

ENGINEERING EVALUATION
Tesoro Refining and Marketing Company
PLANT NO. 14628
BANKING APPLICATION NO. 17798

BACKGROUND

Tesoro Refining and Marketing Company (Tesoro) has permanently shutdown the fluid coking unit and its associated equipment and has replaced it with a delayed coking unit. Tesoro has submitted this application to in order to bank emission reduction credits (ERCs) from the reduction in emissions from converting the fluid coker to a delayed coker. The following fluid coking equipment was permanently shutdown at the Golden Eagle Refinery in Martinez, CA:

- S-806 Coker Fluid Coking, 740 MMBtu/hr abated by S-903 No. 5 Boiler and A-8 Coker CO Boiler Precipitator**
- S-903 No. 5 Boiler abated by A-8 Coker CO Boiler Precipitator**
- S-924 #24 Furnace Coker, Anti-Coking Steam Superheater**
- S-295 #25 Furnace Coker, Attriting Steam Superheater**

Tesoro replaced the fluid coker with the delayed coker in part to satisfy the requirement of an Abatement Order issued by the Bay Area Air Quality Management District's Hearing Board on December 22, 2005. The Hearing Board issued the Order in response to a series of problems with sooty coker flue gas emissions that have occurred when the existing fluid coker (S-806) and the associated carbon monoxide (CO) boiler (S-903) at the refinery have malfunctioned. The Hearing Board initially ordered Tesoro to evaluate ways to prevent these problems from recurring, and Tesoro determined that the switch to the delayed coking technology would be the most appropriate alternative. Based on that determination, the Hearing Board ordered Tesoro to implement the modifications. The Hearing Board order did not prevent Tesoro from banking reductions in emissions with the replacement of the fluid coker with the delayed coker.

The new delayed coker process is inherently cleaner than the fluid coking process because the coke particles that are produced as a byproduct of the process are collected in drums and removed in solid form, instead of being emitted in the exhaust gases from the process, which can result in coke particulate being released into the atmosphere. Other modifications also benefit air quality and public health, including (i) a change from burning coker exhaust gas to provide heat for the coking process to burning cleaner refinery fuel gas (RFG) or natural gas; (ii) the routing of pressure relief devices that currently vent unabated directly into the atmosphere to a gas recovery system or to a safety flare; and (iii) a switch from anhydrous ammonia currently used in the Selective Catalytic Reduction ("SCR") system at the No. 5 Boiler to aqueous ammonia, which is inherently safer.

Overall emissions from the delayed coker are decreased as compared with the fluid coker due to burning cleaner fuel (refinery fuel gas and natural gas) instead of coke in the specialized fluid coker's burner, which created particulates and caused gray or black plumes when the CO boiler had process upsets or tube failures. There is a net decrease in NOx, SO2, CO, PM10, and ammonia emissions from operation of the replacement of the fluid coker with the delayed coker. Tesoro wishes to bank the decreased emissions of the following pollutants: NOx, SO2, CO, and PM10.

EMISSIONS REDUCTION CREDIT SUMMARY

The District's ERC banking rule is Regulation 2, Rule 4. The emission calculation procedure in Section 2-4-601 refers to the emission calculation procedures in the New Source Review rule, which is Regulation 2, Rule 2. For emission reduction credits, the calculation procedure is described in Section 2-2-605. The baseline period for this application is July 1, 2005 through June 30, 2008.

The fluid coker and the associated equipment were shutdown on March 16, 2008. S-806, S-903, S-924, and S-925 all share a common stack. The stack is equipped with continuous emissions monitors (CEMs) for NOx and SO2 and has a continuous opacity monitor (COM) for particulates. The grandfathered units were first given permit conditions in the 'No. 3 HDS Permit' (Application 22679) issued on February 11, 1982. In that application, Tosco (who owned the refinery at the time), was required to install the CEMs for NOx and SO2 (permit condition 4357, Tables C and D). The permit conditions may be found in the application file of this evaluation report. The CEM data will be used to calculate baseline emissions of NOx and SO2.

Tosco was also required to develop an emissions inventory tracking (EMIT) program for emissions of particulate matter (PM) and CO. The calculation of PM emissions was to be based upon a correlation equation and source tests (permit condition 4357, Table C, part 4b). Monthly source tests were required every other year to establish compliance with emission limits. Emissions of CO were also based upon a correlation equation (permit condition 4357, Table C, part 6b). Both equations were subject to APCO approval. The equations were approved and have been in use since 1982 to report monthly emissions of PM and CO from S-903, as required by the permit condition.

Due to the large volume of source tests that were required to establish compliance with PM emission limits, source test data will be used to calculate baseline emissions of PM. No source tests exist for CO with the exception of two Field Accuracy Tests for the NOx and SO2 CEMS. CO was measured as part of the two tests but the results are not considered accurate since they vary from 68.1 ppmvd to 203 ppmvd at 3% O2, while NOx for the two tests were very similar. The emissions factor for CO in the BAAQMD databank is a 'general' factor and not specific to operations at the fluid coker. Due to the uncertainty in the two field accuracy tests in the measurement of CO and of the 'general' emission factor used in the databank, emissions of CO from the BAAQMD approved emissions inventory tracking (EMIT) program used by Tesoro will be used to calculate baseline emissions of CO.

The permit condition required monthly reporting of NOx, SO2, PM, and CO from the S-903 Coker CO Boiler Stack. Monthly emissions of NOx, SO2, and CO during the baseline period are tabulated in Appendix A of this engineering evaluation. Source test data for PM is also tabulated in Appendix A. As per the EPA AP-42 reference document, "Appendix B.1 Particle Size Distribution Data and Sized Emission Factors for Selected Sources (Originally "C.1" in 4th edition)": Reference 13 Particulate Emissions from Non-Fired Sources in Petroleum Refineries: A Review of Existing Data (API Publication No. 4363), Figure 2-11 Particle Size Distribution (PSD) for Fluid Cokers, 85% by weight of the particulate matter from fluid cokers is PM10.

A summary of the three-year baseline NOx, SO2, CO, and PM10 emissions is tabulated below. Per Regulation 2-2-605.3, periods where the actual emission rate exceeded regulatory or permitted limits are excluded from the baseline average emissions. The list of pollutant excesses are also listed in Appendix B.

Emissions from S-806 Fluid Coker, S-903 No. 5 CO Boiler, S-924 #24 Furnace, and S-295 #25 Furnace

	NOx	SO2	CO	PM10
Baseline Average	24.30 ton/month	242.36 tons/month	7.28 tons/month	2.29 tons/month
Annual Emissions	291.59 tons/year	2908.28 tons/year	87.35 tons/year	27.53 tons/year

Adjustments for RACT, BARCT, and District Rules and Regulations

Regulation 2-2-605.5 requires adjustment of the baseline emission rate to comply with the most stringent of RACT, BARCT, and District rules and regulations in effect or contained in the most recently adopted 2005 Ozone Strategy. There are fifteen stationary source control measures contained in the District's most

current Ozone Strategy (Year 2005). Regulation 9-10: Inorganic Gaseous Pollutants, Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries is not on the list of stationary source control measures in the Ozone Strategy (Year 2005). Regulation 9-10 is on the list of 2007 Further Study Measures. The District Planning Department will evaluate the potential for additional emission reductions from further study measures. In addition, there is no new "coker" rule being proposed in the Ozone Strategy. Because Regulation 9-10 is not on the list of Control Measures to reduce emissions, no adjustments to the baseline emissions are required due to the 2005 Ozone Strategy.

In order to determine RACT and BARCT for emissions from fluid cokers and the associated CO boilers, other rules and regulations at other air regulatory agencies were searched. The Texas Commission on Environmental Quality (TCEQ) and the South Coast Air Quality Management District (SCAQMD) do not have specific rules or regulations for fluid cokers or their associated CO boilers. The BACT Clearinghouses from the SCAQMD, EPA, and CARB were searched for BACT determinations for both fluid cokers and CO boilers for fluid cokers. Only BACT determinations from CO boilers from fluid catalytic cracking units (FCCUs) were found and these do not apply to fluid cokers.

To determine if Tesoro is subject to the most stringent of RACT and BARCT, a search was completed to determine what types of control technologies exist for fluid cokers and CO boilers for cokers. The Valero Delaware City Refinery in Delaware was required to install SO₂ scrubbers on both the fluid coker and fluid catalytic cracker as part of a Consent Decree with the USEPA and the Delaware Department of Natural Resources and Environmental Control (DNREC). Valero was required to reroute the coker burner flue gas through the CO boiler and wet gas scrubber train rather than through a backup incinerator. As the coker burner gases are routed through the wet gas scrubber train, particulate matter is removed and sulfur dioxide is scrubbed out in the absorber section. The stripped gas is then routed to the sulfur plant for recovery. The cost of the two scrubbers were reported to be \$400 million (The News Journal, 9/12/3006 and Valero). The cost of the wet scrubber system was verified to be \$200 million by the permit engineer, Ravi Rangan, at the Delaware Division of Air and Waste Management (phone conversation 11/17/08). The limits imposed on the Valero Delaware City Refinery were compared with the emissions to be banked by Tesoro (Permit Conditions at <http://www.awm.delaware.gov/AQM/Pages/AirPermits.aspx>, Premcor Refinery FCU Operating Permit, Draft FCU Operating Permit, March 2008. The permit and limits were finalized on June 4, 2008. A copy of the final permit may be found in the application folder for this banking application.) The throughput at the Valero Delaware City Refinery, once owned by Premcor Refinery, is 57,199 bbl/day of feed, exclusive of the FCU recycle stream. Tesoro's fluid coker was very similar in size with a limit of 53,200 bbl/day, exclusive of the FCU recycle stream, so it is appropriate to compare the two processes.

NO_x: Valero was initially limited to 152 ppmvd at 0% O₂ (130 ppmvd at 3% O₂) on a 24 hour rolling average basis and 689.8 TPY. Valero was to propose annual concentration based and mass emission limits based on 6 months of run data. Tesoro is currently limited to 150 ppmvd at 3% O₂. Review of the average 24 hour NO_x CEM data from Tesoro, shows that the only periods during the baseline period that exceeded Valero's 130 ppmvd at 3% O₂ limit, happened to coincide with the exceedance of the District's 150 ppmvd at 3% limit. This limit was exceeded only two times (see Appendix B) and emissions for these periods were not used to calculate the average baseline emissions per Regulation 2-2-605.3. The NO_x credits to be received by Tesoro are 291.59 TPY, which is much less than Valero's initial limit of 689.8 TPY and no RACT/BARCT adjustment is needed.

PM₁₀: Valero is limited to 75.1 lb/hr (including TSP) and 330.6 TPY of PM₁₀ emissions. Tesoro is limited to 40 lb/day at the fluid coker and CO boiler. Tesoro can bank only 27.53 tpy of PM₁₀. Total PM emissions from the fluid coker were 32.39 tpy. No RACT/BARCT adjustment is needed for PM₁₀.

CO: Valero is limited to 500 ppmvd at 0% O₂ (428 ppmvd at 3% O₂) on an hourly basis and 200 ppmvd at 0% O₂ on a 365 day average, and 608 TPY. Tesoro is currently limited to 400 ppmvd at 3% O₂ on a daily basis. Tesoro will bank only 87.35 tpy, which is much less than Valero's 608 tpy and no RACT/BARCT adjustment is needed.

SO₂: Valero is limited to 25 ppmvd SO₂ at 0% O₂ on a rolling 365 day average and 50 ppmvd SO₂ at 0% O₂ on a rolling 7 day average. These limits are equivalent to the SO₂ limits in the “NSPS Subpart Ja- Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007”. Valero is also limited to 174 tpy of SO₂. Because Tesoro was not subject to NSPS Subpart Ja for the fluid coker, they are not subject to this limit. District Regulation 9-1-310.1 limits SO₂ emissions for FCCs and fluid cokers to 1000 ppmv. Tesoro exceeded the District limit one time and the emissions were not used to calculate baseline emissions per Regulation 2-2-605.3. ERCs for SO₂ are to be 2908.28 TPY, unadjusted for RACT/BARCT. To determine whether a wet scrubber should be considered RACT/BARCT for Tesoro’s coker, a cost analysis was done.

As mentioned, the cost for Valero’s coker scrubber was \$200 million. As part of the BAAQMD Hearing Board’s requirements, Tesoro was to identify and obtain costs to eliminate sooty coker emissions as described in the Background section of this engineering evaluation. Tesoro hired Fluor to complete a technology review with capital and operating costs. Two of the alternatives included wet gas scrubbers. A LABSORB Regenerative Scrubber would cost \$196 million with \$22 million/yr operating costs. A Cansolv Regenerative Scrubber (which is what Valero is using) would cost \$155 million with \$14.7 million/yr operating costs. Note that to install either scrubber, a supercombustor or combustor would also be needed in order to work with the pressure of the scrubbers. The cost of the supercombustor or combustor would be an added cost. A review of the monthly SO₂ emissions shows that the maximum monthly average SO₂ emission was 660 ppmvd at 3% O₂ or 770 ppmvd at 0% O₂. To abate SO₂ emissions to 25 ppmvd at 0% O₂ would require a 97% reduction. For a conservative estimate, the least costly wet scrubber will be considered. The estimate does not include the cost to upgrade the furnace to a supercombustor or combustor.

Cost of Wet Scrubber = \$155 million
Annual Operating Costs = 14.7 million/yr
SO₂ emissions = 2908.28 tpy

The simplified formula to calculate the annualized equipment cost in the District BACT Handbook will be used along with the procedure outlined in the BACT Handbook Appendix C1.

$$\begin{aligned} \text{Annualized Equipment Cost} &= \$155,000,000[\text{CRF} (0.163) + \text{Tax} (0.01) + \text{Ins} (0.01) + \text{G\&A} (0.02)] \\ &= \$31,465,000 \end{aligned}$$

CRF = Capital Recovery Factor
Tax = Tax Factor
Ins = Insurance Factor
G&A = General and Administrative Factor

$$\text{Total Annual Costs} = \$31,465,000 + \$14,700,000 = \$46,165,000$$

$$\text{Cost Effectiveness} = \$46,165,000 / (0.97 * 2908.28) = \$16,365/\text{ton}$$

The cost per ton to abate SO₂ is at least \$16,365 (without the combustor/supercombustor), which is above any reasonable RACT or BARCT threshold for cost-effectiveness. Note that the District Best Available Control Technology (BACT) threshold to control SO₂ is less than an additional \$2000/ton at \$18,300/ton. The refineries that are installing wet scrubbers are doing so to meet the new NSPS Subpart Ja standards. Tesoro would not have been subject to this standard for the fluid coker. Valero (or Pemcor) was only required to do so as part of a consent decree, therefore, no RACT or BARCT adjustments are required for SO₂.

The Valero Refinery in Benicia, California is also required to install a wet scrubber on the combined exhaust of the fluid coker and fluid catalytic cracking unit by 2011 per a consent decree with the US EPA.

Valero must control emissions of SO₂ to 25 ppmvd at 0% O₂ on a rolling 365 day average and 50 ppmvd at 0% O₂ on a rolling 7 day average. It has been determined by District Staff (“Summary of Bay Area Air Quality Management District Best Available Retrofit Technology Determinations”, Brenda Cabral, November 5, 2008) that the cost effectiveness to control SO₂ is \$11,780, which was determined to be above any reasonable BART threshold for cost-effectiveness.

In addition, the District has interpreted Regulation 2-1-209 or the application of RACT to require consultation of EPA’s Control Technology Guidelines (CTG) and Alternative Control Techniques (ACT) Guidelines before granting emission reduction credits. These guidelines were prepared to provide guidance to state and local agencies in preparing their attainment plans, and set a national floor for reasonable retrofit requirements. Even when a local agency has not adopted a regulation imposing control requirements on a specific source, the agency should not grant credits for emissions above national guidelines. No national guidelines (CTGs or ACTs) exist for fluid cokers and CO boilers at petroleum refineries and no adjustment for RACT/BARCT is required.

The bankable emissions calculated for the sources shutdown at the fluid coker, S-806 Coker, S-903 No. 5 Boiler, and S-924 and S-925 Furnaces are not in excess of any applicable state or federal regulatory limit.

A list of emissions that were in excess of District Regulations are in Appendix B. For daily emissions of NO_x and SO₂ in excess of the District Limits, the CEM emissions were not used to calculate baseline emissions per Regulation 2-2-205.3. For emissions of PM₁₀ in excess of the District Limits, the results of the monthly source tests were not used to calculate baseline emissions per Regulation 2-2-605.3.

The equipment being shutdown at Tesoro was subject to the following permit conditions.

Source	Permit Conditions
S-806	19528 (Part 1), 22150 (Parts 1-3)
S-903	573 (Parts 1-14), 16685 (Parts 1-2), and 19528 (Part 1)
S-924	4357 (Parts 1, 2, 3, 4A, 5, 7, 10-14)
S-925	19528 (Part 1) and 23562 (Parts 1-4)

The permit conditions may be found in the application file of this evaluation report. There are no applicable requirements in the conditions that would require the bankable ERCs to be reduced or adjusted downward.

The emission reduction credits are being used to offset emission increases from the new delayed coker project (Applications 14141 and 16389). Emission increases from the project are tabulated below along with the available emission reduction credits from the shutdown of the fluid coker. The table also shows the remaining credits left to be applied to a banking certificate for Tesoro.

	NO _x	SO ₂	CO	PM ₁₀
ERC from Shutdown	291.59 tons/year	2908.28 tons/year	87.35 tons/year	27.53 tons/year
Emission Increases from the Delayed Coker Project	19.59	7.74	30.83	14.92
ERCs for Banking	272.0	2,900.5	56.5	12.6

SMALL FACILITY BANK AND BANKING ACCOUNT

Tesoro is a major facility and does not qualify for offsets from the Small Facility Banking Account (SFBA). Therefore, no such emission offsets are required to be repaid to the SFBA as per Regulation 2-4-303.5.

STATEMENT OF COMPLIANCE

The ERC calculations were performed in accordance with the procedures outlined in Regulation 2-2-605. ERCs are calculated based on the emissions from the common stack of S-806 Coker abated by S-903 No. 5 Boiler and A-8 Precipitator, and S-924 and S-925 Furnaces over the 3-year baseline period from July 1, 2005 through June 30, 2008. The bankable ERCs did not require adjustments due to RACT, BARCT, or permit conditions. Periods when emissions exceeded District Rules and Regulations were not used to calculate baseline emissions per Regulation 2-2-605.3.

The ERCs meet the standards of Regulation 2-4-301.2, which states that bankable reductions include "emission reduction credits due to the installation of different processes or equipment which emit less than the previous process or equipment that performed the same function". Tesoro has replaced the fluid coker with a delayed coking unit. The sources have been archived in the District database and the sources have been removed from the plant's permit conditions (see Application 18739). The ERCs are real, quantifiable, enforceable, and permanent as required by the definition of Emission Reduction Credit in Regulation 2-2-201.

The ERCs for the shutdown of the S-806 Coker abated by S-903 No. 5 Boiler and A-8 Precipitator, and S-924 and S-925 Furnaces exceed 40 tons/yr of NOx, SO2, and CO and the application is subject to the Publication, Public Comment and Inspection requirements of Regulation 2-4-405. Before approving this banking application, the District must publish a notification of the preliminary decision to approve the ERCs in at least one newspaper of general circulation within the District. The U.S. EPA, the California Air Resources Board, all adjacent air districts, and any individual submitting a written request to the APCO for notification must also be notified of the preliminary decision to approve the ERCs. Following publication and notification, there will be a 30-day public comment period, during which the District will accept written comments.

Applications to deposit emission reductions in the emissions bank pursuant to Regulation 2, Rule 4 are exempt from CEQA as stated in Regulation 2-1-312.10. Tesoro has completed and signed an Appendix H Environmental Information Form to ensure that the project has no potential for causing a significant adverse impact on the environment.

A toxics risk screening analysis is not required since there is no emission increase associated with the project.

BACT, PSD, Offsets, NSPS, and NESHAPS do not apply.

CONDITIONS

No conditions are required for this banking application. The sources have been archived in the District database and the associated permit conditions have been removed in Application 18739. Part 58 of permit condition 23129 for the new delayed coker required shutdown of the fluid coker equipment within 90 days of startup of the delayed coker.

COND# 23129 -----

Contemporaneous Emissions reduction credit

58. The owner/operator of sources S-806, S-808, S-836, S-837, S-838, S-903, S-923, S-924 and S-925 shall completely shutdown the equipment no later than 90 days after startup of the delayed coker (S-1510 through S-1517, A-1511, A-1512, A-1514, and A-

1515). The owner/operator shall enter into the record log the shut down date of each source.
(Basis: offsets)

RECOMMENDATION

The Permit to Operate the following equipment was archived and cancelled by the District on November 13, 2008:

- S-806 Coker Fluid Coking, 740 MMBtu/hr abated by S-903 No. 5 Boiler and A-8 Coker CO Boiler Precipitator**
- S-903 No. 5 Boiler abated by A-8 Coker CO Boiler Precipitator**
- S-924 #24 Furnace Coker, Anti-Coking Steam Superheater**
- S-295 #25 Furnace Coker, Attriting Steam Superheater**

Issue emission reduction credits (ERCs) to Tesoro Refining and Marketing Company in the amount shown below.

NOx 272.0 tons per year
CO 56.5 tons per year
PM10 12.6 tons per year
SO2 2,900.5 tons per year

Mail the Banking Certificate to the owner.

Mr. Michael De Leon
Senior Environmental Engineer
Tesoro Marketing and Refining Company
150 Solano Way
Martinez, CA 94553

By: Singed by Pamela J. Leong
Pamela J. Leong
Air Quality Engineer II
December 15, 2008

Appendix A
 Monthly Emissions from the stack from S-806, S-903, S-924, and S-295

Monthly Emissions								
Year	Month	production days	NOx tons CEM data	SO2 tons CEM data	CO tons EMIT calc	PM** lb/hr source tests	tons	PM10 85% PM tons
2005	Jul	31	23.85	168.68	8.255	5.68	2.11	
	Aug	31	22.85	210.44	8.851	7.85	2.92	
	Sep	30	21.63	210.92	8.389	3.74	1.34	
	Oct	31	25.53	320.46	8.673	5.00	1.86	
	Nov	30	26.61	262.02	8.978	9.88	3.56	
	Dec	31	30.15	292.73	8.647	8.82	3.28	
2006	Jan	31	27.56	236.94	9.11	8.98	3.34	
	Feb	28	25.64	311.91	7.295	8.98	3.02	
	Mar	31	32.91	299.97	7.843	8.98	3.34	
	Apr	30	27.72	248.96	7.71	8.98	3.23	
	May	31	24.92	239.98	8.135	8.98	3.34	
	Jun	30	23.53	258.23	8.215	8.98	3.23	
	Jul	31	25.84	296.65	8.485	8.98	3.34	
	Aug	31	24.05	282.89	8.723	8.98	3.34	
	Sep	30	25.6	235.96	6.744	8.98	3.23	
	Oct	31	31.45	298.34	7.795	8.98	3.34	
	Nov	30	26.35	358.17	8.400	8.98	3.23	
	Dec	31	29.44	346.60	9.999	8.98	3.34	
2007	Jan	31	36.82	270.01	7.119	8.98	3.34	
	Feb	8	8.33	73.27	6.541	8.98	0.86	
	Mar	18	13.9	140.98	6.895	8.98	1.94	
	Apr	30	30.88	220.56	7.602	9.14	3.29	
	May	31	24.88	196.38	7.809	67.472*		
	Jun	30	25.86	187.90	7.479	7.23	2.60	
	Jul	31	25.86	234.86	8.329	88.279*		
	Aug	31	27.92	214.28	8.105	72.32*		
	Sep	30	26.49	267.43	7.088	62.799*		
	Oct	31	28.96	303.05	8.303	17.60	6.55	
	Nov	30	32.5	379.99	7.523	43.627*		
	Dec	31	35	467.24	8.130	57.312*		
2008	Jan	31	37.83	356.15	8.777	5.01	1.86	
	Feb	29	28.64	368.01	7.810	5.00	1.74	
	Mar	20	15.28	164.87	4.284	11.75	4.37	
	Apr	30	0	0.00	0.000	0.00	0.00	
	May	31	0	0.00	0.000	0.00	0.00	
	Jun	30	0	0.00	0.000	0.00	0.00	
Baseline Average (tons/mo)			24.30	242.36	7.28		2.70	2.29
Annual Emissions (tons/year)			291.59	2908.28	87.35		32.39	27.53

*Per 2-2-605, "Period where the actual emission rate exceeded regulatory or permitted limits shall be excluded from the average."

**For Jan 2006 through Mar 2007, no source tests were performed. Emissions are estimated using the average of source test results from Dec 2005 and Apr 2007.

Appendix B
List of Periods of Pollutant Excesses

Date	Pollutant	Note
10/10/06	SO2	> 1000 ppm in Regulation 9-1-310.1
10/15/06	NOx	> 150 ppm in Regulation 9-10-304.1
5/29/07	PM	> 40 lb/hr in Regulation 6-311
9/17/07	PM	> 40 lb/hr in Regulation 6-311
7/24/07	PM	> 40 lb/hr in Regulation 6-311
8/20/07	PM	> 40 lb/hr in Regulation 6-311
11/16/07	PM	> 40 lb/hr in Regulation 6-311
12/10/07	PM	> 40 lb/hr in Regulation 6-311
2/29/08	NOx	> 150 ppm in Regulation 9-10-304.1