CORPUS CHRISTI URBAN AIRSHED
FINAL ANNUAL REPORT
8-O3FLEX MEMORANDUM OF AGREEMENT

PLAN TO MAINTAIN ATTAINMENT
WITH THE 8-HOUR OZONE STANDARD
NUECES COUNTY AND SAN PATRICIO COUNTY IN TEXAS
(THE CORPUS CHRISTI URBAN AIRSHED)

July, 2013

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Prepared for the Corpus Christi Air Quality Committee, by
Chairperson: Gretchen Arnold
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Phone:(361)429-0065

INTRODUCTION

This report fulfills the annual reporting requirements of the 8 Hour O3FLEX Memorandum of Agreement approved on October 23, 2007 for the Corpus Christi Air Shed. This report includes the required annual assessment of:

- Ozone monitoring data and analysis for the period of June 1, 2012 – December 1, 2012.

- The effectiveness of voluntary or mandatory control measures in conjunction with improved technical understanding of the ozone problem during the period of June 1, 2012 – December 1, 2012;

- Latest information on implementation of control measures.

This agreement expired in November of 2012 and this is the final annual report submitted for this agreement.

URBAN AIRSHED

Two adjoining counties, Nueces County and San Patricio County in Texas, contain a large urbanized area with a number of industrial point sources of air emissions and a growing concentration of mobile sources. The two counties are home to the nation's fifth busiest deep-water port, a large industrial and petrochemical complex, a major military base, and a network of highways including the Interstate Highway System that facilitates commerce and a thriving tourism industry. Nueces County and San Patricio County are considered an urban airshed (the Corpus Christi urban airshed) in which air emissions from sources in both counties interact to influence the level of ambient air pollution in the community. Control of ambient air quality requires a strategy that considers sources of air emissions in both counties.

COLLABORATION WITH TCEQ AND EPA

Local entities, the Texas Commission on Environmental Quality (TCEQ), and the U.S. Environmental Protection Agency (EPA) have worked together to plan and implement voluntary actions appropriate to community needs to improve air quality. This collaboration makes it possible to design common sense strategies that reflect the weather, driving habits, and economy of the region in the creation of a model program. A plan was formalized in 1996 in a Flexible Attainment Region Memorandum of Agreement, and modified and continued in 2002.

In 2005 a new 8-hour standard for ozone was implemented, and the 1-hour standard was withdrawn for Nueces County and San Patricio County.

Stakeholders in Nueces County and San Patricio County expressed a desire for a program similar to the Flexible Attainment and O3FLEX programs but based on the 8-hour standard. The Air Quality Committee proposed establishment of federal policy authorizing an 8 Hour O3FLEX program. The policy was approved in 2006, and guidelines were adopted for an 8-hour O3FLEX program. An 8 Hour O3FLEX Agreement for Nueces and San Patricio Counties was developed by the Air Quality Committee, and was approved by all parties on October 23, 2007.

In March of 2008, the EPA revised the ozone attainment threshold from 85 ppb to 75 ppb. Nueces and San Patricio counties continue to operate under and commit to the current 8 O3 Flex with the revised ozone attainment threshold of 75 ppb.

STAKEHOLDERS

The parties to the plan are the following governmental authorities:

- City of Corpus Christi
- Nueces County
- Metropolitan Planning Organization
- Port of Corpus Christi Authority
- Regional Transportation Authority
- San Patricio County
- Texas Commission on Environmental Quality (TCEQ)
- U.S. Environmental Protection Agency (EPA)

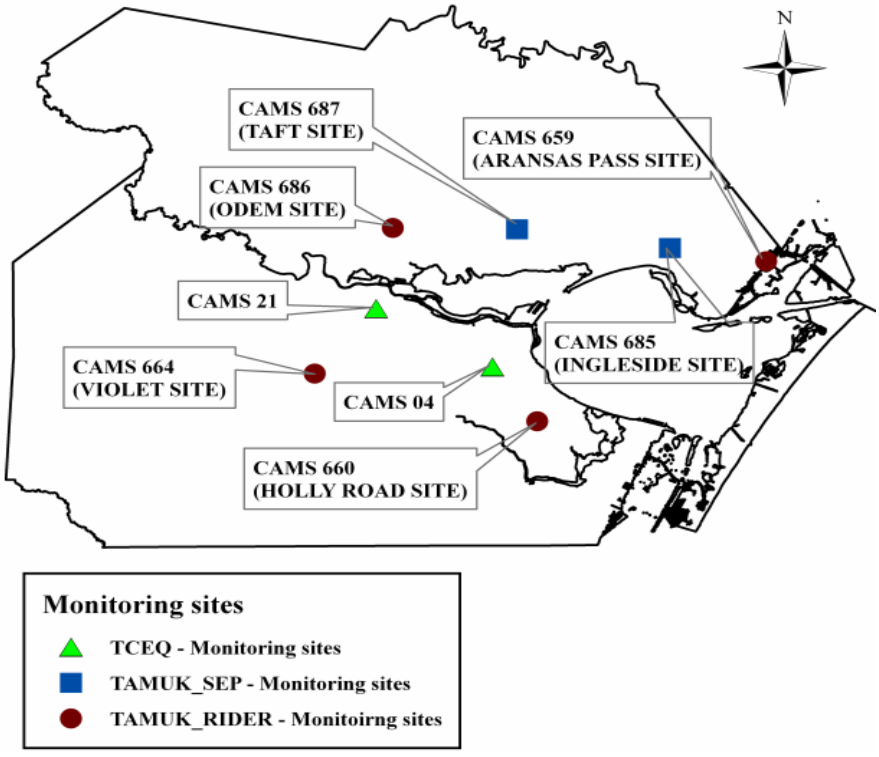
Other stakeholders making major contributions to this effort include the following:

- Corpus Christi Chamber of Commerce Foundation
- Port Industries of Corpus Christi, Inc., and its member companies.
- Texas A&M University-Corpus Christi, Department of Community Outreach, Pollution Prevention Partnership (TAMU-CC)
- University of North Texas & Texas A&M University-Kingsville, Departments of Mechanical and Energy Engineering (UNT) and Environmental Engineering (TAMUK)

OZONE MONITORING DATA RESULTS AND ANALYSIS

The Texas Commission on Environmental Quality operates two Continuous Air Monitoring Stations (CAMS) in Corpus Christi. CAMS 4 is located at the State School at 902 Airport Road. CAMS 21 is located in West Guth Park at 9866 La Branch Street. Ozone levels recorded at these two monitors are used to determine the attainment status of the area.

An additional six research grade continuous ambient air quality monitoring stations are currently being operated jointly by the University of North Texas (UNT), Denton and Texas A&M University-Kingsville (TAMUK) within the urban area, along the north shore of Corpus Christi Bay (upwind on high ozone days), and to the west and south (downwind on high ozone days). The data collected is used to study and assess the spatial distribution of ozone concentrations and the effect of transported levels of pollution within the urban airshed.



The current National Ambient Air Quality Standard for ozone is 75 parts per billion, based on 8-hour averages, and requires that the three-year average of the

fourth highest daily maximum 8-hour average ozone level be less than 75 parts per billion.

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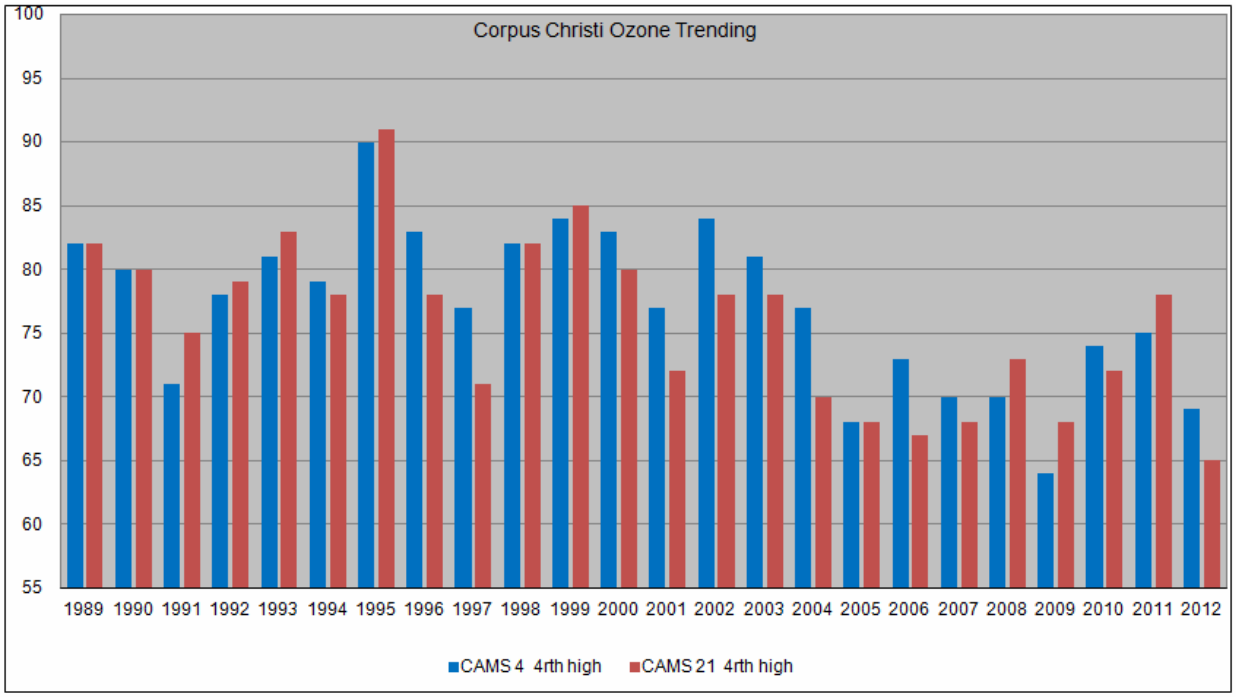
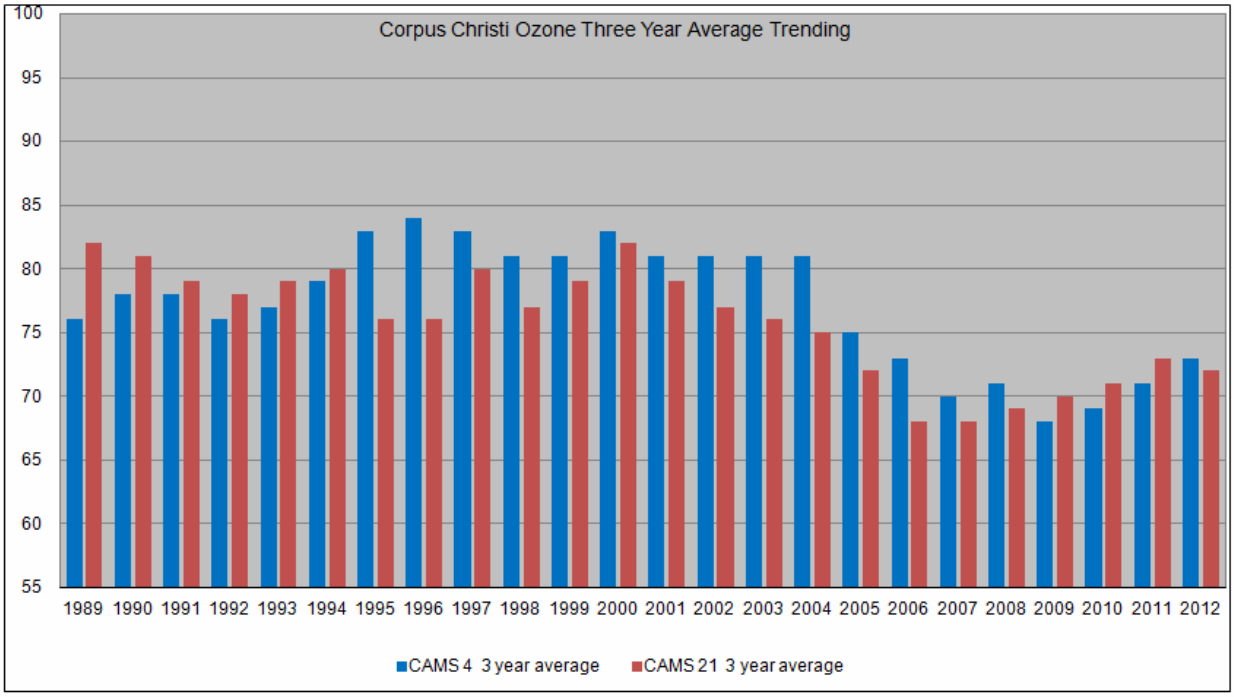
The following chart depicts the ***4th highest ozone concentration*** at the Corpus Christi Urban Airshed regulatory monitors CAMS 4 and CAMS 21. The 4th high ozone level at each monitor is currently below the NAAQS standard of 75 ppb for ozone for the reporting period. An overall downward trend was noted through 2009. The values recorded at the two compliance monitoring sites have shown a slight increase since 2009.



The following chart depicts the ***three-year average of the 4th highest ozone concentrations*** measured at the Corpus Christi Urban Airshed regulatory monitors, CAMS 4 and CAMS 21. The three-year average of the 4th highest ozone level at each monitor is consistent with the continuing area downward trend and is below the NAAQS standard for ozone of a three-year average of 75 ppb for the reporting period. However, a slight increase in the measured levels has been noted since 2009. The most recent 3-year averages at the two compliance grade monitors are currently below the NAAQS by a small margin with levels recorded above 70 ppb (71 ppb at CAMS 04 and 72 ppb at CAMS 21).



Design values calculated using the ozone concentrations measured at the research grade monitoring stations maintained by UNT-TAMUK are shown in the table below. As shown below all but one of the research grade monitoring stations recorded the ozone design values below the current NAAQS. The upwind site located in Aransas Pass (CAMS 659) recorded consistently higher levels of ozone design values (74 ppb through 2008 and 75 ppb since 2012) as compared to other sites. All of the sites showed a gradual increasing trend since 2009, very similar to that at the compliance grade sites.

	CAMS 04	CAMS 21	CAMS 660	CAMS 659	CAMS 664	CAMS 686	CAMS 685	CAMS 687
2002-2004	81	75						
2003-2005	76	72						
2004-2006	73	68	69	74	71			
2005-2007	70	68	74	74	71			
2006-2008	71	69	72	74	71			
2007-2009	68	69	67	75	69	68	67	67
2008-2010	69	71	66	75	69	69	70	69
2009-2011	71	72	67	75	72	71	70	70
2010-2012	69	65	65	70	65	64	62	65

Further statistical analysis was performed to identify the episode days with daily maximum eight hour ozone concentration equal to or exceeding 75 ppb during 2011 and 2012. The exceedance days along with the eight hour ozone concentrations observed at TCEQ and UNT-TAMUK maintained monitoring sites are shown in the table below.

CAMS 04	**CAMS 21**	**CAMS 660**	**CAMS 664**	**CAMS 659**	**CAMS 686**	**CAMS 687**
4/11/2011 (75 ppb)	9/6/2011 (81 ppb)	9/6/2011 (76 ppb)	9/6/2011 (83 ppb)	4/11/2011 (77 ppb)	4/11/2011 (77 ppb)	9/9/2011 (79 ppb)
9/6/2011 (80 ppb)	9/7/2011 (79 ppb)	9/9/2011 (75 ppb)	9/7/2011 (79 ppb)	9/5/2011 (77 ppb)	9/6/2011 (76 ppb)	9/23/2011 (77 ppb)
9/9/2011 (77 ppb)	9/9/2011 (87 ppb)	9/23/2011 (75 ppb)	9/9/2011 (78 ppb)	9/6/2011 (79 ppb)	9/9/2011 (79 ppb)	6/26/2012 (83 ppb)
9/10/2011 (75 ppb)	9/10/2011 (82 ppb)	6/26/2012 (85 ppb)	9/10/2011 (76 ppb)	9/7/2011 (77 ppb)	9/10/2011 (79 ppb)	
9/23/2011 (77 ppb)	9/23/2011 (78 ppb)		9/23/2011 (79 ppb)	9/8/2011 (76 ppb)	9/23/2011 (77 ppb)	
6/26/2012 (77 ppb)	6/26/2012 (84 ppb)		6/26/2012 (80 ppb)	9/9/2011 (81 ppb)	5/17/2012 (79 ppb)	
				9/10/2011 (77 ppb)		
				9/23/2011 (83 ppb)		
				9/30/2011 (75 ppb)		
				5/17/2012 (79 ppb)		
				6/26/2012 (88 ppb)		

There was no exceedance days recorded at CAMS 685 in 2011 while during 2012 one exceedance day with daily maximum eight hour ozone concentration of 76 ppb was recorded on 6/26/2012. As shown in the table, a total of five days with daily maximum eight hour ozone concentrations exceeding 75 ppb were identified at CAMS 04 and CAMS 21 during 2011 and one during 2012. However, based on the guidance provided by U.S. EPA none of these high ozone days were contiguous to constitute an episode for photochemical modeling analysis purpose. The upwind site in Aransas Pass (CAMS 659) recorded a single episode day during April and eight days during September of 2011 while in 2012 single episode day was recorded during May and June. A wind rose analysis of the high ozone days in September indicated the influence of winds from the north and northeast along with occasional northwesterly winds. Twenty four hour backward trajectories generated for the high ozone days using the Hybrid Single Particle Lagrangian Integrated Trajectory Model (HYSPLIT) developed by National Oceanic and Atmospheric Administration (NOAA) indicated transport of polluted air parcels

from highly urbanized and industrialized regions in North and East Texas and from Louisiana. Trajectories during the episode days with northwesterly winds indicated influence of polluted air parcel transport from counties with active eagle ford shale oil and natural gas exploration.

As noted above, the upwind site located in Aransas Pass has consistently recorded higher ozone concentrations than CAMS 04 and 21 located within the urban and industrial core indicating the influence of upwind transport of elevated levels of ozone concentrations from highly urbanized and industrialized areas of Texas and beyond. The urban airshed is currently in attainment of the ozone NAAQS by a slim margin. However, despite the successes of the voluntary control strategies, this area could move into non-attainment status with any future revision and implementation of tighter ozone standards by U.S. EPA.

EFFECTIVENESS OF VOLUNTARY CONTROL MEASURES IN CONJUNCTION WITH IMPROVED TECHNICAL UNDERSTANDING OF THE OZONE PROBLEM

The above charts depicting the TCEQ CAMS monitored data for ozone, and the University of North Texas - Texas A&M University-Kingsville research data for ozone for the Corpus Christi airshed demonstrate the effectiveness of local voluntary control measures. The Corpus Christi airshed remains in attainment of the stricter NAAQS for ozone of 75 ppb. The airshed's continued attainment of the stricter NAAQS standard of 75 ppb for ozone is due to the effectiveness of the 8 O3 Flex Agreement and the actual emissions reductions realized from local air quality research, resulting understanding of the ozone problem, and subsequent effective voluntary control measures and programs to reduce levels of ozone.

LATEST INFORMATION ON IMPLEMENTATION OF CONTROL MEASURES

Local control measures and programs include researching and implementing voluntary emission reduction measures initiated by business and industry, local government and the public that seek to reduce ozone precursors based on local understanding of the ozone problem and effective programs to reduce ozone levels. Specific information on research, emission reducing programs and initiatives are included in Appendix A.

APPENDIX A

STAKEHOLDER ACTIVITIES DURING JUNE, 2012 - DECEMBER, 2012

Pollution Prevention Partnership, Texas A&M University-Corpus Christi
June 2012 – December 2012

The Pollution Prevention Partnership implements the AutoCheck program; a vehicle emission sensing program that is voluntary and open to the public.

AutoCheck is fulfilling the requirement of the 8 Hour O3FLEX Agreement for implementing one new ozone control measure within the first year after approval of the Agreement.

AutoCheck measures the emissions of community vehicles at public events as well as business fleets through a program called Clean Fleet. AutoCheck tests vehicle emissions, informs motorists if their vehicle is polluting, screens gas caps for leaks and checks tire pressure.

During this reporting period, AutoCheck held two (2) public events and six (6) business partner events, providing emissions testing 197 vehicles.

Throughout the testing events, information packets were distributed to community members containing information about vehicle emissions' impact on air quality and public health

More information about the Pollution Prevention Partnership can be found at http://outreach.tamucc.edu/p3/

UPDATE OF RESEARCH ACTIVITIES BY UNT-TAMUK
– December 31, 2012

The University of North Texas - Texas A&M University-Kingsville team have continued the operation and maintenance of six research grade monitoring stations spatially located in Nueces, San Patricio and Aransas Pass counties through FY 2011 and FY 2012. The hourly ozone concentrations and corresponding meteorological data including wind speed, wind direction, relative humidity and outdoor temperature are acquired using LEADS system and are available for stake holders, researchers and public on the TCEQ's website. Completeness statistics of the ozone and prevailing meteorological conditions measured during January 1st through December 31st of 2011; January 1st through December 31st 2012, and during the ozone season of 2011 and 2012 (April 1st through October 31st) are shown in the tables below.

Completeness statistics considering hourly measurements for 2011 (Total – 8760)

	CAMS 660	CAMS 664	CAMS 659	CAMS 686
Ozone	100%	86%	94%	92%
Wind speed	91%	88%	92%	85%
Wind direction	91%	88%	92%	85%
Outdoor temperature	99%	85%	95%	84%
Relative Humidity	100%	90%	95%	95%

Completeness statistics considering daily average of maximum measurements for 2011 (Total – 365)

	CAMS 660	CAMS 664	CAMS 659	CAMS 686
Ozone	100%	89%	96%	93%
Wind speed	100%	94%	98%	86%
Wind direction	100%	94%	98%	86%
Outdoor temperature	100%	88%	98%	86%
Relative Humidity	100%	93%	98%	95%

Completeness statistics considering hourly measurements for the 2011 ozone season (Total – 5136)

	CAMS 660	CAMS 664	CAMS 659	CAMS 686
Ozone	100%	93%	96%	95%
Wind speed	92%	92%	96%	100%

Wind direction	92%	92%	96%	100%
Outdoor temperature	100%	98%	98%	82%
Relative Humidity	100%	98%	98%	100%

Completeness statistics considering the daily average of maximum during the 2011ozone season (Total – 214)

	CAMS 660	CAMS 664	CAMS 659	CAMS 686
Ozone	100%	94%	98%	95%
Wind speed	100%	99%	100%	100%
Wind direction	100%	99%	100%	100%
Outdoor temperature	100%	99%	100%	85%
Relative Humidity	100%	99%	100%	100%

Completeness statistics considering hourly measurements for 2012 (Total – 8760)

	CAMS 660	CAMS 664	CAMS 659	CAMS 686
Ozone	92%	93%	95%	92%
Resultant wind speed	91%	86%	91%	100%
Resultant wind direction	91%	86%	91%	100%
Outdoor temperature	93%	84%	100%	95%
Relative Humidity	98%	96%	99%	99%

Completeness statistics considering daily average of maximum measurements for 2012
(Total – 366)

	CAMS 660	CAMS 664	CAMS 659	C AMS 686
Ozone	93%	95%	95%	93%
Resultant wind speed	100%	97%	99%	100%
Resultant wind direction	100%	97%	98%	100%
Outdoor temperature	95%	87%	99%	99%
Relative humidity	98%	97%	99%	99%

Completeness statistics for the ozone season of 2012 (April through October) considering hourly measurements (Total – 5136)

	CAMS 660	CAMS 664	CAMS 659	CAMS 686
Ozone	94%	97%	97%	88%
Resultant wind speed	93%	88%	95%	95%
Resultant wind direction	93%	88%	95%	95%
Outdoor temperature	100%	100%	100%	95%
Relative Humidity	99%	100%	100%	99%

Completeness statistics for the ozone season of 2012 (April through October) considering daily average of maximum measurements (Total – 214)

	CAMS 660	CAMS 664	CAMS 659	C AMS 686
Ozone	94%	98%	99%	89%
Resultant wind speed	100%	100%	100%	95%
Resultant wind direction	100%	100%	100%	95%
Outdoor temperature	100%	100%	100%	99%
Relative humidity	99%	100%	100%	99%

City of Corpus Christi

PLANNING
ENVIRONMENTAL SERVICES

P.O. Box 9277
Corpus Christi
Texas 78469-9277
Phone 361-826-3245
www.cctexas.com

Gretchen Arnold
Chair, Corpus Christi Air Quality Group
311 South Morningside
Corpus Christi, Texas. 78404

May 22, 2013

Subject: 2013 Update - Corpus Christi Ozone Flex Agreement

Dear Ms. Arnold:

The City of Corpus Christi has been a stakeholder in the Corpus Christi 8 O3 Flex agreement from its inception in 2007 until its expiration in December of 2012. The following is a brief on the emission reduction initiatives that the City of Corpus Christi performed from the reporting period ending June of 2012 until the agreement's expiration in December of 2012.

The City of Corpus Christi is currently working to improve air quality by administering the Texas Commission on Environmental Quality (TCEQ) Air Quality Planning grant. Subcontracts are in the process of being approved to extend activities through August 31, 2013 with:

- Texas A&M University –Corpus Christi for Clean Fleet Initiative;
- University of North Texas for air quality monitoring and modeling development tasks.

The City of Corpus Christi administers the sub-contracts, completes the monthly reports and submits reports to the TCEQ.

The City maintains an active Ozone Action Plan which requires City staff and contractors to minimize certain activities during any ozone action day. City employees are required to implement procedures such as refueling after 6:00 p.m. for both personal and City vehicles. The City's public works contracts provides for the City to order contractors to cease construction in the event of a forecasted ozone action day.

The City has also made considerable improvements to our Compressed Natural Gas (CNG) vehicle fleet. The City Gas Department is operating three CNG filling stations. Two of the stations are open to the public.

In 2008 the City had 5 CNG vehicles. The City is currently operates 16 Bi-fuel CNG, 41 Dedicated CNG and 15 Bi-fuel Propane. The Gas Department plans to buy 15 OEM Bi-fuel CNG Vehicles for next Fiscal Year. Our CNG vehicle fleet includes light trucks, heavy trucks and automobiles. The City of Corpus Christi is a forerunner in the utilization of CNG by municipalities in Texas.

The City coordinated with the U.S. Postal Service to convert mail delivery vehicles at three post offices to CNG. Post office is currently working to start Lamar Station CNG Station and expected to start fueling 26 additional vehicles as soon as its ready. A total of 82 local postal delivery vehicles are currently operating out three postal substations with CNG fuel.

The City coordinated with the Regional Transportation Authority (RTA) initiative for conversion of their fleet from diesel to CNG. City assistance included construction of a natural gas main to the RTA fleet facility on Bear Lane. RTA CNG fleet initiative is now operating completely independently. Additionally, AT&T now has 43 Bi-fuel CNG Vehicles and Republic Services has 2 CNG Garbage Trucks.

Current plans include expansion of CNG with the possibility of the addition of 2 to 3 commercial CNG Stations.

If you have any questions regarding our efforts to maintain and improve local air quality please contact me at 826-3781 or PeteAn@cctexas.com.

Sincerely,

Sharon Bailey Lewis

for Pete Anaya
Director, Planning and Environmental Services

SAMUEL L. NEAL, JR.
County Judge

Claudia Lobell
Chief Executive
claudia.lobell@co.nueces.tx.us

Danielle Hale, E.M.C.
(361) 888-0513
danielle.hale@co.nueces.tx.us

Marie Carrales
Secretary
marie.carrales@co.nueces.tx.us

April 25, 2013

Ms. Gretchen Arnold, Director
Pollution Prevention Partnership
Texas A&M University – Corpus Christi
6300 Ocean Drive, NRC # 2200
Corpus Christi, Texas 78412

Re: Update Report – Corpus Christi 03 Flex Agreement

Dear Ms. Arnold:

Nueces County is committed to maintaining attainment of the ozone standard in the Corpus Christi area. During Ozone Action Days we will continue to minimize the use of gasoline and diesel power equipment as mush as practical. Also, we will continue our participation in the Coastal Bend Regional Air Quality Committee.

We look forward to our opportunity to continue working with you in the future.

Sincerely,

Samuel L. Neal, Jr.
Nueces County Judge

SAN PATRICIO COUNTY

Terry Simpson
County Judge
Room 109
400 West. Sinton St. Rm. 109
Sinton, Texas 78387
Office: 361/364-9301

April 29, 2013

Ms. Gretchen Arnold
Director, Pollution Prevention Partnership
Texas A&M University-Corpus Christi
6300 Ocean Drive, NRC #2200
Corpus Christi, TX 78412

RE: 03 Flex Agreement 2012

Ms. Arnold:

San Patricio County continued to respond to ozone action days by reducing the use of gasoline and diesel powered equipment as much as possible in order to prevent non attainment results for the period of June 1 – December 15, 2012.

Additionally, San Patricio County is committed to continuing to try to do our part to support environmental friendly operations whenever and wherever possible.

Sincerely,

Terry Simpson
San Patricio County Judge

CORPUS CHRISTI MPO
METROPOLITAN PLANNING ORGANIZATION

TRANSPORTATION POLICY COMMITTEE

Terry A. Simpson, Chair
Honorable County Judge
San Patricio County

Samuel Loyd Neal, Jr. Vice Chair
Honorable County Judge
Nueces County

David R. Krebs
Honorable Mayor
City of Portland

Nelda Martinez
Honorable Mayor
City of Corpus Christi

Mike Carrell
Chairman
Port of Corpus Christi

John Valls
Chairman
Corpus Christi Regional Transportation Authority

May 1, 2013

Ms. Gretchen Arnold, Chair
Pollution Prevention Partnership 311 S. Morningside
Corpus Christi, TX 78404

Re: 8-03 Flex Memorandum of Agreement -Annual Report

Dear Ms. Arnold:

The Corpus Christi Metropolitan Planning Organization (MPO) is pleased to have worked with you and the Texas A&M Corpus Christi -- Pollution Prevention Partnership (PPP) in a common mission to sustain and improve our ambient air quality. This work has resulted in our airshed remaining in compliance with the National Air Quality Standards for ozone. The 2012 Annual Report is the final 8-03 Flex Agreement Report. It documents the extensive collaboration between public, private and individual entities to achieve this mission.

The Corpus Christi MPO will continue to be committed to facilitating the efforts of the stakeholders in this “clean air” effort by virtue of our agreement to pursue an Ozone Advance agreement and we look forward to being part of the Ozone Advance Workgroup that will develop a “path forward” letter by late September of 2013. The MPO will also continue the support of PPP public outreach efforts by sponsoring information on our website and actively supporting alternative forms of transportation and alternative fuels.

Thank you for the work that has been done to maintain our air quality improvement trend and by working together we can build upon this success.

Sincerely,

Tom Niskala, Transportation Planning Director

CORPUS CHRISTI REGIONAL
TRANSPORTATION AUTHORITY

5658 Bear Lane | Corpus Christi,Texas 78405 | p. 361-289-2712 | f. 361-289-3057 | www.corta.org

May 31, 2013

Ms. Gretchen Arnold
Chair, Corpus Christi Air Quality Group
311 South Morningside
Corpus Christi, Texas 78404

SUBJECT: Air Quality 03 Flex-agreement for the Corpus Christi Regional Transportation Authority
Submitted for 2012 Annual Air Quality 03 Flex-agreement

Dear Ms. Arnold:

The Corpus Christi Regional Transportation Authority (CCRTA) strongly supports all efforts to maintain a clean air and ozone attainment status in the Corpus Christi area. As an interested stakeholder the CCRTA is committed to support current clean air initiatives and the development of new initiatives to ensure that Corpus Christi residents and visitors enjoy improved air quality.

The CCRTA offers multitude of programs and services that provide shared transportation opportunities for Corpus Christi residents and the region. Programs include fixed route service, commuter service, van pools, demand response and a local seasonal water taxi. Additionally, CCRTA provided shuttle services to large community events to limit congestion and emissions.

In perhaps one of the boldest moves to date, the CCRTA Board of Directors adopted Compressed Natural Gas (CNG) as the fuel supply for the future at their May 2011 Board meeting. Subsequently, the CCRTA has received ten (10) CNG buses that are now in service. CNG powered buses will add to efforts to improve air quality and represent a first step to a fleet comprised of vehicles powered by CNG.

Natural gas vehicles improve air quality through the following dramatic reductions in emissions:

- Reduces carbon dioxide (CO_2) emissions by 20%-30%
- Reduces carbon monoxide (CO) emissions by 70%-90%
- Reduces nitrogen oxide (NOx) emissions by 75%-95%
- Reduction of up to 90% of particle matter (PM) emissions
- Reduces volatile organic compound (VOCs) emissions by 89%

In addition, alternative fuel vehicles such as CNG's produce little or no evaporative emissions (i.e. fumes) during fueling and use. In gasoline vehicles, evaporative and fueling emissions can account for at least 50% of a vehicle's total emissions.

Natural gas produces lower carbon dioxide (CO_2) emissions per vehicle mile traveled. While CNG vehicles do not emit methane, another principle greenhouse gas, any increase in methane emissions is more than offset by a substantial reduction in (CO_2) emissions compared to other fuels.

Attached, please find detail on continuing and planned efforts initiated by the CCRTA to improve overall air quality.

Sincerely,

Mr. Scott Neeley, CEO
Corpus Christi Regional Transportation Authority
5658 Bear Lane
Corpus Christi, Texas 78405
(361) 289-2712
(361) 289-3005 fax

Enclosure

Air Quality 03 Flex-agreement for the Corpus Christi Regional Transportation Authority Submitted for 2012 (– December 2012) Annual Air Quality 03 Flex-agreement

Fleet Fixed-Route Vehicles

- 10 buses utilize Compressed Natural Gas (CNG)
- 5 Buses are EPA 2010 Low Emission compliant vehicles
- 26 Buses are 2007 Low Emission compliant vehicles
- 28 Certified low emission buses are in operation (EGR engines)

B-line (Para-transit) vehicles

- 33 Para-transit buses are Ultra Low Emission Vehicles (ULEV)

Non-revenue vehicles (maintenance trucks, relief vehicles and supervisor vans)

- 6 Hybrid vehicles (gasoline/battery)
- 32 Low Emission Vehicles and ULEV

Refrigerate

- 83% of RTA fleet uses R134A refrigerant
- Remaining 10% of RTA's fleet uses R22
- All mechanics are required to be HVAC Type II Certified I Recovering and Recycling Refrigerant
- All refrigerant is recovered by 4 different recovery units (recovering, recycling and then reusing the same refrigerate)

Head Lamp/Bulbs

- All buses/vehicles are using low or no mercury headlamps

Interior Bus Lamps

- 31 Buses have lifetime LED interior lamps
- Remaining fleet utilizes fluorescent tubes which are recycled and environmentally friendly – green tubes

Recycling of fleet lubricants

- Motor oil, batteries, solvents, paints, oil filters, antifreeze, lubricants, Freon, brake fluid and scrap metal are all recycled

Disposal of Controlled Wasted (oil, Freon and other waste)

- CCRTA is considered a universal waste generator

Fueling

- CCRTA has chosen CNG as the alternative fuel of the future
- 95% of RTA fleet is always fueled after 6 p.m.
- CCRTA utilizes Ultra Low Sulfur Diesel fuel
- Bulk fuel and oil tanks are double walled fiberglass tanks to help prevent leakage
- Fueling dispensers are equipped with EMCO Wheaton vapor recovery
- Bulk fuel tanks are equipped with fuel interstitial monitoring system
- Fuel tanks equipped with automated leak detector
- Yearly inspections and certification are conducted to ensure that there is no environmental risk

Vehicle Maintenance Initiative

- CCRTA has partnered with Del Mar College to develop the CCRTA Journeyman Program for development and continuing education of mechanics
- The Vehicle Maintenance Department is a paperless environment through fleet maintenance software, a time keeping management system and a central database

Earth Day Bay Day

- Held a bicycle giveaway
- Provided bus ride information
- Displayed a clean emission vehicle

Bus Stop Amenities/Equipment

- 45 Bus stop shelters with solar lighting
- LED lighting – Southside Transfer Station
- LED lighting – Robstown Park and Ride
- Battery powered forklift

Partnership Program with Del Mar College and Texas A&M University

- Both Texas A&M and Del Mar have partnered with CCRTA to offer free fares to their employees and students throughout the school year.

Ozone Action Days

- Reduced bus fares offered for Ozone Action Days (50% off of regular fares)
- Extended live telephone coverage on the day of Ozone Action and the evening prior to Ozone Action Days (6 a.m. to 7 p.m.) to assist new riders with personalized trip planning
- News Releases are disseminated to media outlets promoting the benefits of public transportation (to include information on reduced fares) and CCRTA's contribution to improving the air quality for Corpus Christi and surrounding areas
- CCRTA voluntarily refrains from use of gasoline powered equipment on Ozone Action Days

Media (on-going)

- Radio PSA's and News Release
- Radio and television advertising
- New Spanish Commercial promoting public transportation

Employee Awareness and Recycling Program

- Newsletters with environmental messages
- Review of CCRTA's Pollution Prevention policy to meet current regulations and provide on-going training
- Recycling program at CCRTA Administrative offices (paper goods, aluminum and plastic)

Youth Education Presentations

- Promote Plan "B" for student field trips
- Hosted tours of the CCRTA facilities and promoted the environmental initiatives

Community Awareness

- Participate in Pollution Prevention Partnership activities exhibits at community events
- Vanpool / Carpool Program
- Employer bus pass programs (bulk purchases)

CCRTA provides shuttle services to many organizations and community events:

- Beach to Bay Run
- Feast of Sharing
- Health Fairs
- Job Fairs
- Walk and Roll Event

Upcoming 2013 Capital Projects

- Replacement of twenty-three (23) unleaded Paratransit vehicles that have reached their useful life, with twenty-three (23) CNG Paratransit vehicles.
- Replacement of seven (7) unleaded E-Series supervisor vans that have reached their useful life, with seven (7) CNG MV-1's.

PORT CORPUS CHRISTI

May 23, 2013

Project No. 13005A

Ms. Gretchen Arnold
Chair, Corpus Christi Air Quality Committee
311 South Morningside Street
Corpus Christi, TX 78404

Subject: O3 Flex Agreement Final Report for June 2012 – December 2012

Dear Ms. Arnold,

This is a report of the voluntary activities that the Port of Corpus Christi Authority undertook during the reporting period to maintain air quality in attainment of the 8-hour zone standard for the Corpus Christi urban airshed through the 8-Hour O3 Flex Agreement. As a part of our commitment, PCCA continues to implement various measures to reduce emissions from our activities and operations in the Port area.

The activities that we have implemented and conducted during the reporting period include:

- Conducting ozone awareness and education with employees, contractors, port users, and tenants. PCCA is enrolled in the TCEQ email alerts for Ozone Action Days, and on these Ozone Action Days, we send email alerts advising our employees, contractors, port users, and tenants to refrain from fueling equipment and vehicles, using small two-cycle engines, conducting painting and blasting activities, and excessive idling of vehicles and equipment. Additionally, PCCA has specified in the general conditions of our contract documents that these items are specifically prohibited on Ozone Action Days. Finally, during tenant annual audits, we discuss with the tenant what ozone reducing measures they might be taking and provide suggestions based on measures the PCCA takes.
- PCCA has a 5-minute anti-idling policy in place for all PCCA vehicles and equipment. As a part of this effort, "No Idling" stickers have been placed on all PCCA owned and operated vehicles and equipment.
- Previously, PCCA utilized propane-powered equipment for grounds maintenance in the Port area. This equipment was scheduled for replacement during the reporting period, and while PCCA has a policy to replace alternative fueled equipment with like equipment, there was no propane powered equipment available on the market. PCCA replaced the equipment with Interim Tier 4 engines, even though Tier 3 engines are cheaper and available in the marketplace, in order to have the best available emission control technologies on these tractors.

222 Power Street 78401 | PO Box 1541 78403 | Corpus Christi, Texas | T 361 882 5633 F 361 882 7110 | portofcorpuschristi.com

- PCCA continues to maintain Stage II vapor recovery on the fuel pumps utilized to fuel the PCCA fleet vehicles and equipment.
- PCCA conducted an Auto Check event to verify tail pipe emissions from select gasoline-powered and diesel-powered PCCA fleet vehicles and equipment are within acceptable emission ranges.
- PCCA, through its Environmental Management System, is also participating in a voluntary program through the Texas legislation to reduce electrical consumption by 5% annually. As a result, PCCA has implemented many measures to reduce electrical consumption, such as turning lights and equipment off after hours and during weekends, and utilizing alternative energy sources and electric saving devices. In addition, 10% of the electricity consumed by PCCA is purchased from green energy sources.
- PCCA conducted Bulk Terminal maintenance painting operations in our designated paint building, which is equipped with filters to reduce emissions during painting operations.

PCCA remains committed to our participation in the Corpus Christi Air Quality Committee and to doing our part to reduce air emission in the Corpus Christi area. If you have any questions, please contact me at (361) 885-6163.

Sincerely,

Sarah L. Garza
Environmental Compliance Manager

SLG/sgs
cc: John P. LaRue
Frank C. Brogan
David L. Krams
Stevenson Ashley
Robert Schulz

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FLINT HILLS resources®
Corpus Christi Refineries

CERTIFIED MAIL
RETURN RECEIPT REQUEST
7012 3050 0000 9879 0753

P.O. Box 2608
Corpus Christi, Texas 78403-2608

July 3, 2013

Ms. Gretchen Arnold
Coastal Bend Regional Air Quality Committee
311 South Morningside
Corpus Christi. 78404

Re: Flint Hills Resources Corpus Christi LLC – Update on Air Quality Improvements
June 2012 through May 2013

Dear Ms. Arnold;

Through its actions and as evidenced by the future plans outlined below, Flint Hills Resources Corpus Christi, LLC ("FHR") continues to support efforts to improve our regional air quality and maintain our ozone attainment status. The actions outlined below are expected to reduce the emissions footprint from our facilities in the Corpus Christi area. We also have continued our recent historical practice of providing cleaner fuels for use in Texas.

In the time period between June 2012 and June 2013, FHR completed or committed to complete, in the context of and contingent on approval of its West Domestic Crude project, the following emissions reductions projects:

- The upgrade of the conventional floating roof in Tank 08FB160 to a low emission full contact floating roof was completed in late 2012.
- FHR committed to upgrades of seven fixed-roof tanks in distillate service so they are equipped with low emission, full contact, internal floating roofs
- FHR committed to upgrades of two additional conventional internal floating roof tanks so that they are equipped with low emission, full contact, internal floating roofs.
- FHR committed to rework the combustion section of the COGEN to include the installation of low NOX burners.
- FHR committed to adding Selective Catalytic Reduction (SCR) Technology for oxides of nitrogen (NOx) reduction on the outlet of the CCR Hot Oil Heater
- FHR committed to increased connector monitoring in several existing units within the West Refinery.

The commitments described above are expected to be completed in the coming months and years. FHR looks forward to providing you with information regarding the completion of these important emission reduction projects in future annual updates.

In addition to these planned projects, FHR continues to focus on the planned reduction of Maintenance, Start-up and Shut-down ("MSS") emissions. FHR previously purchased its own Internal Combustion Engines ("ICE") to control emissions from the setting of tank roofs during change of service or maintenance activities. The use of these engines has become FHR's routine practice for avoiding exceedances of chemical reportable quantities and for minimizing potential air quality impacts from MSS activities.

OSHA STAR WORKSITE

Finally, FHR has continued to voluntarily supply lower RVP gasoline locally during October since our area has traditionally remained at risk for exceeding the ozone standard during that month. We also continue to supply quantities of ULSD to the south and central Texas markets.

If FHR can provide additional information or assistance in support of the 2008 O3 Flex Agreement, please contact us.

Sincerely,

Valerie Pompa
Vice President and Manufacturing Manager

VP/MH/syw
Air 13-233; U 3 L 2

ARTHUR G. "SONNY" LOUDON
Vice President

CITGO
Corpus Christi Refinery
P.O. Box 9176
1802 Nueces Bay Blvd.
Corpus Christi, TX 78407

June 20, 2013

Ms. Gretchen Arnold
Director, Pollution Prevention Partnership
Texas A&M University-Corpus Christi
6300 Ocean Dr., NRC # 2200
Corpus Christi, TX. 78412

Re: Continuing Commitment to Air Quality

Dear Ms. Arnold:

CITGO Refining & Chemicals Company L.P. has actively supported the *8-O3 Flex Memorandum of Agreement Plan* to preserve attainment with the 8-hour ozone standard for the Corpus Christi Area. As part of our commitment, CITGO has implemented and continues to implement measures to reduce emission from our facilities and products.

Since 2006, CITGO has implemented numerous measures that reduce emission of VOC's, NOx, CO, SO2, and PM from our facilities which has resulted in an overall 35% reduction as reported on the emission inventory. The physical additions and changes made at the Refinery contributing towards these reductions include:

- Replacement of gas fired wet gas compressors with an electric driven compressor in our No. 1 FCC Unit;
- Addition of tank emission controls that exceed current regulatory requirements including secondary floating roof seals;
- Installation of flare gas recovery systems which capture routine process off-gases for use as fuel gas in existing heaters and boilers at both the East and West Plants; and
- Shut down of old boilers.

CITGO is working on replacing by October of this year a series of gas fired hydrogen recycle compressors located in two different operating units with new, electric motor driven compressors. The result will be a reduction in emissions of VOC's, NOx, CO, SO2, and PM.

In addition, several operational changes have also reduced emission from our Refinery. Those changes include:

- Modification of operating parameters, catalyst, and processing additives for the No. 1 and No. 2 FCC Units which reduce NOx, CO, PM, and SO2 emissions;
- Implementation of an enhanced LDAR program that targets VOC emission in the form of fugitives from equipment leaks; and
- Improvements in monitoring of Refinery operation under the Title V program to demonstrate compliance with applicable permit and regulator requirements.
- Permitting of emissions from Maintenance, Startup and Shutdown (MSS) events and with that emphasis on activities to reduce emissions during those events..

CITGO employees are provided Ozone Action Day training annually. This training covers Refinery commitments and actions that individuals can do at home to reduce ozone formation. We have also sought to educate the public by supporting the Community Advisory Council's efforts on educating the public on ground level ozone and actions that can be taken to help reduce VOC and NOx emissions that contribute to ozone formation.

Beyond these improvements and changes, we will continue seeking opportunities to advance our environmental performance and reduce emissions from our facility and products. If we can provide additional information on our ongoing activities and ozone attainment initiatives, please feel free to contact me.

Sincerely.

Arthur G. "Sonny" Loudon
Vice President & General Manager
Corpus Christ Refinery

VALERO
BILL GREEHEY REFINERY • Valero Refining - Texas, L.P. • Post Office Box 9370 • Corpus Christi, Texas 78469-9370 • Telephone (361) 289-6000

MEMBER
CLEAN INDUSTRIES 2000

July 8, 2013

Ms. Gretchen Arnold
Chair, Corpus Christi Air Quality Group
311 South Morningside
Corpus Christi, Texas 78404

Dear Ms. Arnold,

Valero supports efforts to maintain clean air and ozone attainment status in the Corpus Christi area. Environmental stewardship is a core value at Valero. We have made significant environmental investments in initiatives demonstrating our commitment to a cleaner environment. As we strive for continuous improvement, we are evaluating ways to enhance the environmental quality of our operations.

Over the past few years, Valero has implemented several measures to reduce emissions from the refinery; they include the following:

- New low NOx burners installed in process heaters and boilers
- Replaced some natural gas driven compressors with electric driven compressors
- Added additional vapor controls on some storage tanks and Waste Water treatments units
- Installed Flare Gas Recovery Compressors on several flares
- Completed electrical upgrades designed to increase reliability and reduce likelihood of upsets

Valero fully endorses the 8-03 FLEX agreement and the measures contained therein. We remain committed to being a partner in this effort to protect the air quality in the Corpus Christi area.

Sincerely,

Dennis L. Payne
Vice President

Equistar Chemicals, LP
A LyondellBasell Company
P.O. Box 10940 (78460-0940)
1501 McKinzie Road
Corpus Christi, Texas 78410
Phone: 361.242.8000
Fax: 361.242.8030

EQUISTAR

June 24, 2013

Ms. Gretchen Arnold
Director, Pollution Prevention Partnership
Texas A & M University – Corpus Christi
6300 Ocean Drive, NRC #2200
Corpus Christi, Texas 78412

Re: **Equistar Chemicals, LP – Corpus Christi Complex**
Continuing Commitment to Air Quality

Dear Ms. Arnold:

Equistar Chemicals, LP – Corpus Christi Complex (Equistar) continues to support the efforts of the Pollution Prevention Partnership and the Coastal Bend Regional Air Quality Committee to maintain attainment with the 8-hour ozone standard for the Corpus Christi urban airshed. As part of our commitment, Equistar has implemented voluntary emission-reduction projects as described below.

Olefins Unit Cooling Tower Monitoring
The olefins unit cooling tower and heat exchangers are monitored in a proactive manner to minimize emissions. By using several cooling tower monitoring systems, Equistar achieves early notification of possible process leaks into the heat exchanger system. Once alerted, Equistar operations personnel can immediately investigate, and steps may be taken to address any problems.

Flare Gas Analyzers
The utilization of gas chromatograph flare gas analyzers allows Equistar to optimize the quantity of fuel gas supplementing the flare systems, thereby reducing the quantity of combustion nitrogen oxides (NOx) and carbon monoxide (CO) emitted.

Energy Conservation Projects
The site Pollution Prevention Plan outlines a maintenance program to test for and repair steam leaks, which results in a reduction of boiler combustion NOx and CO. Additionally, energy conservation projects implemented since 2008 have resulted in an energy reduction of 300 Billion btu and consequently a significant reduction in combustion products.

Reliability Driven Environmental Event Reviews
Equistar has implemented a program to further reduce plant emission events. Entitled "Reliability Driven Environmental Events" reviews, the program focuses on identifying and maintaining equipment with a high potential for causing an environmental event. By improving equipment performance, the frequencies of events as well as emissions are reduced.

File: AIR 01

Fired Source Emissions Control System
Equistar programmed a system of alarms in the plant distributed control system which provides a proactive component to existing environmental compliance programs. Alarm set points were established for all fired source equipment so that the alarms activate below environmental permit limits. These alarm points allow operations to take corrective actions when alerted, thereby eliminating potential permit violations and reducing overall emissions.

Flare Minimization
Equistar has initiated a flare minimization project designed to reduce emissions during planned startups and shutdowns. During plant startups, process gas streams are recirculated through the unit instead of being routed to the flare. This allows equipment to reach operating temperatures, and for distillation tower compositions and flow rates to stabilize with fewer furnaces online. It also provides an alternative outlet for off-specification product during startup, instead of being forced to flare the majority. The Flare Minimization project has reduced flaring by 50% during unit shutdown and startup.

Floating Roof Tank Maintenance Events
Measures are taken during floating roof tank maintenance activities to control emissions. During floating roof landings, devices such as thermal oxidizers are utilized to control VOC emissions which could emanate from the vapor space between the floating roof and the hydrocarbon surface. During tank refilling, the tanks are initially filled with water until the roof is floating, and then hydrocarbons are introduced to reduce vapor space emissions.

Infrared Camera Surveys
Infra-red camera surveys are periodically performed covering the entire chemical complex. These voluntary surveys are in addition to state and federal mandated Leak Detection and Repair programs for controlling volatile organic carbon emissions.

In addition to the above, Equistar has implemented a plant-wide procedure for additional emissions reduction during ozone action days. This procedure requires Equistar and contract personnel to:

- delay painting when possible, and to delay lawn mowing altogether;
- adjust operations activities to minimize any venting of hydrocarbons to the flare from routine activities;
- maintain a constant level in hydrocarbon tanks when possible;
- delay operation of the NESHAPS steam stripper when possible;
- avoid use of the Olefins and BD diesel air compressors when possible;

- reduce the use of engine driven equipment as possible;
- not refuel plant vehicles between 6:00 AM and 2:00 PM; and
- car pool if possible and avoid refueling their vehicle in the mornings.

Once again, Equistar remains committed to reduce environmental emissions and maintain compliance with the eight-hour ozone standard. If you have any questions or need additional information, please contact me at (361) 242-8075.

Sincerely,

Randal E. Tatum
Site Manager

RET/DDH/sg

File: AIR 01

DuPont Fluoroproducts
Corpus Christi Plant
P.O. Box JJ
Ingleside, TX 78362

June 10, 2013

Ms. Gretchen Arnold
Director, Pollution Prevention Partnership
Texas A&M University – Corpus Christi
6300 Ocean Drive, NRC #2200
Corpus Christi, TX 78412

Continuing Commitment to Air Quality Improvement
E.I. du Pont de Nemours & Co. – Corpus Christi Plant
Ingleside, TX – San Patricio County

Dear Ms. Arnold:

The DuPont Corpus Christi Plant actively supports the clean air quality initiative in the Corpus Christi metropolitan area and voluntarily participates along with others to continually improve air quality through reduced emissions.

As you know, the site manufactures ozone friendly fluorocarbon refrigerant and pharmaceutical propellant products for every day societal needs. Most of our intermediates and products are not considered to be volatile organic compounds (VOC) and thus, do not contribute to the formation of ground-level ozone. Our site has a goal of "zero emissions" and based on our annual emissions inventory, we are designated as a "minor source" of hazardous air pollutants by the regulatory agencies. All emissions sources are permitted.

Our painting contractor utilizes DuPont paint products that contain low VOC content and, in several instances, painting applications have migrated to water based paint products.

The site observes "Ozone Action Days" when announced by the TCEQ and communicated via automatic electronic mail. On those days, employee and contractor awareness is promoted by displaying two banners at the two main plant entrances as reminders to minimize activities that might contribute to ozone formation.

We use electric golf carts where possible. The remaining fleet vehicles utilize reformulated gasoline.

If we can provide any addition information related to the Regional air quality effort, please do not hesitate to contact me at your earliest convenience at (361) 776-6600.

Sincerely,

Robert L. Barger
Plant Manager
DuPont - Corpus Christi Plant

cc: File 10.12

BTB Refining, LLC

Asphalt Products
Laboratory Services
Transportation

June 20, 2013

Ms. Gretchen Arnold
Chair, Corpus Christi Air Quality Committee
311 South Morningside Street
Corpus Christi, TX 78404

RE: Continuous Commitment to Air Quality

Dear Ms. Arnold:

BTB Refining, LLC supports the Coastal Bend Regional Air Quality Committee efforts to maintain the air quality in Corpus Christi. As an asphalt refiner, we know that any contribution toward reduction in ozone precursors helps in reducing the possibility of having ozone exceedeance.

Over the years this small asphalt refinery has been faithful in Ozone Actions Days participation and has made capital investment toward reducing ozone precursors.

BTB Refining commitment toward reducing ozone precursors during the ozone season has been our contribution to maintain air quality. If we can provide additional information or assistance to the regional effort, please feel free to call me (361) 289-6762 ext. 1302.

Sincerely,

George Salinas
George Salinas
Plant Manager

P.O. Box 9606 ♦ 6600 Up River Road ♦ Corpus Christi, Texas 78469 (78409) ♦ Office (361)289-6762 ♦ Fax: (361)289-1351