction programs and strategies. By providing local control of the process, these programs recognize that each region has distinct emission characteristics and socioeconomic variables that make a standardized approach unrealistic and unrepresentative.

Working together with local, state and federal officials, some of the essential facets of the 8-O<sub>3</sub>Flex plan include early planning, implementation of emission reduction measures, broad-based public input and local control, and state support to ensure the technical integrity of the plan.



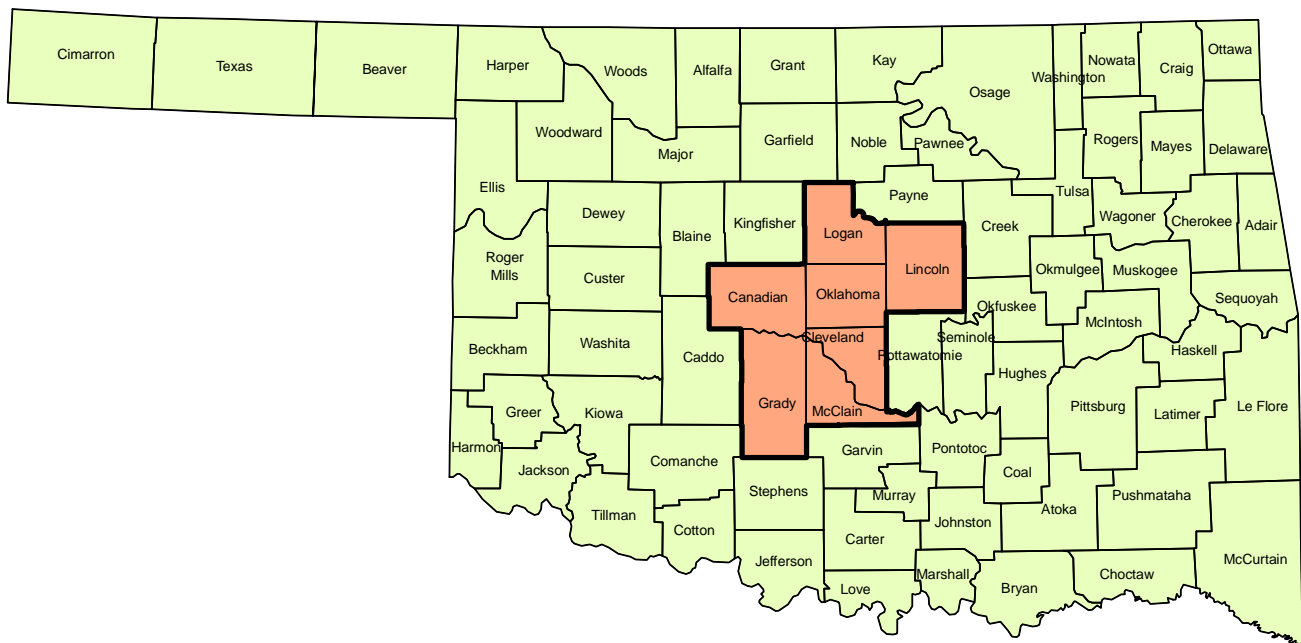
# BACKGROUND AND DATA SUMMARY

## OKLAHOMA CITY METRO AREA GEOGRAPHIC BOUNDARY

For the purpose of the 8-hour Ozone Flex Program, the Central Oklahoma area is represented by the current Oklahoma City Metropolitan Statistical Area (MSA), as defined by the U.S. Bureau of the Census. The counties affected by this definition include Canadian, Cleveland, Grady, Lincoln, Logan, McClain, and Oklahoma, as shown in Figure 1.

This boundary was chosen based on guidelines EPA provided to states and tribes in regard to 8-hour ground-level ozone designations. Those guidelines include directions to base the boundaries on Consolidated Metropolitan Statistical Area, Metropolitan Statistical Area, or 1-hour ozone nonattainment area boundaries, whichever area was larger.<sup>1</sup> Nonetheless, this is not meant to prejudice the final nonattainment boundary to be made by the EPA as required by the Clean Air Act.

Figure 1:  
Oklahoma City Metropolitan Statistical Area



<sup>1</sup> As downloaded from: <http://www.epa.gov/ozonedesignations/documents/Apr04/finrulfs.htm>

## BACKGROUND

### History of the Region

#### *Flexible Attainment Region*

It was in the spring of 1990 that the EPA notified the state that Central Oklahoma had been redesignated as an "attainment area" after having been classified as "non-attainment" for carbon monoxide since 1984. More stringent federal emissions standards on new automobiles and a state program to visually inspect vehicle pollution control equipment (and, until 1993, test for misfueling) reduced the CO problem and allowed the region to meet the standard. The timing of attaining federal clean air standards was particularly advantageous due to the passage of the new federal Clean Air Act in October 1990.

In December of 1996, Central Oklahoma was designated as a Flexible Attainment Region (FAR) by the Environmental Protection Agency (EPA). The agreement was signed by ACOG, Oklahoma Departments of Transportation and Environmental Quality, the Federal Highway Administration, the City of Oklahoma City, Central Oklahoma Transportation and Parking Authority, Greater Oklahoma City Chamber of Commerce and Central Oklahoma Clean Cities. It was in effect for five years.

#### *1-Hour Ozone Flex Agreement*

In order to ensure continued attainment of the 1-hour ozone standard, the region's leaders signed a Letter of Intent to participate in an air quality improvement plan called the Ozone Flex Agreement in December 2001. While 1-hour O<sub>3</sub>Flex required community education and outreach, it imposed no mandatory requirements on the general public.

#### *8-Hour Ozone Early Action Compact (EAC)*

In December 2002, ACOG notified the EPA of its intent to participate in a new air quality strategy called the 8-Hour Ozone Early Action Compact (EAC). The EAC was a Memorandum of Agreement (MOA) between ACOG, representing the local governments within the Oklahoma City Area Regional Transportation Study (OCARTS) Area, the Oklahoma Department of Environmental Quality (ODEQ) and the United States Environmental Protection Agency (EPA). The purpose of the EAC was to develop and implement a Clean Air Action Plan that would reduce ground-level ozone concentrations in the Central Oklahoma area to comply with the 8-hour ozone standard by December 31, 2007, and to maintain the standard beyond that date.

In March 2005, ACOG submitted a preliminary Clean Air Action Plan (CAAP) for inclusion in the EAC to ODEQ. The CAAP consisted of a local emission reduction strategy which reduces transportation-related emissions by improving traffic flow and reducing congestion throughout the region. The emission reduction strategy consists of three elements: Transportation System Management (TSM), bicycle/pedestrian facilities, and freeway corridor management (Intelligent Transportation Systems - ITS). The TSM is comprised of intersection improvements, signal improvements and continuous left turn lane projects.

As a result of these programs, many voluntary actions have been taken by local entities that provided specific reductions of carbon monoxide and ozone emissions. In large part due to these reductions, Central Oklahoma has remained in compliance with the federal standard for carbon monoxide and ozone since 1990.

## Monitoring

Ozone levels are routinely monitored at six locations in the Central Oklahoma region. This region has experienced fluctuating 8-hour ozone values for the 20 years that data has been archived. See Figure 3 for a map of ozone monitoring sites in the Oklahoma City area, and a listing of site information. Figures 2 and 4 showcase data from the ozone monitoring sites in the Oklahoma City area.

### High Ozone Episodes

Monitoring indicates that the Oklahoma City area encounters episodes of elevated ozone readings that occasionally exceed the daily standard of the National Ambient Air Quality Standard. These 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 2:  
8-hour Ozone Annual 4<sup>th</sup> Highest Values

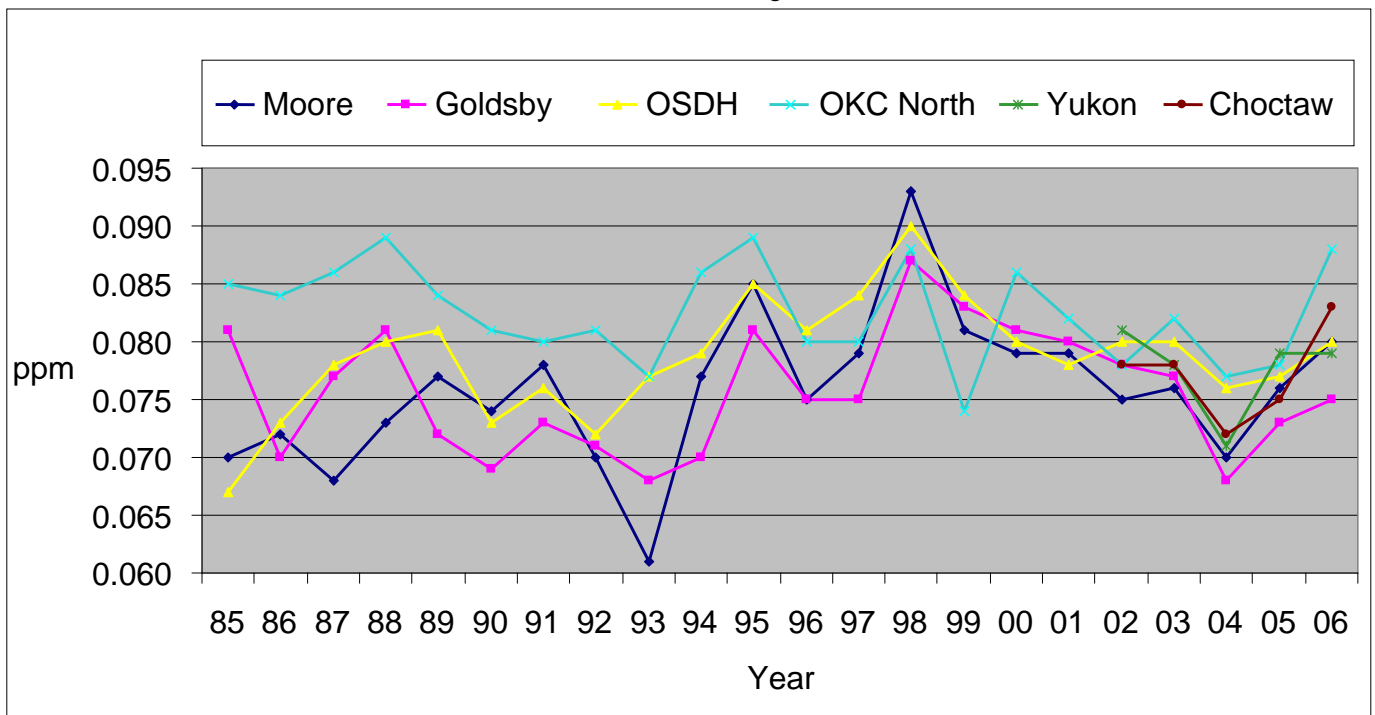
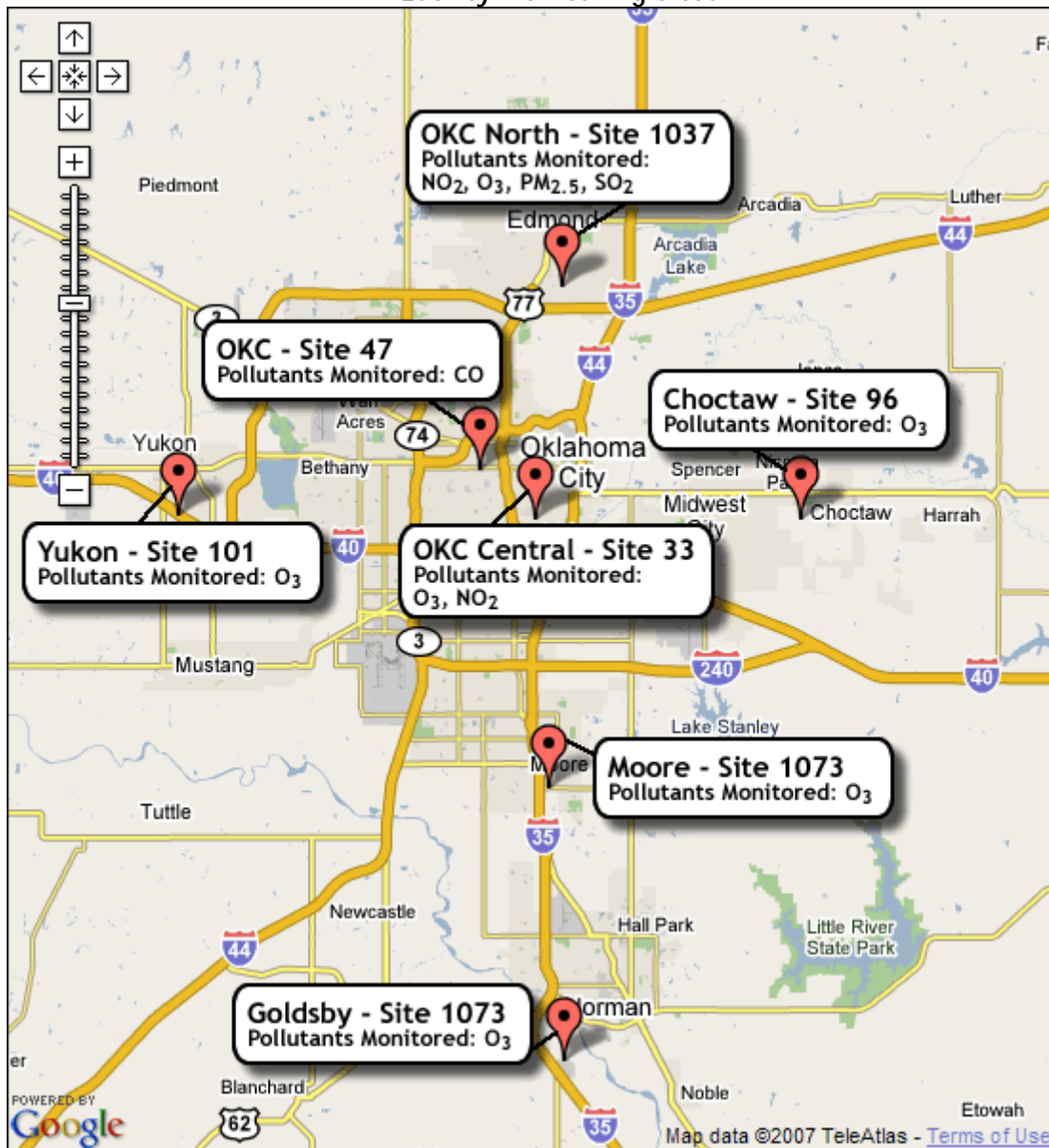


Figure 3:  
Air Quality Monitoring Sites



## Air Quality Status

### *8-Hour Standard in the Central Oklahoma Air Quality Study Area*

During the past several years, air quality planning in the Central Oklahoma area has intensified as ozone concentrations have periodically exceeded the value permitted by the 8-hour ozone NAAQS. Based on data collected by ODEQ in 2003, EPA declared that all areas in Oklahoma appear to demonstrate attainment for the 1-hour and the 8-hour ozone standards. In March 2004, EPA made final designations that Central Oklahoma was in attainment of the 8-hour ozone standard. The 8-hour ozone design value is determined by averaging three years of the fourth highest 8-hour ozone levels in an area. This number, called the design value, must be lower than .085 parts per million (ppm) to meet the standard. Currently, the Central Oklahoma design value (averaging 2004, 2005, and 2006) is .081 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 4:  
8-hour Ozone Design Values

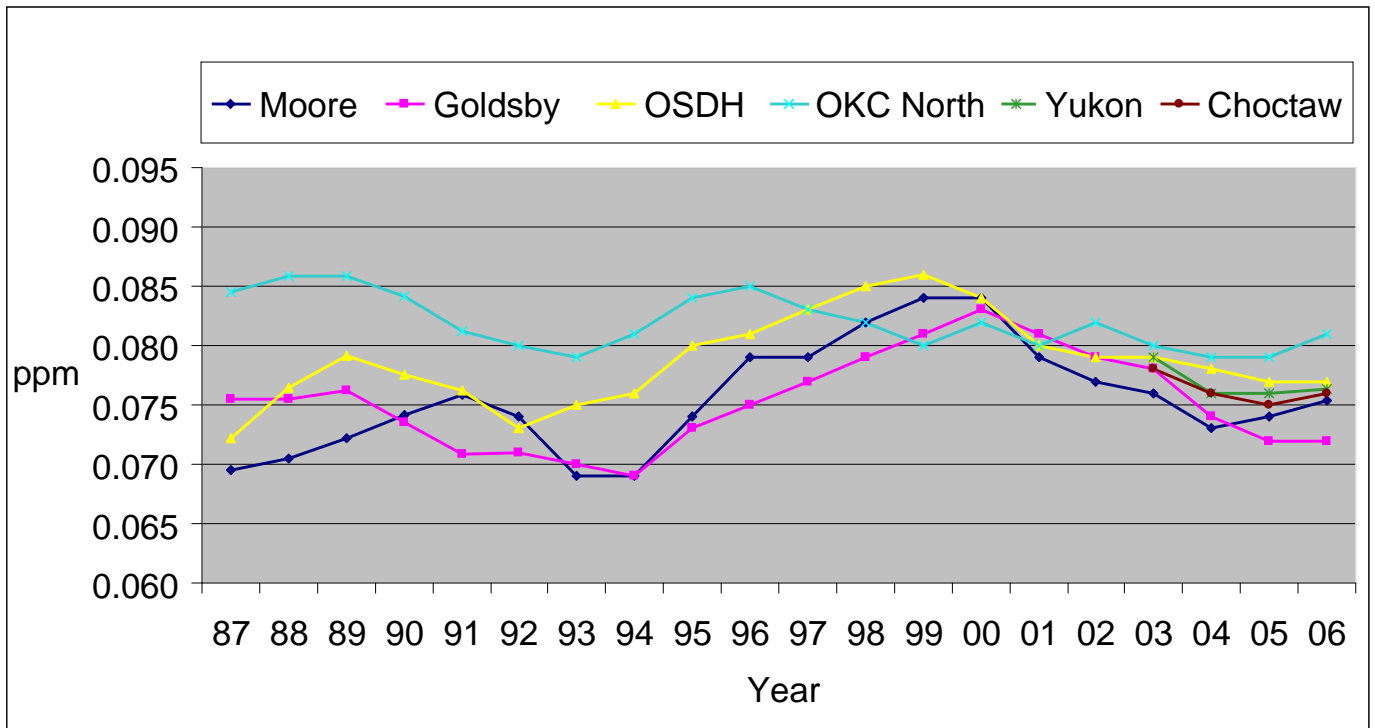


Table 1 displays the four highest ozone readings at each monitoring station (see Figure 3) during the summer of 2006. Sixteen (16) exceedances of the federal ozone standard were recorded during the 2006 ozone season (see Table 2).

Table 1:  
2006 Ozone 8-Hour Running Averages and Three-Year 4<sup>th</sup> Highest Averages

MONITORING LOCATIONS	1ST HIGH	2ND HIGH	3RD HIGH	4TH HIGH	04-06 AVERAGE 4 <sup>TH</sup> HIGHS
OKLAHOMA CITY - NORTH (NE 136 <sup>TH</sup> & EASTERN)	<b>0.091</b> (8/19)	<b>0.090</b> (7/19)	<b>0.088</b> (5/18)	<b>0.088</b> (7/20)	<b>0.081</b>
OKLAHOMA CITY - OSDH (NE 10 <sup>TH</sup> & KELLEY)	<b>0.087</b> (6/8)	<b>0.085</b> (8/19)	<b>0.084</b> (6/15)	<b>0.080</b> (6/29)	<b>0.077</b>
MOORE (SE 19 <sup>TH</sup> & I-35)	<b>0.084</b> (6/15)	<b>0.082</b> (8/19)	<b>0.081</b> (6/18)	<b>0.080</b> (6/6)	<b>0.075</b>
GOLDSBY (BURR OAKS RD)	<b>0.084</b> (6/15)	<b>0.077</b> (7/21)	<b>0.076</b> (6/18)	<b>0.075</b> (7/1)	<b>0.072</b>
CHOCTAW (NE 10 <sup>TH</sup> & ANDERSON RD)	<b>0.087</b> (8/19)	<b>0.085</b> (7/8)	<b>0.084</b> (6/15)	<b>0.083</b> (7/19)	<b>0.076</b>
YUKON (NW 10 <sup>TH</sup> & CZECH HALL RD)	<b>0.095</b> (6/8)	<b>0.090</b> (6/15)	<b>0.081</b> (6/19)	<b>0.079</b> (7/18)	<b>0.076</b>

Bold readings indicate an exceedance of the National Ambient Air Quality Standards.

Table 2:  
2006 Ozone Exceedances

LOCATION	8-HOUR AVERAGE	DATE
OKLAHOMA CITY - NORTH (NE 136TH & EASTERN)	0.091	8/19/2006
	0.090	7/19/2006
	0.088	5/18/2006
	0.088	7/20/2006
	0.087	6/9/2006
	0.087	6/15/2006
	0.087	6/29/2006
	0.087	7/8/2006
	0.085	6/30/2006
	0.085	7/18/2006
OKLAHOMA CITY - OSDH (NE 10TH & KELLEY)	0.087	6/8/2006
	0.085	8/19/2006
CHOCTAW (NE 10TH & ANDERSON RD)	0.087	8/19/2006
	0.085	7/8/2006
YUKON (NW 10TH & CZECH HALL RD)	0.095	6/8/2006
	0.090	6/15/2006

### 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<sub>3</sub>Flex program. Emissions inventories for the 1996, 1999 and 2002 National Emissions Inventory (NEI) performed by ODEQ, along with photochemical modeling efforts, indicate that both Nitrogen Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOCs) have a significant influence on the ozone values in Oklahoma. The inventories were conducted in the Oklahoma City MSA, as defined by the 1990 Census to be the following counties: Canadian, Cleveland, Logan, McClain, Oklahoma, and Pottawatomie. The 2000 Census changed the geography of the Oklahoma City MSA to include the counties of Canadian, Cleveland, *Grady*, *Lincoln*, Logan, McClain, and Oklahoma.<sup>2</sup>

#### *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.

<sup>2</sup> An emissions inventory based on the Census 2000 geography of the Oklahoma City MSA was not available to be included in this report.



### Area sources

Based on the studies, area sources (emitters too small to account for individually) contribute 11 percent of NO<sub>x</sub>, and over 28 percent of VOC emissions (see Table 3).

### Mobile sources

The EAC Emissions Inventory also indicates that mobile sources, both on and off road, account for more than 60 percent of combined NO<sub>x</sub> and VOC emissions.

### Stationary point sources

The EAC emissions data indicates a minimal influence from heavy industry (point sources that report to ODEQ). According to the modeling, point sources accounted for 23 percent of NO<sub>x</sub> and 9 percent of VOC emissions.

Table 3:  
Emissions Inventory by Percentage

OKC MSA* County	Area Sources	Mobile Sources (Off-Road)	Mobile Sources (On-Road)	Point Sources (Low)	Point Sources (Elevated)
NO <sub>x</sub>	11.45%	18.39%	47.31%	3.12%	19.73%
VOC	28.75%	7.07%	55.29%	2.82%	6.07%

\*The Oklahoma City MSA, as defined by the 1990 Census

Table 4 shows category specific emissions data in tons-per-day by county, which was used for the EAC modeling.

Table 4:  
Emissions Inventory by Tons Per Day

OKC MSA* County	Area Sources	Mobile Sources (Off-Road)	Mobile Sources (On-Road)	Point Sources (Low)	Point Sources (Elevated)
Canadian	0.66	5.64	4.08	2.8	13.91
Cleveland	2.51	3.23	2.88	0.14	4.4
Logan	0.13	3.4	1.07	0.83	4.79
McClain	0.08	1.79	3.23	0.4	0.99
Oklahoma	17.82	19	76.22	1.91	14.08
Pottawatomie	1.17	2.89	4.99	0.02	0.39
NO <sub>x</sub>	22.37	35.95	92.47	6.1	38.56
Canadian	7.62	0.89	4.57	0.82	0.5
Cleveland	9.73	3.82	4.32	0.35	0.45
Logan	3.22	0.61	1.43	0.51	0.33
McClain	3.83	0.38	3.21	0.47	1.68
Oklahoma	41.6	11.24	118.43	4.56	11.64
Pottawatomie	5.44	0.64	5.44	0.31	0.49
VOC	71.44	17.58	137.4	7.02	15.09

\*The Oklahoma City MSA, as defined by the 1990 Census



## COORDINATION AND PUBLIC PARTICIPATION

The coordination and public participation process of the Oklahoma City metropolitan area 8-O<sub>3</sub>Flex Program began in earnest in September 2006 with the introduction of the program to a group of regional stakeholders.

Since that first meeting, ACOG initiated a comprehensive process of communication and interaction regarding the formation of the 8-O<sub>3</sub>Flex Program and this document.

The public participation development included the formation of a workgroup; multiple meetings with large groups; written correspondence to initiate communication; follow-up and individual meetings with stakeholders; presentations and media relations.

ACOG also generated a generous level of media attention from regional print, television, radio and Internet news mediums (see Attachment 1).

### PUBLIC PARTICIPATION COMPONENTS

#### Workgroup

ACOG established a work group that would develop the actual working document of the 8-O<sub>3</sub>Flex Program. The work group consisted of air quality and transportation planning staff from ACOG, air quality, legal and administrative staff from the Oklahoma Department of Environmental Quality and an air quality official from OGE Energy Corp. (electric utility), who is also Chair of the State Air Quality Advisory Council. The group met throughout the process, to discuss goals and objectives and roles and responsibilities. During the months of March, April and May 2007, the group met weekly.

#### Meetings with Public Stakeholders

ACOG initiated its first stakeholder meeting on September 29, 2006. The purpose of the meeting was to provide a briefing on the region's air quality status and to discuss the merits of entering into the 8-O<sub>3</sub>Flex Program. The invitation list for the meeting was derived from previous stakeholder lists that ACOG had compiled over the years. The invitation list included representatives from local and state governments, small and large businesses and industry, the non-profit sector, community and environmental activists, citizens and the media.

In addition, ACOG discussed the development of the 8-O<sub>3</sub>Flex program over the course of several months at meetings of the Intermodal Transportation Technical Committee (ITTC), the Intermodal Transportation Policy Committee (ITPC), and the ACOG Board of Directors. The latter committees are mostly comprised of elected officials from local member governments of ACOG. The diversity of the board assures a wide range of interests and experiences. ACOG currently has 34 member governments, consisting of city, town and county jurisdictions ranging in size from Luther (1,083 people) to Oklahoma City (531,324 people). In total, the ACOG region represents a population of 1,058,166 persons encompassing an area of just over 2,900 square miles. The voting members of the ITTC include entity staff members appointed by the city manager who are planners, engineers, or have familiarity with transportation issues.

## Written Correspondence

ACOG distributed letters to Central Oklahoma's largest emitters and employers (see Attachment 2). The database of emitters was generated from ODEQ. The database of employers came from the Greater Oklahoma City Chamber. The intent of the letters was to inform the recipients of the 8-O<sub>3</sub>Flex Program and to initiate action. Both receiving parties were asked in the letter if they were conducting emission reduction strategies or activities that could be included in the program. Follow-up correspondence, via email or in-person, was conducted by ACOG.

## Individual and Small Group Interaction

Throughout the 8-O<sub>3</sub>Flex program development process, ACOG staff initiated, participated or attended over 100 meetings with individuals, small groups, businesses, corporations, organizations and city, county, state and federal appointed and elected officials. The intent was to meet with as many people as possible to establish a tangible list of emission reduction measures and to interact with regional stakeholders to inform them of Central Oklahoma's emerging air quality attainment issues. While a majority of the meetings were initiated by ACOG, a large percentage of the meetings were conducted as follow-up communication generated from the letters.

## Presentations

As a component of ACOG's speaker's bureau, ACOG staff was invited to speak to a number of civic groups and community organization functions. During the 8-O<sub>3</sub>Flex Program development process, ACOG staff reconfigured its legislative, air quality and metropolitan planning organization presentations to incorporate news and information about the 8-O<sub>3</sub>Flex Program, and its activities and benefits.

## Media Relations

ACOG was able to promote the 8-O<sub>3</sub>Flex Program throughout the development process via multiple print, radio and television news coverage. The program was the subject of a cover page article in *The Oklahoman*, the state's largest newspaper. 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 PARTICIPATION**

All of the components of the development process advocated a consensus of support regarding the proposed control measures. The process incorporated input from all contributing stakeholders.

Public involvement was conducted in all stages of the planning and implementation process and involved a variety of communication mediums, including the ACOG Web site, [www.acogok.org](http://www.acogok.org). 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.

Meetings were open to the public, with posted meeting times and locations. Plan drafts were publicly available, and the drafting process provided sufficient opportunities for comment from all interested stakeholders.

## ACTION PLAN

### FIRST YEAR MEASURES

As part of the first year project requirements for participation in the 8-Hour Ozone Flex Program, the Central Oklahoma area submits the following projects. Included with each project is an estimated emissions reduction number.

#### City of Oklahoma City

**Infrared Heating** - Replacement of forced air heating system with radiant heat equipment in selected fire stations

- FUNDED: This project has been funded through a dedicated energy-related budget allocation. The estimated annual energy savings resulting from completion of this project will be approximately 1,470 MMBTU<sup>3</sup>.

**Heating and Air Conditioning Equipment Replacement** - Replace older inefficient water chillers, direct expansion air conditioning units, gas-fired boilers, and gas furnaces with high efficiency equipment

- FUNDED: This project has been funded through a dedicated energy-related budget allocation. The estimated annual energy savings resulting from completion of the projects will be approximately 1,704 MMBTU.

**EMS HVAC Controls Installation** - Install HVAC control equipment in facilities with little or no advanced control capability. The installation of intelligent control systems will greatly reduce equipment runtimes and energy use. The Energy Management System (EMS) controls will provide monitoring of real-time system conditions and can perform manual or automated control of HVAC systems to improve efficiency. The City currently owns and operates EMS software to control and monitor heating and air conditioning equipment. The system communicates through the use of an enterprise server and the city's intranet system. Additional points can be added without expensive capital costs and will improve efficiency of HVAC equipment and support maintenance efforts. Also, operational changes of the EMS can increase aggressiveness and further reduce energy consumption. An example is increased economizer use to take advantage of "free cooling" and use only the minimum necessary outside air during standard cooling/heating seasons.

- FUNDED: This project has been funded through a dedicated energy-related budget allocation. The actual contract cost for the projects is \$138,000. The estimated energy savings resulting from completion of the projects will be approximately 6,933 MMBTU.

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<sup>3</sup> MMBTU = Million British Thermal Units --- 1MMBTU = 293 kWh

**Table 5:  
OKC First Year Energy Efficiency Emissions Reductions**

	Infrared Heating	HVAC Equipment Replacement	EMS HVAC Controls Replacement	EMS HVAC Controls Replacement	Yearly Reduction	5-year Total (tons)
Natural Gas (MMBTU)	1,470.0	1,704.0	3,466.5	*	6,640.5	
Electricity (kWh)	*	*	*	1,016,031.2	1,016,031.2	
CO <sub>2</sub> (lbs)	172,200.0	199,600.0	405,800.0	1,698,800.0	2,476,400.0	<b>6,191.00</b>
NO <sub>x</sub> (lbs)	220.5	255.6	520.0	5,000.0	5,996.1	<b>14.99</b>
N <sub>2</sub> O (lbs)	3.2	3.7	7.5	*	14.4	<b>0.04</b>
SO <sub>2</sub> (lbs)	0.9	1.0	2.1	5,600.0	5,604.0	<b>14.01</b>
PM <sub>10</sub> (lbs)	2.7	3.2	6.4	101.6	113.9	<b>0.28</b>
VOC(lbs)	7.9	9.2	18.7	36.6	72.4	<b>0.18</b>
CO (lbs)	35.3	40.9	83.2	406.4	565.8	<b>1.41</b>
Mercury compounds (lbs)	*	*	*	6.6	6.6	<b>0.02</b>
Cadmium compounds (lbs)	*	*	*	540.0	540.0	<b>1.35</b>
Lead compounds (lbs)	*	*	*	9.5	9.5	<b>0.02</b>

MMBTU = Million British Thermal Units --- 1MMBTU = 293 kWh

### Oklahoma Department of Environmental Quality

ODEQ has purchased 10,516 Compact Fluorescent Lamps (CFLs), which include 2,400 26-watt bulbs and 8,116 20-watt bulbs. The CFLs will be given away to the citizens of Central Oklahoma through four Community Action Agencies within the first two years of the plan term. The installation of these 10,516 CFLs will benefit the most economically challenged citizens of the metropolitan by reducing their energy costs. Additionally, the installations will provide environmental benefits by preventing the emission of 3,193 tons of CO<sub>2</sub> over the life of the bulbs, and provide significant health benefits to the citizens of Oklahoma. Because the use of CFLs reduces the amount of electricity used, there will be a savings of 4,160,130 kWh over the lifecycle of the bulbs.

### Tinker Air Force Base

#### *Improved Paint Gun Washing with Solvent Recycling*

This initiative will implement six paint gun washing systems with recycling capabilities. This improved cleaning operation will reduce material costs, air emissions, and waste disposal. The new gun washers will be designed to allow for simultaneous cleaning and recycling.

The current process includes both manual and automatic gun washing. Most often, paint guns are disassembled and hand cleaned using solvents, brushes and rags. This process is inefficient and generates both air emissions and hazardous waste. The current gun washers do not adequately clean the paint guns. The new process will utilize an automatic gun washer capable of effectively cleaning the paint guns. In addition, solvent recycling will be included to further reduce air emission and waste generation.

This project will provide a yearly emission reduction benefit of 0.076 tons of VOC.

## PRIMARY EMISSION REDUCTION MEASURES

This list of reduction measures will be implemented on a voluntary basis during the five-year term of this plan by regional stakeholders, no matter the current ground level ozone design value.

### ACOG

#### *Air Quality Public Education Campaign*

ACOG will significantly expand its public education program to promote energy efficiency in addition to its clean air messages promoted since 1998. The program, based on principles of social marketing, is anticipated to be funded primarily by the Oklahoma Department of Transportation, Chesapeake Energy, OGE Energy Corp., Devon Energy and the Greater Oklahoma City Chamber.

#### Schedule/Milestones:

- Begin adding energy saving tips for 2008 campaign
- Continue message developed for 2008 through 2012

#### *Transportation Systems Management (TSM) Projects*

This emission reduction strategy may include: intersection improvement projects, signal improvements, signal coordination efforts, Intelligent Transportation System (ITS) enhancements and bicycle and pedestrian facilities. This strategy will reduce transportation-related emissions by improving traffic flow and reducing congestion throughout the region. These actions, if successful, will have the desired effect of reducing energy consumption and vehicle emissions. Furthermore, TSM strategies can postpone, or even eliminate the need for capital-intensive measures aimed at increasing roadway capacity. See Attachment 3 for specific TSM projects.

Schedule/Milestones: provided in Attachment 3

#### *ENERGY STAR Change a Light, Change the World Campaign*

The ENERGY STAR *Change a Light, Change the World* Campaign is a national call-to-action to encourage individuals to help change the world, one light, one energy-saving step at a time. Organizations across the nation come together to help celebrate this campaign with activities, events, government proclamations, and store promotions around energy-efficient lighting that run through November 2007.

ACOG is committed to continue promoting this message and the program through our member entities and regional air quality stakeholders during the term of this plan.

#### Schedule/Milestones:

- Sign up as umbrella pledge driver in FY'08 and begin soliciting participation from member entities
- Establish yearly pledge goal of 500

## City of Oklahoma City

### *Promotion of Employee Awareness Campaign "turn it off"*

- Raise awareness of energy efficient approach to daily operations
- Raise awareness of City energy usage and costs
- Encourage and motivate employees to help reduce City energy usage and costs
- Establish energy-related project review process

Schedule/Milestones: ongoing education beginning in 2007

### *Energy Reduction Projects*

- Utility Enterprise Software and Sub-Metering - Install utility management software to verify bills, create a database of facility efficiency metrics, and provide cost information to respective departments. The software will replace limited spreadsheet tracking of energy usage and costs. Increased analysis capabilities will allow improved tracking and verification of utility bills, improved measurement of wire-to-water efficiency of pumping equipment, greater support to budgeting, and aid in the energy procurement process. Install sub-metering for energy consuming facilities that do not have individual metering. The meters will provide revenue-grade accuracy to record utility information. The data will be used by energy management, accounting, engineering, and maintenance personnel to make better decisions, improve efficiency, and to take proactive control of energy consuming systems.
  - FUNDED: This project has been funded through a dedicated energy-related CIP source. The actual contract cost is \$81,275. Any energy savings resulting from completion of this project will result from increased awareness of the least efficient facilities and projects created to address energy waste.

Schedule/Milestones: Ongoing throughout plan term

- Use 100 percent Allotment of Wind Energy from OGE

Schedule/Milestones: Absorb OGE's allotments of wind power as they become available.

- Increase use of Biodiesel and CNG (Compressed Natural Gas)

Schedule/Milestones: Ongoing throughout plan term

- Will Rogers World Airport

- Reduced use of 2 cycle equipment at the Airport on warm, calm days

Schedule/Milestones: Ongoing throughout plan term

## ENERGY STAR Challenge: Build a Better World 10 Percent at a Time

EPA issued the ENERGY STAR Challenge to call on building owners across the country to improve the efficiency of their buildings by 10 percent or more. EPA estimates that if each building owner met this challenge, by 2015 Americans would reduce greenhouse gas emissions equivalent to those from 15 million vehicles, while saving about \$10 billion.

As part of this effort, the Central Oklahoma Area Stakeholder committee is challenging local businesses and government entities to join the challenge.



#### Potential Participants:

- Oklahoma County - Through the National Association of Counties (NACo)
- Chesapeake Energy
- Rose State College
- Southern Nazarene University
- Center Point Energy
- Mercy Health Center (current participant)
- Deaconess Hospital (current participant but doing new optimization program)
- Dobson Communications Corp.

#### Schedule/Milestones:

- Establish 2 participants or continued participants in the first 2 years of the plan

### ENERGY STAR Homes

The ENERGY STAR Homes program is a Department of Energy program targeting new residential construction. The program verifies that homes that receive the ENERGY STAR designation use 80 percent of the energy of a typical home. To receive the designation, a home must be certified and tested by a third party. The goal of the program is to improve the energy efficiency of new homes and to make customers aware of which homes deliver energy savings.

Oklahoma has embraced the ENERGY STAR program over the last several years. The number of homebuilders who offer ENERGY STAR Homes in the Central Oklahoma area continues to increase. Currently, there are over 30 homebuilders who offer ENERGY STAR Homes in the Central Oklahoma market, including the two largest builders and developers in the area. A recent homebuilder training event for the ENERGY STAR program had over 150 homebuilders and trade allies attend.

In the Central Oklahoma region, OGE and GWS work with a number of homebuilders to build ENERGY STAR homes. That process should continue throughout the five-year term of this plan unless current tax incentives are changed.

#### *OGE Energy Corp.*

OG&E has been a part of the ENERGY STAR program for over 10 years. OG&E's GeoThermal Home was the first utility program in the nation that automatically qualified as an ENERGY STAR Home. As a part of the program, OG&E has worked closely with the homebuilding community to train them on how to build an energy efficient home. They have also worked to help homebuilders to use energy efficiency features to sell more homes.

#### *Guaranteed Watt Saver, Inc.*

GWS is an Oklahoma City-based company that specializes in working with homebuilders, home owners and business owners to perform building energy audits. GWS became the first provider for the ENERGY STAR Program in Texas and Oklahoma. The company was also recognized in 1997 by the Environmental Protection Agency as the first nationwide program for the construction of ENERGY STAR Homes.

Schedule/Milestones:

Table 6:  
Yearly Projections for additional ENERGY STAR Homes in the ACOG area

Year	2008	2009	2010	2011	2012
Homes	735	772	810	851	851
kWh Savings	1,733,130	1,819,787	1,910,776	2,006,315	2,006,315

### Great Plains Coca-Cola

Great Plains Coca-Cola Bottling Company is one of the ten largest Coca-Cola operations in the United States. It has sales approaching \$250 million, and is among the largest and oldest family businesses in the state of Oklahoma.

Potential Emission Reduction Projects:

- Alter mowing contracts to avoid mowing on alert days
- Purchase wind power from OGE
- Retrofit vehicles to alternative fuels such as CNG

Schedule/Milestones: Ongoing throughout plan term

### OGE Energy Corp.

OGE is one of several Oklahoma power utilities working together with the Oklahoma Corporation Commission to address the issue of demand side energy management (DSM). OGE believes that potential regulation of DSM should encourage development of new and innovative programs that link energy efficiency and renewable energy to drive emissions reductions and cost savings for Oklahoma and that success will be achieved by engaging the public through creative education programs and promotions that encourage changes in behavioral practices and the use of efficient technologies. Towards that effort they have several new short-term and long-term programs under development.

OGE has identified the following program objectives:

- Only implement programs that offer tangible benefits
- Focus on sustainability of programs
- Address all segments of the market
- Address utility system efficiency
- Engage the public

OGE is dedicated to gaining greater commitments for the continuation of two existing programs, their residential time of use campaign and promotion of geothermal heating and cooling. Paperless billing is a new program being developed during the first year of this program. In addition, OGE is in the planning stages of two new programs, low income weatherization and compact fluorescent light bulbs. These remain potential projects for the 8-O<sub>3</sub>Flex plan as funding has not yet been committed.

### *Residential Time of Use (TOU) Campaign*

OG&E has offered various Time of Use rates for many years. This rate offers customers a lower price for electricity if customers can move their consumption off of peak generating hours. This

rate helps OG&E lower its peak demand which decreases generation costs for all customers. Customers are offered a much lower rate for all service used during off peak hours but the rate increases dramatically during on peak times. Currently OG&E has about 3,000 customers on this rate program, but only about 200 of them are residential customers.

OG&E plans to target customers who may be able to shift their usage to off-peak times and see a significant savings. For example swimming pool owners have the ability to easily shift their pool usage to off peak times and see a significant savings for the TOU rate. This group will be targeted with a direct mail campaign promoting the TOU rate.

Schedule/Milestones:

Table 7:  
Yearly Projections for Additional Residential TOU in ACOG area

Year	2008	2009	2010	2011	2012
Customers	275	300	300	300	300
kWh Savings	184,536	201,312	201,312	201,312	201,312

### *Paperless Billing*

Paperless billing will offer customers an option to discontinue their paper bill and only receive an electronic copy. Customers who opt for this billing method will receive a monthly e-mail when their bill is ready to be viewed online. The purpose of this program is to offer customers choices for receiving bills from OG&E, while reducing the environmental impacts of printing and mailing bills monthly. This will be a new program that should be implemented in 2008. The target audience is current online services customers who are already doing business electronically, over 90 percent of whom are residential.

According to Pacific Gas and Electric<sup>4</sup>, “the environmental benefits of paperless billing for every 38,500 bills paid online include:

- One ton of paper saved
- 3.46 tons of trees preserved
- 20,519 gallons of water saved
- 2,278 pounds of avoided solid waste
- 63 pounds of avoided emissions (energy related, SO<sub>x</sub> and NO<sub>x</sub>)
- 5,689 pounds of avoided greenhouse gases.”

Schedule/Milestones:

Table 8:  
Projections for Paperless Billing in ACOG Area

Year	2008	2009	2010	2011	2012
Participants (year-end)	4,410	7,496	10,141	11,905	13,228
Bills not printed	31,715	78,047	109,795	134,929	154,772

<sup>4</sup> Source: [http://www.pge.com/news/news\\_releases/q2\\_2005/050629.html](http://www.pge.com/news/news_releases/q2_2005/050629.html)

### *High Efficiency Heating and Cooling Options (Geothermal)*

OG&E and Oklahoma have a long history of promoting and installing geothermal equipment. Geothermal is the most efficient heating and cooling option for building owners. While geothermal is very efficient and provides the lowest monthly heating and cooling cost for building owners, it comes with the highest installation cost. Along with providing customers with low monthly utility bills, these systems help OG&E control the peak demand. These peak demand savings help lower all customers' utility rates.

OG&E will continue to target residential home owners (both new construction and replacement systems) with education about the geothermal option. Along with homeowners, the commercial and industrial market is also targeted. The key decision makers in the commercial and industrial market are commercial engineers and architects. All of these groups will be targeted with geothermal education.

Schedule/Milestones:

Table 9:

Yearly Projections for Geothermal Unit Installations in ACOG Area

Year	2008	2009	2010	2011	2012
Installed Tons	750	800	800	800	800
kWh Savings	300,000	320,000	320,000	320,000	320,000

### *Low Income Weatherization*

The Low Income Weatherization Program, which is modeled after the U.S. Dept. of Energy (DOE) Weatherization Assistance Program (WAP) and is open to all residential customers, provides the following energy efficiency improvements to severely energy-inefficient homes, thereby decreasing demand and energy usage:

- Ceiling insulation
- Wall insulation
- Floor insulation
- Air infiltration
- Duct efficiency improvement
- Water heater jackets
- Water heater pipe insulation
- Low-Flow showerheads
- Faucet aerators
- ENERGY STAR refrigerators
- Compact fluorescent lamps

Weatherization of low income homes is currently being provided by the city of Oklahoma City and local community action agencies at a level of 60 homes per year. Starting in 2008, there is a good possibility that OG&E could provide funding to weatherize additional homes if a partner can be located that will perform the work.

Schedule/Milestones:

Table 10:  
Yearly Projections for Weatherization Projects in ACOG Area

Year	2008	2009	2010	2011	2012
Participants	125	125	125	125	125
kWh Savings	1,811,940	1,811,940	1,811,940	1,811,940	1,811,940

*Compact Fluorescent Lights (CFLs)*

The Compact Fluorescent Lights (CFLs) program will reduce energy usage and demand by increasing the number of compact fluorescent light bulbs installed with residential customers.

Customers may have resistance to using CFLs for several reasons: 1) Customers do not understand the energy efficiency and cost savings benefits associated with CFLs; 2) Customers do not want to pay the additional costs associated with CFLs; 3) Customers do not like the appearance of the light; 4) Customers have concerns over disposal issues; 5) Customers lack of knowledge concerning the appropriate wattage consumers to use.

OG&E will educate customers on CFLs through the OG&E Unique Education program. The education program will include an explanation of: energy savings, cost savings, light output, disposal procedures, and wattage needs. To overcome the cost issues associated with CFLs, OG&E will offer its customers coupons as bill inserts that can be redeemed at Wal-Mart. Wal-Mart will collect the coupons, count them, and send the coupons and invoices to OG&E.

Schedule/Milestones:

Table 11:  
Yearly Projections for CFL installations in ACOG Area

Years	2008	2009	2010	2011	2012
kWh Savings	709,790	709,790	709,790	709,790	709,790

*Summary of kWh Savings*

Table 12 shows a summary of the reduction in energy consumption which is anticipated in response to the initiatives promoted by OGE:

Table 12:  
Summary of OGE kWh Savings

Current or New Programs	2008	2009	2010	2011	2012
ENERGY STAR	1,733,130	1,819,787	1,910,776	2,006,315	2,006,315
TOU	184,536	201,312	201,312	201,312	201,312
Geo	300,000	320,000	320,000	320,000	320,000
Total kWh	2,217,666	2,341,099	2,432,088	2,527,627	2,527,627
Proposed Programs	2008	2009	2010	2011	2012
Weatherization	1,811,940	1,848,179	1,885,142	1,922,845	1,961,302
CFLs	709,790	709,790	709,790	709,790	709,790
Total kWh	2,521,730	2,557,969	2,594,932	2,632,635	2,671,092
<b>Total kWh</b>	<b>4,739,396</b>	<b>4,899,068</b>	<b>5,027,020</b>	<b>5,160,262</b>	<b>5,198,719</b>

## Oklahoma Department of Transportation

The Oklahoma Department of Transportation is committed to several emission reduction initiatives which may include:

- Avoid mowing on alert days
- Refuel at night or in the early morning
- Use bio-diesel in heavy duty vehicles
- Modify Construction Management Practices
  - Alter hours of construction and project term
  - Limit use of cutback asphalt in all MSA counties during ozone season
  - Reduce site idling
  - Install energy efficient street and signal lighting
- Schedule/Milestones: Ongoing throughout plan term

## State Energy Office, Oklahoma Department of Commerce

The Weatherization Assistance Program enables low-income families to permanently reduce their energy bills by making their homes more energy efficient. It is this country's longest running, and perhaps most successful energy efficiency program. During the last 30 years, the U.S. Department of Energy's (DOE) Weatherization Assistance Program has provided weatherization services to more than 5.5 million low-income families.

By reducing the energy bills of low-income families instead of offering aid, weatherization reduces dependency and allows these funds to be spent on more pressing family issues. On average, weatherization reduces heating bills by 31 percent and overall energy bills by \$358 per year at current prices.

To assist more families and provide additional energy conservation improvements, the Oklahoma Department of Commerce established the Energy Conservation Assistance Fund (ECAAF). Besides energy savings for low-income families, the weatherization of 1,400 homes each year across the state creates local jobs and annually funnels millions of dollars into Oklahoma's economy. The purchase of materials used in weatherization supports local manufacturers and businesses in every county. For every \$1 invested in the program, weatherization returns \$1.53 in energy-related benefits.

Schedule/Milestones:

- Complete approximately 1/5 of 5 year unit totals each year

Table 13:  
Projections for the Weatherization Assistance Program in the ACOG Area

CAA	County	Estimated					
		DOE	DHS	OERB	5-year	Avg MMBTU	5-year MMBTU
COCAA	Cleveland	31	22	6	271	32.4	8,780
COCAA	Logan	9	6	1	76	32.4	2,462
COCAA	Lincoln	11	8	1	96	32.4	3,110
Delta	McClain	4	3	2	37	32.4	1,199
OKC	Oklahoma	114	80	30	1,000	32.4	32,400
OKC	Canadian	10	7	6	91	32.4	2,948
WVCAC	Grady	14	10	7	127	32.4	4,115
Totals					1,698		55,015

Note: MMBTU = Million British Thermal Units --- 1MMBTU = 293 kWh

CAA = Community Action Agency

COCAA = Central Oklahoma Community Action Agency

Delta = Delta Community Action Foundation

OKC = Community Action Agency of Oklahoma City and Oklahoma/Canadian Counties

WVCAC = Washita Valley Community Action Council

DOE = US Department of Energy - Weatherization Assistance Program funding

DHS = OK Department of Human Services - This funding comes from the Low Income Home Energy Assistance Program (LIHEAP), so it is federal dollars, too

OERB = Oklahoma Energy Resources Board - voluntary oil and gas producer organization that provides up to \$1 million in funding for weatherization

## Tinker Air Force Base

### *Qualify Powder Coatings for Gas Turbine Engine Applications*

Tinker Air Force Base (TAFB) is the largest single-site employer in the state of Oklahoma. There are nearly 24,000 civilian and military personnel assigned to the base. TAFB was established as a maintenance and supply depot and has since grown into one of the premier defense support, repair and logistics centers for United States military operations.

This project will identify and qualify powder coating technology for depot repair of military gas turbine engines to replace less environmentally friendly paint systems. Previous projects have identified potential powder coatings applicable to military gas turbine engines, specified components for testing and developed a powder coating test specification for gas turbine engines, and health risk assessment. This project will install a prototype site, demonstrate the operation, and deliver a depot implementation report.

The current process uses conversion coatings, primers and topcoats for military aircraft gas engine components. The wet painting systems contain VOCs and HAPs and are usually applied using paint spray booths. The waste and cleanup associated with wet painting systems is significantly higher than those associated with powder coating systems. This technology eliminates filter waste, paint waste, and maskant waste and will result in a decrease of air emissions at the facility. Although not a target of this pollution prevention project, it is anticipated that a higher production rate might be attained because the cure time for powder coats is shorter than wet paint systems.

#### Schedule/Milestones:

- Complete in 2008

## United Parcel Service (UPS)

UPS will work with the Association of Central Oklahoma Governments and its Clean Cities program to institute voluntary strategies to reduce ground-level ozone and to improve air quality in the seven-county Oklahoma City Metropolitan Statistical Area in order to help the region avoid violation of the 8-hour ozone standard. In support of the regional 8-hour Ozone Flex Program, UPS commits to upgrade its CNG refueling facility in Oklahoma City. (See Attachment 4 for letter of commitment.)

### Schedule/Milestones:

- Accommodate 100 delivery vans by December 31, 2009
- Replace no less than 40 older vehicles by December 31, 2010

## University of Oklahoma

The University of Oklahoma (OU) was created by the Oklahoma legislature in 1890. OU enrolls almost 30,000 students, has more than 2,000 full-time faculty members, and has an annual operating budget of \$1.2 billion. The university is the first state institution in Oklahoma to join a project sponsored by the Association for the Advancement of Sustainability in Higher Education. The project aims to reduce greenhouse gas emissions and situate the institution to be climate neutral by 2050.

The University of Oklahoma is implementing a campus-wide, comprehensive, energy saving and emission-reducing strategic plan.

- The university has committed to purchase 100 percent of its allotment of wind power-generated electricity from OGE. As OGE increases OU's allotment in the future, the university will continue to absorb all of it.

### Schedule/Milestones:

- Absorb OGE's allotments of wind power as they become available.
- OU has, and continues to conduct energy audits of all of its buildings. The audit of each building identifies renovations and improvements that, when made, will increase the building's energy usage efficiency. The cost-avoidances achieved through these efforts are then used to pay for the audit and the improvements.

### Schedule/Milestones:

- Ongoing throughout plan term
- OU's Parking and Transportation department, operating as Cleveland Area Rapid Transit (CART), last year used about 24,000 gallons of compressed natural gas (CNG) in its specially equipped vehicles, which translates to an equivalent amount of diesel fuel that was not used. Specifically, the department currently uses 24 CNG vehicles, 23 Ethanol-capable vehicles, and 42 electric vehicles with plans to further configure its fleet with the goal of reducing the consumption of traditional fossil fuels.

### Schedule/Milestones:

- Two CNG busses are designated to be purchased during the term of the plan.
- Over 30 vehicles are anticipated to be converted to Biodiesel in 2008.



- OU requires that energy efficiency be integral to the related design and engineering specifications of all new building construction.

Schedule/Milestones:

- Ongoing throughout plan term

## Xerox

Xerox Corporation has pledged to cut greenhouse gas emissions from its worldwide operations by 10 percent by the end of 2012. This voluntary reduction target is aligned with EPA's Climate Leaders program and The Business Roundtable's Climate RESOLVE program, which Xerox joined in 2003. The initiative complements the company's ongoing environmental programs, which include products designed for energy efficiency and innovative remanufacturing and recycling practices.

Specific projects for the Oklahoma City area include:

- Chiller Control Upgrade - will reduce electricity usage by lowering power consumed by the pumps and improving chiller efficiency.

### Boiler Control Upgrades

- Variable Speed Combustion Fans - will reduce electricity usage by improving motor efficiency and will reduce natural gas consumption by improving combustion control.
- Variable Speed Feed Water Pumps - will reduce electricity by improving pumping efficiency. A second benefit will be better controlled feed water flow through the economizers resulting in improved boiler efficiency.
- Re-lighting Program - reduces electricity usage - continue relighting program in production and warehouse space where metal halide lighting is replaced with T5 fluorescent and occupancy sensors.

Schedule/Milestones: provided in Attachment 5

## CONTINGENCY EMISSION REDUCTION MEASURES

Contingency measures are designed to allow areas to respond to unplanned increases in local concentrations of ozone. Signatories must agree in advance on what will trigger a contingency measure, what action to take in response to each trigger and how to proceed to avoid a possible violation of the 8-hour ozone standard. Areas must respond to a violation of the standard (.085 design value) by implementing one or more mandatory measures and these measures, once triggered, must be adopted into the SIP. This list of reduction measures will be implemented on a voluntary basis within 24 months of the predetermined trigger during the five-year term of this plan by regional stakeholders.

### .083 Design Value Trigger

ACOG commits to initiate and administer a regional Public Fleet Conversion Program, which will be funded through a Congestion Mitigation and Air Quality (CMAQ) grant. The initiative will

encourage programs that accelerate the use of alternative fuels and alternative fuel vehicles (AFV) in Central Oklahoma.

Based on a competitive selection process, ACOG will annually award eligible public entities with funding for projects meeting criteria within the following categories:

- Projects that promote the conversion of vehicles to AFVs
- Projects that promote the acquisition of AFVs in fleets
- Projects that promote the AFV Refueling Infrastructure Development

ACOG believes these grants will help offset the incremental costs associated with reducing emissions of oxides of nitrogen (NO<sub>x</sub>), VOCs and other greenhouse gasses.

#### .085 Design Value Trigger

In the event of an 8-hour ozone violation measured during the 5-year plan term at any monitoring station in the Central Oklahoma area, the Oklahoma Department of Environmental Quality commits to take a proposed rule revision that is anticipated to require the implementation of a Stage 1 vapor recovery system on all service stations with at least one storage vessel of 2,000 to 40,000 gallon capacity, and that dispense more than 120,000 gallons/year of gasoline in the Oklahoma City MSA to the first available regularly scheduled meeting of the Air Quality Advisory Council for subsequent adoption by the Environmental Quality Board. It is anticipated that the provisions of this rule will become effective one year after the rule is adopted.

However, in the event that unforeseen circumstances dictate a different strategy relative to the reduction of ozone precursors that would be more appropriate than the implementation of Stage I Vapor Recovery at certain service stations in the Oklahoma City MSA, the Department reserves the right to submit such a strategy to Region 6 for approval. The Department commits that any such alternate strategy would achieve at least the equivalent reductions of ozone precursors in the Oklahoma City MSA and would be implemented in the same time frame as that contemplated by Stage 1 Vapor Recovery.

## 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 maintenance of the 8-hour ozone standard.
- 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 quantified voluntary strategies fail.
- Local emission reduction strategies to be designed and implemented by the community with stakeholder participation.

### SIGNATORIES AND THEIR RESPONSIBILITIES

The individuals representing the entities that will sign this 8-O<sub>3</sub>Flex Program are: the Chairman of the ACOG Board of Directors, 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<sub>3</sub>Flex Program 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 Governments

The local governments, represented by ACOG, agree to implement an 8-O<sub>3</sub>Flex 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), ACOG 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, ACOG 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 current measures.

#### *Public Involvement*

Public involvement has been a component of the entire 8-O<sub>3</sub>Flex planning process and will continue to play a role throughout implementation during the term of the plan. This will occur through currently committed and future stakeholders as well as the Air Quality Public Education Committee.

## 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.
- Coordinating 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.

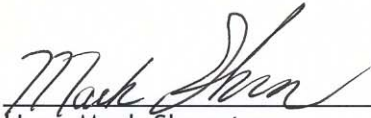
### EXPECTED DURATION

The Central Oklahoma 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. Using the recommended five-year plan term, the beginning of the plan would be the signature date of the agreement with an end date of December 31, 2012 or until designations are made under a revised 8-hour standard. The region would 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.
- 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.

AGREEMENT SIGNATURES



5-8-08

Hon. Mark Sharpton  
Chair, ACOG Board

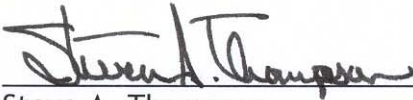
Date



06-10-08

Richard E. Greene  
Regional Administrator,  
Region 6  
U.S. Environmental  
Protection Agency

Date



May 12, 2008

Steve A. Thompson  
Executive Director,  
Oklahoma Department of  
Environmental Quality

Date



## ATTACHMENT 1: COORDINATION AND PUBLIC PARTICIPATION PROCESS

Following is a partial list of significant and notable meetings and communication regarding the public participation process during the development of the 8-O<sub>3</sub>Flex Program.

### Meetings:

September 29, 2006: ACOG invited stakeholders to a briefing on the region's air quality status and to discuss the merits of entering into the 8-O<sub>3</sub>Flex Program. The invitation list for the meeting was culled from previous stakeholder lists that ACOG had compiled over the years. The invitation list included representatives from local and state governments, small and large businesses and industry, the non-profit sector, community and environmental activists, citizens and the media.

December 14, 2006: Intermodal Transportation Technical Committee recommended approval of the region's letter of intent to participate in the 8-O<sub>3</sub>Flex Program.

December 21, 2006: Intermodal Transportation Policy Committee approved the region's letter of intent to participate in the 8-O<sub>3</sub>Flex Program.

January 11, 2007: ITTC reviewed an agenda item focusing on the ENERGY STAR program and its application to the 8-O<sub>3</sub>Flex Program.

January 12, 2007: ACOG staff held a meeting with ODEQ staff to discuss the initial development of the program.

January 23, 2007: ACOG staff met with Lew Flowers, Manager of Vehicle Maintenance, Oklahoma District, United States Postal Service.

January 25, 2007: ITPC reviewed an agenda item focusing on the ENERGY STAR program and its application to the 8-O<sub>3</sub>Flex Program.

January 31, 2007: ACOG and ODEQ staff met to discuss Stage 1 vapor recovery.

February 6, 2007: ACOG staff met with Cathy Sheirman, Tinker Air Force Base Environmental Management Division Chief and EM staff to discuss Tinker's environmental programs and relevance to the 8-O<sub>3</sub>Flex Program.

February 8, 2007: ACOG staff sent letters to major emitters within the region.

March 5, 2007: ACOG staff met with key staff from Chesapeake Energy.

March 16, 2007: ACOG staff met with Debby Anglin, from Anglin Public Relations, who represents Redbud Energy, a natural-gas fired electric generation plant in Central Oklahoma.

March 19, 2007: ACOG staff met with air quality personnel from OGE Energy Corp.

March 20, 2007: ACOG staff sent letters to major employers within the region.

March 22, 2007: ACOG staff met to discuss energy efficiency programming in Central Oklahoma.

March 26, 2007: ACOG staff met with air quality personnel from OGE Energy Corp.

April 5, 2007: Discussion on Demand Side Management programs with ACOG and staff from OGE Energy Corp.

April 10, 2007: ACOG staff met with staff from GWS, Guaranteed Watt Saver, to learn more about energy saving construction and energy audits.

May 4, 2007: ACOG staff met with Theta Dempsey, transit director for Cleveland Area Rapid Transit, which services the University of Oklahoma in Norman.

May 9, 2007: ACOG staff invited stakeholders to its second general meeting in which the proposed control measures and emission reduction strategies were presented.

May 10, 2007: ITTC recommended approval of the use of local emission control measures for the 8-O<sub>3</sub>Flex Program.

May 30, 2007: ACOG staff met with key physical plant and energy efficiency staff from the University of Oklahoma (OU). The school is one of few universities enrolled in the Chicago Climate Exchange.

May 31, 2007: ITPC approved the use of local emission control measures for the 8-O<sub>3</sub>Flex Program.

#### Presentations:

January 9, 2007: ACOG staff made a presentation to the Oklahoma City Council regarding the city's intent to participate in the regional 8-O<sub>3</sub>Flex Program.

May 17, 2007: ACOG staff made a presentation on air quality and the 8-O<sub>3</sub>Flex Program to the Cimarron Chapter of the Sierra Club Oklahoma.

#### Media:

June 1, 2007: The Oklahoman ran a story about the regional 8-O<sub>3</sub>Flex program.

June 12, 2007: ACOG staff participated in a Podcast, hosted by The Oklahoman, at [www.newsok.com](http://www.newsok.com). The discussion included guests from the Greater OKC Chamber and SustainableOKC, a citizen-led environmental advocacy group. The talk focused on air quality issues in Central Oklahoma and the 8-O<sub>3</sub>Flex Program.



ATTACHMENT 2:  
LETTER TO MAJOR EMPLOYERS AND LETTER TO MAJOR EMITTERS



March 20, 2007

<<Contact1>>

<<Name>>

<<Mailing Address>>

<<Mailing\_City>>, <<Mailing\_State>> <<Mailing\_ZIP>>

Dear <<Contact\_Addressee>> <<Contact\_Last1>>:

Over the past several years, you have probably seen articles in the newspaper as well as public interest spots on radio and television educating the public about Central Oklahoma's ongoing ozone challenges. In addition to these educational efforts, local and state governmental agencies have entered into initiatives designed to promote local voluntary collaborative efforts to prevent the Central Oklahoma area from violating the ozone standard. These local programs have relied on the cooperative efforts of the Central Oklahoma business community, citizens and governmental entities to enable the area to avoid violating the ozone standard and prevent the public health effects and economic and regulatory consequences that accompany unhealthy air. However, this year will be very critical to the area's continuing struggles with the ozone standard.

Last year, the Environmental Protection Agency's Office of Air Quality Planning and Standards announced an initiative called the 8-Hour Ozone Flex program. The purpose of the program is to support and reward innovative, voluntary, local strategies to reduce ground-level ozone, thereby improving air quality and helping areas maintain "attainment" with the national ozone standard. Why is this especially important now? In the summer of 2006, the Central Oklahoma region experienced several exceedances of the federal ozone standard. If we were to have a similar summer in 2007, Central Oklahoma would likely violate the standard and as a consequence be designated nonattainment. Besides detrimental health effects, consequences of nonattainment designation may include: higher fuel costs, yearly vehicle emissions testing, no new road construction, and a limited number of air quality permits available which would deter new industry.

This letter, cosigned by ACOG, the Greater Oklahoma City Chamber and the Department of Environmental Quality, is being sent to a number of major employers in the metropolitan area to inform you of this effort and to solicit your involvement. For this program a variety of voluntary strategies are being considered but we need your input to help determine the measures that will work best for Central Oklahoma.

<<Contact\_Addressee>> <<Contact\_First1>> <<Contact\_Last1>>

Page 2

March 20, 2007

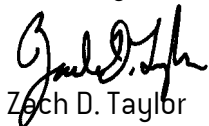
Possible emission reduction measures include:

- More use of alternative fuels
- Energy efficiency programs
- Green building design practices
- Carpooling programs
- Construction practice limitations on Ozone Alert Days
- Idling restrictions

In order to benefit from the full protection of this program, the memorandum of agreement between Central Oklahoma and EPA should be signed by the beginning of ozone season or soon thereafter [sometime around May 1, 2007]. Accordingly, we have a lot of work to accomplish over the next few months and we sincerely hope that you will be a part of that effort. Please let us know of any programs you are currently using or would be interested in participating by filling out the included survey. If you have any further questions about how you can participate, please call Darla Hugaboom with the Association of Central Oklahoma Governments at (405) 234-2264 or Scott Thomas with the Department of Environmental Quality at (405) 702-4157.

With your support and involvement, we can continue ensuring that the citizens of Oklahoma have clean air to breathe and Central Oklahoma can avoid the hardships that accompany a nonattainment designation of the federal ozone standard.

Sincerely,



Zach D. Taylor  
ACOG



Dean Schirf  
Greater Oklahoma City Chamber



Steve A. Thompson  
Department of Environmental Quality



association of central oklahoma governments



February 8, 2007

<<invinvContact>>

<<Company>>

<<invinvCompanyStreet>>

<<invinvCompanyCity>>, <<invinvCompanyState>> <<invinvCompanyZip>>

Dear <<invinvContact>>:

Over the past several years, you have probably seen articles in the newspaper as well as public interest spots on radio and television educating the public about Central Oklahoma's ongoing ozone problem. In addition to these educational efforts, local and state governmental agencies have entered into initiatives designed to promote local voluntary collaborative efforts to prevent the Central Oklahoma area from violating the ozone standard. These locally initiated programs have relied on the cooperative efforts of the Central Oklahoma business community, citizens and governmental entities to enable the area to avoid violating the ozone standard and prevent the public health effects and economic and regulatory consequences that accompany unhealthy air. However, next year will be very critical to the area's continuing struggles with the ozone standard.

On May 18 2006, the Environmental Protection Agency's Office of Air Quality Planning and Standards announced its 8-Hour Ozone Flex program. The purpose of the program is to support and reward innovative, voluntary, local strategies to reduce ground-level ozone, thereby improving air quality and helping areas maintain "attainment" with the national ozone standard. Why is this especially important now? In the summer of 2006, the Central Oklahoma region experienced several exceedances of the federal ozone standard. If we were to have a similar summer in 2007, Central Oklahoma would likely violate the standard and as a consequence be designated nonattainment.

Recently, the Association of Central Oklahoma Governments (ACOG) organized a stakeholder meeting designed to receive input from potentially affected industries and citizens as the first step in developing and signing a memorandum of agreement implementing a local 8-Hour Ozone Flex program. As part of this effort this letter, cosigned by ACOG, the Greater Oklahoma City Chamber and the Department of Environmental Quality, is being sent to a number of potential stakeholders in the metropolitan area to inform you of this effort and to solicit your involvement.

<<invinvContact>>  
Page 2  
February 8, 2007

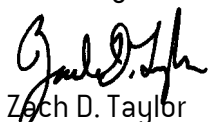
The Ozone Flex agreement will be implemented through an intergovernmental agreement (Memorandum of Agreement) between the EPA, state and the local community. It must contain at least one quantifiable enforceable emission reduction measure that will be implemented during the first year after the agreement is signed, as well as a number of additional voluntary reductions that will be triggered as events contained with the agreement occur. In exchange for the metropolitan area entering into this agreement, and implementing the reduction contingency measures identified in the agreement, the EPA will use its regulatory discretion in the event of a violation of the ozone standard allowing the area to avoid a nonattainment designation.

To help identify and encourage emission reduction contingency measures, the Department of Environmental Quality will be sponsoring legislation in the upcoming Oklahoma Legislative session seeking \$2.5 million to be used as matching grant funds for a variety of mobile source reductions that may be used to satisfy the required emission reduction activity as well as a portion of the contingency reduction measures. In addition to the mobile source reductions we desire from this program, we are looking for other volatile organic compound or nitrogen oxide reductions from stationary sources in the metropolitan area. **We would be interested in knowing of any such emission reduction programs as well as any energy efficiency programs your facility might be planning in 2007 with the hope that we can coordinate and integrate this effort into the area's Ozone Flex memorandum of agreement.** We also hope that you will participate in the stakeholder meetings that ACOG will be holding periodically over the next few months as the memorandum of agreement is being developed.

In order to benefit from the full protection of this program, the memorandum of agreement should be signed by the beginning of ozone season or soon thereafter (sometime around May 1, 2007). Accordingly, we have a lot of work to accomplish over the next few months and we sincerely hope that you will be a part of that effort. If you have any questions about how you can participate or if you have emission reduction or energy efficiency projects that you would like to have included in this program, please call Douglas Rex with ACOG at (405) 234-2264 or Scott Thomas with the Department of Environmental Quality at (405) 702-4157.

With your support and involvement, we can continue ensuring the citizens of Oklahoma have clean air to breathe and Central Oklahoma can avoid the hardships that accompany a nonattainment designation of the federal ozone standard.

Sincerely,



Zach D. Taylor  
ACOG



Dean Schirf  
Greater Oklahoma City Chamber



Steve A. Thompson  
Department of Environmental Quality

## ATTACHMENT 3: TRANSPORTATION SYSTEMS MANAGEMENT (TSM) PROJECTS

Implementing Agency	Summary Description of Measure	Control Measures	Control Measures	Measure Status	Estimated Completion Date
	This strategy will reduce transportation-related emissions by improving traffic flow and reducing congestion throughout the region. These actions, if successful, will have the desired effect of reducing energy consumption and vehicle emissions. Furthermore, TSM strategies can postpone, or even eliminate the need for capital-intensive measures aimed at increasing roadway capacity.	Transportation System Improvements - intersection improvement, signal modification/interconnection, continuous left turn lanes	Transportation System Improvements - intersection improvement, signal modification/interconnection, continuous left turn lanes	See individual project information below.	See individual project completion dates listed below.
Choctaw	Various Locations on NE 23 <sup>rd</sup> & School Zns	Signal Upgrades to LED	Signal Modification	Planned	2008
Edmond	City Wide	Signalized Intersections Upgrade Emerg. Pre-emp.	Signal Modification	Planned	2008
Edmond	15 <sup>th</sup> & Coltrane	Signalization (Sidewalks)	Signal Modification	Planned	2008
Norman	36 <sup>th</sup> Ave. W, Main to River Oaks Dr. & 36 <sup>th</sup> @ Main & River Oaks Dr.	Widen, Sig, Int. Mod. (Sidewalks/Ped Sig)	Intersection Improvement	Planned	2008
Norman	Main, Carter to 12 <sup>th</sup> Ave NE & Intersec. of Main & 12th Ave NE	Widen to 4 lanes/Int Mod/Signals (SW/Bike Paths)	Intersection Improvement	Planned	2008
Norman	36th Ave NW, Brookford to Brookhollow & 36th Ave W @ Quail & Brookhollow	Widen/Int Mod/Sig/Sig Interconn (SW//Ped Sig)	Intersection Improvement	Planned	2008
Norman	Lindsey, 24 <sup>th</sup> SW to 12 <sup>th</sup> SE	Signal Upgrade to LED/UPS	Signal Modification	Planned	2008
Oklahoma County	Britton Rd. & Hiwassee Rd.	Intersection Modification	Intersection Improvement	Planned	2008
Norman	36th Ave. NW, and Tecumseh	New Traffic Signal, Interconnection & Lighting (Ramps/ Pedestrian Signals)	Signal Interconnection	Planned	2009
Norman	Main St., Ed Noble Parkway to Downtown Shopping Center Dr.	Traffic Signal Upgrades (LED Lenses and UPS)	Signal Modification	Planned	2009
Oklahoma County	Kelly Ave., Coffee Creek Rd. to Waterloo Rd. in Edmond	Widen to 4 Lanes Divided & Int. Mod/Signals at Coffee Creek & Sorghum Mill Rds. (Sidewalks/Bike Lanes)	Intersection Improvement	Planned	2009
Edmond	15th St. and Broadway	Add Turn Lanes on 15 St. (Sidewalks)	Intersection Improvement	Planned	2010
Norman	Lindsey St., E. of Jenkins Ave. to W. of BNSF Railroad	Widen & Reconstruct from 2 to 5 Lns & Signal at George Ave. (Sidewalks)	Intersection Improvement	Planned	2010
Norman	Rock Creek Rd., E. of Porter Ave. to 12th Ave. NE	Widen from 2 to 4 Lns & Int. Mod. @ Rock Creek & 12th Ave. NE (Sidewalks)	Intersection Improvement	Planned	2010
Norman	12th Ave. NE & Robinson St.	Int. Widening (East Leg)	Intersection Improvement	Planned	2010
Edmond	33rd and Broadway	Add Turn Lanes on 33rd (Sidewalks)	Intersection Improvement	Planned	2011
Midwest City	SE 15th & Douglas Blvd.	Intersection Modification (Sidewalks)	Intersection Improvement	Planned	2011

Implementing Agency	Summary Description of Measure	Control Measures	Control Measures	Measure Status	Estimated Completion Date
	This strategy will reduce transportation-related emissions by improving traffic flow and reducing congestion throughout the region. These actions, if successful, will have the desired effect of reducing energy consumption and vehicle emissions. Furthermore, TSM strategies can postpone, or even eliminate the need for capital-intensive measures aimed at increasing roadway capacity.	Transportation System Improvements - intersection improvement, signal modification/interconnection, continuous left turn lanes	Transportation System Improvements - intersection improvement, signal modification/interconnection, continuous left turn lanes	See individual project information below.	See individual project completion dates listed below.
Moore	NW 27th & Shields Blvd.	Add Turn Lanes to NW 27th (Sidewalks)	Intersection Improvement	Planned	2011
Norman	36th Ave. NW and Rock Creek Rd.	New Traffic Signal (Pedestrian Crossing)	Signal Modification	Planned	2011
Norman	Alameda St. and Summit Lakes Blvd. /Lochwood Dr.	New Signal (Pedestrian Crossing)	Signal Modification	Planned	2011
Edmond	33rd and Technology Drive	Int. Mod. & Signals (Sidewalks)	Intersection Improvement	Planned	2012
Midwest City	SE 29th and Douglas	Intersection Modification (Sidewalks)	Intersection Improvement	Planned	2012
Midwest City	SE 15th and Sooner Rd.	Intersection Modification (Sidewalks)	Intersection Improvement	Planned	2012
Moore	Broadway, SW 19th to Bryant Ave.	Widen from 2 to 4 Lanes & Signals @ Eastern & Broadway (Sidewalks)	Intersection Improvement	Planned	2012
Moore	NE 12th and Eastern Ave.	Int. Mod. (Widen N & S Legs of Intersection) (Sidewalks)	Intersection Improvement	Planned	2012
Norman	Rock Creek Rd. @ 12th Ave NW & Trailwoods	Int. Mod. & New Traffic Signal (Sidewalks/Ped. Crossing)	Intersection Improvement	Planned	2012
Norman	Boyd St., Berry Road to Classen	Signal Upgrade to LED & UPS and Signal Interconnect	Signal Modification	Planned	2012

## ATTACHMENT 4: UPS LETTER OF COMMITMENT

55 Glenlake Parkway, N.E.  
Atlanta, GA 30328  
404.828.6000 Tel



May 9, 2007

### TO WHOM IT MAY CONCERN:

UPS operates one of the largest delivery fleets in the world with more than 94,542 package cars, vans, tractors, and motorcycles in service. For decades the company has actively explored different power technologies and currently operates more than 10,000 low emission and alternative fuel vehicles in its fleet.

The company's use of alternative fuel vehicles began back in the 1930's with electric vehicles in New York. Over the last 25 years, UPS has invested more than \$15 million in its alternative fuel fleet which includes 1,500 stateside vehicles powered by compressed natural gas, liquefied natural gas, propane, electricity and hydrogen.

UPS also has partnered with government agencies and major corporations to help advance the state of vehicle technology, including two such partnerships with the Environmental Protection Agency (EPA). UPS, the EPA and DaimlerChrysler are working together to obtain practical knowledge about operating hydrogen fuel cell vehicles in a commercial delivery fleet.

Citing UPS's alternative fuel program and fuel conservation initiatives, the U.S. Environmental Protection Agency has honored the company with its distinguished Clean Air Excellence Award. The annual award recognizes organizations that improve air quality through innovative environmental programs. UPS was honored in the "Transportation Efficiency Innovations" category for expanding its alternative fuel fleet program and for other fuel conservation efforts.

UPS is also a U.S. Department of Energy Clean Cities National Partner and was inducted into the Clean Cities Hall of Fame in 1997. The U.S. Department of Energy's Clean Cities National Partner Awards recognize companies, organizations, cities, and states for their outstanding contributions to the growth of the alternative fuel vehicle (AFV) market. UPS supports the Clean Cities mission to advance the nation's energy security, environmental security and economic security by reducing dependence on petroleum. The company is committed to careful management and conservation of fuel, utilization of technologies to reduce vehicle emissions and the company's environmental impact, and to operate in a sustainable manner throughout the business.

To these ends, UPS will work with the Association of Central Oklahoma Governments and its Clean Cities program to institute voluntary strategies to reduce ground-level ozone and to improve air quality in the seven-county Oklahoma City Metropolitan Statistical Area in order to help the region avoid violation of the 8-hour ozone standard. The Oklahoma City MSA includes

Oklahoma, Canadian, Cleveland, Grady, Lincoln, Logan, and McClain counties in the central Oklahoma region.

In support of Central Oklahoma's regional 8-hour Ozone Flex Program Memorandum of Agreement with EPA, UPS commits to upgrade its CNG refueling facility in Oklahoma City to accommodate up to 100 delivery vans by December 31, 2009, and further commits to replacing not less than 40 older delivery vehicles at its Oklahoma City facility with new CNG delivery vehicles by December 31, 2010. Anticipated vehicle specifications for retired and replacement Oklahoma City-based delivery vehicles follow.

### **DIESEL**

Diesel delivery vehicles (to be replaced):	20
Age of diesel vehicles being replaced	16 years
Average miles traveled per year/vehicle:	18,000
Average gallons diesel fuel use per year/vehicle:	2,200
Average mpg	8.0
Vehicles are en route in the region from _____ 8 _____ a.m. until _____ 6 _____ p.m.	
Days per year vehicles are en route in the region:	252
Average GVWR of diesel vehicles to be replaced:	20,000
Diesel engine displacement	7.3L
Diesel engine hp	210

### **Gasoline**

Diesel delivery vehicles (to be replaced):	20
Age of diesel vehicles being replaced	20 years
Average miles traveled per year/vehicle:	18,500
Average gallons gasoline fuel use per year/vehicle:	2,400
Average mpg	7.5
Vehicles are en route in the region from _____ 8 _____ a.m. until _____ 6 _____ p.m.	
Days per year vehicles are en route in the region:	252
Average GVWR of gasoline vehicles to be replaced:	20,000
Gas engine displacement	GM 292
Gas engine hp	180

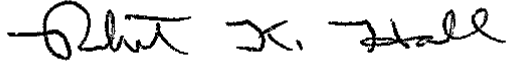
### **NATURAL GAS**

Natural gas delivery vehicles (replacements):	40
NG Engine model year(s)	2007
Average miles traveled per year/vehicle:	18,000
Average gallons CNG use per year/vehicle:	2,400
Average mpg per vehicle	8.5
Vehicles are en route in the region from _____ 8 _____ a.m. until _____ 6 _____ p.m.	
Days per year vehicles are en route in the region:	252
Average GVWR of replacement NG vehicles:	20,000
NG engine displacement	5.9L
NG engine hp	200



UPS has one of the largest private fleets of CNG vehicles in the U.S. with roughly 800 package delivery vehicles. UPS began extensively using CNG in 1989 to assess its benefits and viability as an alternative fuel. The results have been impressive: particulate emissions are 95 percent lower than with diesel engines; carbon monoxide emissions are 75 percent lower; and emissions of nitrogen oxides are 49 percent lower.

Sincerely,

A handwritten signature in black ink that reads "Robert K. Hall". The signature is written in a cursive style with a horizontal line through the middle of the letters.

Robert K. Hall,  
Director, Ground Fleet Engineering



## ATTACHMENT 5: XEROX LETTER OF COMMITMENT



January 31, 2008

Mr. John G. Johnson  
Interim Executive Director  
Association of Central Oklahoma Governments  
21 E. Main Street, Suite 100  
Oklahoma City, OK 73104-2405

RE: Ozone Flex Program

Dear Mr. Johnson:

Xerox Corporation is committed to its responsibility of operating in a sustainable manner. We are a charter member of the Business Roundtable's S.E.E. (Social, Environmental, Economic) Change Initiative, which is aimed at promoting better business and a better world by integrating strict sustainability penalties and goals into business planning. Xerox is also a member of the U.S. Environmental Protection Agency's (USEPA's) Climate Leaders Program where we recently announced our achievement in reducing absolute greenhouse gas emissions worldwide by more than 10%. The corporation has now set a new aggressive worldwide greenhouse gas emissions reduction goal of 25% by 2012. Locally, the Oklahoma City supplies manufacturing plant is a member of USEPA's National Environmental Performance Track and OSHA's Voluntary Protection Programs (VPP). Through these initiatives, Xerox's Oklahoma City plant has reduced its electricity usage by 22% and natural gas usage by 32%, compared to our baseline year of 2002. Reducing energy consumption occurred while the facility continued to increase production and provide supplies to Xerox customers worldwide. Participation in voluntary stewardship programs demonstrates our commitment to the environment, community, and employees.

Strategic planning for 2008 has identified the following projects to continuously improve our energy usage.

1. HVAC Controls Upgrade – Target Completion October 2008  
The current controls are obsolete and offer very little in terms of energy management and setback control. The new control system utilizes the latest technology in terms of control, adds outside economizer operation, and grouped setback control. In addition, several units using reheat will be converted to variable volume.
2. Compressed Air Drying Upgrade – Target Completion August 2008  
Current controls utilize compressed air to regenerate the desiccant driers, which is a very energy intensive method. The new system will utilize blower purge regeneration rather than compressed air heatless regeneration, offering a significant energy savings.



3. Lighting Upgrades – Ongoing

Re-lighting program continued, replacing old fluorescent fixtures reduces electricity usage, in production and warehouse space where metal halide lighting will be replaced with T5 fluorescent fixtures and occupancy sensors.

Xerox is committed to operating in a sustainable manner for the benefit of our employees, neighbors, community and partners. If you have any questions concerning these specific projects or you would like to learn more about Oklahoma City's environmental program, please contact Jim Warram, EH&S Manager, at 405.324.3809.

Sincerely,  
XEROX CORPORATION

A handwritten signature in blue ink that reads "Michael T. Le". The signature is written in a cursive, flowing style.

Michael T. Le  
Plant Manager