UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

June 20, 2019

Mr. Eddie Terrill
Director, Air Quality Division
Oklahoma Department of Environmental Quality
70 North Robinson Street
Oklahoma City, OK 73101-1677

Dear Mr. Terrill:

I am transmitting the final report of the Region's evaluation of the approved Oklahoma Title V permit program. As part of the Environmental Protection Agency's (EPA) oversight responsibilities, EPA conducted off-site reviews of air permitting files and responses from the Oklahoma Air Quality Division (AQD) on an evaluation questionnaire prepared by EPA. EPA shared its preliminary draft report with AQD on September 19, 2018 and asked for feedback on the draft evaluation report.

On March 25, 2019, we received input and recommendations from AQD to the draft evaluation report. We appreciate ODEQ's commitment to address the recommendations outlined in the draft evaluation report. In addition, we want to express our gratitude for the cooperation and assistance of the ODEQ staff and management as we conducted the evaluation.

Enclosed is the EPA's final ODEQ Title V Air Permit Program Evaluation Report. We will post the final program review report on the EPA Region 6 webpage at https://www.epa.gov/caa-permitting/title-v-evaluations-region-6 . We have included a tabular summary of ODEQ's responses as part of the final program evaluation report to memorialize ODEQ's commitments.

I look forward to continuing to work with you in the implementation of the Title V permit program. We plan to discuss ODEQ's progress in addressing our recommendations and findings through the monthly Title V conference calls and individual Title V permit reviews. If we can be of any assistance, please feel free to contact me or the Air Permits, Monitoring & Grants Branch Chief, Jeff Robinson, at 214-665-6435.

Sincerely,

6/20/2019

X Wren Stenger

Wren Stenger

Signed by: WREN STENGER

Director
Air and Radiation Division

REGION 6 EXECUTIVE SUMMARY AND OUTCOMES

BACKGROUND:

The Title V operating permit program requirements are contained in 40 CFR part 70 and are designed to reduce violations and improve enforcement of air pollution laws for the largest sources of air pollution. Title V operating permits are intended to be a compendium of all applicable requirements established in underlying NSR permits, NSPS rules, and NESHAPs rules. They generally do not independently impose new air quality control requirements on a source. According to the CAA, only funds collected from Title V sources may be used to fund a state's Title V permit program. The CAA also requires that any fee collected under Title V be used solely to cover permit program costs. As the oversight authority for the approved Title V permitting programs, EPA is authorized by the CAA to monitor whether a state is adequately administering and enforcing a part 70 program.

FINDINGS AND OUTCOMES SUMMARY:

The EPA Region 6 review included an evaluation of the ODEQ's written responses to a draft Title V permit program evaluation report, current work practices for operating permit development/issuance, and administration of the Oklahoma DEQ (ODEQ) Title V program in accordance with the ODEQ's operating permit rules, 40 CFR part 70 requirements, and Title V of the CAA. The preliminary findings and recommendations from this evaluation were discussed with ODEQ and are briefly summarized below and discussed in more detail within the Title V program evaluation report.

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
Review Area 1: Acting in a timely manner on applications for initial, revisions and renewals permits.	EPA did not indicate any specific issue related to issuing Title V permits and renewals in a timely fashion.	No specific response needed. ODEQ will prioritize the issuance of Title V and Title V renewals to meet specified timelines.	
Review Area 2: Issuing permits that are consistent with the requirements of 40 CFR Part 70.	Thoroughly document or discuss why CAM applies to particular units or how ODEQ made a determination to approve particular CAM plans.	ODEQ believes the Compliance Assurance Monitoring (CAM) requirements in issued permits reasonably implement the monitoring requirements of CAM. While it is clear that not all decisions are clearly	The ODEQ committed in their response to address these concerns and will strive for improvements in future permitting actions.

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
		explained in every issued permit, ODEQ believes if the public or EPA has concerns about the finally approved criteria, comments can be submitted and ODEQ will provide responses to these specific concerns. However, ODEQ will commit to providing better detail regarding CAM determinations, with special attention given to situations in which the proposed CAM differs from the finally approved CAM. With regard to the specific example cited in EPA's finding summary, ODEQ reviewed the subject permit. A CAM analysis was conducted. This analysis indicated units were not affected or that units would be subject to T5 upon renewal. While not plainly stated in this review, certain emission units must apply CAM upon the Title V renewal. While ODEQ believes this is readily available information via publicly available resources and the fact that the statements are technically accurate, ODEQ will commit to providing a definitive statement of when and/or how CAM will be implemented for affected units.	

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
		It should be noted that ODEQ review of some Title V permits did show a definitive statement of future CAM applicability. ODEQ will strive for consistent wording application.	
	Explicitly state or document when ODEQ is using its streamlined or "enhanced NSR" process for the issuance of modified NSR and Title V permits. Improved Quality Assurance and Quality Control (QA/QC) for permit record consistency and procedural permit processing requirements.	With regard to a streamlined process for notifying the public of the intent to allow for petition during the NSR process in both the public notice and the Memo/SOB (Statement of Basis), ODEQ has relied upon the public notice to notify the public. ODEQ believed the public notice was the best option as this is the primary method that the public would be notified that a permit is open for public review/petition. However, the Memo/SOB does contain a section that discusses public and EPA review. ODEQ will commit to adjusting this language to notify the public of the process being followed including the petition option. Regarding the "enhanced NSR" requiring the NSR and Title V permit to be processed simultaneously. Current ODEQ regulations do not require this. ODEQ understands EPA position	The ODEQ committed in their response to address these concerns and will strive for improvements in future permitting actions.

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
		regarding enhanced NSR processing. This issue is currently under consideration as part of the EPA/ODEQ SIP review and discussions.	
	Provide compliance history discussion in SOBs	Prior to issuance of Title V permits, ODEQ does a review of current compliance status. This process includes a review by the ODEQ compliance and enforcement section for each Title V renewal or significant change to a Title V permit. ODEQ does not believe a comprehensive listing will provide any compliance benefit. ODEQ will continue to review the need for this detailed listing.	The ODEQ committed in their response to address these concerns and will strive for improvements in future permitting actions.
	Consistently provide permitting history in SOBs	ODEQ's Memo/SOB contains a clarifying statement in the introduction regarding the permit action. This includes any NSR permit being incorporated into the Title V permit. ODEQ will update the process to specifically list all permit actions since the last operating permit was issued. With regard to the Tulsa Cement plant permit raised in EPA's findings, the current structure of the AQD rules allow minor modifications to be directly	The ODEQ committed in their response to address these concerns and will strive for improvements in future permitting actions.

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
		inserted into Title V permits without NSR permitting. These rules are part of the approved SIP. The introduction clearly states that the permit action is for minor modifications to the Title V permit. The ability to continue to use this process is currently being evaluated as part of ODEQ/EPA SIP review. Regarding the timely Title V renewal, Tulsa Cement failed to submit a timely Title V renewal application. The Title V renewal application was submitted on May 5, 2016. ODEQ took enforcement action as a result. The current application is under review and pending facility action.	
	ODEQ's Memo/SOB should adequately describe or document decisions the ODEQ has made in the permitting process regarding the methods to demonstrate compliance with emission limitations	ODEQ believes the purpose of public review is to allow the public to request clarification of compliance methods included in the permit. ODEQ also believes including excessive and possibly redundant clarification is not conducive to a streamlined process. With this being said, ODEQ will review the current process and commit to include a compliance section in the Memo/SOB that clarifies the more important compliance decisions. This section may also include some general	The ODEQ committed in their response to address these concerns and will strive for improvements in future permitting actions.

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
		criteria applied when compliance demonstrations are inserted into permits.	
	Improve documentation on "Insignificant Activities" in the permit application and permitting record.	ODEQ will strive to be consistent in identifying and carrying forward insignificant activities. Regarding each comment in EPA's findings: 1. Correct, as insignificant activities ODEQ did not find it necessary to complicate the process by asking for this information multiple times or in great detail. Since the list is not used to evaluate Title V fees, any additional information is not needed. 2. While the units could each have been described in the insignificant list, review of the application and permit indicated each of these qualifies as insignificant or trivial. ODEQ will strive to provide complete lists in the memo. 3. Please see response to item #2. However, the federally enforceable limit applies to tanks 24, 25, and 26 as indicated on page 14 of the memo. These tanks do not qualify as insignificant and have specific limits in the permit.	The ODEQ committed in their response to address these concerns and will strive for improvements in future permitting actions.

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
		4. After review, it appears all regulatory requirements are included or included by reference to the rules. The only omission is 8-7.3(a)(2). Since ODEQ issues independent acid rain permits, it is not applicable to the Mustang permit.	
Review Area 3: Compliance with the public participation requirements for Title V permit issuance.	Ensure ODEQ permit issuance process implementation fully satisfies the enhanced Title V process outlined in 40 CFR 70.7(d)(1)(v).	ODEQ operates a dual permitting system - construction and operating permits - to control major (Part 70) and minor sources. A construction permit is required before a new source is constructed or an existing source is modified. Public review and notice to adjacent states are required prior to the issuance of the major source construction permit. The construction permit is then issued after it is determined the source is designed to meet applicable rules and pre-construction requirements. An operating permit is issued after construction is completed and demonstration is made that the source is capable of meeting applicable emissions limitations and air pollution control requirements. If no significant changes are proposed within the operating permit application, the public will not receive another opportunity to comment. EPA published	It appears that the ODEQ uses administrative amendment provisions outlined in 70.7(d) to process some initial Title V permits to incorporate preconstruction permit requirements into a Title V permit via administrative amendment process. ODEQ indicates in responses to draft report that they have worked out the public notice content requirements issue though correspondence provided between June 2001 and October 25, 2002. Specifically, revision to Oklahoma Administrative Code ("OAC") 252:4-7-13(g)(4) was adopted by Oklahoma on March 25,

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
		full program approval of ODEQ's Part 70 Operating Permit Program, as outlined above, on December 5, 2001. 66 Fed. Reg. 63170 (Dec. 5, 2001); see Appendix A to Part 70 (full final approval effective on November 30, 2001). ODEQ and EPA addressed the public notice content issue through correspondence provided between June 12, 2001, and October 25, 2002. In the October 25, 2002, letter, EPA confirmed the solution to this issue would be resolved through the revision of ODEQ's rules – specifically the addition of Oklahoma Administrative Code ("OAC") 252:4-7-13(g)(4). This proposed revision was offered by EPA through correspondence dated May 21, 2002. For changes that require a construction permit, ODEQ regulations do not allow changes to be permitted through the administrative amendment procedures. Facilities can utilize the Enhance NSR process if requested. Additionally, ODEQ and EPA are currently reviewing any perceived deficiencies in the ODEQ Enhanced	2003 but was not submitted until May 16, 2018 as a SIP revision. Hence, it's not SIP approved as of today and currently pending review for approval by EPA. Enhanced NSR, Administrative Permit Amendment and public participation requirements issues are currently under discussion as part of the SIP review discussion with ODEQ. EPA is committed to work with ODEQ to resolve this matter in near future.

Topic Review Area	EPA Finding Summary	ODEQ Responses	Outcomes
		NSR process through a SIP review. It is anticipated that any deficiencies will be resolved through that process.	
	ODEQ should ensure that applicants applying for minor permit modifications certify that the proposed modifications meet the Title V minor modification criteria.	ODEQ produces a memo/SOB for each permit action requested. As part of the memo/SOB for actions in which the applicant is requesting a minor modification, ODEQ includes a review of the action to make sure it qualifies. ODEQ agrees that the application forms should include a requirement for the applicant to justify and document how the proposed change qualifies. ODEQ will review the forms for appropriate updating.	The ODEQ committed in their response to strive for improvements in future permitting actions and will review the forms for appropriates updating.
Review Area 4: Collecting, retaining, or allocating fee revenue consistent with the requirements of 40 CFR Part 70.	ODEQ met the Federal requirements regarding Title V adequacy and administers those fees consistent with federal requirements.	ODEQ will continue to track fees associated with the Title V program and assure they are utilized for Title V purposes.	The ODEQ committed in their response to strive for improvements in future permitting actions.

Oklahoma Department of Environmental Quality
Air Quality Division
Title V Operating Permit Program Evaluation

June 18, 2019

Conducted by the

U.S. Environmental Protection Agency - Region 6
Air Permits Office (ARPE)
1201 Elm Street, Suite 500
Dallas, Texas 75270

ACKNOWLEDGEMENT

EPA Region 6 would like to acknowledge the cooperation of the staff and management of the Oklahoma Department of Environmental Quality (ODEQ) during this Title V Program Evaluation. We appreciate their willingness to respond to information requests and share their experiences regarding the development and implementation of ODEQ's Title V program.

I. EXECUTIVE SUMMARY

The EPA Region 6 review included an evaluation of the current work practices and administration of the ODEQ Title V operating permit program and adherence with the State Operating Permit Programs Rule, 40 Code of Federal Regulations (C.F.R.) part 70 requirements and Title V of the Clean Air Act (CAA or Act). The areas of review included:

Review Area 1: Acting in a timely manner on applications for initial, revision and renewal permits.

Review Area 2: Consistency with permit requirements of 40 C.F.R. part 70.

Review Area 3: Compliance with the public participation requirements for Title V Permit Issuance.

Review Area 4: Collecting, retaining, or allocating fee revenue consistent with the requirements of 40 C.F.R. part 70.

Each of the areas and our recommendations based on our review are discussed in the body of the evaluation report.

II. INTRODUCTION

The CAA Title V and the part 70 regulations are designed to incorporate all federal applicable requirements for a source into a single Title V operating permit. To fulfill this responsibility, it is important that all federal regulations applicable to the source such as the National Emission Standards for Hazardous Air Pollutants (NESHAP), New Source Performance Standards (NSPS), applicable requirements of State Implementation Plans (SIP), and terms or conditions created by permits issued under SIP-approved permit programs be carried over into a Title V permit.

The EPA serves in an oversight role of the Title V operating permits program nationally and provides program implementation assistance to State operating permit programs as part of that role. Additionally, EPA Region 6 works to complete Title V program evaluations in a nationally consistent manner as part of its oversight role. The evaluation protocol review completed by each EPA Regional Office of a State's administration of a Title V program is generally based on a standardized evaluation protocol developed by the EPA Headquarters Office and is compared to the requirements of 40 C.F.R. part 70. However, each EPA Region may also exercise its oversight discretion to focus on a narrower aspect of a State's operating permit program based on previous program reviews or national policy/legal decisions impacting the program.

EPA Region 6 oversees six separate air permitting authorities (Texas, Oklahoma, Louisiana, Oklahoma, New Mexico and the City of Albuquerque). As part of EPA's

oversight responsibilities, EPA Region 6 staff conducted an off-site program review and evaluation of the State of Oklahoma's Title V program. This ODEQ Title V program evaluation is based on the review of the ODEQ responses to EPA's Title V questionnaire and associated documentation, supplemental questions and selected ODEQ issued Title V permits and supporting permitting information.

ODEQ's Title V Permitting Program

The Oklahoma Department of Environmental Quality (ODEQ) is a state air pollution control agency with jurisdiction throughout Oklahoma except in Indian country. EPA Region 6 is the Title V permitting authority in Indian country. Oklahoma's Title V regulations are found in Oklahoma Administrative Code (OAC) 252:100, Subchapter 8 (Permits for Part 70 Sources). Region 6 granted Oklahoma full approval of its Title V program, effective November 30, 2001[1]. EPA's program approval provides ODEQ the authority to issue Title V operating permits to all major stationary sources and to certain other sources[2] within the State's jurisdiction. The ODEQ operating air permit program is a comprehensive state air quality program which is designed to address all applicable air contaminant emissions and regulatory requirements in a single permit document. After receiving full program approval, ODEQ has been implementing the state's Title V operating permits program and directly issuing Title V operating permits to applicable sources within the state of Oklahoma. Oklahoma issues Title V permits to approximately 300 sources through two air permits offices located in Oklahoma City and ODEQ's Regional Office at Tulsa (ROAT).

III. EPA REGION 6 EVALUATION APPROACH FOR THE ODEQ TITLE V PROGRAM

EPA Region 6's objectives for the ODEQ Title V program evaluation were to identify any areas of the ODEQ Title V program that may need improvement and highlight any unique and/or innovative aspects of ODEQ's program that may be beneficial to other permitting authorities. EPA Region 6 conducted the evaluation in three stages. First, EPA Region 6 sent the Title V evaluation questionnaire to ODEQ to review and provide responses. The Title V evaluation questionnaire was developed by the EPA Headquarters

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[1] See 66 FR 63170 (December 5, 2001). The EPA used the good cause exception under the Administrative Procedure Act (APA) to make the full approval of the State's program effective on November 30, 2001.

[2] Sources required to obtain an operating permit under the Title V operating permit program include "major" sources of air pollution as defined by Title V. For example, all sources regulated under the acid rain program, regardless of size, must obtain operating permits. Examples of major sources include those that have the potential to emit 100 tons per year (tpy) or more of volatile organic compounds, carbon monoxide, lead, sulfur dioxide, nitrogen oxides, or particulate matter nominally 10 microns and less (PM_{10}); those that emit 25 tpy or more of a combination of hazardous air pollutants (HAPs). In areas that are not meeting the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide, or particulate matter, major sources are defined by the gravity of the nonattainment classification. Currently, there are no non-attainment areas in Oklahoma.

Offices and covers the following program areas: 1) Title V Permit Preparation and Content; 2) General Permits; 3) Monitoring; 4) Public Participation and Affected State Review; 5) Permit Issuance/Revision/Renewal/Processes; 6) Compliance; 7) Resources and Internal Management Support; and, 8) Title V Benefits. In the appendix section of this report is a copy of the Title V evaluation questionnaire responses received by EPA Region 6 from ODEQ.

For the second stage of the evaluation, EPA Region 6 requested additional administrative permitting record information related to a selected subset (18 permitting actions) of Title V permits issued by ODEQ during 2014 – 2015 calendar years. The additional information included the associated Title V permit application, statement of basis, public notice, draft and final Title V permits. ODEQ routinely submits the draft and final Title V permits to the EPA Region 6 Air Permits Section in accordance with the part 70 regulations. The EPA Region 6 office generally maintains copies of the Title V permit applications received, draft and final permits and any additional associated documents transmitted to EPA Region 6 from ODEQ. EPA also selected some draft/proposed synthetic minor operating permits for review since ODEQ issues synthetic minor operating permits (SMOPs) to facilities who choose to avoid Title V operating permit requirements by limiting potential to emit (PTE) below Title V major threshold requirements.

In the final third stage of EPA Region 6's evaluation, EPA Region 6 reviewed the information received from ODEQ and compared that information to the applicable regulations for inclusion in this report. After summarizing the review information, EPA developed an evaluation report identifying improvement opportunities and identified topics for follow-up review and discussion with ODEQ. The final program review analysis is reserved until EPA completes the Title V program review discussions with ODEQ, and (if necessary) any ODEQ commitments for changes/improvements are memorialized.

IV. EPA REGION 6 ANALYSIS AND RECOMMENDATIONS

The following section includes a brief discussion of the areas of review, our findings, and our recommendations to improve or resolve the potential concerns we identified during our review.

The evaluation focused on the implementation of the program in the following five areas:

1) acting in a timely manner on applications for initial, revisions and renewal permits;
2) issuing permits that are consistent with the requirements of 40 CFR part 70;
3) complying with the public participation requirements of 40 CFR part 70;
4) collecting, retaining, or allocating fee revenue consistent with the requirements of 40 CFR part 70;

The following is a summary of EPA's evaluation and our recommendations:

Review Area 1: Acting in a timely manner on applications for initial, revisions and renewals permits.

We evaluated information from the Title V Operating Permits System Report (TOPS Report) ODEQ submits to EPA on a semiannual basis. According to the January 31, 2017 report, Oklahoma has a Title V universe of 325 sources (compared to 375 during a 2003 Title V Permit Program Evaluation). ODEQ has fulfilled the commitments in the 2003 Evaluation Report for eliminating the small backlog of initial Title V permit applications. All initial Title V permits, with the exception of those with special circumstances, were appropriately and timely issued.

A. ODEQ continues to issue initial Title V permits, while still processing the second and third round of some Title V permit renewals and modifications.

Discussion: According to ODEQ's response to EPA's evaluation questionnaire, over the last two years the average permit processing time is 285 calendar days. ODEQ also provides an update during monthly Title V/NSR conference calls with EPA Region 6 on the progress of initial and renewal permit applications issuance status.

ODEQ's hiring of additional staff, coupled with the development and improvement of its TEAM database, has enabled ODEQ to meet the initial permit issuance timeliness requirements and their corresponding 2003 commitment. TEAM tracks information for each facility including compliance, enforcement and permitting activities; applicable pollutant standards and permitted levels; and historical information. TEAM uses criteria including the amount of emissions and compliance history to determine the facilities to be inspected, placing more emphasis on major sources and those with applicable federal regulations. The TEAM database is a valuable tool in the Title V program as it helps insure the timely processing of applications. It can be used to highlight not only the Title V permits which are current, but also those due for renewal. The TEAM database lists all instances of public comments, which also includes comments on New Source Review construction permits. EPA Region 6 will continue to monitor the status of ODEQ's permit issuance rate through permit updates during monthly conference calls.

Based upon EPA review and evaluation of ODEQ's implementation of timely issuance of permitting activities required under the regulation, EPA Region 6 believes that ODEQ is meeting the timeliness requirements for Title V permit issuance. While EPA has no specific recommendation, we encourage the ODEQ to continue processing Title V permits in a timely manner and using their internal protocols and data management platform to maintain efficiency.

Review Area 2: Issuing permits that are consistent with the requirements of 40 CFR Part 70.

Prior to the review, EPA selected 18 Title V permits (and associated files) issued in the last three years (2014-2016). Each permit was reviewed for consistency with the Title V air permit regulations (40 CFR part 70) using a written questionnaire developed by a workgroup consisting of Regional and National EPA representatives. The Federal requirements regarding permit content are outlined in 40 CFR 70.4. Each permit was reviewed for consistency with these part 70 requirements. The majority of the part 70 requirements related to permit content were found in the general conditions of ODEQ's permits. However, several recommendations have been developed to improve ODEQ's Title V permit program. These recommendations are:

A. Recommendations for Improvements for the Statement of Basis for Title V permits.

Although ODEQ's Statement of Basis (SOBs) contain most of the information necessary for Title V permit issuance, ODEQ does not always thoroughly document its decisions during the permit writing process. Part 70 requires Title V permitting authorities to provide "a statement of the legal and factual basis for the draft permit conditions" (40 CFR 70.7(a)(5)). The purpose of this requirement is to support the proposed Title V permit with a discussion of the decision-making that went into the development of the permit. This helps inform the permitting authority, the public, and EPA of the ODEQ's legal and factual basis for issuing the permit and it serves as an essential tool for conducting meaningful permit review.[3]

The EPA Administrator's May 24, 2004 Order[4] responding to a petition to EPA to object to the proposed Title V permit for the Los Medanos Energy Center includes the Administrator's response to statement of basis issues raised by the petitioners. The Order states that:

> *A statement of basis ought to contain a brief description of the origin or basis for each permit condition or exemption. However, it is more than just a short form of the permit. It should highlight elements that EPA and the public would find important to review. Rather than restating the permit, it should list anything that*

[3] EPA has released certain guidance documents regarding the suggested content for Title V permit Statement of Basis documents, including April 30, 2014 implementation guidance on Title V annual compliance certifications and statement of basis requirements (https://www.epa.gov/sites/production/files/2015-08/documents/20140430.pdf) and a December 20, 2001 EPA Region 5 letter to Ohio EPA (https://www.epa.gov/sites/production/files/2015-08/documents/SOBguide.pdf).

[4] This document is available in the Title V petition database on the EPA Region 7 website at: https://www.epa.gov/sites/production/files/2015-08/documents/los_medanos_decision2001.pdf

> *deviates from a straight recitation of requirements. The statement of basis should highlight items such as the permit shield, streamlined conditions, or any monitoring that is required under 40 C.F.R. 70.6(a)(3)(i)(B)…Thus, it should include a discussion of the decision-making that went into the development of the Title V permit and provide the permitting authority, the public, and EPA a record of the applicability and technical issues surrounding the issuance of the permit.*

The Order notes that EPA has provided guidance on the content of an adequate statement of basis in a letter dated February 19, 1999 from Region IX to Mr. David Dixon, Chair of the CAPCO A Title V Subcommittee[5]; in a letter dated December 20, 2001, from Region V to the State of Ohio[6]; and in a Notice of Deficiency (NOD) issued to the State of Texas[7].

ODEQ generally develops well written SOBs (which the ODEQ refers to as Permit Memorandum) for initial and renewal permits that contain the relevant topics that are typically needed for explaining what requirements apply to the facility. These topics include:

• Facility and process descriptions;

• Descriptions of emission units;

• Insignificant activities and emission units;

• Analyses of potential to emit and ambient impacts;

• Applicability of the Prevention of Significant Deterioration (PSD) program to the facility;

• Applicability of the Compliance Assurance Monitoring (CAM) program to pollutant specific emission units;

• Applicability of the Acid Rain program.

However, for the permits EPA Region 6 reviewed, we have several recommendations to improve ODEQ's Title V operating permitting record. These include:

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[5] https://www.epa.gov/sites/production/files/2015-08/documents/dixon.pdf

[6] https://www.epa.gov/sites/production/files/2015-08/documents/SOBguide.pdf

[7] 67 Fed. Reg. 732 (January 7, 2002)

1. **Thoroughly document or discuss why CAM applies to particular units or how ODEQ made a determination to approve particular CAM plans.**

Discussion: The CAM regulations, codified in 40 C.F.R. part 64, target Title V sources with large emission units that rely on add-on control devices to comply with applicable requirements. The underlying principle, as stated in the preamble, is "to assure that the control measures, once installed or otherwise employed, are properly operated and maintained so that they do not deteriorate to the point where the owner or operator fails to remain in compliance with applicable requirements" (62 FR 54902, 10/22/97). Under the CAM approach, sources are responsible for proposing a CAM plan to the permitting authority that provides a reasonable assurance of compliance to provide a basis for certifying compliance with applicable requirements for pollutant-specific emission units with add-on control devices.

Sufficient detail should be provided in order to understand whether or not any emission unit at the facility is subject to CAM. When CAM does apply, ODEQ should consider summarizing the facility's proposed CAM plan and state whether ODEQ is approving or has approved the plan. If ODEQ is approving the plan, but some aspects of the CAM monitoring in the permit differ from the facility's proposal, these differences should be highlighted and explained as well. The lack of information about CAM discussions makes meaningful review of proposed permits by the public and EPA staff more challenging. For example:

Example 1:

> In the SOB for Mustang Gas Products' Covington Compressor Station permit (No. 2013-2140-TV) issued on December 29, 2015, the permitting record does not appear to clearly document why the specifications for CAM will be incorporated into the renewal Title V operating permit and not the current issued Title V operating permit (see page 16 of the permit memorandum/SOB, Engines CM-7 and CM-11.2).

The ODEQ has committed to address these concerns. It will provide better detail regarding CAM determinations, with special attention given to situations in which the proposed CAM differs from the finally approved CAM. ODEQ will provide a definitive statement of when and/or how CAM will be implemented for affected units. See Appendix C. ODEQ Responses to Draft Report and ODEQ Commitments.

2. **Explicitly state or document when ODEQ is using its streamlined or "enhanced NSR" process for the issuance of modified NSR and Title V permits. Improve Quality Assurance/Quality Control (QA/QC) for permit record consistency and procedural permit processing requirements.**

Discussion: EPA guidance allows sources to simultaneously apply for, and permitting authorities to process, revisions to new source review (NSR) and Title V permits.[8] Under this option, often referred to as "enhanced NSR[9]," NSR permit modifications are subject to the procedural requirements of part 70, including a 45-day EPA review period and a 60-day petition period that allows citizens to petition the Administrator to object to permit issuance. After the NSR permit has been issued, and the project has been completed, the permitting authority revises the Title V permit to add (or delete) the new or revised NSR conditions via an administrative amendment. The benefits of consolidating the NSR and Title V permitting processes include reduced permit processing time and the opportunity for EPA to review and concur with NSR permit changes.

According to the Oklahoma rules, Title V permit modifications fall into three categories: administrative permit amendments (e.g., correcting typographical errors) OAC 252:100-8-7.2(a), minor permit modification (e.g., does not involve significant changes in requirements in the permit) OAC 252:100-8-7.2(b)(1), and significant modification procedures (e.g., changing a condition to an underlying requirement) OAC 252:100-8-7.2(b)(2). In most cases, the same information for a modification request will be required as in an original application.[10]

Oklahoma categorizes different types of Air Quality applications as Tier I, II, or III, depending on their complexity and the amount of public interest under DEQ's "Uniform Permitting" system under Oklahoma Administrative Code, Chapter 4, Subchapter 7. Tier I and II are for both construction and operating permits. Tier 3 is for Major NSR construction permits. The Tier classification affects the amount of public review given the application. ODEQ Form No. 100-815 provides a checklist for determining Tier classification[11].

Example 1:

In our file review for Grand River Dam Authority (No. 2009-179-TVR (M-2) issued on June 10, 2014, as a Tier I modification for an NSR project issued

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[8] White Paper for Streamlined Development of Part 70 Permit Applications, July 10, 1995; November 7, 1995 letter from Lydia Wegman, OAQPS, to William Becker, STAPPA/ALAPCO.

[9] During the Title V program full approval in 2001, the EPA required the State of Oklahoma to amend their regulations to define the term ''Enhanced New Source Review (NSR) procedures'' consistent with part 70. Specifically, the interim approval notice stipulated seven conditions that had to be met in order for Oklahoma's program to receive full approval. One of the conditions was to revise administrative amendments provisions and define the term Enhanced NSR. Rather than define the term ''enhanced NSR procedures'', the sentence containing the term was deleted from OAC 252:100–8–7.2(a)(1)(E) (formerly OAC 252:100–8–7(d)(1)(E)).

[10] Oklahoma DEQ's Title V Program Guidance document available at: http://www.deq.state.ok.us/ODEQnew/resources/tvprog_guidance.pdf

[11] See ODEQ Form No. 100-815 at http://www.deq.state.ok.us/aqdnew/resources/forms/100-815.pdf

November 30, 2011, which was successfully completed and started up prior to the Title V permit application date. Under Oklahoma rules, the incorporation of the company's authorizations from a construction permit that underwent Tier II review (public notice and EPA review) for minor NSR modifications may be administratively incorporated into an existing Title V permit provided no changes were made and the source is in compliance with the requirements of the most recent construction permit, which ODEQ determined to be the case in this instance. In our Grand River Dam Authority review, we documented the permit face (permit document page 29) states that "Enclosed is the modified Title V renewal permit…" However, the Title V permit application was for an amendment, and not for renewal. EPA encourages ODEQ to evaluate and check for record inconsistencies with prior operating permitting action documents outside the 12-month window when Tier II and III permit actions were potentially open for public comment.

Example 2:

The Title V permit for Tidal Energy Marketing (US) LLC permit (No. 2011-018-TV) issued on April 3, 2015 was reviewed by EPA Region 6. The operating permit application was received on January 8, 2014, and the application was represented by the company and treated by the ODEQ as a Tier I project meaning that no public notice was performed in this case, as this source underwent public notice and EPA review when the original preconstruction permit was issued. In the January 8, 2014, application, the company submitted a request not only for a Title V operating permit, but that the original construction permit be modified to allow the storage of condensate rather than crude oil, to reduce the number of tanks from 12 to 8, to increase the Reid Vapor Pressure (RVP) of the substances stored to above RVP 8, and to increase the total throughput from 25,500,000 gallons per tank per year to 36,792,000 gallons per tank per year, but the company retained the means of emissions control originally represented…..a closed vent system routed to an enclosed flare. This project was processed under Tier 1 requirements, but based on our review of the associated permits (including construction permit issued in 2011) it appears that this particular project should have further evaluated and possibly undergone Tier II review because two of the three PTE limiting restrictions taken originally to avoid PSD review in 2011 had been relaxed in this project, thus indicating a modification to the construction permit took place. It therefore seems that the company requested and received some minor changes to the NSR permit that were incorporated into the Title V permit without changing the NSR permit. In short, the project that went to notice in 2011 and the subsequent requested changes from the modification request were sufficiently different resulting in a situation where neither the public nor EPA was provided an opportunity to comment or object to the Title V permit which was different than the project that previously proceeded to notice in 2011.

Our observation is that if both an NSR permitting action and Title V permit action are intended to be processed concurrently, the statement of basis (and public

notice) need to be clear in stating the public notice requirements for both the Title V permit action and the construction permit action. The permitting actions preferably should be linked to ODEQ's legal authority for each permitting program. In addition, it should be clear that the construction permit is in fact being revised since Title V permits in themselves cannot be used to modify construction permits or give the appearance that such an action is occurring. While this evaluation focuses on Title V permitting, ODEQ should pay special attention to permit actions that propose to amend, relax, or change terms and conditions established in an NSR permit and whether those actions qualify for a Tier I action with no public notice. During issuance of underlying construction permit no. 2011-018-C in March 2011, we were not able to document that ODEQ indicated in its Permit Memorandum/SOB in the permit that the Title V permit would be administratively processed under Tier I with no further opportunity for public participation. EPA's emphasis in this case is that the public's ability to petition on a Title V permit cannot be limited through an NSR permit action if the concurrent Title V permit action is not simultaneously proposed with the opportunity for public participation. Doing so could make the permit vulnerable to petition or reopening for cause after the permit has been issued.

The ODEQ has committed to address these concerns and will strive for improvements in future permitting actions. Although the Permit Memorandum/SOB does contain a section that discusses public and EPA review, ODEQ will commit to adjusting this language to notify the public of the process being followed including the petition option. See Appendix C. ODEQ Responses to Draft Report and ODEQ Commitments.

3. Provide compliance history discussion in SOBs.

Discussion: ODEQ's statement of basis should contain a discussion of the facility's detailed compliance history, settlements and compliance plans. In a December 20, 2001, letter from EPA Region 5 to the Ohio EPA (see Appendix B), EPA provided guidelines on the content of an adequate statement of basis that meets the requirements of 40 C.F.R. 70.7(a)(5), including that the statement of basis should include factual information that is important for the public to be aware of including the compliance history of the source such as inspections, any violations noted, a listing of consent decrees into which the permittee has entered and corrective action(s) taken to address noncompliance.

Example 1:

In one of the permits reviewed for OK Environmental Management Authority's OEMA Landfill facility, it appeared that a facility had self-disclosed an Asbestos NESHAP violation, and that the facility had submitted a late Title V application for a renewal. Both of these events appear to be inconsistent with the corresponding regulations, yet the statement of basis provided no discussion of the compliance status of the facility. Another statement of basis reviewed

documented historical PSD violations at a facility with no description of how the compliance issues were resolved.

ODEQ does a review of current compliance status. This process includes a review by the ODEQ compliance and enforcement section for each Title V renewal or significant change to a Title V permit. The ODEQ has committed to address these concerns and will strive for improvements in future permitting actions. See Appendix C. ODEQ Responses to Draft Report and ODEQ Commitments.

4. Consistently provide permitting history in SOBs.

Discussion: ODEQ's statement of basis (SOB) should contain a discussion of facility permitting history. This type of discussion is important to allow the reader to analyze what requirements might potentially apply to the source and to serve as a record of facility changes for determining applicability for minor new source review and prevention of significant deterioration (PSD) permitting purposes. A detailed construction and permitting history in the SOBs especially for those actions being brought forward into the Title V permit gives the permit reviewer background on past permitting projects and allows them to understand construction and/or modifications to emission units at the facility.

Example 1:

For example, in the permit we reviewed for Tulsa Cement, LLC, there were some minor modifications in recent years which should have been evaluated as part of this permitting activity. The facility was operating under Title V permit 98-174-(M-11) issued on 6/1/2009. Since that time, the company had been authorized to make two separate minor modifications to their construction permit and had submitted 5 additional separate minor permit modification requests, including the modification that is the subject of this review. ODEQ consolidated all of the five minor modification changes made and proposed simultaneous amendments to the construction permit and Title V permit into a single action that will both authorize the current construction minor modification request, and update, through minor modification procedures, all previous changes into permit 98-174-TV (M-21).

While the various minor modifications were described in summary fashion in the accompanying Permit Memorandum/SOB, it is unclear how this source, whose permit was issued in 2009, did not appear to have been timely renewed prior to issuing this modification (6 years after the last issuance of the permit). The minor modifications do not appear to have triggered PSD review, but it is clear that the changes being made at the facility over time will increase manufacturing efficiency and will definitely affect the capacity and so any modifications to this facility in the near future should evaluate whether or not these various changes have not, in fact, debottlenecked the process.

There are numerous procedural and information supply details missing in this

request if it were evaluated as a request to modify the operating permit, but it seems to be fairly complete as a construction permit minor modification request. It is not discernable from the information provided in the SOB when or why the ODEQ elected to treat this construction permit minor modification also as a Title V minor modification.

It would appear from this project that ODEQ may be making general references to federal rules that apply rather than to specific parts of those actual federal rules that do in fact apply to specific emissions units, but that level of detail is not included, at least not in readily discernable details. Most notably, the public and even EPA are left to conjecture or surmise that ODEQ is taking a Title V permit action.

ODEQ 's Permit Memorandum/SOB contains a clarifying statement in the introduction regarding the permit action. This includes any NSR permit being incorporated into the Title V permit. ODEQ will update the process to specifically list all permit actions since the last operating permit was issued. Tulsa Cement failed to submit a timely Title V renewal application. The Title V renewal application was submitted on May 5, 2016. ODEQ took enforcement action as a result. The current application is under review and pending facility action. See Appendix C. ODEQ Responses to Draft Report and ODEQ Commitments.

5. ODEQ's statement of basis (permitting record) should adequately describe or document decisions the ODEQ has made in the permitting process regarding the methods to demonstrate compliance with emission limitations.

Discussion: Part 70 requires Title V permitting authorities to provide "a statement that sets forth the legal and factual basis for the draft permit conditions" (40 C.F.R. § 70.7(a)(5)). The purpose of this requirement is to support the proposed Title V permit with a discussion of the decision-making that went into the development of the permit, and provide the permitting authority, the public, and EPA a record of the applicability determinations along with the technical issues surrounding the issuance of the permit. The statement of basis should document any regulatory and policy issues applicable to the source and is an essential tool for conducting meaningful permit review by the public and EPA.

Example 1:

During our review of Valero Refining Company's Ardmore refinery permit we noted that the permitting record does not appear to clearly document the method required to demonstrate compliance with emission limitations. As an example, for this permit modification, the HDS Reactor Heater (H-2601) emission unit is considered a new unit to be constructed for this project. Specific Condition EUG 13(c) on page 9 of the permit requires an emission limitation of 0.06 lb NOx/MMBTU on a 12-month rolling average. It appears the permit incorrectly cites to ODEQ rule OAC 252:100-8-30(b)(4) which is a reference to the actual-to-

potential test instead of capturing information from the permit application where it says NOx emission factor for EU H-260 1 is based on vendor guarantee. The corresponding Title V permit application indicates that the NOx emission factor is based on a vendor guarantee. Recent EPA Title V Orders[12] have stated that the permit must clearly specify how emissions will be measured or determined for purposes of demonstrating compliance with an emission limit for it to be enforceable as a practical matter.

Also, on page 26 of the SOB, the HDS Reactor is noted to be subject to 40 CFR part 63 Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters). While this is listed in the SOB, there is not a condition in the permit itself making the specific boiler or heater at the facility subject to Subpart DDDDD by citing the emission unit number. In this case, we could not locate a specific condition in the permit stating what Subpart DDDDD limits or specific operational requirements are applicable to H-2601 HDS.

In 2005, the EPA Administrator addressed statement of basis content again in the Title V Orders responding to petitions to object to refinery Title V permits proposed by the Bay Area Air Quality Management District (e.g., Tesoro, Valero, ConocoPhillips, and Chevron).[13]

EPA has consistently explained the need for permitting authorities to produce SOBs with sufficient detail to document their decisions in the permitting process.[14]

ODEQ committed to review the current process and include a compliance section in the Permit Memorandum/SOB that clarifies the more important compliance decisions. The ODEQ committed to address these concerns and will strive for improvements in future permitting actions. See Appendix C. ODEQ Responses to Draft Report and ODEQ Commitments.

6. Improve documentation on "Insignificant Activities" in the permit application and permitting record.

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[12] See generally *In the Matter of Yuhuang Chemical Inc., Methanol Plant*, Petition Number VI-2015-03 (August 31, 2016) at page 18; *In the Matter of Citgo Refining and Chemicals Company, L.P., West Plant*, Petition Number VI-2007-01 (May 20, 2009) at pages 6-7, and *In the Matter of Fort James Camas Mill*, Petition Number X-1999-1 (December 22, 2000) at page 8.

[13] https://www3.epa.gov/region9/air/ca/sfrefineries/index.html

[14] https://www.epa.gov/sites/production/files/2015-08/documents/sbguide.pdf. Also, on April 30, 2014, Stephen D. Page, Director, Air Quality Policy Division, OAQPS issued an Implementation Guidance on Annual Compliance Certification Reporting and Statement of Basis Requirements for Title V Operating Permits. See https://www.epa.gov/sites/production/files/2015-08/documents/20140430.pdf

Discussion: The Title V program regulations require insignificant activities that are exempted because of size or production rate to be included as a list in the Title V permit application [40 C.F.R. § 70.5(c)]. In the EPA Region 6 review of the selected ODEQ Title V permitting actions, ODEQ permitting records are inconsistent in carrying forward insignificant activities lists from underlying Title I permits or previously issued Title V permits.

ODEQ has committed to address the specific concerns identified below, to be consistent in identifying and carrying forward insignificant activities and will strive for improvements in future permitting actions. See Appendix C. ODEQ Responses to Draft Report and ODEQ Commitments.

Example 1:
During EPA's review of Mustang Gas Production Title V permitting action (No. 2013-2140-TV), the following discrepancies were observed in the permit application and permitting record.

Permit Application Issues:
The ODEQ permit application and instructions do not require the permit application to include a list of insignificant activities that are exempt because of size or production rate. The ODEQ website contains Title V permit application forms and instructions. In the March 2012 Application Guide file, the instructions require applicants to identify only once the insignificant actions contained in form "Part 1b". The number of insignificant emission units and information used to evaluate Title V fees do not appear to be included within the "Part 1b" form. While the units could each have been described in the insignificant list, review of the application and permit indicated each of these qualifies as insignificant or trivial. ODEQ has committed to provide complete lists in the memo. The ODEQ has committed to address these concerns and will strive for improvements in future permitting actions. See Appendix C. ODEQ Responses to Draft Report and ODEQ Commitments.

Permit Record Issues:

Insignificant Emission Units (IEUs) Discrepancy.

The Mustang Gas Production permitting record showed inconsistent emission unit descriptions for the emission units outlined in the table below. Based on the emission unit descriptions, it is unclear if the emission units contained in the table below meet the insignificant activities criteria selected by the applicant in Part 1b of the permit application and if ODEQ has evaluated and determined the applicability of State or Federal requirements for the emission units. Section 70.6(a)(1) requires the inclusion of all applicable requirements in the Title V permit and Section 70.6(a)(3)(i) requires all applicable requirements for

monitoring and analysis procedures or test methods to be included in the Title V permit.

Emission Group F Storage Tanks Statement of Basis Information					
EU ID#	Point ID#	Description	Construction/ Modification Date	Permit Application Information	Issued Permit Information
EU-TK-28	P-TK-28	500 gallon Antifreeze Tank	2013	42,000 gallon Condensate Tank	Not included
EU-TK-31	P-TK-31	250 gallon Lube Oil Tank	2013	500 gallon Lube Oil Tank	Not included
EU-TK-32	P-TK-32	500 gallon Antifreeze Tank	2013	500 gallon Lube Oil Tank	Not included
EU-TK-35	P-TK-35	500 gallon Methanol Tank	2013	500 gallon Glycol tank	Not included
EU-TK-36	P-TK-36	42,000 gallon Condensate Tank (pressurized)	2013	Not included	Not included
EU-TK-108	P-TK-108	474 gallon Antifreeze Tank	2013	Not included	Not included
EU-TK-110	P-TK-110	264 gallon Antifreeze Tank	2013	Not included	Not included
EU-TK-112	P-TK-112	264 gallon Antifreeze Tank	2013	Not included	Not included
EU-TK-113	P-TK-113	264 gallon Glycol Tank	2013	Not included	Not included

ODEQ responded that it will strive to be consistent in identifying and carrying forward insignificant activities. ODEQ noted that, as insignificant activities ODEQ did not find it necessary to complicate the process by asking for this information multiple times or in great detail. Since the list is not used to evaluate title V fees, any additional information is not needed. Additionally, ODEQ responded that while the units could each have been described in the insignificant list, review of the application and permit indicated each of these qualifies as insignificant or trivial.

Missing Emission Units in the Issued Permit.

It is unclear in the permitting record if all of the facility's storage tanks, Emission

Unit Group F, are considered IEUs. EPA Permitting Guidance Documents (White Papers 1 and 2) have stated that, in general, permitting authorities have considerable discretion in tailoring the amount and quality of information required in Title V permit applications and permit as they relate to IEUs. Section XVI of the issued permit generally states that an activity below 5 TPY of any one criteria pollutant is authorized as an insignificant activity. However, page 14 of the Permit Memorandum SOB states that the applicant has requested a federally enforceable limit of less than 6 TPY of VOC.

ODEQ responded that while the units could each have been described in the insignificant list, review of the application and permit indicated each of these qualifies as insignificant or trivial. ODEQ will strive to provide complete lists in the memo. ODEQ noted that the federally enforceable limit applies to the specified tanks as indicated its memo, and that the tanks do not qualify as insignificant and have specific limits in the permit.

Permit Re-openings for Cause (§70.7(f)).

The boilerplate language in Section XII. Reopening, Modification & Revocation includes a citation to the ODEQ rules for reopening of operating permits for cause (252:100-8-7.3). However, the special conditions contained in Section XII(B)(1-4) do not appear to contain all of the regulatory requirements identified at 40 CFR 70.7(f) or OAC 252:100-8-7.3.

ODEQ responded that, after review, it appears all regulatory requirements are included or included by reference to the rules. The only omission is 8-7.3(a)(2). Since ODEQ issues independent acid rain permits, it is not applicable to the Mustang permit.

Review Area 3: Compliance with the public participation requirements for Title V permit issuance.

The Federal Title V regulations require all permit actions, except minor operating permit modifications, to provide adequate public notice. Oklahoma has adopted provisions regarding public notice and public participation in Oklahoma title 252: Chapter 4.7-13**.**

In Oklahoma, permit applicants are required to give public notice that a Tier II or Tier III draft permit has been prepared by ODEQ. The notice must be published in one newspaper local to the site or facility. Upon publication, a signed affidavit of publication must be obtained from the newspaper and sent to ODEQ. Note that if either the applicant or the public requests a public meeting, this must be arranged through the Customer Services Division of ODEQ.

According to OAC 252:4-7-13, public notice required contents includes:

1. A statement that a Tier II or Tier III draft permit has been prepared by ODEQ;
2. Name and address of the applicant;

3. Name, address, driving directions, legal description and county of the site or facility;
4. The type of permit or permit action being sought;
5. A description of activities to be regulated, including an estimate of emissions from the facility;
6. Location(s) where the application and draft permit may be reviewed (a location in the county where the site/facility is located must be included);
7. Name, address, and telephone number of the applicant and ODEQ contacts;
8. Any additional information required by ODEQ rules or deemed relevant by applicant;
9. A 30-day opportunity to request a formal public meeting on the draft permit.

The public notices are also published on the agency's website. ODEQ has a website that allows the public to search electronically for all draft permits while in active review, and for final issued PSD permits. Also, ODEQ maintains a listing of permits issued in the last 12 months and permit applications still in active review. The agency also maintains a mailing list of people who may be interested in the proposed Title V permits. The public may request to be added to this list. The public can also request permitting information in person at the two main ODEQ offices in Oklahoma City and Tulsa.

EPA Region 6 permitting staff requested and reviewed the permit files supplied by ODEQ to assure that adequate information was available in the public notices published in the newspapers. The public notices EPA reviewed also contained information that provides 30 days for public comment and is required to give notice of any public hearing at least 30 days in advance of the hearing. EPA Region 6's review of the air permit files included a review of the draft permit, final permit (if applicable), and the permit application.

EPA Region 6 reviewed the public notice for CenterPoint Energy Field Services (Permit No. 2003-027-C (M-3)), and documented some concerns identified below.

A . Ensure ODEQ permit issuance process implementation fully satisfies the enhanced Title V process outlined in 40 CFR 70.7(d)(1)(v).

Discussion: Under 40 CFR § 70.7(d)(1)(v), the enhanced authority to construct (also referred to as "merged NSR" or "enhanced NSR") allows for all Title V procedural requirements, most notably public notice and EPA review, to be met at the time of construction permitting review. Once this is accomplished and the construction NSR permit is issued, the Title V permit can be changed as an *administrative amendment*. The enhanced NSR process for Title V applies to minor and significant modifications and must be requested by the applicant at the time of construction permit application submittal. 40 CFR 70.7(d)(1)(v) allows the incorporation into the part 70 permit the requirements from preconstruction review permits authorized under an EPA-approved program, provided that such a program meets procedural requirements substantially equivalent to the requirements of [40 CFR 70.7 and 70.8] that would be applicable to the change if it were subject to review as a permit modification and compliance requirements substantially equivalent to those contained in Sec. 70.6.

Oklahoma's Operating Permit Program was submitted in response to the directive in the 1990 CAA Amendments that States develop, and submit to EPA, programs for issuing operating permits to all major stationary sources and to certain other sources within the States' jurisdiction. The EPA granted interim approval to Oklahoma's Operating Permit Program on February 5, 1996 (61 FR 4220). The interim approval notice stipulated seven conditions that had to be met in order for Oklahoma's program to receive full approval. One of these seven condition was to revise administrative amendments provisions (60 FR at 4223). By correspondence dated September 4, 2001, and September 19, 2001, Oklahoma agreed to implement provisions in the permit that meet the requirements of 40 CFR 70.7 and 70.8 (e.g., affected state review, EPA review, EPA petition) except compliance requirements substantially equivalent to those contained in 40 CFR 70.6.[15] Although during final approval of the Oklahoma's Title V program, Oklahoma has expressly chosen not to enhance its minor NSR program, it seems to envision using Title V administrative permit amendments for changes that require preconstruction authorization even if they are minor NSR construction activities. Title V rule authorizes the incorporation of construction permit terms and conditions into Title V permits, but only if the enhanced procedural requirements of 40 C.F.R. section 70.7(d)(1)(v) are met and approved in state's program.

Specifically, Oklahoma's Title V administrative amendment process rule at OAC 252:100-8-7.2(a) does not fully outline procedural requirements. It should be clear to the public that if significant public comments are received and EPA is provided a "proposed" permit for an additional review period, that the public has the ability to file a Title V petition or to amend an earlier "pre-emptive" Title V petition (if one was filed not knowing what the action the State might take on the permit). ODEQ should ensure that its public notice and instructions in its public notice are adequate to outline what happens in those instances where they receive significant public comments.

ODEQ has submitted revisions to its rules for approval as part of the Oklahoma State Implementation Plan on May 16, 2018. EPA is reviewing them and will publish a proposal requesting public comment in the Federal Register.

B. ODEQ should ensure that applicants applying for Title V minor permit modifications certify that the proposed modifications meet the Title V minor modification criteria.

Discussion: There are three Title V permit revision tracks in the Title V permitting program: administrative permit amendments, minor permit modifications, and significant permit modifications. Minor permit modifications do not require public notice, and for this reason the types of revisions eligible for treatment as minor permit modifications are restricted to those that do not trigger any of a defined set of minor modification precepts. Section 70.7(e)(2)(i) of part 70 rule identifies several criteria, which are intended to screen a proposed change for applicability as a minor

[15] See September 4, 2001 Letter from Eddie Terrill, Director, Air Quality Division, ODEQ to Jole Luehrs, EPA Region 6.

modification. Examples of permit revisions that qualify as minor modifications include changes that do not increase the emissions of any air pollutant above the permitted emission limits, and permit revisions that do not involve a significant change to existing monitoring, reporting or recordkeeping requirements in the permit.

> When applying for a Title V minor modification, applicants are required to certify "that the proposed modification meets the criteria for use of minor permit modification procedures" (70.7(e)(2)(ii)(C), and OAC 252:100-8-7.2(b)(1)(B)(iii)). However, in our review of minor modification applications submitted to the ODEQ, we found that ODEQ does not require applicants to certify that the proposed permit revision qualifies to be processed as a minor modification. Neither ODEQ's Air Quality permit application form (DEQ Form 100-884) or the Emissions Unit Group Compliance Demonstration Form (DEQ Form 100-001) address the certification requirement.

ODEQ should require that all applicants for Title V permit minor modifications certify that the proposed permit revision qualifies to be processed by the ODEQ as a minor modification. ODEQ should revise current application forms or create a new form to explicitly include specific certification language making the applications easier to understand and provide a more distinct certification to satisfy this required program element. The other option is for ODEQ to explain whether it believes its current forms require such certification under a broader certification requirement within its existing forms or program requirements.

ODEQ produces a Permit Memorandum/SOB for each permit action requested. As part of the Permit Memorandum/SOB for actions in which the applicant is requesting a minor modification, ODEQ includes a review of the action to make sure it qualifies. ODEQ agrees that the application forms should include a requirement for the applicant to justify and document how the proposed change qualifies. The ODEQ has committed to strive for improvements in future permitting actions and to review the forms for appropriates updating. See Appendix C. ODEQ Responses to Draft Report and ODEQ Commitments.

Review Area 4: Collecting, retaining, or allocating fee revenue consistent with the requirements of 40 CFR Part 70.

The Federal requirements regarding Title V fee adequacy are found in 40 CFR Section 70.9. The provisions in part 70 require that the State program require part 70 sources to pay a fee sufficient to cover the permit program costs. Further, the State can only use Title V fee revenues solely for Title V program costs.

EPA Region 6 conducted a review of ODEQ's Title V fee collection and fee utilization. EPA sent a list of questions and requested specific documentation in the Title V

evaluation questionnaire. The purpose was to verify that there were procedures in place for the receipt, separation, expenditure, and adequacy of the State's Title V funds. Oklahoma responded to EPA's questionnaire with specific answers and documentation. ODEQ ensures that Title V revenues are segregated from other air fees collected. EPA verified that Title V revenue and expenditures were accounted for separately from non-Title V by using organizational codes. Title V Program direct costs and items of overhead like maintenance, utilities, and rent are directly charged by organizational codes. Indirect costs are charged to Title V by the Administrative Services and a percentage of the budget of the office of the Division Director.

Region 6 reviewed various aspects of the Title V program. These are as follows: (1) split 105 vs. Title V; (2) current Title V resources; (3) fees calculated; (4) collections tracked; (5) billing process; (6) revenues allocated; (7) current program costs (FTE and OH); and (8) cost of an "effective" program, i.e., resources to address backlog and renewals.

A. ODEQ met the Federal requirements regarding Title V adequacy and administers those fees consistent with federal requirements.

Discussion: The Title V (part 70) regulations require that permit programs ensure that Title V fees collected are adequate to cover Title V permit program costs and are used solely to cover the permit program costs.[16] ODEQ provided several examples and screen shots in support while responding to EPA's questions related to Title V administration and Fee review portion of the questionnaire. As shown in Appendix A (a screenshot of a typical timecard for an employee working on Title V permitting actions), ODEQ accounts for time spent on the Title V program by its employees. Other Title V expenses include personnel services, travel, indirect costs, information services, and training. ODEQ's Title V fee revenues are made up of application fees and annual fees for emissions and maintenance. The average annual fees collected for fiscal years 2012 through 2014 were $6,340,083.

Based upon EPA review and evaluation of the ODEQ financial systems, EPA believes that ODEQ is meeting the Title V financial requirements. While EPA has no specific recommendation, we encourage the ODEQ to maintain its existing accounting practices and improve the level of details if needed regarding costs associated with all activities related to Title V permits.

V. CONCLUSION

Based upon the information reviewed during the Title V Operating Permit Program Evaluation, EPA believes that ODEQ is implementing its program generally in

[16] See 40 C.F.R. 70.9(a) as well as the EPA policy memorandum, "Reissuance of Guidance on Agency Review of State Fee Schedules for Operating Permits Programs Under Title V", dated August 4, 1993 available at:https://www.epa.gov/sites/production/files/2015-08/documents/fees.pdf

compliance with its approved program requirements, and that its fee collection and utilization system is adequately collecting and managing Title V fees. EPA has made several recommendations in this report that we believe would improve and enhance the clarity of the permit related decisions and processes in Oklahoma's implementation of the program. EPA has presented the review findings to ODEQ and in response, ODEQ has committed to address the report findings. EPA Region 6 will work with ODEQ to address the recommendations outlined in this report. In addition, there may other non-Title V recommendations that EPA has noted during its Title V program evaluation that are related to the enhanced Title V and NSR program that ODEQ implements. EPA may raise these recommendations separately to ODEQ since they don't fit squarely what we believe are Title V program elements.

VI. APPENDICES

A. ODEQ's Responses to EPA's Title V Evaluation Questionnaire

B. Selection of Files Reviewed

C. ODEQ Responses to Draft Report and ODEQ Commitments

APPENDIX A: ODEQ's Responses to EPA Title V Evaluation Questionnaire

Oklahoma DEQ Title V Program Evaluation

Questionnaire

September 29, 2016

Table of Content

A. Title V Permit Preparation and Content

1. Since 2011, what percentage (%) of your initial applications contained sufficient information so the permit could be drafted without seeking additional information? What efforts were taken to improve quality of applications if this % was low?

Less than 10%. Pre-application meetings, announcements at Air Quality Council meetings, and industrial conferences. Also, we cite posting of facts sheets and helpful hints. ODEQ is developing an electronic application submittal and evaluation option that will require the necessary information for issuance in order for the applicant to accomplish submittal.

2. For those title V sources with an application on file, do you require the sources to update their applications in a timely fashion if a significant amount of time has passed between application submittal and the time you draft the permit?

Yes.

a. Do you require a new compliance certification if the certification is more than one year old? Please explain.

Yes.

3. Do you verify that the source is in compliance before a permit is issued, and if so, how? Do you consider Notices of Violation as a compliance concern?

Yes. Site inspection.

a. In cases where the facility is out of compliance, are specific milestones and dates for returning to compliance included in the permit? Please give a specific example and permit number.

Both a. and b.

99-109-TV US Silica

b. Or do you delay issuance until compliance is attained? Please cite an example for a source.

OAC 252:4-7-15(b) The Department may not issue a new, modified or renewed permit or other authorization sought by the applicant if:

(1) The applicant has not paid all monies owed to the DEQ or is not in substantial compliance with the Code, DEQ rules and the terms of any existing DEQ permits and orders. The DEQ may impose special

conditions on the applicant to assure compliance and/or a separate schedule which the DEQ considers necessary to achieve required compliance; or
(2) Material facts were misrepresented or omitted from the application and the applicant knew or should have known of such misrepresentation or omission.

Example: LaFarge.

c. How do you handle a case when either the permitting office or the facility self reports non-compliance with specific emission limits?

Compliance/Enforcement and legal staff are notified and take case to completion.

d. How do you incorporate a State order or an EPA consent decree in the permit?

The specific permitting requirements of the CD are incorporated into the permit specific conditions.

4. How do you incorporate startup/shutdown and maintenance (SSM) emissions in Title V permits?

On a case-by-case basis

a. What percentage of major sources have federally enforceable provisions such as monitoring and recordkeeping for SSM in the PSD/NSR permits that are incorporated into the Title V permit?

Less than 5%

b. When SSM emissions and the associated requirements are incorporated into a source's Title V permit through a permit action issued after the source's initial Title V permit receipt, does the permit record (e.g., Statement of Basis) clearly specify or discuss the associated NSR permit action that is establishing the SSM requirements? Please provide an example.

Yes. The statement of basis is very clear. See attachment Permit Numbers 2007-115-C(M-3)(PSD) beginning on page 7 of the statement of basis and 2012-1223-TVR2 beginning on page 6 of the statement of basis.

c. Are you aware of any instance(s) since 2012 where SSM requirements have been incorporated into a Title V without an associated NSR permit

action to create the underlying requirements? If so, please explain.

Yes, early on.

5. Do you have a process for quality assuring the regulatory content of your permits before issuance? Please explain the process and how it is implemented.

Yes. Every TV Draft permit and proposed permit goes through peer review, upper level review, management review, and Compliance/Enforcement review before they are released for public or EPA review.

6. Do you utilize any streamlining strategies in preparing the permit such as:

a. Incorporating by reference test methods, major and minor New Source Review permits, MACT, other Federal requirements into the Title V permit by referencing the permit number, FR citation, or rule? Explain.

Incorporate by reference and cite FR and state rules. Also, statement of basis explains each applicable rule and how it applies to the facility.

b. Streamlining multiple applicable requirements on the same emission unit(s) (i.e., grouping similar units, listing the requirements of the most stringent applicable requirements)? Describe.

Yes, based on similar applicable requirements by EUG.

c. Use of WhitePaper 2 for streamlining applicable requirements or any other streamlining processes? Please describe.

WP 2 has been used since issuance in 1996. Oklahoma participated in a P4 Project and aided in construction of WP 3 for flexible permitting.

7. Have you recently reformatted your permits? If so, what do you believe are the strengths and weaknesses of the format of the permits (i.e. length, readability, facilitates compliance certifications, etc.)? Why?

No.

8. Does your current Statement of Basis[1] explain:

[1] The Statement of Basis sets forth the legal and factual basis for the permit as required by 70.7(a)(5). The permitting authority might use another name for this document such as Technical Support Document, Determination of Compliance, Fact Sheet, Data Base Summary, or combination of.

a. A description of the facility and history of the permits at the source?

Yes

b. The total number of Title V permits issued or to be issued at the source if there will be multiple Title V permits at the source?

Only 1 per facility. In a few cases, there two facilities that are considered one facility for PSD purposes and the details are clearly discussed in the statement of basis for each permit. There are also two facilities that have requested multiple TV permits and the statement of basis makes that declaration in each case.

c. All emissions of pollutants for which this source is major as well as all regulated pollutants?

Yes

d. Applicable Title IV acid rain requirements and required monitoring and recordkeeping requirements?

No. A Title IV permit is issued separately

e. Any operational flexibility at the source, such as CAP, fuel sources, etc.?

Yes.

f. Rationale for applicable monitoring and recordkeeping requirements to include the identification of authority for these decisions?

For some.

g. The basis for each permit shield especially when streamlining applicable requirements?

Yes.

h. Regulatory applicability and non-applicability of Federal and State SIP approved rules?

Yes.

i. The list of State only rules that are not federally enforceable in this permit?

Yes.

j. Part C and Part D CAA (PSD and NNSR) applicability rationale including netting, use of offsets and modeling. Also any NSR permit limits not included in the Title V permit?

No, this is contained in the NSR permit.

k. Compliance History of the site and source for the past five years to include references to formal enforcement documents, and any active consent decrees?

No. Only a statement whether a facility is in compliance and any compliance schedules are listed. Details of enforcement are not put in the permit on advice of legal staff.

9. What templates do you have that facilitate permit writing for:

a. Statement of Basis?

Examples of latest approved and issued permits

b. Regulatory Applicability?

Same as above

c. Monitoring requirements?

Same as above

d. Any other templates?

No

10. Please discuss training and guidance given to your permit writers, and the frequency of such training.

SOP B (Training) attached

11. Has your permit processing time improved with:

a. Standard templates?

Yes, use latest issued TV permits as templates

b. Any other systems?

Increased experience of staff

Please provide examples of each.

12. Since 2011, how many "new" sources have been issued Title V permits? Are there any backlogged title V permits?

New sources 40. There are no backlogged TV permits.

13. Have the items listed below hindered your issuance of Title V permits and to what degree?

a. SIP backlog (i.e., EPA approval still awaited for proposed SIP revisions)

Yes

b. Pending revisions to underlying NSR permits

Yes

c. Compliance/enforcement issues

Yes. Several permits were delayed for years waiting on legal issues.

d. EPA rule promulgation awaited (MACT, NSPS, etc.) or applicability determinations?

Yes

e. Issues with EPA on interpretation of underlying applicable requirements

Sometimes – not often

f. Permit renewals and permit modifications (i.e., competing priorities)

Yes.

g. Awaiting EPA guidance. Please provide examples indicating the type of guidance and the how you requested such guidance – staff through management, etc.

Yes.
- NESHAP Subpart ZZZZ once in always in issue
- regulatory overlap.

Directly requested to EPA Region VI with letter. Some requests have been waiting for years.

Please provide any additional comments on Title V Permit Preparation or Content.

B. General Permits (GP)

1. Please list the source categories and emission units covered by GPs.

Air Curtain Destructors

2. Are you proposing to add any more GPs in the near future? Which sources and for what categories?

No.

3. In your agency, what is the process for a Title V source to have their Title V permit suspended for coverage under a GP as a synthetic minor source?

The Oil and Gas facility GP went through public review. Therefore, if this request is made, the applicant need only apply for registration under the GP and comply with the restrictions of the GP.

4. What level of testing, monitoring, reporting is evident in the GP to support a synthetic minor source changing from a Title V?

Appropriate and sufficient testing, monitoring and recordkeeping are required of ALL minor sources under the GP to insure that they remain minor.

5. What mechanisms are available within the GPs that assure synthetic minors remain minor sources? And what mechanism is available to revert the source back to Title V if they do not meet this assurance?

Periodic reporting and testing and inspection by enforcement staff. Noncompliance is handled by the Compliance/Enforcement and legal sections as required by the rules and regulations. Facilities that revert to the major source category can receive an individual TV permit.

6. Can a former title V source be subject to multiple GPs and/or a GP and a standard "site-specific" Title V permit?

No. While there may be scenarios under which this case could happen, Oklahoma would only consider it under VERY limited circumstances. The overall emissions of the facility control whether it needs a TV permit or not. A facility cannot break its emissions into pieces that are supposedly under separate ownership and, thereby, avoid major source permitting.

a. What percentage of your title V sources have one or more GP permit?
____0_____%

7. Does the GP receive public notice?

All GPs (even for minor sources) go through public review.

a. How does the public or regulated community know what GP have been written? (e.g., are the general permits posted on a website, available upon request, published somewhere?)

General permits are on the web site and can be requested of AQ Division by phone or email. They are also noticed in the paper prior to issuance.

b. How does the public know when a former Title V source is becoming a synthetic minor under a GP?

The public is not given special notice for this circumstance. AQ staff is charged with protecting the citizens of Oklahoma. The permitting and compliance/enforcement staff exercise appropriate responsibility regardless of whether there is public review or not.

8. Is the 5 year permit expiration date based:

a. on the date the GP is issued?

Yes

b. on the date you issue the authorization for the source to operate under the GP?

No

Any additional comments on general permits.

C. Monitoring

1. How do you ensure that your operating permits contain adequate monitoring (i.e., the monitoring required in §§ 70.6(a)(3)) if monitoring is not specified in the underlying standard or CAM?

ODEQ requires monitoring and record keeping sufficient to insure and show compliance for all permit emission limits. We do case-by-case gap filling.

a. Have you developed criteria or guidance regarding how monitoring is selected for

permits? If yes, please provide the guidance.

Yes. See attached ODEQ guidance and EPA CAM examples.

2. Do you provide training to your permit writers on monitoring? (e.g., periodic and/or sufficiency monitoring; CAM; monitoring QA/QC procedures including for CEMS; test methods; establishing parameter ranges)

Yes.

3. How often do you "add" monitoring not required by underlying requirements in a specific permit? Have you seen any effects of the monitoring in your permits such as better source compliance? Has ODEQ evaluated the Sierra Club vs. EPA decision to determine the potential impact on how ODEQ will insure that permits have adequate monitoring?

Often
Yes
ODEQ evaluates all legal decisions that apply to permitting and applies best practices when evaluating permits

4. Are you incorporating CAM monitoring into your permits? What process is used by the permit writers to determine if CAM is necessary?

Yes. See answers to questions above.

5. In cases where there are no underlying requirements to a permit condition, and periodic monitoring is required to demonstrate compliance with an applicable requirement in the Title V permit, is the periodic monitoring practicably enforceable? Give examples and explain.

Yes. State rules (SIP) give the Air Quality Director the power to require whatever testing or monitoring he feels is needed to insure the protection of the citizens of Oklahoma. (OAC 252:100-43-3 Requirement to test, OAC 252:100-43-4 Monitoring required and OAC 252:100-43-7 Report and recordkeeping for any requirement set forth in a permit). Grandfathered units may not be subject to any federal rules.

In some instances, a grandfathered facility source may make changes that result in sources/emission units losing the grandfathered status while not becoming subject to any federal or state underlying requirement. However, long term (annual) limits may apply at this time. If annual limits are applied, periodic monitoring of production and/or stack testing may be required. We believe the monitoring would be practically enforceable based on a including the required elements, in this case, appropriate production records, monthly total compared to a 12-month rolling total.

6. Have you added federally enforceable conditions to permits that were Title V authorized only, i.e., testing, monitoring, reporting, maintenance of records? If so, please provide examples.

Very few, however AQD has applied stack testing requirements for demonstration of compliance with state rules where the rule doesn't provide any specified compliance methodology. See answer in question 5.

Please provide any additional Comments on Monitoring.

D. Public Participation and Affected State Review

Public Notification Process

1. Do you publish notices on proposed title V permits in a newspaper of general circulation? Name some typical ones.

No. The statute requires the applicant to publish the notices (§27A-2-14-302) for the draft permits. The most common newspapers are the Tulsa World and the Daily Oklahoman. Both have statewide circulation.

2. Do you use a state publication designed to give general public notice?

No.

3. How does ODEQ update the mailing list of people interested in Title V permits?

    a. How does a person get on the list?

    Call or write AQD and request to be put on the list.

    b. Are elected public officials on this list?

    Not yet. But they can be if they ask.

    c. How many environmental organizations are on this list?

    See attached list of organizations and individuals who are noticed for all TV draft permits at the beginning of the public review times.

    d. Is this list based on particular sources or areas?

Sources

e. What information do you send to people on the list?

Notices of public meetings and public review opportunities.

f. Any other comments concerning this list?

No.

4. Aside from publications described above, do you use other means of public notification? Please indicate your alternate means of public notification.

Yes. ODEQ website.

5. Do you reach out to specific communities (e.g., environmental justice communities) beyond the standard public notification processes?

No.

6. Do your public notices clearly state when the public comment period begins and ends?

Yes (§27A-2-14-302) and see attached notice.

7. Do your public notices clearly state when the EPA review period begins?

No. Cannot anticipate a request for a public meeting and the time it will take to schedule the meeting and respond to public comments. See attached Notice.

8. What is your opinion on the most effective avenues for public notice?

Web site notice. Newspapers are dying in this country.

9. Do you provide notices in languages besides English? Please list.

No.

10. Do you know of any state mandated legal barriers that would preclude ODEQ from conducting public notice via e-notice (in lieu of newspaper notice) in the future?

In 2016 the Oklahoma Legislature killed a bill that would have allowed e-notice.

Public Comments

11. Have you ever been asked by the public to extend a public comment period?

Yes

a. If yes, did you normally grant them?

Yes.

b. If not, what would be the reason(s)?

12. Has the public ever suggested improvements to the contents of your public notice, improvements to your public participation process, or other ways to notify them of draft permits? Describe.

No.

13. Do you provide the public a copy of the statement of basis if they request it?

The statement of basis is ALWAYS part of the permit that is supplied to the public.

14. Since 2011, what % of your permits have received public comments?

Less than 2%

a. Are these comments based on particular sources?

Sources.

b. Are there any specific areas that receive most of the public comments?

Tulsa area power plants and hazardous waste combustors

c. Are these comments from an environmental organization?

Yes. Most public comments are written by the Sierra Club and copied by members of the public to appear as though many people are authors and are interested in the application. It's a very transparent attempt by the Sierra Club to fake more interest than really exists.

15. Has there ever been training conducted for the public on their ability to comment on Title V permits and how they may go about doing this? Please comment if this has had any impact on the quality of public comments.

Internal Affairs Division. No impact.

16. Have you noticed any trends in the type of comments you have received? Please explain.

Yes. Environmental groups write the comments and get citizens to copy them and send them in. Therefore, ODEQ gets multiple copies of the exact same comments.

17. What percentage of your permits change due to public comments?

Less than 1 %. Most comments do not address the specifics of the permit.

18. Have environmental justice communities been active in commenting on permits?

No. Tribal issues at Continental Carbon were settled when the tribal representatives were paid money and the homeowners were bought out. This is the only case in Oklahoma in many years where there was even a pseudo environmental justice claim.

19. Do you re-propose (and re-notice) the draft permit for public comment if there are any changes made to permit as a result of EPA's comments or public comments? If not, please explain what type of changes will result in such an action to be re-noticed.

Only changes that relax requirements or materially change monitoring, testing or recordkeeping require re-notice.

20. Have you proposed any Title V actions that have incorporated NSR conditions that were either not public noticed or did not go through an official public comment period? Explain these circumstances.

No.

EPA 45-Day Review

EPA has an agreement with ODEQ that for some Title V actions, its 45-day review can be concurrent at the same time as the 30 day public review starts or when EPA receives the proposed permit and statement of basis, whichever is later. The State has additionally indicated that comments received from EPA after the end of the 45-day review period, in the scope of negotiating changes to the permit, will be accepted and considered the same as during the official review period. In accordance with Title V requirements and the approved Oklahoma Title V program, there is a 60-day public petition period following the conclusion of the 45-day EPA review period. Please note, that in a case where a significant gap of time exists between the date a draft permit is proposed for public comment and the final issuance

date of the permit (specifically in those cases where ODEQ has responded to public comment and made associated changes to the permit) EPA would have another 45-day review period and opportunity to object after which the 60-day public petition period would take place.

21. Is the concurrent review memorialized in your public notices?

Yes. See attached notice.

22. Do you have any mechanism to notify the public who may have sent comments when the EPA 45-day review period ends? Please explain.

Web site and phone.

23. Is the public notified or is the draft permit reproposed for public comments when the permit is changed due to EPA's comments.

Depends on what changes are made by EPA. See answer to question 19.

24. Do you have any issues on the EPA 45-day review period as stated above?

No.

Permittee Comments

25. What percentage of your permits involve a pre-permit meeting with the permittee?

5% or less. AQD strongly encourages pre-application meetings with all applicants. Especially NSR construction applications.

26. Do you inform EPA of concerns or requirements when these meetings are held? What are your expectations of EPA?

Only when specific questions arise that AQD cannot answer. EPA R6 has been very helpful and has always been available when needed. AQD hopes EPA R6 will continue their good work in this area.

27. Do you work with the permittees prior to public notice? How?

Yes. See Below.

a. Do permittees provide comments/corrections on the permit during the public comment period? Are there any trends in the type of comments?

AQD provides courtesy copy of pre-draft permit for applicant to review and comment. Most comments concern process description and regulation applicability.

b. How do these types of comments or other permittee requests, such as changes to underlying NSR permits, affect your ability to issue a timely permit?

The pre-draft applicant review reduces the comments received during the public comment period and reduces the overall time it takes to issue the permit. Naturally, a few applicants try to abuse the system and use this time to delay issuance.

Public Hearings

28. Please provide a list of public hearings conducted since 2011.

None

Availability of Public Information

29. Do you charge the public for copies of permit-related documents? What is the cost?

Yes. OAC 252:100-4-1-6 requires a fee of $0.25 per page after the first ten pages for copying or faxing letter or legal sized paper.

a. Are there exceptions to this cost (e.g., the draft permit requested during the public comment period, or for non-profit organizations)?

No. There is no provision in the rules for an exception.

b. Do your Title V permit fees cover this cost? If not, why?

No. It is not possible to anticipate the length of a permit or the number of requests for copies by the public or some non-profit organization. Permit fees are based on type of permit and can be found in OAC 252:100-8-1.7.

30. What is your process for the public to obtain permit-related information (such as permit applications, draft permits, deviation reports, 6-month monitoring reports, compliance certifications, statement of basis) especially during the public comment period?

Applications are available during public comment time at local site with the draft

permit. Applications are available at AQD office for review at any time. Deviation reports, 6-month monitoring reports, and compliance certifications are available at AQD office anytime. Statement of basis is part of the Oklahoma permit and is always available as part of the draft permit or the proposed permit or the issued permit.

a. Are any of the documents available locally (e.g., public libraries, field offices) during the public comment period? Explain.

Application and draft permit (including statement of basis)are available locally and at AQD during public review period. Only issued permits are available at local offices.

b. Have you received comments on the availability (or non-availability) of such information from the public?

No.

c. Who is responsible for ensuring that this information is actually available in the local offices/libraries? Please explain the verification process.

Field offices receive the issued permits from permit sections electronically from AQD.

31. How long does it take to respond to requests for information for permits in the public comment period?

Less than one work day.

32. Have you ever extended your public comment period, as a result of information requests?

No.

a. Where is this information stored?

Permit, and compliance/enforcement files are stored at DEQ offices in Oklahoma City and Tulsa.

b. Do information requests, either during or outside of the public comment period, affect your ability to issue timely permits?

Not yet. There have been very few information requests.

c. Have you ever extended the public comment period because of a request for a public hearing?

No. But comment period has been extended because of a request for an extension of comment time that was made during a public meeting.

33. What information is available from your website?

a. Is there regulatory and permit guidance information available online for the public?

Yes.

b. How often is the website updated? Is there information on how the public can be involved?

Depends on the data to be updated. Weekly, monthly and daily.

c. Have you received comments on your web access system? Explain.

Yes. The comments mostly involve completion of application forms that are available on line.

d. Have you considered or are you working on developing a web access system to permits and permits related documents for the public? If yes, please describe.

AQD has been trying to achieve "cradle to grave" public access to permit flow though web site access for about 2 years. Progress is slow.

34. Have any other ideas for improved public notification, process, and/or access to information been considered? If yes, please describe.

No.

35. Do you have any resources available to the public on public participation (e.g., booklets, pamphlets, and webpages)?

Guidance on the web site

36. Do you provide training to citizens on public participation or on Title V?

No.

37. Do you have staff dedicated to public participation, relations, or a liaison?

Yes.

a. Where are they in the organization?

Office of Internal Affairs

b. What is their primary function?

All types of customer service.

Affected State Review, Review by Federal Land Managers (FLM) and Indian Tribes

38. How do you determine what States qualify as "affected States" for your draft permits?

Any state within 50 miles of the facility or any state affected by the application. All tribes are notified of all in-state applications and draft permits. All tribes are notified of other states' affected starts notifications to Oklahoma.

39. How do you notify affected States or Tribal Nation governments of draft permits? Please provide examples of permits and letters that were sent to the affected States.

Affected states receive letters (See attached example). Tribes receive all draft permits electronically because no one can tell Oklahoma where tribal lands are.

40. How do you determine when to notify the FLM office for Class I areas? Do you have a guidance document for the permit engineer and the public participation group at ODEQ?

FLAG guidance criteria

41. What percentage of your permits get comments from affected States and FLMs?

O% from affected states. Very few from FLM but that is because AQD keeps FLM involved and addresses FLM concerns prior to public review.

42. Are there any patterns to the type of draft permits that get affected State/FLM comments? Are there common themes in these comments?

No.

43. Does ODEQ review and comment on the adjacent States' Title V permits? Please provide some examples when ODEQ felt it was necessary.

Seldom. None in past 10 years in which the state gave Oklahoma a notice. Oklahoma tried to comment on a Texas Power Plant NSR permit for a facility just south of Valliant, Oklahoma that Texas said they were not required to supply for comment…The plans for the plant were eventually abandoned.

Please provide any additional Comments on Public Participation and Affected State Review.

E. Permit Issuance / Revision / Renewal

Permit Issuance

1. Have there been any initial Title V permits withdrawn since 2011? If so, Why?

   Yes. Facilities closed down. Some facilities took limits to become synthetic minors.

   a. What process does ODEQ use to grant a permit rescission?

      Each request is evaluated on a case-by-case basis by the permitting sections and compliance/enforcement sections.

   b. How many MACT sources have taken synthetic minors and have their Title V permits rescinded? What permit action is taken to make the PTE practically enforceable

      None, yet.

   c. What other categories or minor NSR sources have their Title V permits rescinded?

      Many oil and gas compressor stations. Mature production decreases and facilities remove engines.

2. How many synthetic minor Title V permits (sources) have been issued?

   1969

   a. Do you write synthetic minor permits for HAP sources? How many?

      Yes. That number is not available.

3. What has been your average time in the past two years for processing Title V permits from an administratively complete application to permit issuance?

   285 calendar days

   a. Are there any types of permits that take a much longer time? Why?

      Major NSR construction permits because of modeling, BACT analyses, FLM review, etc.

Permit Revisions

4. Do you follow your regulations on how to process permit modifications based on a list or description of what changes can qualify for:

Regulations define changes that qualify for minor, significant, or administrative modification.

a. How many administrative amendments are processed in a year and what types?

Less than 30 (name changes and ownership changes).

b. §502(b)(10) changes? (See §70.4(b)(12))

None since 2011

c. Significant and/or minor permit modification? (See §70.7(e))

123 since 2011

d. Group processing of minor modifications? If so, what percentage?

0 since 2011

5. For those permits that have been issued, and where the permitted facility has undergone a change, how many title V permits have you processed per year?

22 since 2011

a. What percentage of changes at the facilities is processed as:

i. Significant?

90%

ii. Minor?

10%

iii. Administrative?

Less than 1%

b. Does ODEQ have guidance on what can be considered an off permit change? How many (or what percentages) were off-permit?

OAC 252:100-8-6(f)(2) describes changes that can be made within a facility without a permit application. No data available of off permit changes because they are off permit!!

6. Have you taken longer than the Part 70 timeframes of 18 months for significant revisions, 90 days for minor permit revisions and 60 days for administrative? Explain.

   Yes. DEQ seldom gets technically complete initial applications. Most of the time is spent curing the application and trying to get needed data from applicant. Once application is technically complete and there are no legal restraints, AQD issues permits with the time limits specified.

7. What have you done to streamline the issuance of revisions?

   Try to retain staff long enough to benefit from their expertise. Industry tends to take staff quickly because the state of Oklahoma will not compete financially for employee's services. AQD has tried to encourage applicants to submit complete initial applications to significantly reduce issuance time.

8. What process do you use to track permit revision applications moving through your system?

   TEAM Database

9. Have you developed guidance to assist permit writers and sources in evaluating whether a proposed revision qualifies as an administrative amendment, significant or minor revision, or requires that the permit be reopened? If so, provide a copy.

   Yes. Mentoring by experienced permit writers, upper level peer review, and weekly staff meetings. Also, final decision on this issue rests with management for each application.

10. Do you require applications for minor permit modifications to contain a certification by a responsible official, consistent with 70.5(d), that the proposed modification meets the criteria for use of minor permit modification procedures, and a request that such procedures be used?

    Yes.

11. When public noticing proposed permit revisions, how do you identify which portions of the permit are being revised? (e.g., narrative description of change, highlighting, different fonts).

    See attached notice.

12. When public noticing proposed permit revisions, how do you clarify that only the proposed permit revisions are open to comment? Please provide an example

Within the notice. See attached notice.

Permit Renewal Or Reopening

13. How many permit renewals have you processed?

Issued 150 TV renewals, 123 modifications since 2011.

14. What is your plan to issue permit renewals in a timely fashion? (Within 18 months)

Work hard and work intelligently. Cannot increase staff levels with poor state pay.

15. Do you have a different application form for a permit renewal compared to a standard application form? (e.g., are your application renewal forms different than forms for initial permits?)

Yes.

a. If yes, what are the differences? Are 1st time requirements (like CAM, off permit changes, etc.) in a renewal application being included in the renewal?

Renewal package is shorter and focuses on changes since the previous TV permit was issued. All changes including insignificant emissions are included in the renewal. Any CAM requirements and justifications are carried over into the renewal.

b. If no, please explain how the application differentiates between other actions, including initials, and a renewal.

16. Has issuance of renewal permits been "easier" than the original permits? Explain.

Yes. Initial work on facility consolidation of old permits has been completed and only changes since last permit need be addressed. Also, staff has better understanding and more experience with TV process than initially.

17. How are you implementing the permit renewal process (i.e., guidance, checklist for permit applicants)?

Application forms. The regulated community that operates major facilities are well aware of their responsibility to renew TV permits.

18. What % of renewal applications have you found to be untimely and late? What action have you taken on these permitees?

Less than 1%. Enforcement

19. How many complete applications for renewals do you presently have in-house ready to process?

64 administratively complete and in technical review as of October 18, 2016.

20. Have you ever determined that an issued permit must be revised or revoked, to assure compliance with the applicable requirements?

Yes.

Please provide any additional comments on Permit Issuance / Revision / Renewal.

F. Compliance with respect to Permit Terms and Conditions.

1. Deviation reporting:

a. Which deviations do you require be reported prior to the semi-annual monitoring report? Please describe.

All excess emissions are required to be reported.

b. Do you require that some deviations be reported by telephone?

Excess emissions must be reported by the next business day of the event. However, effective July 2009, only malfunctions will be required to submit an immediate notice.

c. If yes, do you require a followup written report? If yes, within what timeframe?

Currently, our rule requires that the facility submit an excess emission report within 10 days of the excess emission event and a demonstration of cause report within 30 days. However, a new excess emissions rule was effective July 2009 which only requires immediate notice for malfunctions, a 30 day excess emission report and an affirmative action defense.

d. Do you require that all deviation reports be certified by a responsible official? (If no, describe which deviation reports are not certified).

Only semi-annual reports and annual compliance evaluations must be certified by a Responsible Official.

i. Do you require all certifications at the time of submittal?

Yes.

ii. If not, do you allow the responsible official to "back certify" deviation reports? If you allow the responsible official to "back certify" deviation reports, what timeframe do you allow for the followup certifications (e.g., within 30 days; at the time of the semi-annual deviation reporting)?

2. How does your program define deviation?

a. Do you require only violations of permit terms such as BACT limits to be reported as deviations?

Yes.

b. Do you require SSM to be reported as a deviation when the permit limits are exceeded?

Yes.

c. Which of the following do you require to be reported as a deviation (Check all that apply):

Y **X** N ☐ i. Excess emissions excused due to emergencies (pursuant to 70.6(g))

Y ☒ N ii. Excess emissions excused due to SIP provisions (cite the specific state rule)

Y **X** N ☐ iii. Excess emissions allowed under NSPS or MACT SSM provisions

Y **X** N ☐ iv. Excursions from specified parameter ranges where such excursions are not a monitoring violation (as defined in CAM)

Y **X** N ☐ v. Excursions from specified parameter ranges where such excursions are credible evidence of an emission violation

Y **X** N ☐ vi. Failure to collect data/conduct monitoring where such failure is "excused":

Y **X** N ☐ a. During scheduled routine maintenance or calibration checks

Y **X** N ☐ b. Where less than 100% data collection is allowed by the permit

Y **X** N ☐ c. Due to an emergency

Y ☒ N vii. Other? Please describe.

3. Do your deviation reports include:

Y **X** N ☐ a. The probable cause of the deviation?

Y **X** N ☐ b. Any corrective actions taken?

Y **X** N ☐ c. The magnitude and duration of the deviation?

Y **X** N ☐ 4. Do you define "prompt" reporting of deviations as more frequent than semi-annual?

Y **X** N ☐ 5. Do you require a written report for deviations?

Y ☒ N 6. Do you require that a responsible official certify all deviation reports?

7. What is your procedure for reviewing and following up on:

Most noncompliance issues that are found in the below reports are addressed in the facility's next full compliance evaluation (FCE). However, if immediate action is necessary, enforcement will be initiated.

a. Deviation reports?

b. Semi-annual monitoring reports?

c. Annual compliance certifications?

8. What percentage of the following reports do you review prior to permit issuance?

All reports submitted within the last five years or since the last FCE are reviewed prior to any FCE.

a. Deviation reports

b. Semi-annual monitoring reports

c. Annual compliance certification

9. Compliance certifications:

Y **X** N ☐ i. Is the certification form consistent with your rules?

ii. Is compliance based on whether compliance is continuous or intermittent or whether the compliance monitoring method is continuous or intermittent?

Yes.

iii. Do you require sources to use the form? What percentage does?

100%

iv. Does the form account for the use of credible evidence?

No.

v. Does the form require the source to specify the monitoring method used to determine compliance where there are options for monitoring, including which method was used where more than one method exists?

Yes

10. Excess emissions provisions:

Y **X** N ☐ a. Does your program include an emergency defense provision as provided in 70.6(g)? If yes, does it:

Y **X** N ☐ i. Provide relief from penalties?

Y **X** N ☐ ii. Provide injunctive relief?

Y **X** N ☐ iii. Excuse noncompliance?

Y **X** N ☐ b. Does your program include a SIP excess emissions provision? If no, go to 6.c. If yes does it:

Y **X** N ☐ i. Provide relief from penalties?

Y [X] N ii. Provide injunctive relief?

Y [X] N iii. Excuse noncompliance?

c. Do you require the source to obtain a written concurrence from the PA before the source can qualify for:

Y [X] N i. The emergency defense provision?

Y [X] N ii. The SIP excess emissions provision?

Y [X] N iii. NSPS/NESHAP SSM excess emissions provisions?

Resources & Internal Management Support

11. What are the competing resource priorities for your "Title V" staff?

Minor source permitting, legislative requests, EPA Questionnaires and audits, Major NSR modeling, Regional haze modeling.

12. Are there any initiatives instituted by your management that recognize/reward your permit staff for getting past barriers in implementing the title V program that you would care to share?

Annual awards meeting to recognize those permit engineers who excel in the performance of their jobs.

13. How is your senior management kept up to date on permit issuance?

TEAM database

14. Do you have any automatic computer programs in place as part of the permitting process? If so, do you have dedicated staff for the automated computer programs? Do you plan on any more automation of your permit programs? Please explain.

Yes. TEAM database and currently developing an e-permitting capability for some types of permits.

15. Does ODEQ currently allow for the electronic submission of permit applications? If so, please provide information regarding the requirements for electronic submission and what documents still require hardcopy submittal.

Currently developing the capability. It should be operable by March 2017.

16. What is your process for addressing issues and problems related to permit writing?

Weekly section meetings with permit staff, bi-monthly formal AQD (all sections) permits staff meetings, weekly management meetings, and one-on-one communication by management with each engineer.

Please provide any additional comments on Compliance with Respect to Permit Terms and Conditions.

G. Title V Benefits

1. Compared to the period when you first started implementing the Title V program, does the Title V staff generally have a better understanding of:

Y **X** N ☐ a. NSPS requirements?

Y ☒ N b. The stationary source requirements in the SIP?

Y **X** N c. The minor NSR program?

Y **X** N ☐ d. The major NSR/PSD program?

Y **X** N ☐ e. How to design monitoring terms to assure compliance?

Y **X** N f. How to write enforceable permit terms?

Y **X** N g. Sources' operations (e.g., better technical understanding of source operations; more complete information about emission units and/or control devices; etc.)?

Y ☒ N h. Your stationary source emissions inventory?

Y **X** N ☐ i. Applicability and more enforceable (clearer) permits?

2. Has your Title V universe changed since you first implemented the Title V program?

Slightly. Economic growth has brought more TV sources. The majority of TV facilities have been and still are oil and gas exploration and production related.

3. In issuing the Title V permits:

Y **X** N ☐ a. Have you noted inconsistencies in how sources had previously been

regulated (e.g., different emission limits or frequency of testing for similar units)? If yes, describe.

Y **X** N ☐ b. Have you taken (or are you taking) steps to assure better regulatory consistency within source categories and/or between sources? If yes, describe.

4. Based on your experience, estimate the frequency with which potential compliance problems were identified through the permit issuance process. You may either state the number of permits, or as a percentage of permits, or relative terms as often, never, sometimes or frequently.

   a. prior to submitting an application

      Seldom

   b. prior to issuing a draft permit

      Frequently

   c. after issuing a final permit

      Seldom (not aware of any)

5. Based on your experience with sources addressing compliance problems identified through the Title V permitting process, estimate the general rate of compliance with the following requirements prior to implementing Title V:

   a. NSPS requirements (including failure to identify an NSPS as applicable)

      90%

   b. SIP requirements

      90%

   c. Minor NSR requirements (including the requirement to obtain a permit)

      90%

   d. Major NSR/PSD requirements (including the requirement to obtain a permit)

      95%

6. What changes in compliance behavior on the part of sources have you seen in response to Title V? (Check all that apply.)

Y **X** N ☐ a. Increased use of self-audits?

Y **X** N ☐ b. Increased use of environmental management systems?

Y **X** N ☐ c. Increased staff devoted to environmental management?

Y **X** N ☐ d. Increased resources devoted to environmental control systems (e.g., maintenance of control equipment; installation of improved control devices; etc.)?

Y**X** N ☐ e. Increased resources devoted to compliance monitoring?

Y **X** N ☐ f. Better awareness of compliance obligations?

Y ☒ N h. Other? Describe.

Y **X** N ☐ 7. Have you noted a reduction in emissions due to the Title V program?

Y **X** N ☐ a. Did that lead to a change in the total fees collected either due to sources getting out of title V or improving their compliance?

Y **X** N ☐ b. Did that lead to a change in the fee rate (dollars/ton rate)?

8. Has title V resulted in improved implementation of your air program in any of the following areas due to Title V:

Y **X** N ☐ a. Netting actions?

Y **X** N ☐ b. Emission inventories?

Y **X** N ☐ c. Past records management (e.g., lost permits)?

Y **X** N ☐ d. Enforceability of PTE limits (e.g., consistent with guidance on enforceability of PTE limits such as the June 13, 1989 guidance)?

Y **X** N ☐ e. Identifying source categories or types of emission units with pervasive or persistent compliance problems; etc.?

Y **X** N ☐ f. Clarity and enforceability of NSR permit terms?

Y **X** N ☐ g. Better documentation of the basis for applicable requirements (e.g., emission limit in NSR permit taken to avoid

PSD; throughput limit taken to stay under MACT threshold)?

Y ☒ N h. Emissions trading programs?

Y ☒ N i. Emission caps?

Y ☒ N j. Other? (describe)

Y **X** N ☐ 9. If yes to any of the above, would you care to share how this improvement came about? (e.g., increased training; outreach; targeted enforcement)

Y **X** N ☐ 10. Has Title V changed the way you conduct business?

Y **X** N ☐ a. Are there aspects of the Title V program that you have extended to other program areas (e.g., require certification of accuracy and completeness for pre-construction permit applications and reports; increased records retention; inspection entry requirement language in NSR permits). If yes, describe.

Major NSR construction permits written so that they can be easily converted to TV operating permits.

Y **X** N ☐ b. Have you made changes in how NSR permits are written and documented as a result of lessons learned in Title V (e.g., permit terms more clearly written; use of a statement of basis to document decision making)? If yes, describe.

Y ☒ N c. Do you work more closely with the sources? If yes, describe.

Y ☒ N d. Do you devote more resources to public involvement? If yes, describe.

Y X N ☐ e. Do you use information from Title V to target inspections and/or enforcement?

Y ☒ N f. Other ways? If yes, describe.

Y **X** N ☐ 11. Has the Title V fee money been helpful in running the program? Have you been able to provide:

Y **X** N ☐ a. better training?

Y **X** N ☐ b. more resources for your staff such as CFRs and computers?

Y **X** N ☐ c. better funding for travel to sources?

Y **X** N ☐ d. stable funding despite fluctuations in funding for other state programs?

Y **X** N ☐ e. incentives to hire and retain good staff?

Y ☒ N f. are there other benefits of the fee program? Describe.

Y X N ☐ 12. Have you received positive feedback from citizens?

Y X N ☐ 13. Has industry expressed a benefit of Title V? If so, describe.

Single operating permit for each facility instead of multiple permits

Y X N ☐ 14. Do you perceive other benefits as a result of the Title V program? If so, describe.

Better compliance records, better inventory records, better and more communication between operator and regulator.

Please provide any additional comments on Title V Benefits.

H. Title I/Title V Interface

1. Do you cross-train the Title V permit engineers on the NSR (Title I) program requirements? If so, please elaborate.

   Yes. All AQD permit engineers must construct Minor NSR, Major NSR and TV permits.

2. How do your Title V permit engineers evaluate the NSR conditions that are being incorporated directly into Title V actions during the permit development process?

   All the modeling and other NSR evaluations are incorporated into the TV operating permit. All NSR evaluations are reviewed to ensure they are up-to-date and appropriate prior to incorporation into the TV permit. The TV program is supposed to provide a single permit for the facility and it is easier for everyone involved if the facility has only one permit.

3. What % of Title V permitting actions incorporate NSR actions.

   100% of the TV permits for facilities that have NSR construction permits.

4. Do you incorporate partial NSR permit actions in Title V permits (not all applicable conditions from the NSR permit that would be subject to operating conditions)? Please provide an example and explain the reason for partial incorporation.

   No.

5. How are NSR conditions being incorporated into Title V permits?

   By writing the conditions in the TV permit and including NSR statement of basis explanations in the TV statement of basis.

6. What % of Title V permits have incorporated NSR conditions with RMRR exempted actions?

   0%

7. What % of the RMRR exempted actions are "like-kind" replacements?

   N/A

8. For RMRR exempted actions, are actual emissions being reviewed? What emissions are being reviewed?

   N/A

9. What % of Title V permits for PSD sources have specifically addressed SSM?

   Less than 5%.

10. Are there interim plans to address SSM in Title V permits, prior to rulemaking?

    Yes.

11. When does a "grandfathered" unit at a PSD source lose that status under your Title V permits?

    When it is modified or moved.

Please provide any additional comments on Title I/Title V Interface.

I. Title V Administration and Fee Review

Current Title V Resources

1. What section of your regulation defines the ODEQ's fee collection authority and rate(s)?

   OAC 252:100-8-1.7 application fees, OAC 252:100-5-2.2 Annual operating fees.

   a. Has the basis or amounts of any of these fees that were relied upon in the original Title V program approval changed? Please describe.

      Yes. Application fees and annual operating fees have increased since the original amounts. Permit fees were increased in 2010. Annual operating fees have been increased through rulemaking, the latest in 2008.

   b. Are there fees that have been adopted since the original Title V program approval that are now relied upon to, at least in part, fund any aspect of the Title V program? Please describe.

      No.

   c. Are any of the fees that can be used, even in part, to pay for Title V purposes dedicated by law to non-Title V program areas? Please explain.

      No.

2. What is the projected number of permits subject to review to implement Title V? Please discuss.

   Please clarify the question. It is not clear what is being requested.

3. How do you track Title V expenses?

   Weekly Time and Effort reports by each employee.

4. How do you track Title V fee revenue?

   Using data from the Redbud system, the Emissions Inventory Section prepares invoices for annual operating fees. TEAM database and finance section of DEQ are also involved in tracking fee revenue.

5. Please provide a spreadsheet for FY 2013, FY 2014, and FY 2015 documenting ODEQ's annual account receivables and ODEQ's annual expenses for the Title V permitting program. Are ODEQ's current Title V fees sufficient to support the Title V program?

6. Provide a list of Title V permittees and fee revenues generated from each of these permittees.

7. Provide source bills for the last three months.

8. How many Title V permit writers does the agency have on staff (number of FTE's)?

   21

9. Do the permit writers work full time on Title V or do they work on other items such as NSR permits?

   Each permit engineer works on TV, NSR, and state minor permits.

   a. If not, describe their main activities and percentage of time on Title V permits.

      70% TV and 30% minor source permitting

   b. Please describe very specifically how ODEQ tracks the time allocated to Title V activities versus other non-Title V activities?

      Weekly Time and Effort reports by each employee.

10. Are you currently fully staffed? Has your state legislature of the state budget process implemented a ceiling on you FTE staffing that results in the collection of more Title V fees than your FTE staffing allocation is allowed by the state budget process?

    No.

11. What is the ratio of permits to permit writers?

    22 total applications, 4 TV applications per engineer.

12. Describe staff turnover and how do you minimize turnover?

    Cannot minimize because the state does not pay enough to compete with industry. Engineers leave for double their state salary. Staff has temporarily stabilized because it is now mostly an older group that is close to retirement. We will soon lose many to retirement and it is very difficult to imagine being able to replace them. Only continued deep recession will, perhaps, provide a workforce willing to work for the state.

13. Describe your career ladder for permit writers?

Engineer Intern I, II, III, IV. Professional Engineer I, II, III, Engineering Manager I, II, III, IV.

14. Do you have the flexibility to offer competitive salaries?

No.

15. Can you hire experienced people with commensurate salaries?

No.

16. Describe the type of training given to your new and existing permit writers.

See attachment on training. Also, CenSARA and EPA continued training courses are made available to the permit staff on a regular basis.

17. Is there anything that EPA can do to assist/improve your training?

Continue to offer guidance on rules interpretations.

18. Overall, what is the biggest internal roadblock to permit issuance from the perspective of Resources and Internal Management Support?

Cannot fully staff because we are never fully funded and cannot compete with industrial salaries.

Fees Calculated

19. Do you charge Title V fees based on emission volume?

Yes.

a. If not, what is the basis for your fees?

b. What is your Title V fee?

The 2016 Title V fee was $37.02

20. How are fees calculated? Show formula for calculation of emission based fee, application fees, and hourly processing.

How the yearly Title V fee is determined:

2) **Part 70 Sources.** Beginning July 1, 2008, annual operating fees invoiced for Part 70 sources shall be $32.30 per ton of regulated air pollutant (for fee calculation) and shall be adjusted each year pursuant to (b)(3) of this section.

(3) **Use of Consumer Price Index (CPI) to adjust annual operating fees.** Annual operating fees for Part 70 sources shall be adjusted automatically each year by the percentage, if any, by which the CPI for the most recent calendar year ending before the beginning of such year differs from the CPI for the calendar year 2007. The CPI for any calendar year is the average of the CPI for all-urban consumers published by the Department of Labor, as of the close of the twelve-month period ending on August 31 of each calendar year.

We calculate by dividing the August CPI for the current year by the CPI for August of 2007(search 'All Urban Consumers'). The result is multiplied by the 2007 Title V fee amount to determine the new Title V fee amount. Calculate using all decimal amounts, only rounding to two digits at the final dollar amount.

For pollutants: NOx, HAPs, PM-10, SOx, Toxics and NonHAP VOC
Actual yearly emission in tons = (Process Rate x Emission Factor in pounds)/2000
Actual emissions in tons x Title V fee = Title V operating fee

1) Operating fees shall be calculated on a source-specific basis and based on actual emissions of regulated pollutants (for fee calculation) as set forth in the facility emission inventory unless the owner or operator elects to pay fees on allowable emissions.

a. Provide examples of the calculations of actual emissions for fee purposes.

41.14 mmscf (fuel burned) x 100 lbs of NOx/mmscf = 4114 lbs NOx

4114lbs/2000 = 2.057 tons of NOx

2.057 x $37.02 per/ton = $76.15 Title V operating fee

(2) Regulated pollutants (for fee calculation) in excess of 4,000 tons per year per pollutant for a Part 70 source shall not be considered in the calculation of the annual fee.

b. Provide an example of emission inventory request letter.

Dear Responsible Official (RO):

This message has been sent to you because you are listed in our records as the RO in your company (INC) who is responsible for submitting annual emissions inventories to the Oklahoma Department of Environmental Quality. If this is not the case then please contact us immediately.

Redbud, our web-based emissions inventory reporting system, is now live for reporting 2015 inventories, which must be submitted by April 1, 2016. The current password to access the system is shown below. You may authorize other employees or representatives of your company to use Redbud, but it is your responsibility to forward the login information below to them as necessary. ***We can only give the password to the RO of an organization.***

A signed hardcopy is not required. However, even if another person completes your Final Submission for you, it is ***yourself*** who will be electronically certifying that the submission is ***"...true, accurate, and complete."***

You may access Redbud at
http://applications.deq.ok.gov/Redbud.

Use the following information to login.
Company ID: **aei3980**
Password: **02781b4B**

If you have any questions regarding this email or your 2015 air emissions inventory, please contact the DEQ Emissions Inventory Section at (405)702-4100 or aei@deq.ok.gov.

Late Request Letter:

Company
P.O. Box 77
Pawhuska, OK 74056

May 25, 2016

CERTIFIED MAIL 7016 0600 0000 3590 0980

Dear Mr. Smith:

Facilities that are sources of air emissions of regulated pollutants are required by the Oklahoma Administrative Code (OAC) to maintain and submit annual emission inventories by April 1st of the following year to the Oklahoma Department of Environmental Quality, Air Quality Division.

OAC, Title 252, Chapter 100-5-2.1 states in part the following:

> (a) **Requirement to file an emission inventory.** The owner or operator of any facility that is a source of air emissions shall submit a complete emission inventory annually on forms obtained from the Division.

To date, our office has no record of a 2015 emission inventory submittal from your company for your Bird Creek 1 19 SWD and 2 19H, Ricketts CTB, Rock Creek CTB, and Strike Axe CTB facilities. Four Turnaround Documents (TAD) for use in your submittal are attached. Your completed, certified inventories should be submitted by **June 10, 2016** to:

> **Oklahoma Department of Environmental Quality**
> **Air Quality Division, Emissions Inventory Section**
> **P. O. Box 1677**
> **Oklahoma City, OK 73101-1677**

Any questions or requests for assistance should be directed to the Emissions Inventory staff at 405-702-4100.

Sincerely,

Environmental Program Manager
Emission Inventory Section
Air Quality Division

21. Are appropriate (actual or allowable) emission records used for dollars-per-ton based fees?

Operating fees shall be calculated on a source-specific basis and based on actual emissions of regulated pollutants (for fee calculation) as set forth in the facility emission inventory unless the owner or operator elects to pay fees on allowable emissions.

22. How do you determine the actual emissions for fee purposes?

Actual Emissions are calculated by the reporting company and reported via the emission inventory to the DEQ using DEQ approved forms or Redbud, our web-based emissions inventory reporting system. Companies are encouraged to report actual emissions, but do have the option to report allowable emissions.

Collections Tracked

23. Discuss how incoming payments are recorded to the appropriate accounts.

Payments are recorded to the appropriate accounts as detailed on the invoice. Accounts designate the type of fee such as Title V.

24. Are sources paying the total fees charged each year?

Yes, for emission inventory operating fees

25. Are sources paying on time?

	FY12	FY13	FY14
July	**48%**	**48%**	**62%**
August	**39%**	**52%**	**34%**
Sept	**13%**	**0%**	**4%**

26. What procedures are maintained for collection of outstanding Title V revenues?

Emissions inventory operating fees: A courtesy reminder phone call is made to all companies that have not paid after the first 30 days of invoicing. A follow-up call(s) is made if necessary after the initial reminder. After 60 days a registered letter is sent to the company requesting payment. If payments are not received, the company is referred to compliance and enforcement for enforcement action.

27. Are late fees being assessed?

Late fees have not been assessed; however, the option to charge late fees is available.

28. How are late fees being credited to the Title V accounts?
Late fees are added at the direction of the Air Quality Division; late fees have not been requested to be assessed. Thus, late fees are not being credited to Title V accounts at this time but if late fees were being assessed, the late fee would carry the funding string tied to the specific invoice.

29. How do you insure that a facility has paid all applicable Title V permit fees prior to issuance of the permit?

Finance receipts funds received to each individual account as explained in item #23 above. AQD has viewable rights to the financial accounts receivable tracking system. Air Quality Division monitors that accounts are credited with payment before issuing permits.

30. Have all Title V fees been collected for the FY 2012, FY 2013, and FY 2014?

	FY 12	FY 13	FY14
Title V Billing	6,229,133	6,406,898	6,384,217
Title V Collections	6,229,133	6,406,898	6,384,217
Amounts uncollected	-	-	-

31. If there are uncollected Title V fees, how does ODEQ pursue collection of such fees?

Not applicable for this time frame; however, if it were, DEQ would follow the steps outlined in item #26 above.

32. Do you assess late fees on sources that have not paid the appropriate Title V fees? If so, when is the late fee assessed and what is the timeframe for remittance of all the applicable fees?

As explained in item #28 above, late fees have not been assessed.

33. Provide ODEQ's data detailing actual collections vs. Billings or fee tracking for the Title V permitting program. Illustrate what procedures are maintained for collection of outstanding Title V revenues.

All accounts for this time frame have been paid in full. However, if they were not, a courtesy reminder phone call is made to all companies that have not paid within the first 30 days of invoicing. A follow-up call(s) is made if necessary after the initial reminder. After 60 days a registered letter is sent to the company requesting payment. If payments are not received, the company is referred to compliance and enforcement for enforcement action.

34. Provide copies or documentation of examples detailing late fee assessment and recording collection of fees to Title V accounts.

Since no late fees have been assessed, no examples detailing late fee assessments are within an attachment. However, Attachment A is provided to show how Title V fees are invoiced and how the payment is recorded when received.

Billing Process

35. Can you show that sources are billed in accordance with your fee requirements?

All Title V permitted companies with >5 tons of billable emissions are invoiced annually.

36. What is the state billing process including notification time frame and receiving and tracking? Please describe.

For Emissions Inventory: Invoices are sent on the first business day of July and payment is due 30 days later. Fees are assessed in arrears (2016 invoicing is based on reported 2014 emissions.) Payments posted by finance are tracked by our office utilizing the accounts receivable tracking system.

Revenue Allocated

37. Provide account balances by object/facility codes.

All Title V facilities have a zero dollar balance for the time frame in question. All amounts invoiced were collected.

38. How are Title V fees budgeted/allocated by ODEQ?

Title V fees are budgeted according to expected expenditures/needs related to Title V activities across the agency. Indirect Costs are allocated to Title V based upon allowable expenditures at the rate approved by EPA for that time frame.

39. Provide specific formulas showing how you calculate administrative personnel costs, overhead, and non-labor costs (e.g., travel, training, purchases, etc.)

DEQ does not utilize formulas but automated processes built into the state's financial system to allocate such expenditures. The system has been built to allocate expenditures coded to 2920164xx, where xx stands for the associated Fiscal Year. The allocation process is normally run bi-weekly with the agency's fringe/benefit allocation after payroll has been processed for that biweekly period. The system takes any unallocated 2920164xx (AQD Percentaged Activities) expenditures and allocates them to 2920021xx (AQD Non-Title V) and 2920022xx (Title V) across actual accumulating totals for the agency for that xx (Fiscal Year).

40. Provide examples of time sheets for project managers, administrative support staff and management personnel.

Please see Attachment B

41. Provide examples of procurement documents, travel vouchers, training, etc. Please include travel vouchers which illustrate dual purpose travel. For example, where more than one type of facility was visited.

Please see Attachment C

42. Provide account balances by object code for FY 2013 and FY 2014.

Please see Attachment D

Cost of "Effective" Program (Resources to Address Backlog/Renewals)

43. Provide end-of-year accounting reports that illustrate actual and estimated costs of the program. Provide the FTE and itemized cost estimates ODEQ uses to budget your Title V program. Also, include the total amount of Title V fees expended and the total amount billed to facilities for Title V (by FY 2012, FY 2013, and FY 2014) for the last three years.

Please see Attachment E

44. Provide a report that estimates costs of running the program, i.e., direct and indirect program costs that are broken down into specific cost categories. How are these expenditures calculated/tracked?

Please see Attachment E provided above for item #43 above. DEQ budgets by projects. The expenditures are budgeted based upon anticipated needs by the agency, primarily AQD. The agency then assigns a FY project to the needs. Employees code directly to the projects that they know. If they cannot determine Title V versus Non-Title V, then staff code to the AQD percentaged activity project. When the allocation process runs, the costs move from the percentaged activity appropriately to Non-Title V and Title V.

45. Provide a summary of Title V obligations and encumbrances for FY 2012, FY 2013, and FY 2014.

DEQ does not have any outstanding obligations or encumbrances for FY2012, FY2013, and FY2014. Please see Attachment E for further detail.

Split of 105 vs. Title V

46. What type of accounting framework do you use to account for Title V programs fees (e.g., general fund, special revenue fund, expendable trust fund)?

Title V for DEQ only has one funding source, fees.

47. How are Title V revenues kept separate from all other state generated revenues? Is ODEQ currently utilizing non-Title V revenues or general appropriations to support the Title V operating permit program or has it done so since FY 2012? If so, please provide details of why non-Title V funds or general appropriations were utilized.

Title V funds are kept separate by receipting those funds as Title V when crediting payments to invoices. The receipting stamps the funds as they are deposited and that holds the funding string to record as Title V. The agency has a process set up for all of its funds received. With Title V application fees received and amounts carried forward, Title V has not had to have any additional funding utilized to support it; however, DEQ was pro-active in attempting to maintain balances for continued operations as a way to attempt to reduce the need for additional fee increases as further delegation and perceived increased costs to the program were anticipated in future years. Due to state funding cuts, legislatures have swept what was believed by legislatures as excess funding from agencies. DEQ has loss funding so the ability to continue to not need additional funding to support the program is unknown at this time. To date, no Title V funding has been swept due to agency discretion. DEQ does not have control over the amount the legislature determines to sweep.

48. How do you account for excess monies (if any) collected for the Title V program?

DEQ was able to distinguish those funds from other funds received into DEQ accounts. DEQ had long term plans as stated in item #47 above but Oklahoma legislature had other ideas for DEQ balances carried forward.

49. What mechanism(s) is ODEQ using to differentiate Title V activities from non-Title V activities?

DEQ Finance can differentiate both revenue and expenditures based upon program coding utilized. DEQ Finance provides coding options for AQD and the rest of applicable DEQ staff access to appropriate expenditure codes to differentiate AQD activities. Within DEQ's framework, AQD codes appropriately by utilizing EPA regulations and guidelines to differentiate Title V activities from non-Title V activities.

a. If accounting codes are utilized to differentiate activities, please provide a listing of those codes and an explanation for each specific expenditure and revenue type.

Expenditure Projects:

FY2012		FY2013		FY2014	
Project	Descr	Project	Descr	Project	Descr
292053509	NATIONAL PARTICULATE MATTER (P	292002113	AIR QUALITY NON TITLE V	292002114	AIR QUALITY NON TITLE V
292056910	OK Clean Diesel School Bus Pro	292002213	Air Quality Title V	292002214	Air Quality Title V
292059310	CLEAN DISEL ARRA LARGE SCHOOL	292016413	AIR QUALITY PERCENTAGED ACTIVI	292016414	AIR QUALITY PERCENTAGED ACTIVI
292050909	STATE CLEAN DIESEL-COMPETITIV.	292018513	LEAD BASED PAINT	292018514	LEAD BASED PAINT
292002112	Air Quality Non-Title V	292040413	TSCA	292040414	TSCA
292002212	Air Quality Title V	292047413	AIR QUALITY TOXICS	292047414	AIR QUALITY TOXICS
292016412	Air Quality Percentaged Act	292050909	STATE CLEAN DIESEL-COMPETITIV.	292050913	OK Clean Diesel Grant FY 2013
292018512	Lead Based Paint	292050913	OK Clean Diesel Grant FY 2013	292053512	NATIONAL PARTICULATE MATTER (P
292040412	TSCA	292053512	NATIONAL PARTICULATE MATTER (P	292113613	Nitrogen Dioxide (NO2) Near Ro
292047412	Air Quality Toxics	292113613	Nitrogen Dioxide (NO2) Near Ro		
292053512	NATIONAL PARTICULATE MATTER (P				

Revenue Bill Sources:

• ID_SRC Descr	• ID_SBA	Account •
Non-Title V Emissions	59002	422211
Title V Emissions	59003	422211
Lead-Based Paint	59038	422261

50. Have you integrated features into your accounting/financial management system which will identify Title V expenditures separate from other non-Title V permitting program expenses? Please describe.

Please refer to item #49 above.

a. If so, are the same expenditure codes used in each organizational unit of ODEQ that conducts work in support of Title V related activities? Please

provide a comprehensive listing of all such codes and their descriptions and indicate each of the organizational units within the ODEQ that uses them. Include each expenditure code that may be used to support Title V related activities.

Title V has one project expenditure code assigned for the agency for any given Fiscal Year.

51. Does the ODEQ keep separate records that identify Title V monies collected from other non-Title V permitting program fees?

    a. If so, is this recordkeeping process the same for each of the revenue streams used throughout all of the ODEQ? Please explain.

    ODEQ keeps separate records that identify Title V monies. The record keeping process is the same for each of the revenue streams used throughout all of the ODEQ. Fees are identified by Bill Source. A copy of the Bill Source listing is attached.

52. What are the amounts of the 105 grants funds received in FY 2012, FY 2013, and FY 2014, respectively?

    FY 2012 $1,779,545
    FY 2013 $2,618,502
    FY 2014 $1,572,875

53. What are the amounts of the 105 grants funds used in FY 2012, FY 2013, and FY 2014 respectively?

    FY 2012 $1,779,545
    FY 2013 $2,618,502
    FY 2014 $1,572,875

54. What are ODEQ's source(s) of 105 matching funds? Please discuss.

    ODEQ's source of 105 matching funds are AQD Tire Fees used for the Toxics Program and Air Quality Non-Title V Permit Fees.

    a. Please provide total funds by accounting code for each category or source of matching funds for each of FY 2012, FY 2013, and FY 2014.

Project	Descr
292002112	Air Quality Non-Title V
292047412	Air Quality Toxics

Project	Descr
292002113	AIR QUALITY NON TITLE V
292047413	AIR QUALITY TOXICS

Project	Descr
292002114	AIR QUALITY NON TITLE V
292047414	AIR QUALITY TOXICS

55. How does your accounting system produce reports, periodically and as requested, with which you will be able to certify the disposition of Title V funds? Please discuss.

Please see item# 49a above.

Environmental Justice Resources

Note: By EJ analysis we refer to any procedures applied during the permitting process, regardless of whether they are called EJ, that consider demographics (race, income, nationality, etc.), cumulative effects, (burden, exposure, risk), comparative effects or modifications to the public involvement processes to address unique characteristics of the project.

56. Do you have Environmental Justice (EJ) legislation, policy or general guidance, which helps to direct permitting efforts?

Oklahoma DEQ does not have EJ legislation but does have a standing policy which addresses the fair treatment and meaningful involvement of all people with respect to environmental complaints, enforcement and permitting.

a. If so, may EPA obtain copies of appropriate documentation?

See attached ODEQ EJ policy.

57. Do you have an in-house EJ office or coordinator, charged with oversight of EJ related activities?

Our General Counsel acts as liaison with EPA Region 6 on EJ matters.

58. Have you provided EJ training / guidance to your permit writers? When?

As provided in the DEQ standing policy referenced above.

59. Do the permit writers have access to demographic information necessary for EJ assessments? (e.g., socioeconomic status, minority populations, etc.) If so, how are they taken into account in the permitting process?

Demographic information is not routinely accessed, but can be considered in the permitting process as provided for in the DEQ standing policy.

60. When reviewing an initial or renewal application, is any screening for potential EJ issues performed? If so, please describe the process and/or attach guidance.

There is no routine screening, but special needs can be taken into account is circumstances warrant, as authorized by the DEQ standing policy.

61. Are any other EJ factors or additional community information and/or demographics (for example – children, the elderly) taken into account or considered during the permitting process?

See above.

Y ☐ N **X** 62. Do you allow public involvement during an EJ analysis?

Oklahoma does not have a citing authority. See attachment on ODEQ EJ policy.

See above.

If yes, please answer the following:

a. What stakeholder groups do you try to involve?

b. At what point in the EJ analysis or permitting process do stakeholders become involved?

c. To what degree and in what manner do stakeholders or the community influence the permit decision making process?

d. To what degree do you know about how stakeholders or the affected community participated in the permit decision making process?

e. Describe how you make information available to stakeholders and the affected community. (For example – translation of information, understandable and accessible materials, personal contacts, clearly explained technical information including potential risk, distribution of information, public meetings, etc.)

Please provide any additional comments on Title V Fee Review.

J. Miscellaneous

1. How does ODEQ permit synthetic minor MACT sources? Please provide an example.

   See attached MACT Synthetic Minor permit.

2. How does ODEQ permit solid waste combustion sources (air-curtain incinerators, OSWI units, etc.)? Are there specific permitting procedures followed for these sources that are unique to this source type?

   Since 2012, have the following permit actions for solid waste combustion sources been taken? If so, please provide a list of those permit actions.

   a. Initial Title V permits?

      Like any other TV source with the addition of Land Protection Division (RCRA) input. A General Permit is available for air curtain destructors.

   b. Renewals?

      Same as above.

   c. Modifications?

      Same as above.

   d. When an application is submitted for a major applicable source to add applicable provisions under MACT/NESHAP, or the change is in the method of operation or for an expansion, are the changes evaluated under ODEQ's SIP approved NSR regulations?

      Yes.

3. Good Practices not addressed elsewhere in this questionnaire:

   Are there any of the practices employed by ODEQ that improve the quality of the permits, or other aspects of Title V program that are not addressed elsewhere in this questionnaire? Please explain.

   All Major NSR and TV permits are peer reviewed by compliance/enforcement prior to release as draft to public review and again prior to issuance.

4. EPA assistance not addressed elsewhere in this questionnaire:

Is there anything else EPA can do to help your Title V program?

Please provide any additional comments on Miscellaneous topics.

Attachment A

OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
Air Quality Division

Mailing Address:
Department of Environmental Quality
Administrative Services - Accounts Receivable
P O Box 2036
Oklahoma City, OK 73101

DEQ's FEI # 73-6017987

2013 AIR QUALITY ANNUAL OPERATING FEE
BASED UPON EMISSIONS REPORTED FOR 2011

Account: 0000465356

PHILLIPS 66 CO - PONCA CITY REFINERY
PETER STYNES
PO BOX 1267
PONCA CITY, OK 74601

Invoice: **50026550**
Invoice Date: 7/01/2013
Due Date: 7/31/2013
Purchase Order:

Note: Authorized Fees: (See back of invoice)
Emission Inventory Questions: Michelle Horn 405-702-4176
Accounts Receivable Questions: 405-702-1130

PS ID: 292130701 50496

STATE OF OKLAHOMA - 2011 REPORTED EMISSIONS

Company ID: 3819 (*SEE INSTRUCTIONS ON REVERSE*)

FACILITY INFORMATION			TONS OF REGULATED AIR POLLUTANTS							
ID #	SITE ID	SITE	TOTAL BILLABLE	CO*	HAP	NOX	PM-10	SOX	TOX	VOC
314	0000460928	PONCA CITY RFNRY	4,823.413	393.776	133.276	961.190	528.102	236.604	28.821	2,935.42

*CO tons are not included in billable tons.

FEE CALCULATION

TOTAL BILLABLE TONS	RATE PER TON	TOTAL FEE
4,823.413	$35.79	$172,629.95

DETACH HERE **KEEP**

Invoice: 50026550
PS ID: 292130701 50496

Amount Due: **$0.00**

Please Choose One Form of Payment **SEND**
Emissions Non-Title V [50002] - Emissions Title V [50004]

Account: 0000465356
PHILLIPS 66 CO - PONCA CITY REFINERY
PO BOX 1267
PONCA CITY, OK 74601

DEPOSIT INFORMATION: 59002 _____
DEQ USE ONLY 59003 $172,629.95

DEPARTMENT OF ENVIRONMENTAL QUALITY
ADMINISTRATIVE SERVICES - ACCOUNTS RECEIVABLE
P O BOX 2036
OKLAHOMA CITY OK 73101

☐ Check Made Payable to DEQ
☐ Money Order Made Payable to DEQ
☐ Electronic Payment:* Date of Transfer_____
Chase; Routing #103000648 Account #10020052
* Please Notify DEQ Accounts Receivable:
Fax 405-702-7120 or email: deqEFTnotification@DEQ.OK.GOV

☐ Purchase Order No.: _____

☐ Visa or MasterCard:
Pay by telephone: 405-702-1130
Pay by fax: 405-702-7120
Exp (mm/yy) ☐☐☐☐ DEQ Use Only

_____/_____
Authorized Signature and Phone #

Card Number: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Dear Company Responsible Official:

Pursuant to the authority contained within the OKLAHOMA CLEAN AIR ACT at Oklahoma Statutes Ann. § 2-5-113 (Supp. 1998), the Department of Environmental Quality, Air Quality Division, herein requests payment of the Annual Operating Fee for the 2013 operating year. The fee is based on emissions reported for 2011, the most recent year for which a complete, reviewed inventory is available. You will receive only one bill per company regardless of the number of facilities you might own or operate. To facilitate the prompt recording of your payment, the Division asks that the following steps be taken:

1. Return the "SEND" portion of the invoice with your payment.
2. Place the proper invoice number(s) on all payment(s), or
3. Invoice number(s) and amounts may be listed and totaled and submitted in the form of a signed attachment.
4. All payments shall be in the form of check, money order, Visa/MasterCard or electronic transfer.

Note: Primarily for the convenience of smaller companies, payment by credit card is currently accepted. However, there is a charge for each credit card payment, which reduces AQD's overall collected amount and its budget. AQD's ability to continue to offer a credit card payment option without seeking an offsetting increase in fees depends on the number of companies using this service. We therefore ask that you use credit card payment only if there is a true need for use of the service and another form of payment will not serve your needs just as well.

5. Fees should be sent to:
   Department of Environmental Quality, P.O. Box 2036, Oklahoma City, OK 73101-2036

All fees are due and payable on or before the due dates, which appear on your invoice(s). No fee is required for the emission of carbon monoxide and no assessment shall be made for permitted emissions in excess of four thousand (4,000) tons per regulated air pollutant per year per source. Any fee not received by the Department within the prescribed time period allotted for payment shall be subject to a one and one-half per cent (1½%) per month penalty.

If you have received this request for payment in error, please correct the enclosed invoice(s) and return them to the above address so that we may contact the responsible party. If you have any questions regarding the fee calculation, please contact Michelle Horn of the AQD Emissions Inventory Section at (405) 702-4176. If you have questions regarding the payment of this invoice, please contact DEQ Accounts Receivable at (405) 702-1130.

Thank you for your cooperation.

Sincerely,

John E. Terrill, Director
AIR QUALITY DIVISION

New Entry | Find Record | OST Deposit | Find ADM Invoice | Operator Exam | Operator Temp | Request for Services | Operator Study Guide

Order Form | Batch PMTs | Multi-INV | Customers

Print Receipt | Print CC Daily Report | Assign Deposit Date & Run End of Day Reports

Monday, July 29, 2013

TO ENTER A NEW PAYMENT YOU MUST CLICK THE "NEW ENTRY BUTTON" EACH TIME

Return Check

Fax #

Fax To

Email Address

Date Rec'd	Receipted By:
7/26/2013	PNIMSEY

○ Cash ◉ Check/MO ○ Credit Card ○ CC Online ○ CC Lab ○ eCheck ○ Electronic Payment ○ Wire Transfer ○ Purchase Order

Receipt Requested ○ YES ◉ NO **Invoice #** 50026550 **Sub-Activity** 59003

ID: **Payment Received From:**

PHILLIPS 66 CO
PO BOX 4413
HOUSTON TX 77210

Check/MO No. 26315 **VCP Case**

Amt. Received $172,629.95 **Permit #**

Receipt No. 564456 **ID Trans.**

Type of Fee AIR QUALITY TITLE V

Visa or Master Card Charges

BCC Last 4 digits | Credit Card Exp.

Amt. Charged | Approval Number

Additional Information

Scan #:

charge description(i.e. prop. owner, sample # etc.):

Purchase Orders

Purchase Order No.

PO Amt

Comments

Page 3/3

Attachment A

Timesheet

Phillip Fielder Employee ID: 136769

Job Title: Engineering Manager Employee Record Number: 0

View By: Time Period Date: 01/26/2014 Refresh <<Previous Time Period Next Time Period >>

Reported Hours: 80.00 Hours **Scheduled Hours:** 80.00 Hours

Reported time on or before 11/12/2016 is for a prior period.

From Sunday 01/26/2014 to Saturday 02/08/2014

Timesheet | Overrides

Sun 1/26	Mon 1/27	Tue 1/28	Wed 1/29	Thu 1/30	Fri 1/31	Sat 2/1	Sun 2/2	Mon 2/3	Tue 2/4	Wed 2/5	Thu 2/6	Fri 2/7	Sat 2/8	Total	Time Reporting Code	Taskgroup	Business Unit	Combo Code	PC Business Unit	Project Id	Activity Id	Resource Type	Resource Category	Resource Sub Category
											3.00			3.00	ADMPD - Admin Lv Day Hours	292DEFAULT	29200							
	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00		10.00	REGHR - Regular	292DEFAULT	29200		29200	292002114	500		PERMT	RVIEW
	1.50		1.50											3.00	REGHR - Regular	292DEFAULT	29200		29200	292002214	500		PERMT	METNG
	2.00	2.00	2.00	2.00	2.00			2.00	2.00	2.00	2.00	1.00		19.00	REGHR - Regular	292DEFAULT	29200		29200	292002214	500		PERMT	RVIEW
		2.50												2.50	REGHR - Regular	292DEFAULT	29200		29200	292016414	500		PERMT	METNG
	4.50	3.50	3.50	5.00	2.00			4.00	5.00	4.50	3.00	3.00		38.00	REGHR - Regular	292DEFAULT	29200		29200	292016414	500		POLPL	POLCY
				1.00										1.00	REGHR - Regular	292DEFAULT	29200		29200	292016414	500		TCHAS	TCHSP
								2.00		1.50				3.50	SCKPP - Sick Leave Hours Pa	292DEFAULT	29200							

Submit

Timesheet

Twylah Hughes Employee ID: 257696

Job Title: Secretary Employee Record Number: 0

View By: Time Period Date: 06/30/2013 Refresh <<Previous Time Period Next Time Period >>

Reported Hours: 72.00 Hours **Scheduled Hours:** 0.00 Hours

Reported time on or before 11/12/2016 is for a prior period.

From Sunday 06/30/2013 to Saturday 07/13/2013

Timesheet | Overrides

Sun 6/30	Mon 7/1	Tue 7/2	Wed 7/3	Thu 7/4	Fri 7/5	Sat 7/6	Sun 7/7	Mon 7/8	Tue 7/9	Wed 7/10	Thu 7/11	Fri 7/12	Sat 7/13	Total	Time Reporting Code	Taskgroup	Business Unit	Combo Code	PC Business Unit	Project Id	Activity Id	Resource Type	Resource Category	Resource Sub Category
	4.00	5.75	4.00		4.50			3.25	2.75	6.00	4.00	4.50		38.75	REGHR - Regular	292DEFAULT	29200		29200	292002114	500		ADMSP	SUPPT
	3.00	2.25	4.00		3.25			4.50	4.75	2.00	4.00	3.25		31.00	REGHR - Regular	292DEFAULT	29200		29200	292016414	500		PERMT	PRPIX
	1.00				0.25			0.25	0.50			0.25		2.25	REGHR - Regular	292DEFAULT	29200		29200	292016414	500		PERMT	SUPPT

Submit

Attachment B

Timesheet

Eric Milligan Employee ID: 117711

Job Title: Professional Engineer Employee Record Number: 0

View By: Time Period Date: 05/19/2013 Refresh << Previous Time Period Next Time Period >>

Reported Hours: 72.00 Hours **Scheduled Hours:** 0.00 Hours

Reported time on or before 11/12/2016 is for a prior period.

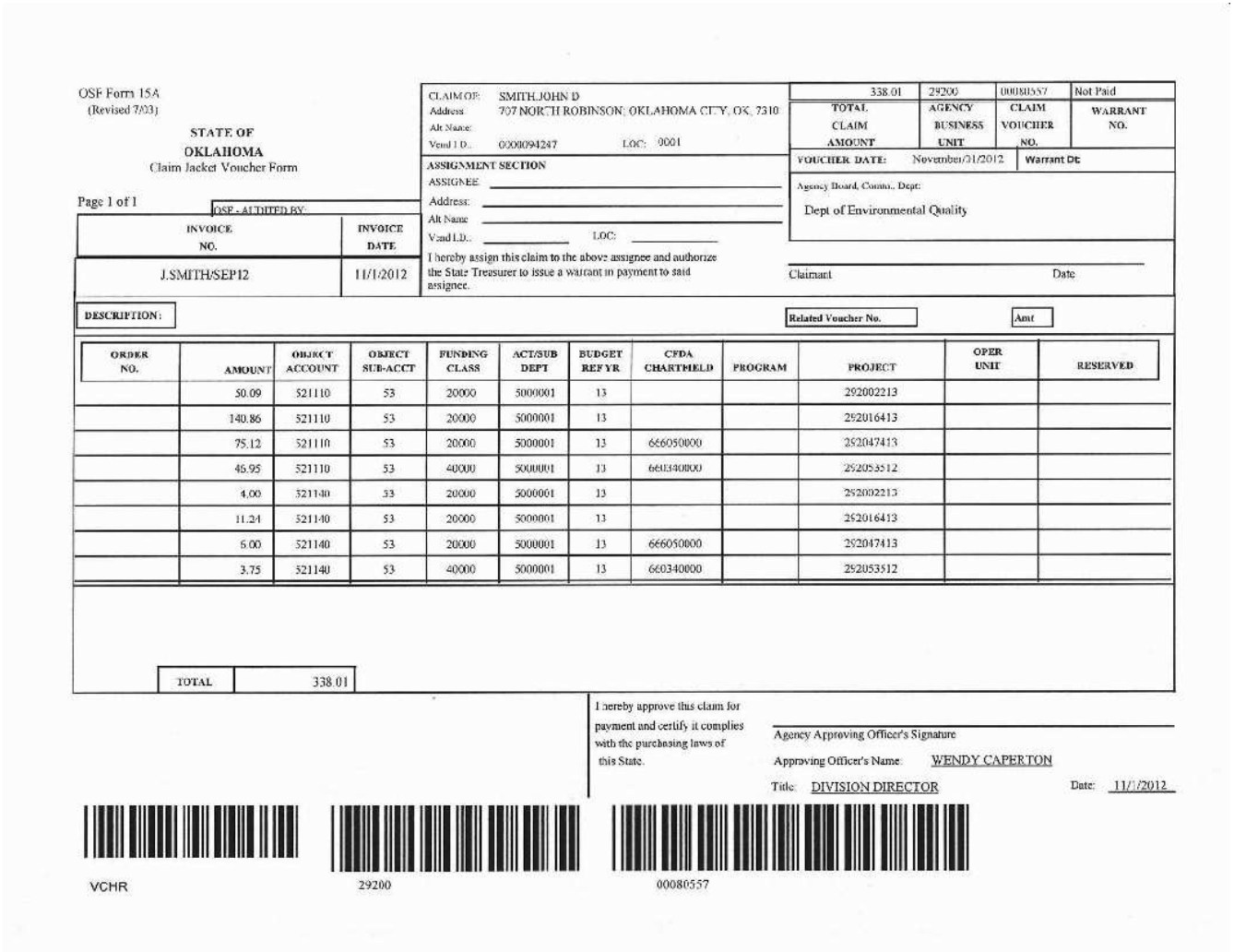
From Sunday 05/19/2013 to Saturday 06/01/2013

Timesheet | Overrides

Sun 5/19	Mon 5/20	Tue 5/21	Wed 5/22	Thu 5/23	Fri 5/24	Sat 5/25	Sun 5/26	Mon 5/27	Tue 5/28	Wed 5/29	Thu 5/30	Fri 5/31	Sat 6/1	Total	Time Reporting Code	Taskgroup	Business Unit	Combo Code	PC Business Unit	Project Id	Activity Id	Resource Type	Resource Category	Resource Sub Category
					4.00									4.00	ANLVP - Annual Leave Taken	292DEFAULT	29200							
		2.00	1.00	1.00	1.00				1.00	2.00	2.00	1.00		11.00	REGHR - Regular	292DEFAULT	29200		29200	292002213	70		PERMT	ASIST
	3.00		1.00	3.00							4.00	6.00		17.00	REGHR - Regular	292DEFAULT	29200		29200	292002213	70		PERMT	CONST
	4.00	5.00	6.00	4.00	2.00				3.00					24.00	REGHR - Regular	292DEFAULT	29200		29200	292002213	70		PERMT	MODLG
	1.00				1.00				1.00	2.00				5.00	REGHR - Regular	292DEFAULT	29200		29200	292002213	70		PERMT	PRPIX
									3.00	1.00				4.00	REGHR - Regular	292DEFAULT	29200		29200	292002213	70		PERMT	SUPPT
										1.00				1.00	REGHR - Regular	292DEFAULT	29200		29200	292016413	70		PERMT	METNG
										2.00	2.00	1.00		5.00	REGHR - Regular	292DEFAULT	29200		29200	292016413	70		PERMT	OPERN
		1.00												1.00	SCKPP - Sick Leave Hours Pa	292DEFAULT	29200							

Submit

Attachment C



OSF Form 15A
(Revised 7/03)

STATE OF
OKLAHOMA
Claim Jacket Voucher Form

Page 1 of 1

OSF - AUDITED BY:

INVOICE NO.	INVOICE DATE
J.SMITH/SEP12	11/1/2012

CLAIM OF: SMITH,JOHN D
Address: 707 NORTH ROBINSON; OKLAHOMA CITY, OK, 7310
Alt Name:
Vend I.D.: 0000094247 LOC: 0001

ASSIGNMENT SECTION
ASSIGNEE:
Address:
Alt Name
Vend I.D.: LOC:
I hereby assign this claim to the above assignee and authorize the State Treasurer to issue a warrant in payment to said assignee.

338.01	29200	00080557	Not Paid
TOTAL CLAIM AMOUNT	AGENCY BUSINESS UNIT	CLAIM VOUCHER NO.	WARRANT NO.

VOUCHER DATE: November/01/2012 Warrant Dt:

Agency Board, Comm., Dept:
Dept of Environmental Quality

Claimant Date

DESCRIPTION:

Related Voucher No. Amt

ORDER NO.	AMOUNT	OBJECT ACCOUNT	OBJECT SUB-ACCT	FUNDING CLASS	ACT/SUB DEPT	BUDGET REF YR	CFDA CHARTFIELD	PROGRAM	PROJECT	OPER UNIT	RESERVED
	50.09	521110	53	20000	5000001	13			292002213		
	140.86	521110	53	20000	5000001	13			292016413		
	75.12	521110	53	20000	5000001	13	666050000		292047413		
	46.95	521110	53	40000	5000001	13	660340000		292053512		
	4.00	521140	53	20000	5000001	13			292002213		
	11.24	521140	53	20000	5000001	13			292016413		
	6.00	521140	53	20000	5000001	13	666050000		292047413		
	3.75	521140	53	40000	5000001	13	660340000		292053512		

TOTAL 338.01

I hereby approve this claim for payment and certify it complies with the purchasing laws of this State.

Agency Approving Officer's Signature

Approving Officer's Name: WENDY CAPERTON

Title: DIVISION DIRECTOR Date: 11/1/2012

VCHR 29200 00080557

Attachment C

MUST BE ATTACHED TO A CLAIM JACKET VOUCHER FORM 15A OTHER ALTHORIZED COVER FORM

80557

Services

OCT 31 2012

OSF FORM 19 (Revised 1/12)

STATE OF OKLAHOMA
Travel Voucher

AGENCY BUSINESS UNIT 29200

CLAIM OF: John D. Smith
VENDOR ID: 94247

FOR AGENCY FINANCIAL USE:

Sub Acct	Type	Fund	Dept	Bud Ref	BUS Unit	Project ID	Activity	Source	Resource Categ	Res Sub-Categ
53	1000		500000	13	29200		70	TRAVL		

IS CAR GOV. OWNED?
YES
NO X

LICENSE NO.:
214-HOD

IS CLAIMANT A STATE OFFICIAL OR EMPLOYEE?
YES X
NO

IN-STATE OBJECT ACCT	AMOUNT	OUT-OF-STATE OBJECT ACCT	AMOUNT
521110 Mileage	313.02	521210 Mileage	
521120 Per Diem		521220 Transp	
521130 Public Trans		521230 Per Diem	
521140 Misc	24.99	521240 Local Trans	
521150 Lodging		521250 Misc.	
		521260 Lodging	
NON-EMPLOYEE			
521310 At Travel			
Sub-Total	$ 338.01	Sub-Total	$
OSF-Audited By:		Total Amount:	$ 338.01

FOR
$ 338.01
AGAINST
Agency, Bd., Comm., Dept. Department of Environmental Quality

ASSIGNMENT
I hereby assign this claim to

and authorize the State Treasurer to issue a warrant in payment to said assignee.

Claimant Signature

Date

HOME BASE	OFFICIAL DUTY STATION	NATURE OF OFFICIAL BUSINESS:
Broken Arrow	Tulsa	air monitoring site visits

Show point travel status began, each point visited and the point travel status ended. (Vicinity only travel should show general geographical area, e.g., Tulsa Vicinity)	Date Year 2012 Mo.	Day	Mileage Claimed Map	Vicinity	Travel Status Hour Entered	Ended	Number of Days	Hrs	Per-Diem Rate	Amount	Lodging Amount	TOTAL PER DIEM / LODGING
Tulsa - Manford - Tulsa	9	4	46	* 37								
Tulsa - Pryor - Tulsa	9	5	90	* 4								
Tulsa Vicinity	9	10		42								
Tulsa - Manford - Tulsa	9	11	46	* 23								
Tulsa Vicinity	9	18		88								
Tulsa Vicinity	9	24		26								
Tulsa Vicinity	9	25		83								
Tulsa - Manford - Tulsa	9	27	46	* 39								
Tulsa Vicinity	9	28		34								
292002213/70/SMPLE/QLTC	16%											
292016413/70/SMPLE/QLTC	45%											
292047413/70/SMPLE/CLECT	24%											
292053512/70/SMPLE/CLECT	15%											
TOTALS			228	336			0	0		0.00	0.00	0.00
				564	TOTAL MILES @				0.555	Per Mile =		$313.02

Trip Optimizer Used for Mileage Comparison [ ] Exempt from Trip Optimizer [X] (Place 'X' in appropriate box per Title 74, § 85.45I)

* Must be lowest amount from the Trip Optimizer results. (Multiple trips total if necessary)

>> MUST ATTACH COPY OF TRIP OPTIMIZER RESULTS TO THE VOUCHER. (ALSO, UNAVAILABILITY NOTICE OF RENTAL CAR)<<

>> For accurate results, the trip optimizer calculation must be performed prior to trip <<

MODE OF PUBLIC TRANSPORTATION

AGENCY DIRECT PURCHASE: (X) TOTAL PUBLIC TRANSP.:

ITEMIZED LOCAL TRANSPORTATION	ITEMIZED MISCELLANEOUS COSTS			
TAXI:	REGISTRATION FEE:		(# of meals included in Registration)	
SHUTTLE:	TELEPHONE:	24.99	TRIP OPTIMIZER LOWEST COST	
RENTAL CAR:	PARKING:		TOTAL ITEMIZED MISC.	24.99
OTHER LOCAL TRANSP:	TOLLS:		TOTAL LOCAL TRANSP.	0.00
	OTHER MISC. COSTS:		TOTAL AMOUNT CLAIMED	$338.01

I, John D. Smith, by signing here do under penalty of perjury, declare that the information contained in this document and any attachments are true and correct to the best of my knowledge and belief. I also certify that no frequent travel miles earned from any official state transportation have been used for personal transportation purposes.

John D. Smith 10/25/12
Claimant Signature Date

Kent Hoffard 10-29-12
Manager's Approval Signature (If required) Date

H

Purchase Order

Dispatch via Print

Purchase Order	Date	Revision	Page
2929016107	07/30/2012		1
Payment Terms	**Freight Terms**		**Ship Via**
0 Days	Free on board at Destination		Common
Buyer	**Phone**		**Currency**
Kerri Housley	405/702-4117		USD

Dept of Environmental Quality
OK DEPT OF ENVIRONMENTAL QUALITY
SHIPPING & RECEIVING
707 N ROBINSON
OKLAHOMA CITY OK 73102

Ship To: OK DEPT OF ENVIRONMENTAL QUALITY
SHIPPING & RECEIVING
707 N ROBINSON
OKLAHOMA CITY OK 73102

Vendor: 0000077603
SOUTH CENTRAL ARC USER GROUP
PO BOX 96
ARDMORE OK 73402-0096

Bill To: OK DEPT OF ENVIRONMENTAL QUALITY
ADMINISTRATIVE SERVICES
PO BOX 1677
OKLAHOMA CITY OK 73101-1677

Tax Exempt? Y **Tax Exempt ID:** 736017987

Line-Sch	Cat CD / Item Id	Description	Quantity	UOM	PO Price	Extended Amt	Due Date
1- 1	86111604 / 1000021905	REGISTRATION: Fees for employee education/training	3.0000	EA	70.0000	210.00	07/30/2012
		CONFERENCE SEPT 25, 2012 TONI PAYNE, NISHANTHI WIJEKOON, MARGARET ROBERTSON					
2- 1	86111604 / 1000021905	REGISTRATION: Fees for employee education/training	1.0000	EA	25.0000	25.00	07/30/2012
		LIDAR FOR DUMMIES SEPT 24, 2012 MARGARET ROBERTSON					
3- 1	86111604 / 1000021905	REGISTRATION: Fees for employee education/training	1.0000	EA	25.0000	25.00	07/30/2012
		GIS DATA EXPLORATION SEPT 24, 2012 MARGARET ROBERTSON ALL CLASSES HELD IN OKLAHOMA CITY					

Total PO Amount 260.00

COMMENTS:

FOR AGENCY USE

FY13

DIRECT ORDER

AQD FUNDING
50% 292002113 / 50% 292002213
ACTIVITY: 10

JUSTIFICATION
ATTENDANCE OF THIS CONFERENCE WILL ALLOW AQD EMPLOYEES TO STUDY APPLICATION METHODS UTILIZED BY OTHER

Authorized Signature Elaine Taylor

Purchase Order

Dispatch via Print

Purchase Order	Date	Revision	Page
2929016107	07/30/2012		2
Payment Terms	**Freight Terms**		**Ship Via**
0 Days	Free on board at Destination		Common
Buyer	**Phone**		**Currency**
Kerri Housley	405/702-4117		USD

Dept of Environmental Quality
OK DEPT OF ENVIRONMENTAL QUALITY
SHIPPING & RECEIVING
707 N ROBINSON
OKLAHOMA CITY OK 73102

Vendor: 0000077603
SOUTH CENTRAL ARC USER GROUP
PO BOX 96
ARDMORE OK 73402-0096

Ship To: OK DEPT OF ENVIRONMENTAL QUALITY
SHIPPING & RECEIVING
707 N ROBINSON
OKLAHOMA CITY OK 73102

Bill To: OK DEPT OF ENVIRONMENTAL QUALITY
ADMINISTRATIVE SERVICES
PO BOX 1677
OKLAHOMA CITY OK 73101-1677

Tax Exempt? Y **Tax Exempt ID:** 736017987

Line-Sch	Cat CD / Item Id	Description	Quantity	UOM	PO Price	Extended Amt	Due Date

GIS USERS IN THE REGION. ALSO, THIS CONFERENCE WILL PROVIDE UPDATES ON NEW METHODOLOGIES FOR GIS AND NEW SOFTWARE WHICH WILL ENABLE STATFF TO PRODUCE BETTER MAPS AND MORE DETAILED ANALYSIS OF AIR QUALITY TRENDS.

CONTACT: KAREN RUMSEY (405)702-1168

DEQ IS AN EOE

KERRI HOUSLEY/RANDY WARD

DIVISION WILL HANDLE PO

Authorized Signature

Attachment C

Purchase Order

OPEN — **Dispatch via Print**

Purchase Order	Date	Revision	Page
2929016107	07/30/2012		1
Payment Terms	**Freight Terms**		**Ship Via**
0 Days	Free on board at Destination		Common
Buyer	**Phone**		**Currency**
Kerri Housley	405/702-4117		USD

Dept of Environmental Quality
OK DEPT OF ENVIRONMENTAL QUALITY
SHIPPING & RECEIVING
707 N ROBINSON
OKLAHOMA CITY OK 73102

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707 N ROBINSON
OKLAHOMA CITY OK 73102

Vendor: 0000077603
SOUTH CENTRAL ARC USER GROUP
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ADMINISTRATIVE SERVICES
PO BOX 1677
OKLAHOMA CITY OK 73101-1677

Tax Exempt? Y **Tax Exempt ID:** 736017987

Line-Sch	Cat CD / Item Id	Description	Quantity	UOM	PO Price	Extended Amt	Due Date
1- 1	86111604 / 1000021905	REGISTRATION: Fees for employee education/training	3.0000	EA	70.0000	210.00	07/30/2012
		CONFERENCE SEPT 25, 2012 TONI PAYNE, NISHANTHI WIJEKOON, MARGARET ROBERTSON					
2- 1	86111604 / 1000021905	REGISTRATION: Fees for employee education/training	1.0000	EA	25.0000	25.00	07/30/2012
		LIDAR FOR DUMMIES SEPT 24, 2012 MARGARET ROBERTSON					
3- 1	86111604 / 1000021905	REGISTRATION: Fees for employee education/training	1.0000	EA	25.0000	25.00	07/30/2012
		GIS DATA EXPLORATION SEPT 24, 2012 MARGARET ROBERTSON ALL CLASSES HELD IN OKLAHOMA CITY					

APPROVED Wendy Caperton

DATE AUG 06 2012

Total PO Amount 260.00

COMMENTS:

FOR AGENCY USE

FY13

DIRECT ORDER

AQD FUNDING
50% 292002113 / 50% 292002213
ACTIVITY: 10

AUG - 1 P 2:46
ADMINISTRATIVE SERVICES

JUSTIFICATION
ATTENDANCE OF THIS CONFERENCE WILL ALLOW AQD EMPLOYEES TO STUDY APPLICATION METHODS UTILIZED BY OTHER

Beverly Botchlet-Smith
7-30-12

Unauthorized

OK 8-1-12

Purchase Order

Attachment C

OPEN **Dispatch via Print**

Purchase Order	Date	Revision	Page
2929016107	07/30/2012		2
Payment Terms	**Freight Terms**		**Ship Via**
0 Days	Free on board at Destination		Common
Buyer	**Phone**		**Currency**
Kerri Housley	405/702-4117		USD

Dept of Environmental Quality
OK DEPT OF ENVIRONMENTAL QUALITY
SHIPPING & RECEIVING
707 N ROBINSON
OKLAHOMA CITY OK 73102

Vendor: 0000077603
SOUTH CENTRAL ARC USER GROUP
PO BOX 96
ARDMORE OK 73402-0096

Ship To: OK DEPT OF ENVIRONMENTAL QUALITY
SHIPPING & RECEIVING
707 N ROBINSON
OKLAHOMA CITY OK 73102

Bill To: OK DEPT OF ENVIRONMENTAL QUALITY
ADMINISTRATIVE SERVICES
PO BOX 1677
OKLAHOMA CITY OK 73101-1677

Tax Exempt? Y **Tax Exempt ID:** 736017987

Line-Sch	Cat CD / Item Id	Description	Quantity	UOM	PO Price	Extended Amt	Due Date

GIS USERS IN THE REGION. ALSO, THIS CONFERENCE WILL PROVIDE UPDATES ON NEW METHODOLOGIES FOR GIS AND NEW SOFTWARE WHICH WILL ENABLE STATFF TO PRODUCE BETTER MAPS AND MORE DETAILED ANALYSIS OF AIR QUALITY TRENDS.

CONTACT: KAREN RUMSEY (405)702-1168

DEQ IS AN EOE

KERRI HOUSLEY/RANDY WARD

DIVISION WILL HANDLE PO

522150 50 20000 5000001 13 292002213 6660S0000 70 Other
292002213 N/A

TB 8/1/12

Unauthorized

Attachment C

OSF Form 15A
(Revised 7/03)

STATE OF OKLAHOMA
Claim Jacket Voucher Form

Page 1 of 1

OSF - AUDITED BY:

CLAIM OF: SOUTH CENTRAL ARC USER GROUP
Address: PO BOX 97; ARDMORE, OK, 73402-0097
Alt Name:
Vend I.D.: 0000077603 LOC: 0001

ASSIGNMENT SECTION
ASSIGNEE:
Address:
Alt Name
Vend I.D.: LOC:

I hereby assign this claim to the above assignee and authorize the State Treasurer to issue a warrant in payment to said assignee.

Claimant Date

TOTAL CLAIM AMOUNT	AGENCY BUSINESS UNIT	CLAIM VOUCHER NO.	WARRANT NO.
260.00	29200	00079751	Not Paid

VOUCHER DATE: October/01/2012 Warrant Dt:

Agency Board, Comm., Dept:
Dept of Environmental Quality

INVOICE NO.	INVOICE DATE
2557	7/18/2012

DESCRIPTION :

Related Voucher No. Amt

ORDER NO.	AMOUNT	OBJECT ACCOUNT	OBJECT SUB-ACCT	FUNDING CLASS	ACT/SUB DEPT	BUDGET REF YR	CFDA CHARTFIELD	PROGRAM	PROJECT	OPER UNIT	RESERVED
2929016107	130.00	522150	50	20000	5000001	13			292002213		
2929016107	130.00	522150	50	20000	5000001	13	666050000		292002113		

TOTAL 260.00

I hereby approve this claim for payment and certify it complies with the purchasing laws of this State.

Agency Approving Officer's Signature

Approving Officer's Name: wendy caperton

Title: division director Date: 10/1/2012

VCHR 29200 00079751

Attachment C

Payne, Toni

From: SCAUG <webmaster@scaug.org>
Sent: Wednesday, July 18, 2012 10:39 AM
To: Payne, Toni
Subject: SCAUG Invoice 02557

INVOICE

View invoice online

SCAUG
Event registration

APPROVED
By ___
Date ___
Partial ☐ Final ☐

Invoice number: 02557
Issued: 18 Jul 2012

Bill to:
Toni Payne
toni.payne@deq.ok.gov
OK DEQ

Item	Amount
Registration for "15th Annual OKSCAUG Conference" (24 Sep 2012 7:30 AM - 27 Sep 2012 5:00 PM, Moore Norman Technology Center South Penn Campus 13301 S. Penn Avenue Oklahoma City, Ok 73170-5007), Early Standard Registration	$70.00
All Day Workshop (8:00 am - 5:00 pm) - N/A	$0.00
Afternoon GIS Workshops (1:00 pm - 5:00 pm) - N/A	$0.00
GIS Training (2 Day) - N/	$0.00
(Guest 1) Nishanthi Wijekoon	$70.00
(Guest 1) All Day Workshop (8:00 am - 5:00 pm) - N/A	$0.00
(Guest 1) Afternoon GIS Workshops (1:00 pm - 5:00 pm) - N/A	$0.00
(Guest 1) GIS Training (2 Day) - N/	$0.00
(Guest 2) Margaret Robertson	$70.00
(Guest 2) All Day Workshop (8:00 am - 5:00 pm) - N/A	$0.00

Attachment C

(Guest 2) Morning GIS Workshops (8:00 am - 12:00 pm) - Lidar for Dummies (Brian Stinson - Surdex)	$25.00 2
(Guest 2) Afternoon GIS Workshops (1:00 pm - 5:00 pm) - GIS Data Exploration (Pam Jurney - Red Plains Professional, Inc))	$25.00 3
(Guest 2) GIS Training (2 Day) - N/	$0.00
Taxes	

Total: $260.00
Balance Due: $260.00

If paying by check or P.O. return a copy of invoice with your payment to:

SCAUG
c/o James Allen
PO Box 96
Ardmore, OK 73402

Should you have additional questions contact:

SCAUG - Treasurer
Email: treasurer@scaug.org

View invoice online

Account Code	Account Description	292016413 AIR QUALITY PERCENTAGED ACTIVI	292002113 AIR QUALITY NON TITLE V	292002213 Air Quality Title V	292016414 AIR QUALITY PERCENTAGED ACTIVI	292002114 AIR QUALITY NON TITLE V	292002214 Air Quality Title V
511110	SALARIES - REGULAR PAY AND SALARY ADJUSTMENTS	(0.00)	1,305,283.57	3,707,494.74	(0.00)	1,375,826.78	3,709,367.72
511130	SALARIES - NON-REGULAR PAY AND SALARY ADJUSTMENTS (E.G., PART-TIME, SEASONAL, TEMPORARY, ETC.)	0.00	88,327.27	174,769.65	-	87,377.19	158,979.49
511210	LONGEVITY PAY - STATE EMPLOYEES (NON-HIGHER EDUC.)	(0.00)	38,860.71	84,458.00	-	38,279.12	89,100.62
511290	PAY DIFFERENTIAL	-	10,855.59	14,701.91	-	10,672.30	14,972.20
511420	EXCESS BENEFIT ALLOWANCE	0.00	44,001.21	122,900.40	(0.00)	40,273.51	98,590.21
512110	INSURANCE PREMIUMS - HEALTH AND LIFE (STATE PLAN)	(0.00)	289,887.84	801,981.92	0.00	321,591.55	823,778.94
512230	UNEMPLOYMENT COMPENSATION REIMBURSEMENT	-	809.20	2,095.96	-	-	-
513110	STATE SHARE - FICA	0.00	90,023.53	247,377.87	0.00	93,198.65	244,429.69
513120	STATE SHARE - MQFE/FICA (MEDICARE QUALIFIED FEDERAL EMPLOYEES (MQFE)	(0.00)	21,054.87	57,854.49	(0.00)	21,797.34	57,165.31
513230	STATE SHARE - OKLAHOMA PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)	(0.00)	215,041.65	603,374.09	0.00	224,418.00	611,070.10
513250	STATE RETIREMENT - PAYMENTS ON BEHALF OF LOCAL GOVERNMENTAL SUB-DIVISIONS	(0.00)	5,339.61	20,290.18	0.00	10,196.75	24,573.96
513280	STATE MATCH AND ADMINISTRATION FEE - STATE PLAN ANNUITY	(0.00)	7,005.23	19,733.99	(0.00)	7,447.18	19,152.79
515030	Other Legal Services	-	219.31	568.05	-	-	-
515290	Testing Laboratories	-	26.46	68.54	-	11,997.47	12,320.80
515590	Document Preparation Services	-	587.71	1,522.25	-	203.89	498.36
515660	Educational Services	-	27.85	72.15	-	-	-
515810	Other Outpatient Care Centers	-	722.25	1,870.75	-	2,342.58	4,388.42
515990	Other Services (except Public Administration)	-	75.16	194.68	-	14.70	35.69
521110	IN-STATE MILEAGE - MOTOR VEHICLE	-	1,837.84	4,760.30	0.00	3,343.13	6,649.50
521120	IN-STATE MEALS (PER DIEM SUBSISTENCE) EXPENSE	-	448.15	1,160.78	-	696.56	2,453.19
521130	IN-STATE PUBLIC TRANSPORTATION CHARGES - NON-MILEAGE	-	-	-	-	38.75	93.25
521140	IN-STATE MISCELLANEOUS CHARGES	-	125.46	324.98	0.00	490.05	869.23
521150	IN-STATE LODGING	-	755.15	1,955.94	0.00	186.69	1,657.73
521210	OUT-OF-STATE MILEAGE - PRIVATE VEHICLE	-	22.37	57.95	-	481.70	672.53
521230	OUT-OF STATE MEAL (PER DIEM SUBSISTENCE) EXPENSES	-	582.71	1,509.29	-	1,144.45	4,528.80
521240	OUT-OF-STATE LOCAL TRANSPORTATION	-	105.62	273.57	-	37.55	260.01
521250	OUT-OF-STATE MISCELLANEOUS CHARGES	-	181.57	470.30	-	136.77	544.74
521260	OUT-OF-STATE LODGING	-	942.05	2,440.05	-	1,662.43	4,062.19
521310	TRAVEL REIMBURSEMENT - NON STATE EMPLOYEES	-	284.59	737.15	-	67.00	164.75
522110	PURCHASE OF TRANSPORTATION COSTS – AGENCY DIRECT	-	702.60	1,819.84	0.00	3,855.64	8,327.27
522130	PURCHASE OF FOOD AND LODGING - AGENCY DIRECT	-	-	-	0.00	2,224.17	4,894.72
522150	REGISTRATION - AGENCY DIRECT	-	631.17	1,634.83	-	2,977.12	12,714.88
531110	FREIGHT EXPENSES	-	92.64	239.95	-	118.70	488.04
531120	POSTAGE	-	-	-	-	346.96	853.04
531130	TELECOMMUNICATIONS SERVICES	-	13,162.96	34,094.03	0.00	17,160.70	41,823.52
531150	PRINTING & BINDING CONTRACTS	-	-	-	-	123.39	1,216.75
531160	ADVERTISING AND PROMOTIONAL EXPENSES	-	-	-	-	842.00	-
531170	INFORMATIONAL SERVICE	-	4,157.61	10,768.83	-	2,269.50	3,264.15
531180	BANK SERVICE CHARGES	-	902.86	2,338.53	-	1,846.00	2,283.61
531190	EXHIBITIONS, SHOWS & SPECIAL EVENTS	-	-	-	-	20,200.00	-
531250	LICENSES, PERMITS, CERTIFICATES AND OTHER RIGHTS OR PRIVILEGES	-	179.80	465.70	-	118.07	69.93
531260	MEMBERSHIP IN ORGANIZATIONS	-	-	-	-	184.97	1,623.03
531370	UTILITY CHARGES - ELECTRICITY	-	1,224.10	3,170.61	-	10,000.96	11,426.26
532110	RENT OF OFFICE SPACE	-	10,042.24	26,010.89	0.00	9,377.82	22,908.57
532130	RENT OF OTHER BUILDING SPACE	-	-	-	-	80.00	320.00
532140	RENT OF EQUIPMENT AND MACHINERY	-	3,384.90	8,767.39	-	33,895.07	49,541.23
532160	LEASE OF ELECTRONIC DATA PROCESSING EQUIPMENT	-	1,724.51	4,466.74	(0.00)	1,627.14	3,964.00
533110	MAINTENANCE & REPAIR OF BUILDINGS AND GROUNDS - OUTSIDE VENDOR	-	-	-	-	5,865.30	10,296.39
533120	MAINTENANCE & REPAIR OF EQUIPMENT AND MACHINERY OUTSIDE VENDOR	-	-	-	-	4,684.15	12,408.15
533130	MAINTENANCE & REPAIR OF TELECOMMUNICATIONS EQUIPMENT- OUTSIDE VENDOR	-	102.28	264.92	-	133.99	244.31
533140	MAINTENANCE & REPAIR OF DATA PROCESSING EQUIPMENT - OUTSIDE VENDOR	-	1,205.90	3,123.46	0.00	1,132.48	2,764.01
533150	MAINTENANCE & REPAIR OF DATA PROCESSING SOFTWARE - OUTSIDE VENDOR	-	-	-	-	850.00	-
533180	GENERAL HOUSEKEEPING/JANITORIAL/SANITATION SUPPLIES AND MATERIALS	-	40.50	104.91	-	418.47	14.78
533210	MAINTENANCE & REPAIR OF BUILDINGS & GROUNDS - SAME AGENCY PERSONNEL	-	-	-	-	4.19	10.11
533220	MAINTENANCE & REPAIR OF EQUIPMENT (NON-MOTOR VEHICLE) - SAME AGENCY PERSONNEL	-	1,277.75	3,309.58	0.00	22,982.13	17,082.04
533240	MAINTENANCE & REPAIR OF DATA PROCESSING EQUIPMENT SAME AGENCY PERSONNEL	-	31.74	82.23	-	-	-
534260	MEDICAL SUPPLIES AND MATERIALS	-	0.48	1.23	-	-	-
534290	MOTOR FUELS - COMMON	-	1.80	4.67	-	32.03	111.42
535120	UNIFORMS, CLOTHING AND ACCESSORIES	-	470.87	1,219.62	-	499.90	2,353.99
535180	SAFETY & SECURITY SUPPLIES	-	42.46	109.99	-	187.07	115.49
536110	MEETING REFRESHMENTS	-	-	-	-	98.25	98.36
536130	OFFICE SUPPLIES - NON-EXPENDABLE	-	347.42	899.87	-	313.41	807.81
536140	OFFICE SUPPLIES (EXPENDABLE)	-	2,246.84	5,819.64	-	1,337.03	3,284.97
536150	DATA PROCESSING SUPPLIES	-	464.72	1,203.71	-	27.59	66.59
536190	EDUCATIONAL SUPPLIES	-	12.53	32.47	-	-	-
537150	Shop Supplies – Non-Production	-	-	-	-	2,882.39	1,109.40
537190	LABORATORY & MEDICAL SUPPLIES AND MATERIALS	-	-	-	-	465.04	4,032.15
537310	MOTOR VEHICLE PARTS, ACCESSORIES AND SUPPLIES (NON-EXPENDABLE)	-	-	-	-	196.90	490.58
541110	OFFICE FURNITURE AND EQUIPMENT	-	470.91	1,219.73	0.00	36,196.45	7,192.59
541120	DATA PROCESSING EQUIPMENT	-	4,299.81	11,137.14	-	12,731.96	27,938.19
541130	DATA PROCESSING SOFTWARE	-	1,156.41	2,995.26	-	356.05	92,901.89
541150	EQUIPMENT AND FURNITURE - RESIDENTIAL, EDUCATIONAL AND INSTITUTIONAL	-	223.95	580.05	-	-	-
541180	EQUIPMENT - SHOP	-	-	-	-	1,209.96	-
541230	EQUIPMENT - TELECOMMUNICATIONS	-	-	-	-	248.02	598.98
541260	EQUIPMENT - ENVIRONMENTAL	-	-	-	-	27,529.95	150,259.58
542120	LIBRARY RESOURCE AND STUDENT TEXTBOOKS	-	577.86	1,496.74	-	100.10	240.18
546210	BUILDINGS AND OTHER STRUCTURES - CONSTRUCTION AND RENOVATION	-	-	-	-	1,000.00	-
553160	Legal Settlements Reportable to the IRS	-	1,392.70	3,607.30	-	-	-
554230	REIMBURSEMENTS AND REPAYMENTS – OTHER	-	-	-	-	7,900.00	-
IDC		(0.00)	447,426.04	1,238,176.82	(0.00)	666,646.22	1,748,332.89
		(0.00)	2,621,432.89	7,244,186.61	(0.00)	3,157,199.33	8,138,854.07

	Air Programs	FY2012 Title V		FY2013 Title V		FY2014 Title V	
SUB-ACTIVITY SUMMARY		**Budget Total**	**Expenses**	**Budget Total**	**Expenses**	**Budget Total**	**Expenses**
Object Code							
1100	Salaries	3,768,757	4,009,433	4,259,368	4,005,165	4,095,675	3,981,910
1121	Longevity	95,230	97,636	101,521	99,160	93,967	89,101
1200	Insurance\WC	934,646	812,615	1,119,093	804,078	1,068,245	823,779
1300	FICA\Retirement	956,785	973,820	1,078,675	948,631	1,025,179	956,392
Total Personnel		**5,755,418**	**5,893,504**	**6,558,657**	**5,857,033**	**6,283,065**	**5,851,181**
1501	Offices of Lawyers	263	0	770	-	770	-
1503	Other Legal Services	4,570	2,797	3,850	568	-	-
1529	Testing Laboratories	12,500	11,777	7,500	69	7,500	12,321
1536	Computer Sys. Design Svcs.	0	3,721	-	-	-	-
1559	Document Preparation Services	0	0	-	1,522	2,520	498
1566	Education Services	1,120	0	-	72	-	-
1570	Other Outpatient Care Centers	0	3,637	3,290	-	6,150	-
1581	Other Outpatient Care Centers	0	0	-	1,871	-	4,388
1599	Other Services (Except Public Administration)	0	0	-	195	-	36
2100	Travel	62,430	35,109	22,440	13,690	27,500	21,956
2200	Travel-Agency Direct Payments	5,680	14,431	13,290	3,455	18,420	25,937
3100	Misc. Admin Expenses	55,908	52,016	72,933	51,078	66,185	63,048
3200	Rental Expense	37,236	65,389	73,048	39,245	66,501	76,734
3300	Maintenance & Repair	36,239	21,323	41,188	6,885	53,522	42,820
3400	Specialized Supplies & Materials	0	500	-	6	-	111
3500	General Operating Expenses	70	2,304	2,508	1,330	1,470	2,469
3600	General Operating	7,126	9,888	9,745	7,956	8,540	4,258
3700	Shop Expense	14,139	8,478	18,831	-	7,560	5,632
4100	Office Furniture	93,490	79,885	122,622	15,932	257,536	278,891
4200	Library Equipment & Resources	0	0	-	1,497	-	240
4600	Building & Other Structures	54,000	75,025	30,000	-	51,000	-
5300	Refunds, Indemnities, Restitution	0	0	-	3,607	-	-
IDC	**Indirect Cost**	1,400,869	1,434,479	1,386,500	1,238,177	1,810,079	1,748,333
		7,541,056	**7,714,264**	**8,367,171**	**7,244,187**	**8,668,317**	**8,138,854**

PROOF OF PUBLICATION

McAlester News-Capital
500 S. Second, McAlester, OK 74501 • 918-423-1700

I, Amy Johns, am of lawful age, being duly sworn upon oath, deposes and says:
That I am publisher of McAlester News-Capital, a daily newspaper printed and published in the City of McAlester, County of Pittsburg, and State of Oklahoma, and that the advertisement referred to, a true and printed copy is hereunto attached, was published in said McAlester News-Capital & in consecutive issues on the following dates to wit:

1st insertion January 14 2009
2nd Insertion 2008
3rd Insertion 2008
4th Insertion 2008
5th Insertion 2008

That said newspaper has been published continuously and uninterruptedly in said county during a period one-hundred and four consecutive weeks prior to the publication of the attached notice or advertisement; that is has been admitted to the United States mail as publications (second-class) mail matter, that it has a general paid circulation, and publishes news of general interest, and otherwise conforms with all of the statutes of the State of Oklahoma governing legal publications.

Publication Fee $ 72.90

Publisher

SUBSCRIBED and sworn to before me this
9 day of February, 2009

Phyllis D. Hurlbut
Notary Public

#06003031
My Commission expires: 03/21/10

PHYLLIS D. HURLBUT
Notary Public
State of Oklahoma
Commission #06003031
Expires 03/21/10

(Published in the McAlester News-Capital January 14, 2009.)

DEQ NOTICE OF TIER II PERMIT APPLICATION FILING

A Tier II application for an air quality major source construction permit has been filed with the Oklahoma Department of Environmental Quality (DEQ) by CenterPoint Energy Field Services, Inc., P.O. Box 21734, Shreveport, Louisiana 71151.

The applicant requests approval to remove two engines, install a new engine and add controls to an existing at the Pine Hollow Compressor Station in Pittsburg County. To locate the site (from the town of Stuart), proceed south on Highway 31A for approximately 5.1 miles to Highway 31. Travel east on Highway 31 for approximately 5.7 miles and turn right on the dirt road. Proceed for one mile until reaching the compressor station. The legal coordinates for the site are S35, T5N, R12E.

In response to the application, DEQ has prepared a draft permit modification(Permit Number: 2003-027-C (M-3), which may be reviewed at the McAlester Public Library,401 N. 2nd Street, McAlester, Oklahoma 74501 or at the Air Quality Division's main office(see address below). The draft permit is also available for review in the Air Quality Section of DEQ's Web Page: http://www.deq.state.ok.us/.

The draft permit would authorize the facility to emit the following regulated pollutant: NOx 30.37 tpy; CO 43.71 tpy; VOC 33.34 tpy.

The public comment period ends 30 days after the date of publication of this notice. Any person may submit written comments concerning the draft permit to the Air Quality Division contact listed below. Only those issues relevant to the proposed modification are open for comment. A public meeting on the draft modification may also be requested in writing at the same address. Note that all public meeting are to be arranged and conducted by DEQ/CSD staff.

In addition to the public comment opportunity offered under this notice, this draft permit is subject to U.S. Environmental Protection Agency (EPA) review, EPA objection, and petition to EPA, as provided by 40 CFR 70.8. The requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process. Therefore, no additional opportunity to provide comments or EPA review, EPA objection, and petitions to EPA will be available to the public when requirements from the construction permit are incorporated into the Title V Permit.

If the Administrator (EPA) does not object to the proposed permit, the public has 60 days following the Administrator's 45 day review period to the Administrator to make such an objection as provided in 40 CFR 70.8(d) and in OAC 252:100-8-8(j). Information on all permit actions and applicable review time lines is available in the Air Quality section of the DEQ Web page: http://www.deq.state.ok.us/.

For additional information, contact Mrs. Lacey Ivey, CenterPoint Energy, P.O. Box 21734, Shreveport, Louisiana 71151, telephone 318-429-3297 or contact DEQ at Chief Engineer, Permits Section, Air Quality Division, 707 N. Robinson, Suite 1400, P.O. Box 1677, Oklahoma City, Oklahoma 73101-1677, telephone 405-702-4100.

DRAFT

EXAMPLE COMPLIANCE ASSURANCE MONITORING SUBMITTALS

The purpose of this document is to supplement Appendix A of the Compliance Assurance Monitoring (CAM) Technical Guidance in support of implementing Part 64[1]. The example CAM submittals presented in this supplement are based upon "case studies" of the current monitoring approaches in use at actual facilities and historical data obtained from the monitoring system. The development process for these examples included: (1) identifying facilities which currently monitor control device parameters, had long-term monitoring data available for review, had conducted a performance/compliance test, and were willing to participate, (2) obtaining information on the monitoring approach and monitoring data from the facility, (3) reviewing and analyzing the monitoring approach and data, (4) discussing the information with plant personnel and, in some cases, conducting a site visit, and (5) preparing an example monitoring approach submittal from the information.

The basic approach used was to evaluate the monitoring conducted by the facility against Part 64 general (design) and performance criteria. We then drafted a monitoring approach submittal based upon the facility's current monitoring, modified as necessary to comply with Part 64 requirements. If sufficient information was available to evaluate alternative approaches (e.g., different indicators, indicator ranges, or data averaging periods), we investigated alternative approaches. Note that the resulting examples are not necessarily the only acceptable monitoring approaches for the facility or similar facilities; they are simply examples of approaches used by particular facilities that also satisfy Part 64. The owner or operator of a similar facility may propose a different approach that satisfies part 64 requirements. Also, the permitting authority may require additional monitoring.

One purpose of this supplement is to provide **nonprescriptive** examples of monitoring approaches that meet the CAM submittal requirements for the specific cases studied. Each example monitoring submittal contains background information (including identification of the pollutant specific emissions unit), a description of the monitoring approach, and the rationale for selecting the indicators and indicator ranges. These examples represent the level of detail recommended by EPA, but States may develop their own guidance as to the level of detail (more or less) required in CAM monitoring approach submittals. Table 1 lists the examples contained in this supplement. We have collected information for other control devices and monitoring approaches and are preparing example monitoring approach submittals for these cases are being prepared for future release.

[1]U.S. Environmental Protection Agency. Technical Guidance Document: Compliance Assurance Monitoring, August 1998. Available on the EPA web site at http://www.epa.gov/ttn/emc/cam.html.

Table 1. Example CAM Submittals Included in this Supplement

Number	**Example Title**
A.4b	Scrubber for VOC Control - Facility Q
A.9b	Wet Electrostatic Precipitator (WESP) for PM Control - Facility P
A.11	Electrified Filter Bed (EFB) for PM Control - Facility K
A.16	Control Device Bypass - Facility R
A.17	Venturi Scrubber for PM Control - Facility S
A.18	Carbon Adsorber for VOC Control - Facility T
A.19a	Baghouse for PM Control - Facility V
A.19b	Baghouse for PM Control - Facility V
A.20	Absorber for SO_2 Control - Facility W
A.24	Carbon Adsorber for VOC Control - Facility EE
A.25	Electrostatic Precipitator (ESP) for PM Control - Facility FF
A.27	Flue Gas Recirculation (FGR) for NO_x Control - Facility HH

A.4b PACKED BED SCRUBBER FOR VOC CONTROL OF A BATCH PROCESS – FACILITY Q

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EXAMPLE COMPLIANCE ASSURANCE MONITORING: PACKED BED SCRUBBER FOR VOC CONTROL – FACILITY Q

I. Background

A. Emissions Unit

Description:	Batch mixers and tanks used in a chemical process
Identification:	Scrubber B-67-2
Facility:	Facility Q Anytown, USA

B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

Regulation:	Permit, State regulation
Emissions limit: VOC:	3.6 pounds per hour
Monitoring requirements:	Inlet water flow, acetic acid concentration in scrubber underflow

C. Control Technology

Packed bed scrubber

II. Monitoring Approach

The key elements of the monitoring approach for VOC are presented in Table A.4b-1. The selected indicators of performance are the scrubber inlet water flow rate and the acetic acid concentration in the scrubber water underflow. The scrubber inlet water flow rate is measured continuously and recorded twice daily. The scrubber water underflow is sampled twice daily; the acetic acid concentration of each sample is determined by titration.

TABLE A.4b-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator	Scrubber inlet water flow rate.	Acetic acid concentration in underflow.
Measurement Approach	The scrubber inlet water flow rate is measured using a radiometer.	A sample of the underflow is taken and the acetic acid concentration determined by titration.
II. Indicator Range	An excursion is defined as any operating condition where the scrubber inlet water flow rate is less than 4 gpm. An excursion will trigger an investigation of the occurrence, corrective action, and a reporting requirement.	An excursion is defined as any operating condition where the underflow acetic acid concentration is greater than 10 percent. An excursion will trigger an investigation of the occurrence, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The scrubber inlet water flow rate is measured using a variable area flow meter (radiometer) located in the scrubber water inlet line. The minimum acceptable accuracy of the meter is ±5 percent of the measured value and the range is 0 to 15 gpm.	The acetic acid concentration in the scrubber water effluent is measured by titrating a water sample extracted from the scrubber underflow.
B. Verification of Operational Status	NA	NA
C. Quality Assurance and Control Practices	Annual calibration and cleaning of radiometer. Acceptance criteria: ±5 percent of the measured value.	Only trained personnel perform sampling and titration. Laboratory QA/QC procedures are followed. Calibration standards are prepared to ensure the sample titration is being performed accurately.
D. Monitoring Frequency	The scrubber inlet water flow rate is measured continuously and recorded twice daily.	The scrubber water outlet acetic acid concentration is measured twice daily.
Data Collection Procedures	The scrubber inlet water flow rate is recorded twice daily. (The post-control emissions from this unit are less than the major source threshold, so continuous monitoring and recording is not required.)	A water sample is taken and titrated manually with phenolphthalein and NaOH solution. (The post-control emissions from this unit are less than the major source threshold, so continuous monitoring and recording is not required.)
Averaging Period	None.	None.

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) consists of process equipment in the cellulose esters division controlled by a packed bed scrubber. The process consists of batch mixers that are used to convert cellulose into cellulose ester. Each mixer may be started at a different time and may be used to make several batches per day. While in the mixers, the intermediate product is dissolved in acetic acid. The ester solution is transferred to storage tanks before being pumped into the next step in the process. A vent system collects the vapors from the mixers and tanks and a fan operated at constant speed pulls the vapors through the vent lines and into the scrubber. It is not possible for the gas to bypass the scrubber. The VOC load to the scrubbers in this division primarily consists of acetic acid (and other carboxylic acids).

The scrubber is 4 feet in diameter and has about 8 feet of 2-inch packing. Fresh water is sprayed at the top of the packing at 4 to 6 gpm; water from the underflow is recirculated to the middle of the scrubber. The normal exit gas flow rate is approximately 1800 acfm.

II. Rationale for Selection of Performance Indicators

A packed bed scrubber is used to reduce VOC emissions from part of a chemical manufacturing process. Both batch mixers and process tanks are vented to this scrubber. The processes in this area of the facility are mostly semi-batch operations, so the production rate at any one time varies. Therefore, it is difficult to relate the production rate to the VOC load vented to this scrubber.

To comply with the applicable emission limit, a minimum water flow rate must be supplied to the scrubber to absorb a given amount of VOC in the gas stream, given the size of the tower and height of the packed bed. The liquid to gas (L/G) ratio is a key operating parameter of the scrubber. If the L/G ratio decreases below the minimum, sufficient mass transfer of the pollutant from the gas phase to the liquid phase will not occur. The minimum liquid flow required to maintain the proper L/G ratio at the maximum gas flow and vapor loading through the scrubber can be determined. Maintaining this minimum liquid flow, even during periods of reduced gas flow, will help ensure that the required L/G ratio is achieved at all times. The concentration of acetic acid in the scrubber underflow can be related to the water flow rate and acetic acid emissions, based on emissions test results and process modeling.

III. Rationale for Selection of Indicator Ranges

The indicator ranges were selected based on engineering calculations using ASPEN® process modeling software, emissions test data, and historical data. Computer modeling of the scrubber system was performed for the maximum allowable VOC concentration in the scrubber exhaust; the inlet water flow rate necessary for achieving adequate control was determined for several concentrations of acetic acid in the underflow. The scrubber efficiency was calculated using data obtained from emissions testing. The scrubber was modeled using an equilibrium-

based distillation method and ideal behavior of the gas phase was assumed; liquid phase activity coefficients were estimated from a Wilson parameter fit of vapor-liquid equilibria data. It was assumed that the control device delivers three actual stages of counter-current mass transfer with a recycle stream pumped from the effluent to the center of the column to ensure adequate distribution of the liquid over the packing. The engineering model was calibrated for accuracy using the results of source testing conducted while at normal operating conditions.

Figure A.4b-1 is a plot of the modeled operating conditions (inlet water flow and scrubber underflow acetic acid concentration) necessary to maintain compliance. The line represents the operating conditions at maximum allowable emissions (3.6 lb VOC/hr); the scrubber's VOC emissions are below the limit when the scrubber is operated at conditions that fall below this line. For example, operating at a scrubber water flow rate of 4 gpm with an acetic acid concentration in the scrubber underflow of 12 percent provides a margin of compliance with the permitted VOC emission rate. The selected indicator ranges for inlet water flow and underflow acetic acid concentration were chosen based on the compliance curve and normal operating conditions. The indicator range (acceptable operating range) is defined as any operating condition where the scrubber inlet water flow is greater than 4 gpm and the scrubber underflow acetic acid concentration is less than 10 percent.

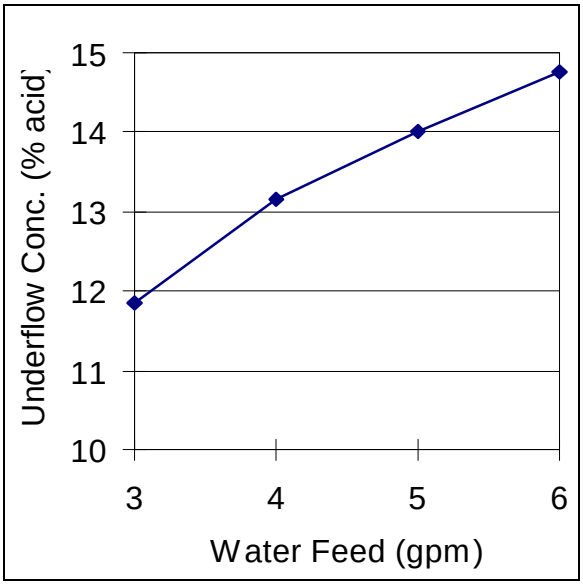

Figure A.4b-1. Compliance curve.

The 4 gpm level was chosen because it is the lower end of the preferred operating range. The 10 percent value was chosen because it is less than any point on the compliance curve (see Figure A.4b-1), and the 1997 historical data show that all measured concentration data were less than 8.4 percent (typical values were between 2 and 6 percent). When an excursion occurs (scrubber inlet water flow of less than 4 gpm and/or scrubber underflow acetic acid concentration of greater than 10 percent), corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported.

The scrubber typically operates at a water flow rate of 4 to 6 gpm. Figure A.4b-2 shows scrubber water flow data collected in 1997. The range for the 1997 data is 3 to 9.5 gpm; the mean scrubber water flow rate was 5.3 gpm. There are four values less than 4 gpm, indicating four excursions. The bulk of the data falls between 5 and 6 gpm. Corrective action typically is taken (the flow is increased) when the scrubber water flow begins to fall below 5 gpm in order to avoid an excursion.

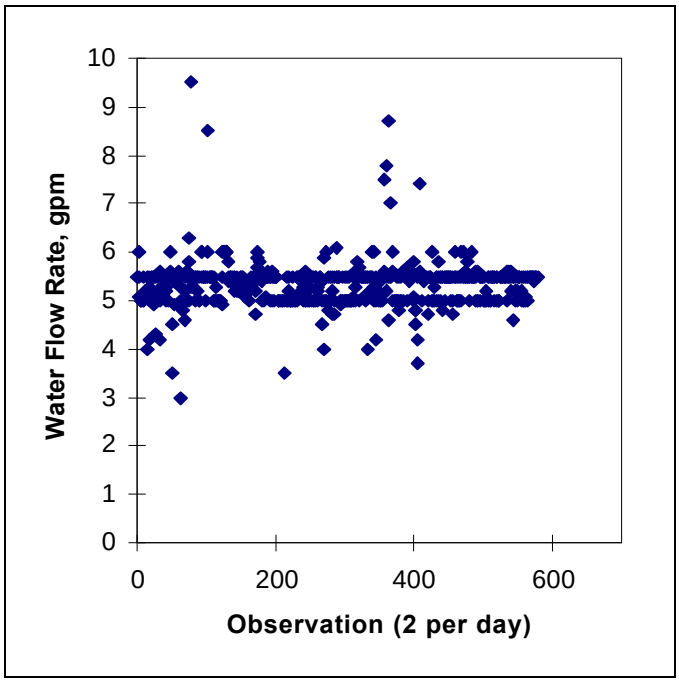

Figure A.4b-2. 1997 scrubber water flow rate data.

Historical data from 1997 show the acetic acid concentration in the underflow is typically less than 6 percent. Figure A.4b-3 shows scrubber underflow acetic acid concentration data for 1997. The maximum concentration was 8.4 percent, which is within the CAM indicator range. The mean concentration was 3.9 percent. The values decrease toward the end of the year because production was decreased due to temporary changes in the market for a key product. This further verifies the correlation between the acid concentration in the underflow and the VOC load to the scrubber. Because historical data show that the scrubber routinely operates within the indicator range, there is not much variability in the data during typical production periods, and the post-control emissions from this scrubber are below the major source threshold, the water flow rate and acid concentration are recorded only twice daily.

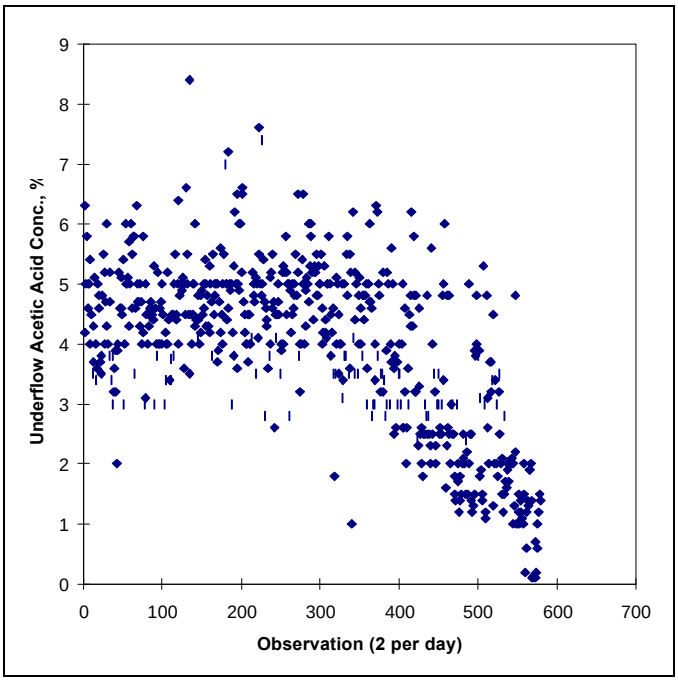

Figure A.4b-3. 1997 underflow acetic acid concentration data.

An emissions test was conducted on this scrubber in December 1994. An acetic acid sampling train validated using EPA Method 301 was used to measure acetic acid emissions and EPA Methods 1 through 4 were used to determine vent gas

volumetric flow rates. The permitted emission limit is 3.6 lb VOC/hr. The average emissions during testing were 0.2 lb/hr, well below the emissions allowed for this scrubber. The inlet water flow rate was 5 gpm and the average scrubber underflow acetic acid concentration was 5 percent. The test parameters and measured emissions and underflow concentration were used in the ASPEN® computer model to calculate the efficiency of the scrubber. The model was then used with that same efficiency to generate the compliance curve in Figure A.4b-1.

Figure A.4b-4 shows the underflow acetic acid concentration versus the scrubber water flow rate for 1997. There were four excursions in 1997; the flow rate was less than 4 gpm during those excursions, but the underflow acid concentration was always less than 10 percent.

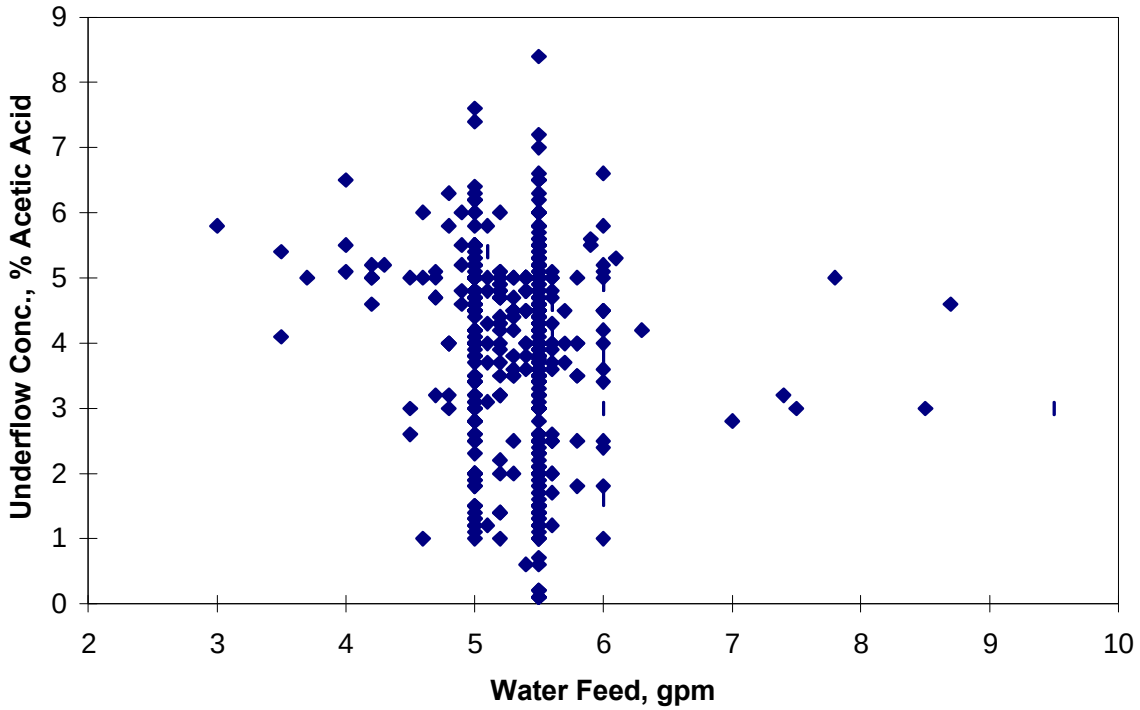

Figure A.4b-4. 1997 underflow acetic acid concentration vs. scrubber water flow. (2 measurements per day)

A.9b WET ELECTROSTATIC PRECIPITATORS (WESP) FOR PM CONTROL OF VENEER DRYERS – FACILITY P

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EXAMPLE COMPLIANCE ASSURANCE MONITORING
WET ELECTROSTATIC PRECIPITATORS (WESP) FOR PM CONTROL – FACILITY P

I. Background

A. Emissions Unit

Description:	Steam-heated dryers used in plywood manufacturing
Identification:	Veneer Dryers 1-6 (EU2)
APCD ID:	WESP 1, WESP 2
Facility:	Facility P Anytown, USA

B. Applicable Regulation and Emission Limit

Regulation No.:	Permit, State Regulation
Emission limits: Particulate Matter (PM):	0.3 lb/1,000 ft^2 (MSF) dried (3/8-inch thickness basis)
Monitoring Requirements:	Monitor WESP secondary voltage, quench inlet temperature, and WESP outlet temperature.

C. Control Technology

Wet electrostatic precipitator

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table A.9b-1. The selected indicators of performance are: WESP secondary voltage, quench inlet temperature, and WESP outlet temperature. The selected indicator ranges are based on hourly average values.

TABLE A.9b-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator	WESP secondary voltage.	Quench inlet temperature.	WESP outlet temperature.
Measurement Approach	The WESP secondary voltage is monitored using a voltmeter.	The gas temperature is measured with a thermocouple at the quench inlet.	The gas temperature is measured with a thermocouple at the WESP outlet.
II. Indicator Range	An excursion is defined as an hourly average voltage less than 35 kV. Excursions trigger an investigation, corrective action, and a reporting requirement.	An excursion is defined as an hourly average quench inlet temperature >375°F. Excursions trigger an investigation, corrective action, and a reporting requirement.	An excursion is defined as an hourly average outlet temperature >175°F. Excursions trigger an investigation, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The monitoring system consists of a voltmeter that is part of the WESP instrumentation (TR controller). The minimum accuracy of the voltmeter is ±0.5 kV.	The monitoring system consists of a thermocouple located in the quench inlet ductwork. The minimum accuracy of the thermocouple is ±2.2°C (±4°F) or 0.75 percent of the measured temperature in °C, whichever is greater.	The monitoring system consists of a thermocouple located in the WESP outlet ductwork. The minimum accuracy of the thermocouple is ±2.2°C (±4°F) or 0.75 percent of the measured temperature in °C, whichever is greater.
B. Verification of Operational Status	NA	NA	NA
C. QA/QC Practices and Criteria	Voltmeter zero check during scheduled maintenance performed every 3 weeks.	Thermocouples calibrated annually by comparison against an instrument of known accuracy. The acceptance criteria is ±4°F.	Thermocouples calibrated annually by comparison against an instrument of known accuracy. The acceptance criteria is ±4°F.
D. Monitoring Frequency	The voltage on each WESP is monitored continuously (one data point per minute).	The quench inlet temperature is monitored continuously (one data point per minute).	The WESP outlet temperature is monitored continuously (one data point per minute).
Data Collection Procedure	Data are recorded on the continuous parameter monitoring system (CPMS) computer.	Data are recorded on the CPMS computer.	Data are recorded on the CPMS computer.
Averaging Period	Hourly block average.	Hourly block average.	Hourly block average.

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant-specific emissions units (PSEU) are the two WESPs that control six veneer dryers. The dryers are longitudinal, steam-heated dryers manufactured by Coe and Moore and are used in the manufacture of plywood. Veneer is introduced into the dryer either manually or using automated veneer sheet feeders. The dried veneer sheets pass through a moisture detector as they exit the dryer where any sheets not meeting moisture specifications are marked and sorted for redrying. Dry veneer sheets are coated with mixed glue and formed into panels.

Two WESPs, also referred to as E-tubes, remove particulate matter from the dryer exhaust. WESP No. 1 serves dryers Nos. 1, 5, and 6 and WESP No. 2 serves dryers Nos. 2, 3, and 4.

II. Rationale for Selection of Performance Indicators

A WESP is designed to operate at a relatively constant voltage. A significant decrease in voltage is indicative of a change in operating conditions that could lead to an increase in emissions. Low voltage can indicate electrical shorts or poor contacts that require maintenance or repair of electrical components. However, the regular flush cycles the WESPs undergo to remove the particulate from the collection surfaces may also cause drops in voltage of short duration. These brief voltage drops are part of the normal operation of the WESP.

Monitoring gas stream temperature can provide useful information about the performance of a WESP. Quench inlet temperature primarily is an indication that the inlet gas stream is not so hot that a fire may develop in the duct work or WESP. In addition, the gas stream needs to be cooled in order for some of the pollutants to condense. The WESP outlet temperature indicates that the gas stream has been sufficiently saturated to provide for efficient particle removal, and that the water spray prior to the WESP inlet is functioning. High outlet temperatures could be the result of plugged nozzles, malfunctioning pumps, or broken or plugged piping.

III. Rationale for Selection of Indicator Ranges

The selected indicator ranges are given below:

Secondary voltage:	$\geq$35 kV
Quench inlet temperature:	$\leq$375°F
Stack outlet temperature:	$\leq$175°F

An excursion is defined as (1) an hourly average voltage less than 35 kV; (2) an hourly average quench inlet temperature greater than 375°F; or (3) an hourly average WESP outlet temperature greater than 175°F. When an excursion occurs, corrective action will be initiated beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An hourly average was chosen to account for the intermittent flush cycles the WESPs undergo that cause the voltage to drop temporarily.

The indicator level for the WESP voltage was selected based upon the level maintained during normal operation. Typical operating voltages range from 35 to 55 kV. During the most recent performance test, the voltage ranged from 35 to 54 kV and the PM emissions were below allowable levels. An indicator level at the low end of the normal operating range was selected (35 kV). During a malfunction (such as an electrical short), the WESP voltage levels are appreciably lower than normal operational levels. The voltage also drops for a short period during the normal flush cycles that are performed every few hours to clean the tube surface where particulate is collected. Figure A.9b-1 displays the hourly average WESP secondary voltage during October 1997 for WESP No. 1.

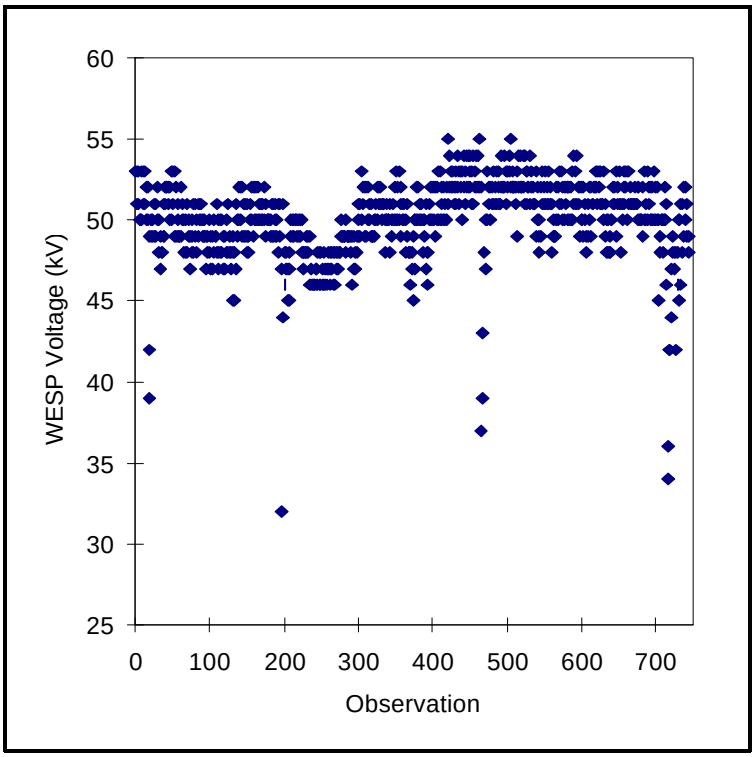

Figure A.9b-1. October 1997 hourly average secondary voltage (WESP No. 1).

The indicator levels for the quench inlet and WESP outlet gas temperatures also were selected based on levels maintained during normal operation. High temperatures may indicate a fire in the dryer or ductwork or a lack of water flow to the WESP. Temperature action levels were selected that are slightly higher than normal operating temperatures. If the water flow to the WESP is lost, the WESP outlet temperature will begin to approach the inlet temperature, which is much higher than 175°F. Figures A.9b-2 and A.9b-3 display the hourly average quench inlet and WESP outlet temperature during October 1997 for WESP No. 1.

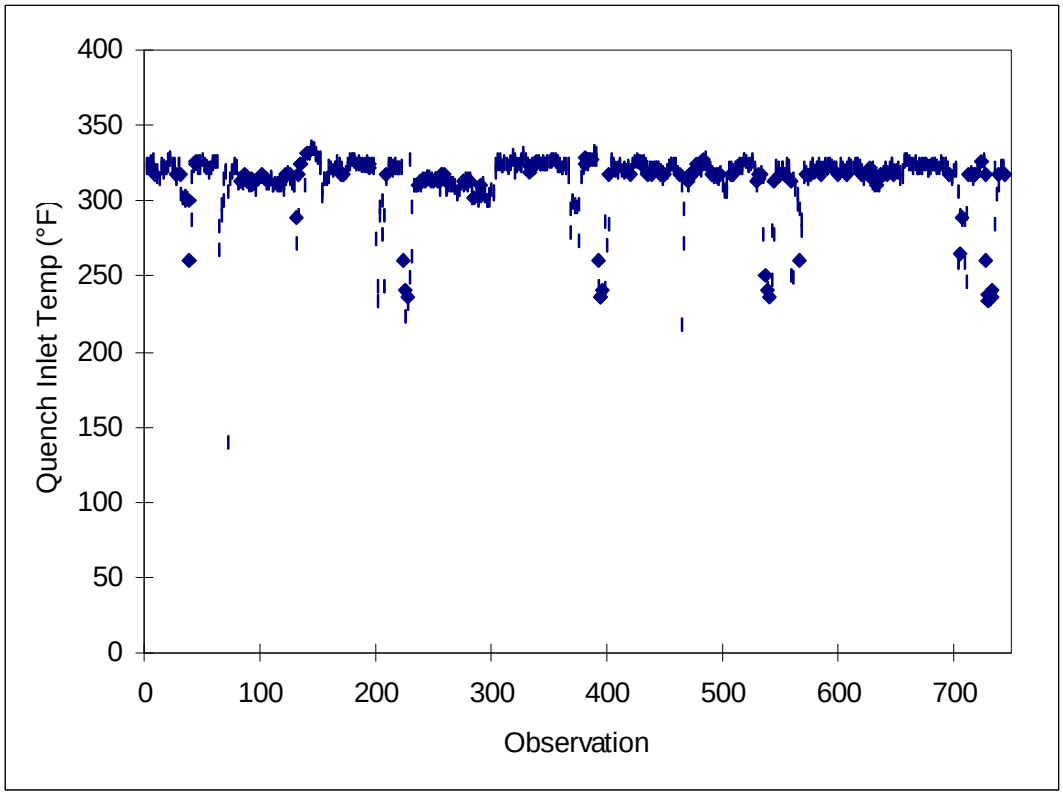

Figure A.9b-2. October 1997 Hourly Average Quench Inlet Temperature (WESP No. 1)

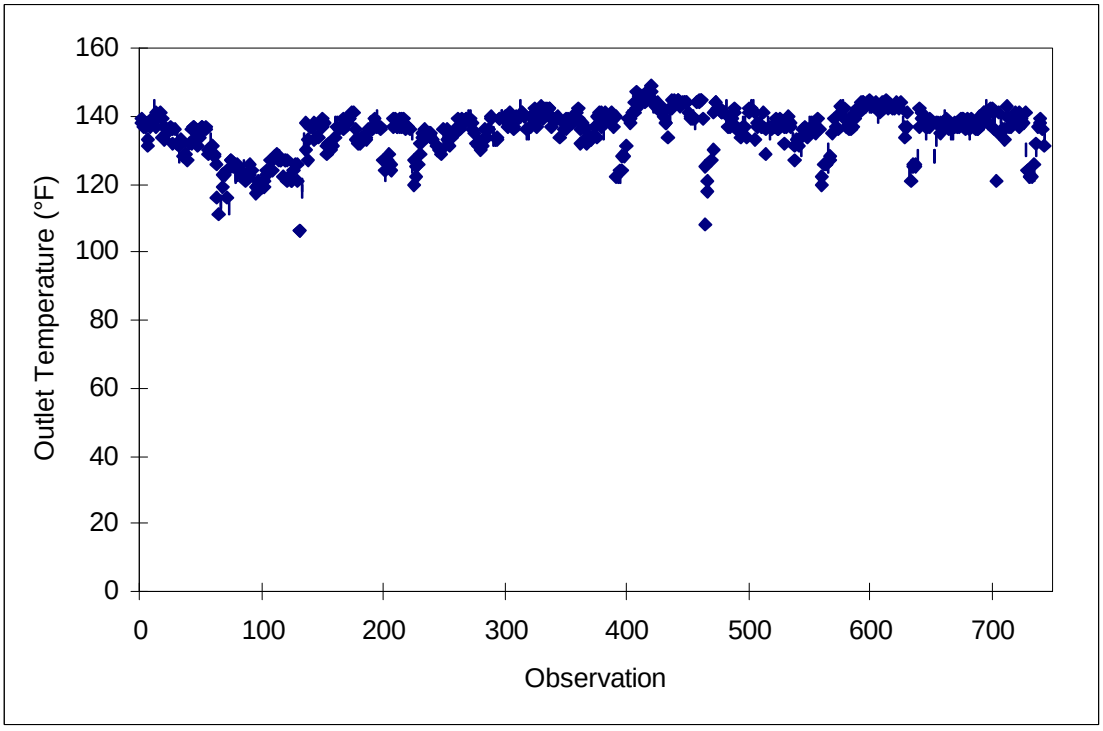

Figure A.9b-3. October 1997 Hourly Average WESP Outlet Temperature (WESP No. 1)

Indicator data for December 1995 to January 1996 and for October 1997 through December 1997 were reviewed. These data included hourly average WESP secondary voltage, quench inlet temperature, and WESP outlet temperature measurements. The maximum hourly average quench inlet temperature for WESP No. 1 was 336°F, while the maximum for WESP No. 2 was 352°F. The maximum hourly average stack outlet temperature for WESP No. 1 was 151°F, while the maximum stack outlet temperature for WESP No. 2 was 178°F. The average monthly voltages ranged from 47 to 51 kV for WESP No. 1 and from 40 to 46 kV for WESP No. 2.

Data obtained during the most recent performance test (October 1996) confirmed the unit was in compliance. During this test, the average measured PM emissions were 0.19 lb/MSF dried for WESP No. 1 and 0.21 lb/MSF dried for WESP No. 2. The measured particulate emissions were below the emission limitation of 0.3 lb/MSF dried (3/8-inch thickness basis). The WESP operating parameters during the performance test are summarized in Table A.9b-2.

TABLE A.9b-2. WESP OPERATING PARAMETERS DURING THE MOST RECENT PERFORMANCE TEST

WESP No.	Run	Production, ft^2/hr	Particulate, lb/MSF dried (3/8-inch basis)	WESP voltage, kV	Quench inlet T (°F)	WESP outlet, T (°F)
1	1	22,760	0.24	54	317	134
	2	23,419	0.17	54	318	134
	3	23,075	0.17	--	--	--
	Average	23,085	0.19	54	318	134
2	1	23,899	0.24	35	328	147
	2	32,238	0.17	38	332	143
	3	26,897	0.20	40	331	147
	Average	27,678	0.21	38	330	146

A.11 ELECTRIFIED FILTER BED FOR PM CONTROL OF VENEER DRYERS – FACILITY K

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EXAMPLE COMPLIANCE ASSURANCE MONITORING
ELECTRIFIED FILTER BED (EFB) FOR PM CONTROL – FACILITY K

I. Background

A. Emissions Unit

Description:	Natural gas-fired dryers used in plywood manufacturing
Identification:	Veneer Dryer 1, Veneer Dryer 2
Facility:	Facility K Anytown, USA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation:	Permit, State regulation
Emission Limits:	
Particulate matter (PM):	0.30 lb/1000 ft^2 (MSF) dried (3/8-inch thickness basis), 4.1 lb/hr
Monitoring Requirements:	EFB inlet temperature, EFB voltage, and EFB ionizer current.

C. Control Technology

EFB

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table A.11-1. The selected indicators of performance are: EFB inlet temperature, voltage, and ionizer current. The selected indicator ranges are based upon hourly average values.

TABLE A.11-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator	EFB inlet temperature.	EFB voltage.	EFB ionizer current.
Measurement Approach	Temperature is measured using a thermocouple.	Voltage is measured with a voltmeter.	Ionizer current is measured with an ammeter.
II. Indicator Range	An excursion is defined as an hourly average EFB inlet temperature greater than 170°F (>145°F when drying pine veneer). Excursions trigger an investigation, corrective action, and a reporting requirement.	An excursion is defined as an hourly average EFB voltage less than 8 kV. Excursions trigger an investigation, corrective action, and a reporting requirement.	An excursion is defined as an hourly average EFB ionizer current less than 2 mA. Excursions trigger an investigation, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The monitoring system consists of a thermocouple installed at the inlet of the EFB. The minimum accuracy of the thermocouple is ±2.2°C (±4°F) or 0.75 percent of the measured temperature in °C, whichever is greater.	The monitoring system consists of a voltmeter on the EFB unit. The minimum accuracy of the voltmeter is ±0.5 kV.	The monitoring system consists of an ammeter on the EFB unit. The minimum accuracy of the ammeter is ±0.5 mA.
B. Verification of Operational Status	NA	NA	NA
C. QA/QC Practices and Criteria	The accuracy of the thermocouple is checked annually (or as needed) by calibration using a signal transmitter. The thermocouple wells are periodically checked and cleaned (at least annually).	Voltmeter zero is checked when the unit is not operating.	Ammeter zero is checked when the unit is not operating.
D. Monitoring Frequency	The EFB inlet temperature is measured continuously (at least 4 times per hour).	The EFB voltage is measured continuously (at least 4 times per hour).	The EFB ionizer current is measured continuously (at least 4 times per hour).
Data Collection Procedure	Data are stored electronically and archived for at least 5 years..	Data are stored electronically and archived for at least 5 years..	Data are stored electronically and archived for at least 5 years..
Averaging Period	Hourly block average.	Hourly block average.	Hourly block average.

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant-specific emissions unit (PSEU) consists of two natural gas direct-fired veneer dryers controlled by an EFB. Dryer 1 is manufactured by Moore and has one zone and four decks. Dryer 2 is manufactured by Coe and has two zones and five decks. The dryers are used in the manufacture of plywood.

II. Rationale for Selection of Performance Indicators

Wood dryer exhaust streams contain dry PM, products of combustion and pyrolysis, and aerosols formed by the condensation of hydrocarbons volatilized from the wood chips. Since some of the pollutants from the dryers are in a gas phase at the normal dryer exhaust temperature of 250 to 300°F, these pollutants must be condensed in order to be collected by the EFB. The gas stream is cooled to a temperature of about 180°F by the evaporative gas cooler that precedes the EFB, using a water mist. The pollutants condense into fine liquid droplets and are carried into the EFB. The EFB ionizer gives the particles in the gas stream an electrical charge. The high voltage electrode in the gravel bed creates charged regions on the gravel. As the gas passes through the bed, the charged particles are removed from the gas and transferred to the surface of the bed. Liquid and dust continuously build up on the gravel surface; the liquid slowly travels through the bed and is allowed to drip into the drain outlet in the bottom of the unit. The gravel is periodically replaced (about one-third of the gravel is replaced each month).

Factors that affect emissions from wood dryers include wood species, dryer temperature, dryer residence time, dryer loading rate, and previous drying history of the wood. The rate of hydrocarbon aerosol formation (from vaporizing the extractable portion of the wood) is lower at lower dryer temperatures. Small increases in dryer temperature can produce relatively large increases in the PM emission rate. If particles are held in the dryer too long, the surfaces can volatilize; if these emissions are released into the ambient air, a visible blue haze can result.

The CAM indicators selected are EFB inlet temperature, EFB voltage, and EFB ionizer current. The EFB must be maintained at the proper temperature to allow collection of the hydrocarbon aerosol and particulate matter from the dryer. The EFB inlet temperature is monitored to indicate the gas stream was cooled to the proper temperature range before entering the EFB and that the bed is operating at the proper temperature. Information from the EFB manufacturer indicates that high EFB temperatures (e.g., temperatures in excess of 200°F) may result in excess stack opacity, as will low gravel levels (a low gravel level may cause insufficient PM collection). The voltage on the gravel and the current on the ionizer must be maintained so negatively charged particles in the exhaust gas are attracted to positively charged regions on the gravel bed. An adequate ionizer current level indicates the corona is charging the particles in the gas stream. The bed voltage level indicates the intensity of the electric field in the bed. A drop in voltage or current could indicate a malfunction, such as a short or a buildup of dust or hydrocarbon glaze on the ionizer or the gravel. A short in the bed will show as high current with little or no voltage. A foreign object in the gravel bed which bridges the gap between the

electrode and grounded louvers can short the bed, as can a cracked electrical insulator. The bed's PM collection efficiency increases as the voltage and current increase within the unit's operating range.

The parameters selected for monitoring are consistent with technical information on the operation, maintenance, and emissions for EFB's and dryers provided in EPA's September 1992 draft Alternative Control Technology (ACT) document for PM-10 emissions from the wood products industry. These parameters also were recommended by the manufacturer as parameters to monitor to ensure proper operation of the EFB unit.

III. Rationale for Selection of Indicator Ranges

Indicator data for June through August were collected and reviewed. These data include EFB cooler inlet and outlet temperature, bed temperature, bed voltage, and ionizer current measurements. No indicator ranges are specified in the current operating permit, but the permit does state that the EFB bed temperature shall not exceed 145°F when pine veneer is being dried. Based on the manufacturer's recommendations, historical data, and data obtained during source testing, the following indicator ranges were selected:

EFB bed inlet temperature:	<170°F (<145°F when drying pine veneer)
EFB bed voltage:	>8 kV
EFB ionizer current:	>2 mA

An excursion is defined as an hourly average of any parameter which is outside the indicator range. When an excursion occurs, corrective action will be initiated beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported.

Figure A.11-1 shows the hourly average EFB inlet temperature for June. The permit requires that the EFB bed temperature be less than 145°F while drying pine veneer. The EFB inlet temperature is used as a surrogate for bed temperature. During normal operation, the typical inlet temperature was 160 to 165°F when drying species other than pine. There were short periods of operation at 130 to 140°F when drying pine veneer, and lower temperatures that indicate the dryers were not operating (e.g., on Fridays during the routine maintenance shutdown). Similar operating ranges were observed for July and August. The maximum hourly average EFB inlet temperatures for June, July, and August were 174°F, 173°F, and 176°F, respectively. The manufacturer recommends maintaining the EFB at a temperature of 160 to 180°F. Therefore, based on this recommendation and on normal operating conditions, the indicator range chosen was an hourly average inlet temperature less than 170°F (less than 145°F when drying pine veneer). If the EFB inlet temperature exceeds 170°F (145°F when drying pine), corrective action will be initiated.

Figure A.11-2 shows the hourly average EFB voltage for June. From Figure A.11-2, it can be observed that the EFB typically operates in the range of 10 to 15 kV. Some short periods of

operation occur from 5 to 10 kV. The mean hourly voltages for June, July, and August are given below. These statistics do not include data from periods during which the EFB was not operating and the voltage was recorded as 1.0 or zero. (For example, the EFB is shut down every Friday for maintenance.)

Month	Mean hourly average voltage, kV
June	12.4
July	11.6
August	10.9
Average	11.6

The manufacturer's recommended bed voltage range is 5 to 10 kV. The average voltages during the 1992, 1993, and 1996 performance tests were 6.7 kV, 11 kV, and 14 kV, respectively. Based on all data reviewed, greater than 8 kV was chosen as the indicator range for the hourly average EFB bed voltage. If the hourly average bed voltage drops below 8 kV during periods of normal operation (excludes shutdown periods), corrective action will be initiated.

Figure A.11-3 shows the hourly average EFB ionizer current for the month of June. From Figure A.11-3 it can be seen that the EFB typically operates at an ionizer current in the range of 2 to 5 mA. The mean hourly average currents for June, July, and August are shown below. In addition, the manufacturer's recommended range is 2 to 4 mA. Therefore, the indicator range chosen was an hourly average current greater than 2 mA. If the hourly average ionizer current drops below 2 mA during normal operation (excludes shutdown periods), corrective action will be initiated.

Month	Mean hourly average current, mA
June	2.8
July	2
August	2
Average	2.3

Emissions test results and indicator data are presented below for the 1992, 1993, and 1996 performance tests. The 1992 and 1993 tests were conducted while drying pine; the 1996 test was conducted while drying Douglas fir. The EFB is subject to a PM emission limitation of 0.30 lb/MSF (4.1 lb/hr). Both limits were met during all three performance tests.

Year	PM emissions, gr/dscf	PM emissions, lb/MSF	PM emissions, lb/hr	Average voltage, kV	Average ionizer current, mA	Average EFB inlet temperature, °F
1992	0.016	0.16	1.5	6.7	4.9	153
1993	0.015	0.22	2.0	10.8	2.8	154
1996	0.02	0.30	1.1	14	1.4	189

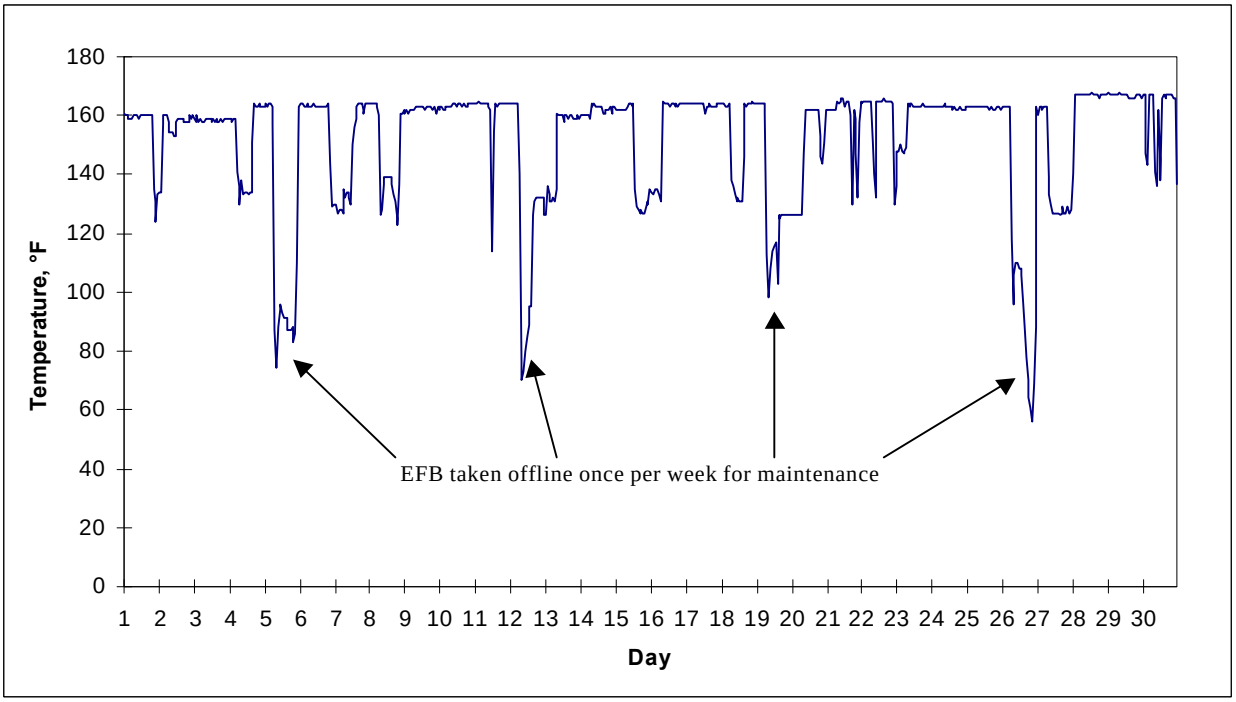

Figure A.11-1. June EFB inlet temperature (hourly average).

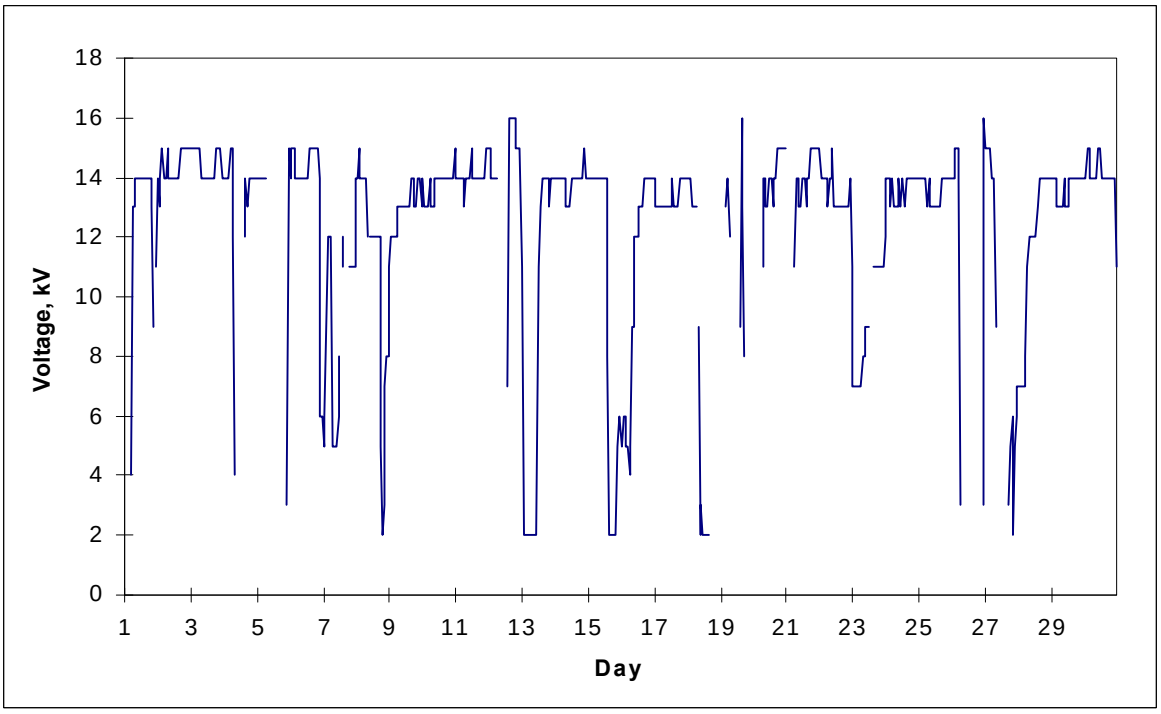

Figure A.11-2. June EFB bed voltage (hourly average).

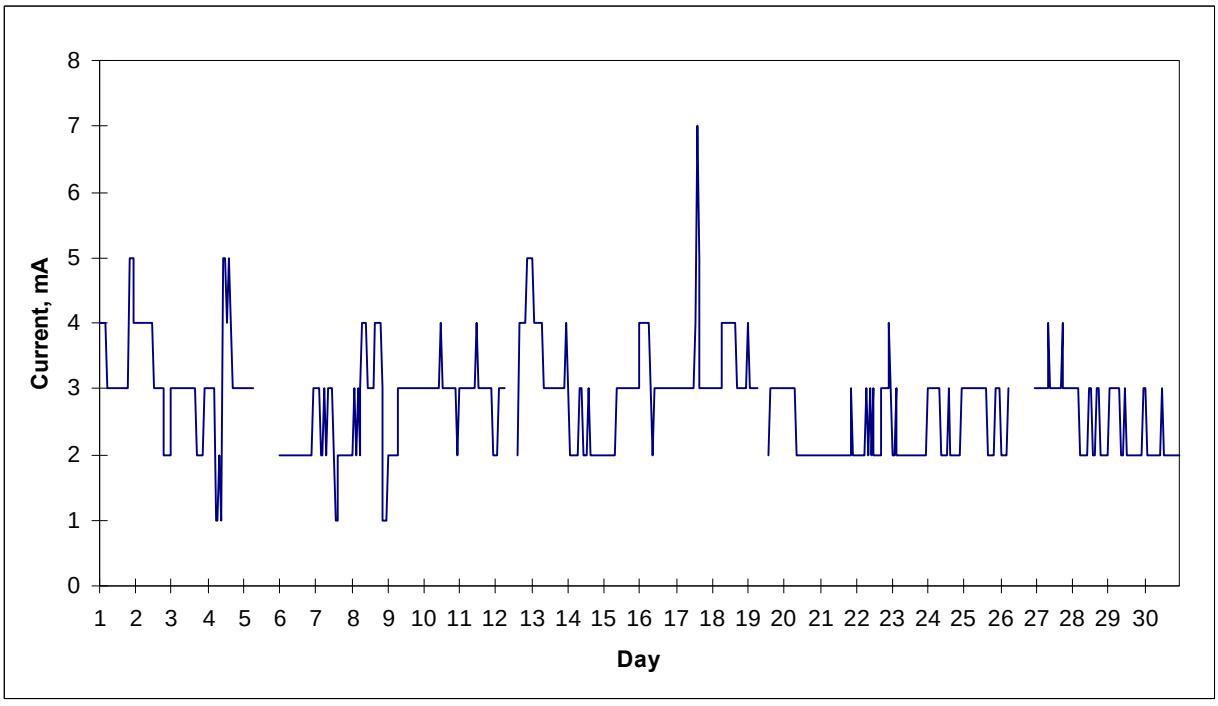

Figure A.11-3. June EFB ionizer current (hourly average).

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A.16 CONTROL DEVICE (BOILER) BYPASS – FACILITY R

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EXAMPLE COMPLIANCE ASSURANCE MONITORING CONTROL DEVICE (BOILER) BYPASS – FACILITY R

I. Background

A. Emissions Unit

Description:	APCD (boiler) bypass valve
Identification:	East and West boilers
Facility:	Facility R Anytown, USA

B. Applicable Regulation, Emissions Limit, and Bypass Monitoring Requirements

Regulation:	Permit, State regulation
Emissions Limits:	
CO:	200 ppm
Monitoring Requirements:	Temperature downstream of bypass valve.

C. Control Device

Two boilers in parallel.

II. Monitoring Approach

The key elements of the bypass monitoring approach are presented in Table A.16-1. The selected indicators are the temperatures in the horizontal and vertical portions of the bypass line downstream of the boiler bypass valve. The temperatures are measured continuously; instantaneous temperature values are recorded every 15 minutes.

Note: This compliance assurance monitoring example is presented as an illustration of one approach to monitoring for control device bypass. The example presents only the parameters monitored to ensure the control device is not being bypassed. Parameters to ensure the control device is operating properly also are monitored, but are not discussed in this example.

TABLE A.16-1. BYPASS MONITORING APPROACH

I. Indicator	Vertical and horizontal bypass line temperatures
Measurement Approach	Thermocouples downstream of bypass valve.
II. Indicator Range	An excursion is defined as a vertical line temperature of greater than 550°F or a horizontal line temperature of greater than 250°F. An excursion shall trigger an inspection, corrective action as necessary, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	Gas temperature is measured using thermocouples in two locations downstream of the bypass valve, prior to the common exhaust stack. The minimum accuracy of the thermocouples is 2.2°C (±4°F) or ±0.75 percent of the temperature measured in °C, whichever is greater.
B. Verification of Operational Status	NA
C. QA/QC Practices and Criteria	The thermocouples are checked annually with a redundant temperature sensor. Acceptance criteria: ±15°F of the measured value.
D. Monitoring Frequency	The temperatures are measured and recorded every 15 minutes.
Data Collection Procedures	The temperatures are recorded by the computer control system every 15 minutes.
Averaging period	None.

I. Background

The FCCU regenerator flue gas contains approximately 10 percent CO by volume, and is referred to as "CO gas." The CO gas is routed to two tangentially-fired boilers (East and West) in parallel, designed with sufficient residence time, turbulence, and temperature to fully combust the CO to CO_2. The exhaust from each boiler enters a common stack, where an emission limit of 200 ppm CO must be met. The FCCU regenerator is equipped with piping that enables the CO gas to bypass the boilers and flow directly to the common stack. Use of the bypass line is essential for the safe operation of the boilers during startup and shutdown periods. The piping is equipped with a butterfly valve. The position of this valve is monitored by the computer control system, and is kept fully closed during normal operation. The operators routinely pack the valve with ceramic fiber insulation to prevent leaks. A process schematic is shown in Figure A.16-1.

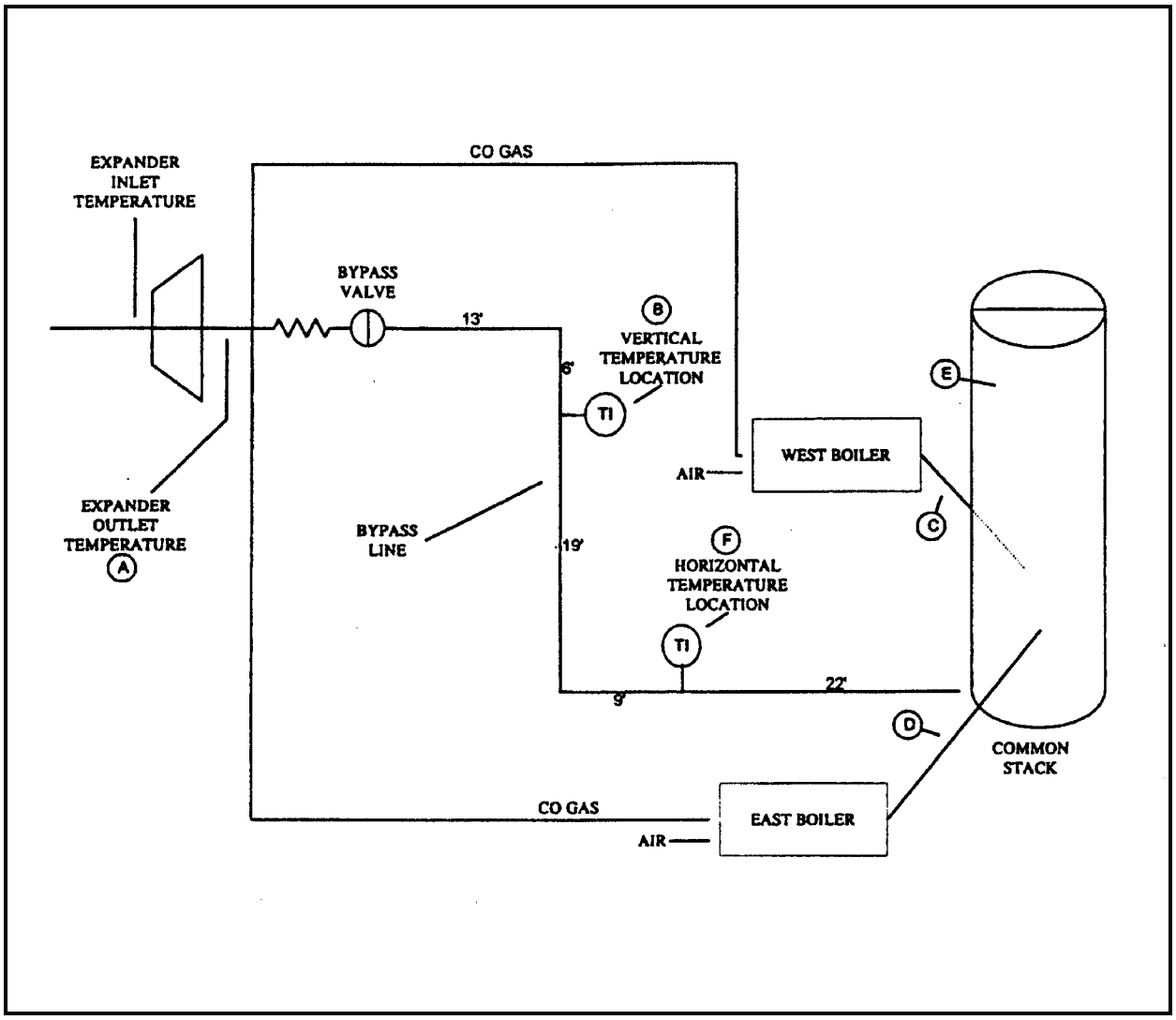

Figure A.16-1. Process schematic.

II. Rationale for Selection of Performance Indicator

Although the bypass valve position is computer-controlled, it has a tendency to leak if not tightly packed with insulation. Therefore, the operators need an indicator to detect leakage of the valve that might cause excess CO emissions. Testing was performed to determine the effect of boiler load on CO emissions. The results showed the boilers emitted negligible CO regardless of operating load. The effect of a leaky valve on CO emissions (measured in the stack) and the gas temperature downstream of the bypass valve then was examined. The results showed that as the amount of valve leakage increases and the CO concentration in the common stack increases, the temperature downstream of the valve also increases because of the high temperature of the CO gas (the temperature of the CO gas upstream of the valve is approximately 960°F). Therefore, the selected indicator of a leaky or open bypass valve is the temperature downstream of the bypass valve.

III. Rationale for Selection of Indicator Range

A test program was conducted to determine the relationship between the gas temperature downstream of the bypass valve and the CO emissions. The gas temperature in the bypass line and the CO concentration in the common stack were measured at baseline conditions (no leakage) and for eight different leak conditions. Temperature was measured at two locations: the vertical section of the bypass line (19 feet downstream of the valve) and the horizontal section of the bypass line (47 feet downstream of the valve). During normal conditions, when the CO level in the common stack was less than 50 ppm, the temperature in the vertical section was roughly 410°F, while the temperature in the horizontal section was 112°F.

To induce leakage of the valve, the valve was opened 5 percent on day 1 and 3 percent on day 2, and immediately closed. The packing material broke loose during each opening. On inducing the leaks, the temperature downstream of the valve rose quickly and eventually reached a stable temperature. To evaluate the effect of adding packing to the valve on downstream temperatures and CO levels in the common stack, the valve was progressively packed with ceramic fiber insulation and allowed to stabilize. The level of CO in the stack and the downstream temperatures decreased with the amount of insulation added.

Figures A.16-2 and A.16-3 show the relationship between CO emissions and the gas temperature at the horizontal and vertical locations. The 5^{th} percentile temperature readings reflect levels at the lower end of the range for each condition that can alert the boiler operator to bypass valve leakage. Conversely, since the CO levels varied during each test condition, the 95^{th} percentile CO levels for each test condition were selected to be conservative (on the high side). For added confidence, indicator ranges were developed for both measurement locations (it is expected that the two thermocouples will not fail at the same time). Based on the data collected during testing, an excursion is defined as a vertical duct temperature of greater than 550°F or a horizontal duct temperature of greater than 250°F. An excursion will trigger an inspection, corrective action as necessary, and a reporting requirement.

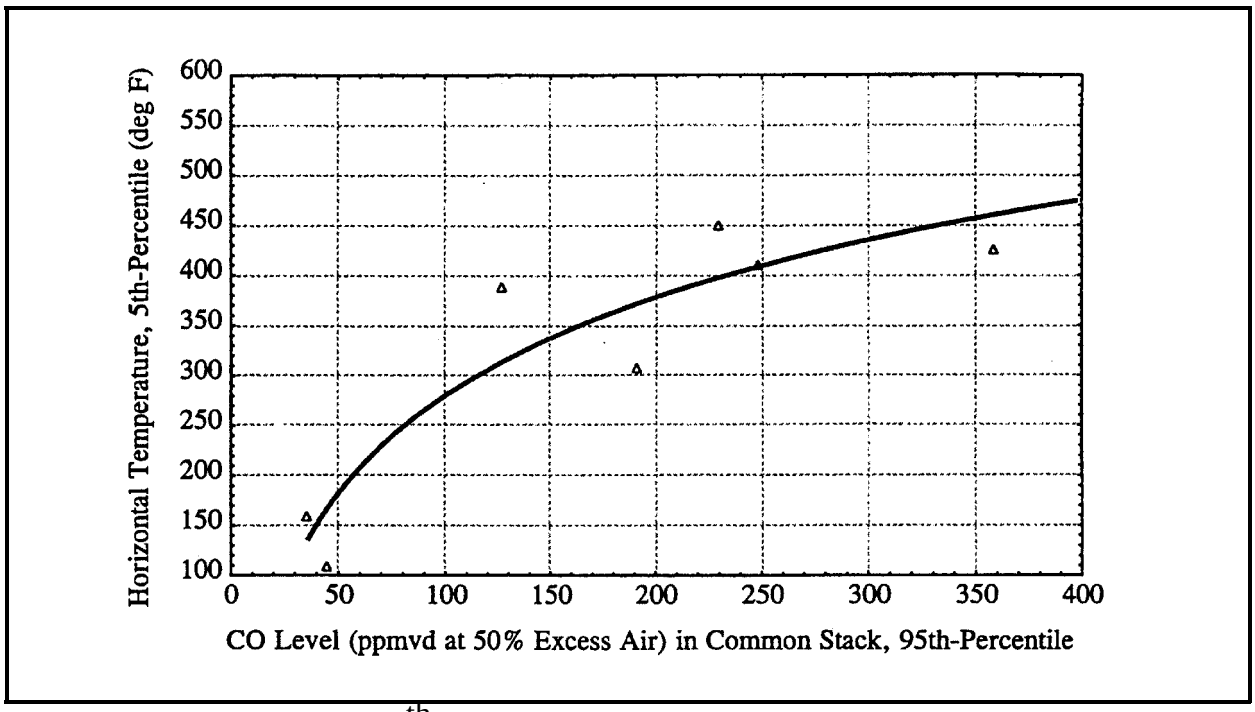

Figure A.16-2. CO Level (95th Percentile) in the Common Stack vs. Horizontal Temperature Measurement (5th Percentile).

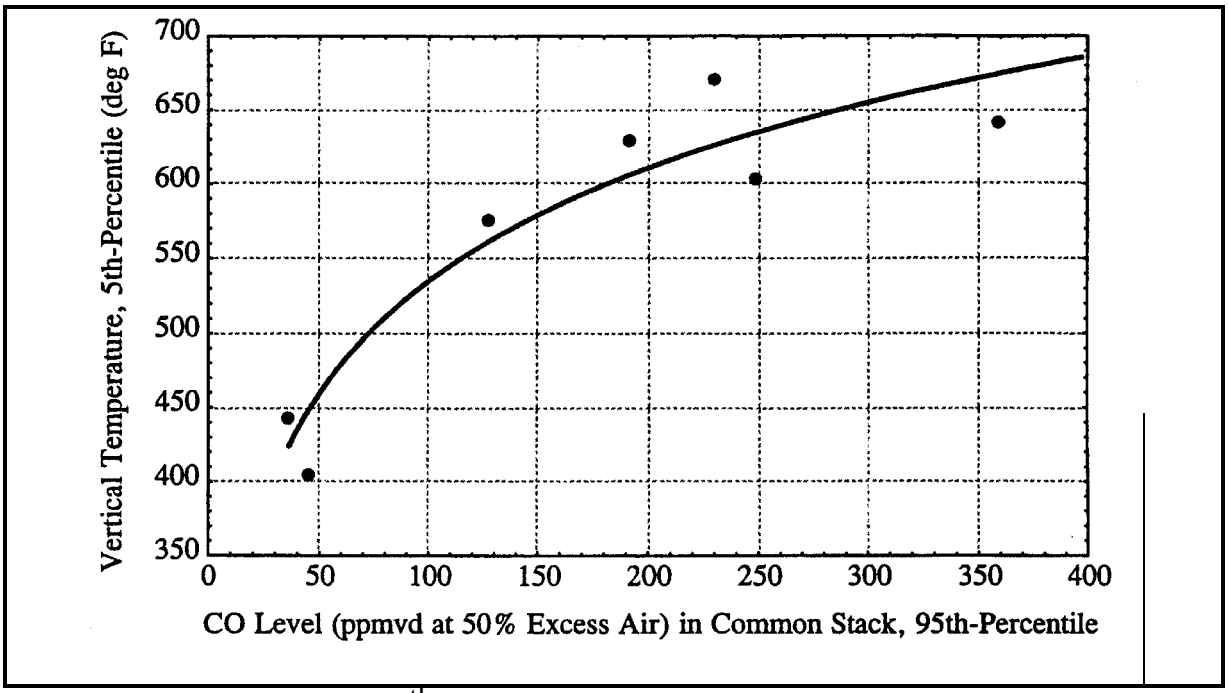

Figure A.16-3. CO Level (95th Percentile) in the Common Stack vs. Vertical Temperature Measurement (5th Percentile).

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A.17 VENTURI SCRUBBER FOR PM CONTROL--FACILITY S

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EXAMPLE COMPLIANCE ASSURANCE MONITORING VENTURI SCRUBBER FOR PM CONTROL: FACILITY S

I. Background

A. Emissions Unit

Description:	Wood-fired boiler
Identification:	Boiler A
Facility:	Facility S Anytown, USA

B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

Regulation: State regulation (Federally enforceable)

Emissions Limit:

Particulate Matter (PM): Determined using the following equation:

$$P = 0.5 * (10/R)^{0.5}$$

where:

P = allowable weight of emissions of fly ash and/or other PM in lb/mmBtu.

R = heat input of fuel-burning equipment in mmBtu/hr based on the measured percent of O_2 and volumetric flow rate.

The State rule also specifies that the opacity of visible emissions cannot be equal to or greater than 20 percent, except for one 6-minute period per hour of not more than 27 percent.

Monitoring Requirements: Continuous Opacity Monitoring System (COMS)

C. Control Technology

Venturi scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table A.17-1. The indicators of performance are the boiler exhaust O_2 concentration (a measure of excess air level), the steam generation rate (a measure of boiler load), and the differential pressure across the scrubber venturi.

TABLE A.17-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator	Exhaust gas oxygen concentration	Steam generation rate	Scrubber differential pressure
Measurement Approach	O_2 monitor.	Orifice meter to measure steam flow rate.	Differential pressure transducer.
II. Indicator Range	An excursion is defined as an hourly boiler exhaust O_2 concentration of less than 10 or greater than 15 percent. Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion is defined as an hourly average steam generation level of less than 50,000 lb/hr. Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion is defined as a 1-hour average differential pressure below 10.0 inches of water. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The O_2 monitor is located in the boiler exhaust.	The orifice meter is located in the steam line.	The differential pressure transducer monitors the static pressures upstream and downstream of the scrubber's venturi throat.
B. Verification of Operational Status	NA	NA	NA
C. QA/QC Practices and Criteria	Daily zero and span checks. Adjust when drift exceeds 0.5 percent O_2.	Calibrated on initial installation.	Monthly comparison to a U-tube manometer. Acceptance criteria is 0.5 in. w.c.
D. Monitoring Frequency	Measured continuously.	Measured continuously.	Measured continuously.
Data Collection Procedures	1-minute averages are computed and displayed. The PC then computes and stores a 1-hour average using the 1-minute averages.	1-minute averages are computed and displayed. The PC then computes and stores a 1-hour average using the 1-minute averages.	1-minute averages are computed and displayed. The PC then computes and stores a 1-hour average using the 1-minute averages.
Averaging period	1-hour.	1-hour.	1-hour.

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant-specific emissions unit (PSEU) is PM from a wood-fired boiler. Particulate matter in the boiler's exhaust stream is controlled by a venturi scrubber. A COMS is required by the applicable State rule. However, water droplets in the boiler exhaust will interfere with the COMS measurements and consequently make the use of a COMS impractical. An alternative monitoring program utilizing parametric monitoring has been proposed. The monitoring approach includes continuous monitoring of the wood-fired boiler's excess air, the steam production rate, and the differential pressure across the scrubber's venturi throat.

II. Rationale for Selection of Performance Indicators

The operating conditions for this type of source (wood-fired boiler) can have a significant impact on the amount of particulate emissions created. Furthermore, for a venturi scrubber, the inlet particulate matter loading to the scrubber will have an impact on the emissions level from the scrubber (i.e., emissions from the scrubber are expected to increase as the loading to the scrubber increases for the same scrubber operating conditions). Site-specific emissions test data confirm these expectations. Therefore, indicators of performance of both the control device and process were selected for this source.

The scrubber differential pressure was selected as the indicator of control device performance. The differential pressure is proportional to the water flow and air flow through the scrubber venturi throat and is an indicator of the energy across the scrubber and the proper operation of the scrubber within established conditions.

Excess air levels can have a significant impact on boiler performance. Excess air is defined as that air exceeding the theoretical amount necessary for combustion. Insufficient excess air will result in incomplete combustion and an increase in emissions. A minimum of about 50 percent excess air is necessary for combustion of wood or bark fuels. Provision of too much excess air causes the furnace to cool and also can result in incomplete combustion. Therefore, the proper excess air level is important for proper operation of the boiler. The percent oxygen in the exhaust gas stream is an indicator of the excess air level (0 percent oxygen would equal 0 percent excess air, 8 percent oxygen is approximately 50 percent excess air, and 12 percent oxygen is approximately 100 percent excess air).

Steam generation rate is an indication of the boiler load and is related to the fuel-firing rate. The boiler is designed to operate at a particular load and fuel-firing rate. Operating the boiler outside the "normal" operating range (fuel-firing rate or steam generation rate) would indicate a change in operating conditions that may affect emissions.

III. Rationale for Selection of Indicator Ranges

Baseline information on the relationship among process operating conditions, control device operating conditions, and emissions was necessary to establish the indicators and ranges. A series of test runs was performed at several different boiler operating conditions because parametric monitoring is being proposed as an alternative to COMS.

Emissions tests were performed to establish a basis for indicator ranges that correspond to compliance with the PM emissions limit. A set of nine test runs was performed on the boiler at three different levels of steam generation (three test runs were performed at each steam generation level). Emissions sampling was based on EPA Methods 1 through 5 (40 CFR 60, Appendix A). The results of the first series of emissions tests indicated a problem meeting the emissions limits at the lower load level; the lack of a means to control excess air levels during boiler operation was suspected as the cause of the excess emissions. A second series of tests were performed a year later after automatic boiler control equipment was installed. The second series of tests also was comprised of nine runs at three operating loads. The results of these 18 tests were used in selecting the indicator ranges. The results of these tests are presented and discussed in the following paragraphs.

Figure 1 graphically presents the excess air level versus the nominal boiler load (steam generation rate) for the tests. During the first series of tests, before automatic boiler controls were added, the boiler operated at a very high level of excess air (over 500 percent) at the low-level operating load, at a high level of excess air (over 200 percent) at the mid level operating load, and below 200 percent at the high-level operating load. Without the automatic boiler controls, the same amount of air was being introduced to the boiler regardless of the operating load (wood feed rate), resulting in a significant increase in excess air levels as wood feed rate decreased. After the automatic controls were added, the excess air was maintained at lower levels for the low-level and mid-level load conditions (less than 300 percent and 200 percent, respectively).

The results of the two test series are summarized in Table A.17-2. Three test runs were performed at each steam generation rate.

TABLE A.17-2. TEST RESULTS[a]

	Nominal steam generation rate (lb/hr)	Venturi differential pressure (in. H_2O)	Boiler exhaust O_2 (%)	Particulate emissions (lb/MMBtu)	Allowable particulate emissions (lb/MMBtu)
Series 1: (Before Boiler Control Modifications)	25,000	15.6	18.1	0.73	0.25
	40,000	22.9	16.2	0.43	0.21
	60,000	22.2	12.6	0.06	0.16
Series 2: (After Boiler Control Modifications)	33,000	12.0	15.5	0.07	0.25
	52,000	12.1	13.9	0.06	0.21
	77,000	12.0	13.0	0.05	0.17

[a] All values are 3-run averages.

At the first level of steam generation (25,000 lb/hr), the amount of excess air ranged from 544 percent to 752 percent by volume. The particulate emissions rate ranged from 0.528 to 1.12 lb/MMBtu. The maximum allowable emissions ranged from 0.23 to 0.27 lb/MMBtu. The maximum allowable emissions varies because it is based on the heat input rate. The allowable emissions rate was exceeded for all three test runs. The second set of test runs was performed at a nominal steam generation level of 40,000 lb/hr. The amount of excess air ranged from 244 to 830 percent. The particulate emissions rate ranged from 0.21 to 0.82 lb/MMBtu. The maximum allowable emissions ranged from 0.17 to 0.28 lb/MMBtu. The maximum allowable emissions rate was exceeded for all three test runs. The third set of test runs was operated at a nominal steam generation level of 60,000 lb/hr. The steam generation level actually ranged from 60,000-70,000 lb/hr but dropped below 50,000 lb/hr midway through the third of the three tests performed. The amount of excess air for these three test runs ranged from 123 to 188 percent. The particulate emissions rate ranged from 0.05 to 0.06 lb/MMBtu. The maximum allowable emissions ranged from 0.15 to 0.17 lb/MMBtu. The boiler was well within the maximum allowable emissions rate for all three test runs.

For the test series conducted after the addition of automatic controls, at the first level of steam generation (33,000 lb/hr nominal), the amount of excess air ranged from 255 to 341 percent by volume. The particulate emissions rate ranged from 0.062 to 0.081 lb/MMBtu. The maximum allowable emissions ranged from 0.23 to 0.29 lb/MMBtu. The particulate emissions were less than the allowable emissions rate for all three test runs. The second set of test runs was performed at a nominal steam generation level of 77,000 lb/hr. The amount of excess air ranged from 128 to 194 percent. The particulate emissions rate ranged from 0.045 to 0.057 lb/MMBtu. The maximum allowable emissions ranged from 0.16 to 0.18 lb/MMBtu. The particulate emissions were less than the allowable emissions rate for all three test runs. The third set of test runs was performed at a nominal steam generation level of 52,000 lb/hr. The amount of excess air for these three test runs ranged from 196 to 223 percent. The particulate emissions rate ranged from 0.056 to 0.067 lb/MMBtu. The maximum allowable emissions ranged from 0.20 to

0.21 lb/MMBtu. The boiler operated within the maximum allowable emissions rate for all three test runs.

Figure 2 presents the particulate emissions rate versus boiler load for the two test series. Figures 3 and 4 present the particulate emissions rate versus excess air and boiler exhaust oxygen level, respectively. The test results show that during the first test series the emissions increase significantly as the excess air increases. The allowable emissions limit was exceeded at the low- and mid-level operating loads. The results of the second test series conducted after automatic boiler controls were added also show a relationship among the excess air level, boiler load, and particulate emissions rates. However, the particulate emissions rates were well within the allowable emissions rates for all test runs at all load conditions. Note that the performance of the system (boiler and venturi scrubber) was significantly better during the second series of tests when the automatic boiler controls were being used to control air levels even though the venturi scrubber was operating at a lower pressure drop (12 versus 22 in. w.c.).

The two indicators selected for monitoring boiler operation are exhaust gas oxygen concentration and boiler load (steam generation rate). The selected indicator range for the boiler exhaust gas oxygen is greater than 10 and less than 15 percent O_2 (one-hour average). The oxygen concentration is measured continuously. An excursion triggers an inspection, corrective action, and a reporting requirement. The selected indicator range for boiler load (steam generation rate) is operation at or above a hourly average of 50,000 lb/hr. The steam generation level is measured continuously and data are recorded once per minute. An hourly average is calculated based on 60 1-minute steam generation readings. An excursion triggers an inspection, corrective action, and a reporting requirement. The selected indicator range for the level of steam generation does not apply during start-up and shutdown. The selected ranges will promote maximum efficiency and provide a reasonable assurance that the boiler is operating normally.

The indicator range selected for monitoring venturi scrubber operation is a pressure differential of greater than 10 in. w.c. (one-hour average). An excursion triggers an inspection, corrective action, and a reporting requirement. The differential pressure is measured several times per minute. A one-minute average is calculated, and an hourly average is calculated from the one-minute averages. The selected indicator range was chosen by examining the January 1999 test data. During these tests, the differential pressure was maintained between 10 and 15 in. w.c. The measured particulate emissions limit during these tests at all three boiler loads was approximately one third of the allowable emissions rate (large margin of compliance). Therefore, a differential pressure of greater than 10 in. w.c. was selected as the indicator range.

Figure 1: Excess Air vs. Steam Flow Rate

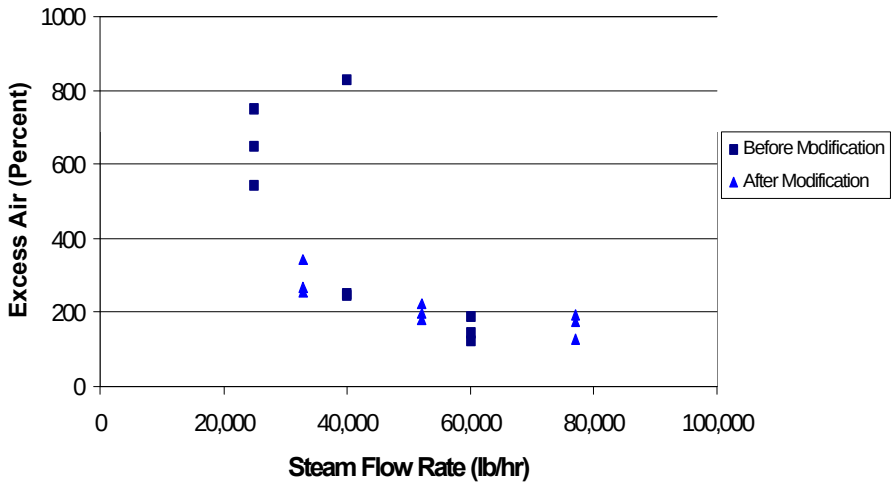
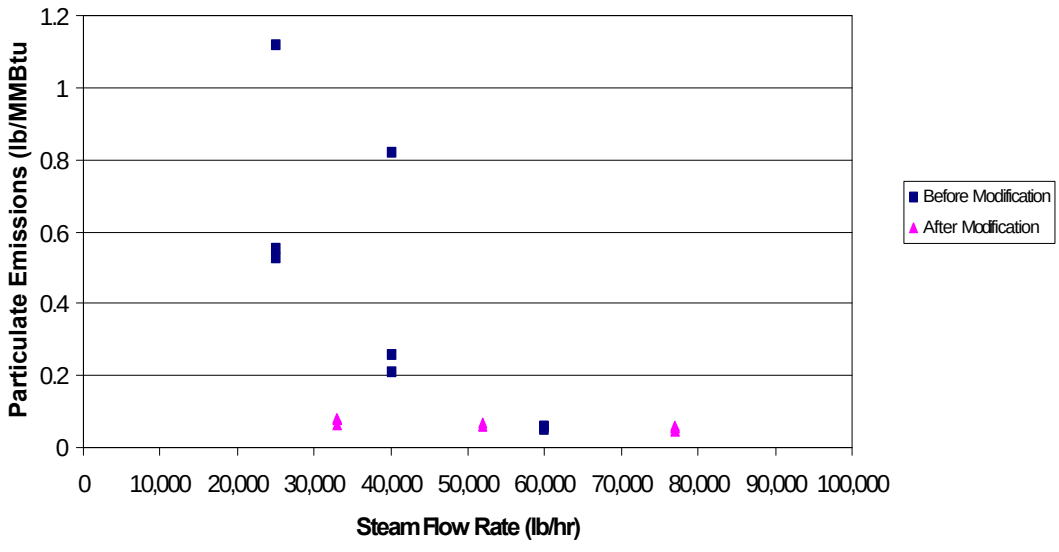


Figure 2: Particulate Emissions vs. Steam Flow Rate



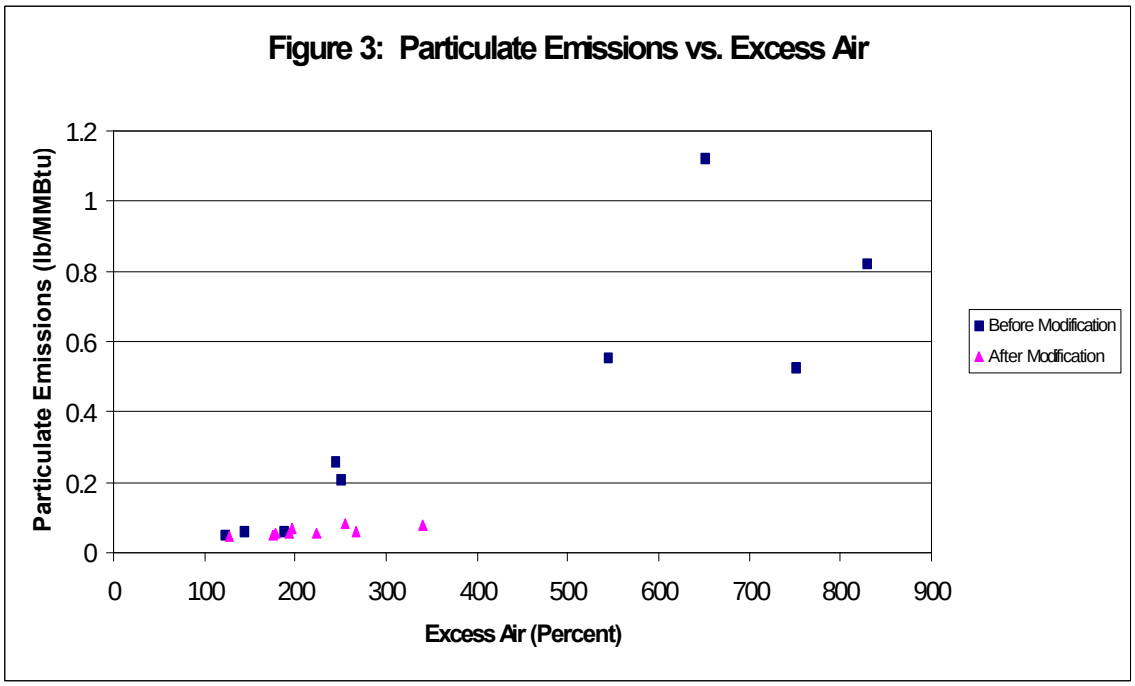


Figure 3: Particulate Emissions vs. Excess Air
Particulate Emissions (lb/MMBtu)
1.2
1
0.8
0.6
0.4
0.2
0
0
100
200
300
400
500
600
700
800
900
Excess Air (Percent)
Before Modification
After Modification

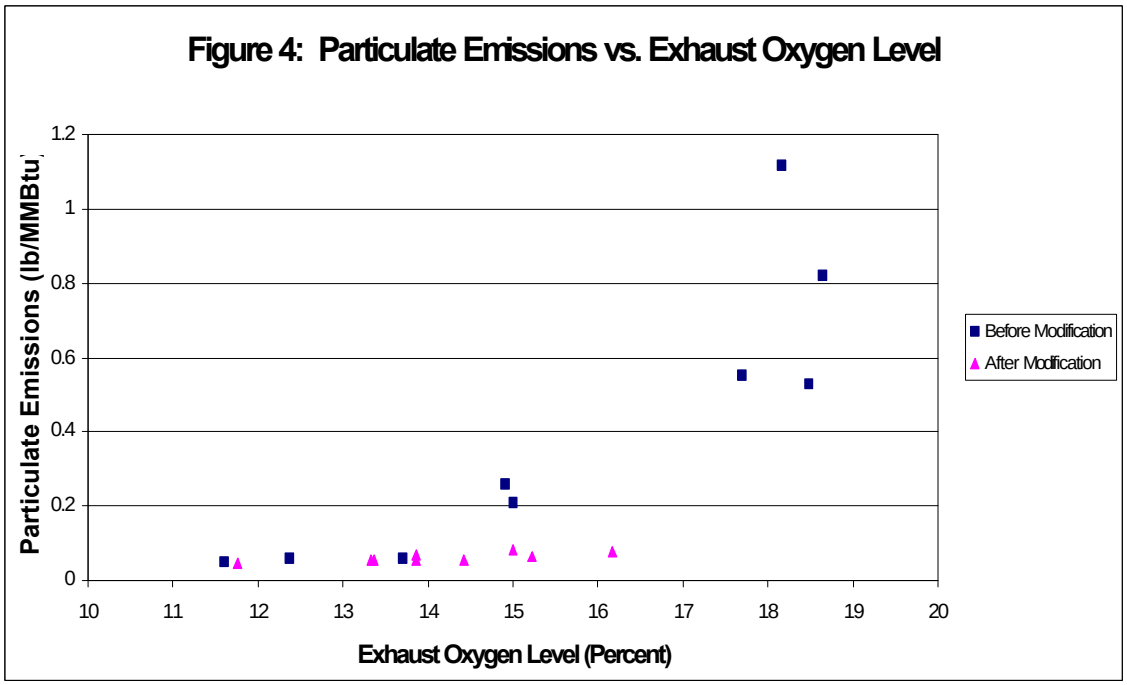


Figure 4: Particulate Emissions vs. Exhaust Oxygen Level
Particulate Emissions (lb/MMBtu)
1.2
1
0.8
0.6
0.4
0.2
0
10
11
12
13
14
15
16
17
18
19
20
Exhaust Oxygen Level (Percent)
Before Modification
After Modification

A.18 CARBON ADSORBER FOR VOC CONTROL – FACILITY T

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EXAMPLE COMPLIANCE ASSURANCE MONITORING
CARBON ADSORBER FOR VOC CONTROL – FACILITY T

I. Background

A. Emissions Unit

Description:	Loading Rack
Identification:	LR-1
APCD ID:	SRU-1
Facility:	Facility T Anytown, USA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation:	Permit
Emission Limits:	
VOC:	0.67 lb/1,000 gallons transferred (80 mg/L transferred)
Monitoring Requirements:	Monitor carbon adsorber outlet VOC concentration, monitor position of APCD bypass valve, conduct a leak detection and repair program.

C. Control Technology:

Carbon adsorber.

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table A.18-1. The carbon adsorber outlet VOC concentration in percent by volume as propane is continuously monitored. The selected indicator range is based on a 1-hour rolling average concentration. Periodic leak checks of the vapor recovery unit also are conducted and the position of the carbon adsorber bypass valve is monitored to ensure bypass of the control device is not occurring.

Note: Facility T also monitors parameters related to the vapor tightness of connections and tank trucks and other parameters of the vapor recovery system, but this example focuses on the monitoring performed on the carbon adsorber.

TABLE A.18-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator	Outlet VOC concentration (percent).	Equipment leaks.
Measurement Approach	Breakthrough detector (NDIR analyzer).	Monthly leak check of vapor recovery system.
II. Indicator Range	An excursion is defined as an hourly average outlet VOC concentration of 4 percent by volume (as propane) or greater. When this level is reached or exceeded, the loading rack will be shut down via an automated interlock system. An excursion will trigger an investigation, corrective action, and a reporting requirement.	An excursion is defined as detection of a leak greater than or equal to 10,000 ppm (as methane) during normal loading operations. An excursion will trigger an investigation, corrective action, and a reporting requirement. Leaks will be repaired within 15 days.
III. Performance Criteria A. Data Representativeness	The analyzer is located at the carbon adsorber outlet.	A handheld monitor is used to check for leaks in the vapor collection system during loading operations.
B. Verification of Operational Status	NA	NA
C. QA/QC Practices and Criteria	Daily zero/span drift. Adjust if drift is greater than 2.5 percent of span.	Follow procedures in 40 CFR 60, Appendix A, Method 21.
D. Monitoring Frequency	The outlet VOC concentration is monitored every 2 minutes.	Monthly.
Data Collection Procedures	The data acquisition system (DAS) collects the outlet VOC concentration every 2 minutes and calculates a rolling 1-hour average. Periods when breakthrough is detected and the interlock system shuts down the loading rack also are recorded.	Records of inspections, leaks found, leaks repaired.
Averaging period	1 hour (rolling).	None.
APCD Bypass Monitoring:	A pressure gauge on the vapor header line is used to detect if the relief valve is open. The valve opens if the pressure reaches 18 inches H_2O. The DAS records the instantaneous pressure reading every 2 minutes.	

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is a vacuum regenerative carbon adsorber used to reduce VOC emissions from a gasoline loading rack. (Note: This facility is not a major source of HAP emissions and is not subject to 40 CFR 63, Subpart R, or 40 CFR 60, Subpart XX.) The maximum throughput of the loading rack is 43,000,000 gallons per month, and the facility operates 24 hours per day, 7 days per week.

The carbon adsorber has two identical beds, one adsorbing while the other is desorbing on a 15-minute cycle. Carbon bed regeneration is accomplished with a combination of high vacuum and purge air stripping which removes previously adsorbed gasoline vapor from the carbon and restores the carbon's ability to adsorb vapor during the next cycle. The vacuum pump extracts concentrated gasoline vapor from the carbon bed and discharges into a separator. Non-condensed gasoline vapor plus gasoline condensate flow from the separator to an absorber column which functions as the recovery device for the system. In the absorber, the hydrocarbon vapor flows up through the absorber packing where it is liquefied and subsequently recovered by absorption. Gasoline product from a storage tank is used as the absorbent fluid. The recovered product is simply returned along with the circulating gasoline back to the product storage tank A small stream of air and residual vapor exits the top of the absorber column and is recycled to the on-stream carbon bed where the residual hydrocarbon vapor is re-adsorbed.

II. Rationale for Selection of Performance Indicators

A non-dispersive infrared (NDIR) analyzer is used to monitor the carbon adsorber outlet VOC concentration in percent by volume as propane and ensure breakthrough is not occurring. This monitor provides a direct indicator of compliance with the VOC limit since it continuously measures the outlet VOC concentration in percent. An interlock system is used to shut down loading operations when an excursion occurs.

A monthly leak inspection program also is performed to ensure that the vapors released during loading are captured and conveyed to the vapor recovery unit. A handheld monitor is used to detect leaks in the vapor collection system. The position of the vapor recovery unit's relief valve is monitored to ensure the control device is not bypassed.

III. Rationale for Selection of Indicator Ranges

The indicator range for the breakthrough detector was selected based on engineering calculations. The VOC emission rate can be expressed as follows (see 40 CFR 60.503):

$$E = K\frac{V \times C}{L \times 10^6}$$

where:

E = emission rate of VOC, mg/L

V = volume of air/vapor mixture exhausted, scm
C = concentration of VOC, ppm
L = volume loaded, L
K = density of calibration gas, 1.83×10^6 mg/scm for propane

Assuming 100 percent displacement of all vapors into the vapor recovery unit (e.g., if 300,000 L are loaded, 300,000 L of vapor pass through the unit) and assuming that breakthrough is occurring, it may be conservatively assumed that V is equal to L (V is actually less than L if the carbon adsorber is operating properly). Converting the volume displaced/exhausted (300,000 L) to cubic meters (300 scm) and substituting 300 scm for V, 80 mg/L for E, and 1.83×10^6 mg/scm for K gives C equal to 43,700 ppm, or 4.4 percent. Therefore, the indicator range for the outlet VOC concentration is 4 percent (rolling hourly average), to provide a reasonable assurance of compliance with the VOC limit of 80 mg/L loaded. If the hourly average outlet VOC concentration reaches or exceeds 4 percent, the unit will be shut down and loading prevented via an automated interlock system. All excursions will be documented and reported. Figure A.18-1 presents both 2-minute instantaneous (dotted line) and hourly average (solid line) outlet VOC concentration data for a typical day's operation. The outlet VOC concentration typically is less than 0.5 percent as propane.

The most recent performance test conducted showed that the average hydrocarbon emissions were 10.37 mg/liter loaded. The average outlet concentration was 0.37 percent propane by volume, and the unit's efficiency was 98.6 percent.

For the second indicator, an excursion is defined as detection of a leak greater than or equal to 10,000 ppm (as methane) during normal loading operations. This is the limit established by the applicable requirement. If a leak is detected, corrective action will be initiated, and the leak will be repaired within 15 days. All excursions will be documented and reported.

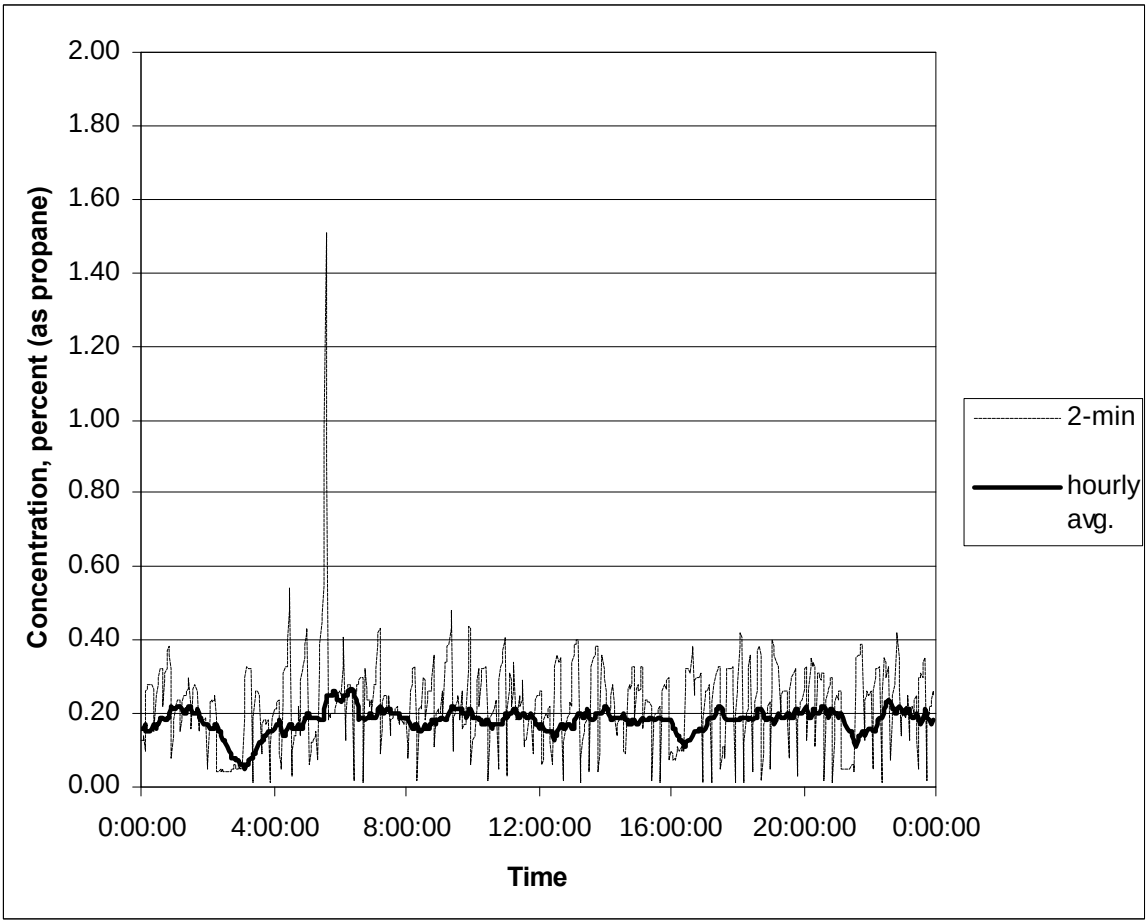

Figure A.18-1. A typical day's concentration data.

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Oklahoma Public Legal Research System

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using *CNIDR Isearch-cgi 1.20.06*

Operation Summary

Query: 27A-2-14-302

Matching Record Count: 4
Total Retrieved: 4
Interpreted Query: 27A-2-14-302
Total Database Records: 35607
Query Time: 2 seconds

Filename: 27A-2-14-302.html
Match Number: 1 of 4
Score: 100
[Previous] [Next]

§27A-2-14-302.

§27A-2-14-302.

A. Upon conclusion of its technical review of a Tier II or III application within the permitting timeframes established by rules promulgated by the Board, the Department shall prepare a draft denial or draft permit.

1. Notice of a draft denial shall be given by the Department and notice of a draft permit shall be given by the applicant.

2. Notice of the draft denial or draft permit shall be published as legal notice in one newspaper local to the proposed new site or existing facility. The notice shall identify places where the draft denial or draft permit may be reviewed, including a location in the county where the proposed new site or existing facility is located, and shall provide for a set time period for public comment and for the opportunity to request a formal public meeting on the respective draft denial or draft permit. Such time period shall be set at thirty (30) days after the date the notice is published unless a longer time is required by federal regulations promulgated as rules by the Board. In lieu of the notice of opportunity to request a public meeting, notice of the date, time, and place of a public meeting may be given, if previously scheduled.

B. Upon the publication of notice of a draft permit, the applicant shall make the draft permit and the application, except for proprietary provisions otherwise protected by law, available for public review at a location in the county where the proposed new site or existing facility is located.

[Previous] [Next]

Guidance on CAM Plan for Compressor Engines

I. Introduction

Major facilities are required to renew Part 70 permits within 5 years of the initial issuance date. For many of these facilities, permit renewal will bring into force the Compliance Assurance Monitoring (CAM) rule (40 CFR Part 64), which was issued in October 1997. The rule, an important component of the Title V permitting program, specifically requires facilities to monitor the performance of their emission control equipment. CAM plans should build on monitoring approaches that are already in place. They should discuss what parameters will be monitored, and include a monitoring frequency and operating range for each parameter that will provide reasonable assurance of compliance with requirements of the permit and any standards that apply. CAM affects only major sources with relatively large emissions.

The oil & gas industry represents a large portion of facilities that are subject to the Air Quality Division (AQD) Title V Program. The AQD has estimated / identified a number of existing oil and gas facilities that are or will be subject to the CAM rule. This fact sheet discusses issues and emission sources common to these facilities. Its focus is on compressor engines equipped with either Non-Selective Catalytic Reduction (NSCR) or catalytic oxidation. Example CAM plans for these two systems are include in the appendices.

II. CAM Applicability

The CAM rule applies to each pollutant specific emission unit (PSEU) that meets a three-part test. The PSEU must:

a. be subject to an emission limitation or standard, and
b. use a control device to achieve compliance, and
c. have pre-control emissions that exceed or are equivalent to the major source threshold.

Note that pre-control emission takes into account all federally-enforceable emissions reductions except for those resulting from control devices. For example, emission reductions that occur as a result of operating hour or throughput restrictions would be taken into account in determining potential pre-control device emissions. The rule defines "control devices" on a narrow interpretation that focuses on control equipment that removes or destroys air pollutants. This definition does not encompass all conceivable control approaches, but rather those types of control devices that may be prone to upset and malfunction, and that are most likely to benefit from monitoring of critical parameters to assure that they continue to function properly.

It is specifically worth mentioning for compressor engines that EPA agreed with a comment[1] that low NOx burners on gas-fired turbines and controllers for the adjustment of air–to-fuel ratio should be included on the list of equipment that is not considered a "control device" under CAM because this equipment neither destroys nor removes air pollutants[1]. Therefore, for compressor engines required by a permit to be equipped with air-to-fuel ratio (AFR) controllers, the agency accepts emissions after the controller as pre-control emissions for CAM applicability purposes.

Note that this does not change the definition of potential to emit for Title V permits, since it is related only to CAM applicability.

III. Required Elements of a CAM Plan

Monitoring plans are based on an assumption that there is a reasonable assurance of compliance with emissions limits so long as the emission unit is operated under the conditions anticipated, and the control equipment, which has been shown to be capable of complying, continues to be operated and maintained properly. Thus, Part 64 requires the monitoring of one or more indicators of the performance of the applicable control device and establishing appropriate ranges or designated conditions for the selected indicators. The operating ranges are established to provide a reasonable assurance of compliance for the anticipated range of operating conditions. The requirement to establish an indicator range provides the objective screening measure to indicate proper operation and maintenance of the emissions unit and the control technology. Failure to stay within the indicator range does not automatically indicate a failure to satisfy applicable requirements. However, it does indicate the need for the owner or operator to evaluate and determine whether corrective action is necessary to return operations within design parameters, and to act upon that determination as appropriate.

In summary, a CAM plan must:

a. Describe the indicators to be monitored;
b. Describe the ranges of the process to set indicator ranges;
c. Describe the performance criteria for the monitoring, including:
    1. Specifications for obtaining representative data
    2. Verification procedures to confirm the monitoring device's operational status
    3. Monitoring frequency
    4. Data averaging period;
d. Provide a justification for the use of parameters, ranges, and monitoring approach;
e. Provide emissions test data; and, if necessary,
f. Provide an implementation plan for installing, testing, and operating the monitoring device.

IV. Control Technologies for Reciprocating Internal Combustion Engines (RICE)

Reciprocating internal combustion engines (RICE) are classified according to operating conditions as stoichiometric, rich-burn, or lean-burn, based on their inlet air-to-fuel ratio and exhaust oxygen content. Stoichiometric engine operation is defined as having the chemically correct amount of air in the combustion chamber during combustion. A rich-burn engine is characterized by excess fuel in the combustion chamber during combustion and lower exhaust oxygen concentrations. A lean-burn engine, on the other hand, is characterized by excess air in the combustion chamber during combustion, which results in higher exhaust oxygen concentration[3]. In practice, a rich-burn engine is an engine operated with an exhaust oxygen content less than 4 percent by volume (any naturally aspirated engine), and a lean-burn engine is an engine operated with an exhaust oxygen content of 4 percent by volume or greater (any turbocharged engine).

Emissions characteristics of these different engine types vary according to their air-to-fuel ratio, and therefore require different emission control technologies. The following table outlines the emission control technologies available for the different engine types[4].

Engine Operation	Control Technology	Target Pollutants
Rich-burn	NSCR Catalyst (Three-way)	NOx, CO, VOC
Stoichiometric	NSCR Catalyst (Three-way)	NOx, CO, VOC
Lean-burn	Oxidation Catalyst (Two-way)	CO, VOC
	Lean-NOx Catalyst	NOx, CO, VOC
	SCR Catalyst	NOx
	Ceramic Coating	NOx, CO, VOC

This guidance will deal specifically with NSCR and oxidation catalysts, because they are the technologies most commonly used for compressor engines in the oil and gas industry.

V. CAM Plan Guidance for Non Selective Catalytic Reduction (NSCR)

A. General Description of NSCR

An NSCR system reduces NOx, CO, and hydrocarbon (VOC) emissions from a rich-burn engine when the air-to-fuel ratio is near stoichiometric (14.7 to 1). When a rich-burn engine is tuned strictly for performance, oxygen is in the 1% to 3% range. At this AFR, CO and hydrocarbon emissions are low and NOx is high, because the engine is running hot for maximum efficiency. When using an NSCR system, the engine must be operated richer so that an increase in reducing agents (CO and hydrocarbons) occurs. In addition, the NSCR must be operated at a temperature adequate to accomplish NOx reduction, typically at least 750ºF. The catalyst is designed to produce the following reactions:

$$NOx + CO \rightarrow N_2 + CO_2$$

$$NOx + CH_4 \rightarrow N_2 + CO_2 + H_2O$$

$$NOx + H_2 \rightarrow N_2 + H_2O$$

If there is too much oxygen in the exhaust, the preferential reaction in the catalytic converter is the oxidation of CO or hydrocarbon rather than the reduction of NOx. Thus, with NSCR, the oxygen concentration should always be less than 1%, and preferably under 0.5%. The air-to-fuel ratio controller uses an oxygen sensor placed in the exhaust stream near the catalyst inlet as a feedback signal to keep the AFR at the optimum set point. The sensor is particularly sensitive to oxygen concentrations below 1%.

Some conditions that can reduce catalytic activity over time are thermal degradation, poisoning, or masking. Thermal degradation is caused by sintering of the wash coat, which closes the pores, thereby reducing catalyst surface area. Sintering can occur slowly over time, or quickly if the catalyst is operated at a temperature that is too high. Too much sulfur or phosphate in the engine oil or fuel can cause poisoning of the catalyst. Masking occurs when soot is deposited on

the catalyst because the engine is burning oil. Part 70 permits typically include requirements to control sulfur content of fuel.

B. Performance Indicators and Ranges

40 CFR §64.3(a)(1) states that the owner or operator shall design the monitoring to obtain data for one or more indicators of emission control performance for the control device, any associated capture system, and processes at a pollutant-specific emissions unit. Indicators of performance may include, but are not limited to, direct or predicted emissions, process and control device parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities conducted by the owner or operator.

As a minimum requirement, the following parameters that directly affect the performance of an NSCR are chosen as performance indicators: oxygen content of the exhaust gas, exhaust gas temperature, and pressure drop across the catalyst.

a. Oxygen Content of Gas into the Catalyst

As previously discussed, the oxygen content of the engine exhaust gas indicates if the engine is running as rich as is required for proper performance of the NSCR (typically exhaust gas oxygen less than 0.5%). Therefore, oxygen content of gas into the catalyst should be selected as a performance indicator.

Oxygen content is typically measured using an oxygen sensor that creates an output voltage inversely proportionally to the oxygen content[5]. The output voltage range (typically 0.1 to 0.9 volts in conditions above 650 °F) is site-specific and must be set by using an exhaust gas analyzer to determine the set-point voltage that results in the best emission performance.[5]

In normal operation, the output voltage will vacillate around the set-point and the AFRC will adjust the step motor to bring the voltage back toward the set-point. When the voltage is above the set-point, the system is richer than desired, and the stepper position is increased to further restrict fuel flow to the carburetor. Conversely, when the sensor voltage is below the set-point, the system is leaner than desired, and the stepper position is decreased to increase fuel flow. In most cases, an alarm will be triggered if the position of a stepper valve is at the minimum travel limit (indicating the engine is too rich and the controller cannot close the valve any further) or maximum travel limit (indicating that the engine is too lean and the controller cannot open the valve any further to enrich the mixture)[5].

The minimum requirement is to monitor oxygen content of gas into the catalyst with a range of less than 0.5%. Since oxygen content is not displayed directly, each of the following three options are considered to satisfy minimum requirement:

1. Use a portable analyzer to determine the voltage range that results in compliance with permit emission limits and oxygen content of less than 0.5%. The determination should be repeated whenever the oxygen sensor is replaced. Utilize an alarm system that can notify a field office when the AFRC is unable to

bring the voltage back to the set-point, as indicated by the alarm sounding for a significant period of time (such as 30 minutes). Such excursions should trigger a site visit, corrective action, logging, and reporting in the semiannual reports.

2. Use a portable analyzer to determine the output voltage range that results in compliance with permit emission limits and oxygen content of less than 0.5%. The determination should be repeated whenever the oxygen sensor is replaced. Manually record the voltage daily during workdays to show that it remains within the predetermined range. Excursions should trigger corrective action, logging, and reporting in the semiannual reports.

3. Use a portable analyzer to determine oxygen content range that results in compliance with permit emission limits and oxygen content of less than 0.5%. The determination should be repeated whenever the oxygen sensor is replaced. Between replacements, use a portable analyzer to measure oxygen content monthly to show that it remains within the predetermined range. Excursions should trigger corrective action, logging, and reporting in the semiannual reports.

b. Exhaust Gas Temperature

As mentioned in the overview of NSCR, sintering can occur quickly if the catalyst is operated at a temperature that is too high, and the damage to the catalyst unit would lower or eliminate its effectiveness. On the other hand, a temperature that is too low will interfere with the desired chemical reactions. 40 CFR Part 63, Subpart ZZZZ requires that NSCR-equipped four-stroke rich-burn stationary RICE subject to the formaldehyde emissions standard demonstrate compliance by monitoring the catalyst inlet temperature, and maintaining it within a range of 750°F to 1,250°F. In an example CAM Plan[6] for engines equipped with NSCR, EPA also selected inlet temperature as a performance indicator with the same range. Based on this information, inlet temperature should be included as a performance indicator, with a range of 750°F to 1,250°F.

EPA's NSCR example[6] also selected outlet temperature as a performance indicator with a range of 800°F – 1,300°F. The catalyst outlet temperature indicates not only the engine exhaust temperature, but also excessive heating of the catalyst. A requirement to monitor both the catalyst inlet and outlet temperatures is intended to ensure the preferred temperature increase across the catalyst bed.

However, temperature increase across the catalyst is highly site-specific. Some engine/catalyst combinations do not exhibit a significant temperature increase. The catalytic reactions include both exothermic oxidation of CO and hydrocarbons and endothermic NOx reduction. With lower-temperature exhaust or lower hydrocarbon concentrations, a large change in temperature may not occur across the catalyst.[7] A smaller temperature change will also result if pollutant concentrations in the exhaust are low.

In addition, when 40 CFR Part 63, Subpart ZZZZ was proposed, it included the temperature rise across the catalyst as an indicator. EPA dropped this indicator in the final rule because they agreed with comments that this indicator most likely would not provide an accurate representation of how the catalyst is performing (69 FR 33493).[8]

Based on this information, the minimum requirement for exhaust temperature should be to monitor either the catalyst inlet temperature or the catalyst outlet temperature. The catalyst outlet temperature range should normally be set as $800^{o}F - 1300^{o}F$. An individual facility may make a site-specific determination of the appropriate exhaust temperature range, as justified by on-site testing and/or manufacturer's recommendation. We do not discourage facilities from monitoring temperature rise across the catalyst if appropriate for the engine's operating conditions.

c. Pressure Drop Across the Catalyst

Pressure drop across the catalyst should be used as a performance indicator, because a change in pressure drop can indicate that the catalyst is becoming fouled or channeled, and therefore lowering the effectiveness of the unit. This indicator was also selected in the EPA NSCR example[6] and 40 CFR Part 63, Subpart ZZZZ. In the preamble of the Federal Register notice for Subpart ZZZZ,[8] EPA justified its decision to require monitoring of the pressure drop across the catalyst based on information gathered from catalyst vendors that a pressure drop that deviates by more than 2 inches of water from the pressure drop measured during the initial performance test indicates that the catalyst may be damaged or fouled (69 FR 33492).

For the purpose of CAM, a benchmark pressure drop must be established. If no benchmark was previously established, the first pressure drop reading obtained after a permit with an approved initial CAM plan is issued should be used as a benchmark for existing catalyst. For fresh catalyst or reinstalled catalyst, a pressure drop reading is required immediately after the installation, and this reading should be used as the benchmark. The CAM should set an acceptable range for the pressure drop across the catalyst as a deviation of less than 2 inches of water from the benchmark.

C. Performance Criteria

The CAM Rule includes several performance criteria in order to assure that the data generated by the monitoring present valid and sufficient information on the actual conditions being monitored. The monitoring plan must meet minimum performance specifications, quality assurance and control requirements, monitoring frequency requirements, and data availability requirements.

a. Data Representativeness

The monitoring plan must include location and installation specifications (if applicable) to ensure that the data obtained are representative of the emissions or parameters being monitored. See the example in Appendix A for details.

b. Quality Assurance and Control (QA/QC)

QA/QC is required to ensure the continuing validity of the data.

The oxygen sensor should be replaced quarterly or after 2,200 hours of operation for units not in continuous operation. The AFRC should have an oxygen sensor diagnostic. When the sensor is replaced, the voltage output set-point should be redetermined by using an exhaust analyzer to show compliance with permit emission limits and oxygen content of less than 0.5%.

Exhaust gas temperature thermocouples should be visually checked quarterly and tested for performance annually. A thermocouple should have minimum accuracy within ±5ºF per manufacturer's specifications.

The pressure gauge(s) (if applicable) used to measure pressure drop across the catalyst should be calibrated quarterly. For facilities that measure pressure drop manually with water manometers or other devices, the device should be checked before measurement of the pressure drop. The pressure drop measurements should be accurate within ±0.25 in. H_2O.

c. Inspection and Preventive Maintenance (IPM)

An IPM plan must be submitted with the CAM Plan. IPM should be performed on the emissions control and monitoring system, including the catalyst, thermocouples, oxygen sensor, and pressure gauge(s) (if applicable).

Engine emissions are directly influenced by a number of factors that affect combustion temperature and efficiency, including the engine timing, the type and heat-content of the fuel, the ambient air temperature and relative humidity, the fuel temperature, and changes in load. Therefore, the IPM plan should also address performance of the engine and the air-to-fuel ratio controller.

For engines utilizing NSCR, an AFRC is used to automatically adjust for changes in air and fuel conditions. However, the range of adjustment of most AFRCs is limited. In some cases, the AFRC is unable to fully compensate if the load or fuel heat-content changes significantly, which typically results in the AFRC setting off an alarm. Inability to compensate may result in the engine prematurely detonating or misfiring. Corrective action may be required, such as adjusting the engine timing to a different setting at which the AFRC can adequately adjust the air-to-fuel ratio over the expected range of fuel heat content and loading.

The timing adjustment moves the ignition event to later or earlier in the power stroke, when the piston has begun moving downward. Because the combustion chamber volume is not at its minimum or maximum, the peak flame temperature will be either reduced or increased. This temperature change also changes the amount of thermal NOx formed. The timing setting is site-specific, based on the fuel heat-content and the expected load on the engine. Once the timing is set, the AFRC is adjusted so that it can compensate for the range of other expected changes in air and fuel over which the engine is expected to operate. If significant changes in fuel heat-content or loading occur, the timing must be reset and the AFRC again adjusted to the new-operating conditions. These procedures should be covered in the IPM Plan and noted in the CAM Plan.

Records must be maintained to document weekly and monthly IPM. An example IPM plan has been included in Appendix A.

d. Frequency of Monitoring and Data Collection Procedures

The CAM Rule requires that the monitoring frequency be designed to obtain data at intervals that are, at a minimum, commensurate with the time period over which an excursion from an indicator range is likely to be observed. The rule states that for larger emissions units, monitoring data must be collected four or more times per hour. This applies to those units that, by themselves, are classified as a major source despite controls. For other emissions units, the monitoring must include some data collection at least once per 24-hour period. See 40 CFR §64.3(b)(4)(ii) & (iii) for details.

(1) Oxygen Content

Oxygen content should be monitored continuously by oxygen sensor voltage output. Recording frequency is based on the chosen option as listed Section V.B.a.

(2) Catalyst Inlet and/or Outlet Temperature

Catalyst inlet or outlet temperature should be monitored continuously. 40 CFR Part 63, Subpart ZZZZ also requires continuous monitoring and recording for catalyst inlet temperature. Under the CAM plan, data should be recorded continuously (with strip chart or digital data recorder, etc.) for large units (after-control emission exceeding 100 TPY) and the 4-hour rolling average of the valid data used to compare against the indicator range. For other units with controlled emissions less than 100 TPY, recording the temperature once per day during workdays is acceptable.

(3) Pressure Drop

40 CFR Part 63, Subpart ZZZZ requires that pressure drop across the catalyst be measured monthly. 40 CFR §64.4(b) states that if an owner or operator relies on "presumptively acceptable monitoring," no further justification for that monitoring is necessary, other than an explanation of how that monitoring applies to the unit in

question. Presumptively acceptable monitoring includes monitoring included for standards that are exempt from this part under §64.2(b)(1)(i): "Emission Limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the ACT." Monitoring required by MACT Standards is presumptively acceptable monitoring for CAM, so monthly measurement for pressure drop is acceptable.

VI. CAM Plan for Oxidation Catalyst

A. General Description of Oxidation Catalyst

An Oxidation Catalyst system is used to reduce emissions of CO, formaldehyde (CH_2O), and unburned hydrocarbons. The oxidation catalyst system is designed mainly for emission reductions from a lean-burn engine, which typically has an air-to-fuel ratio greater than 14.7 to 1. Oxygen contents in the exhaust gas of the lean-burn engine are usually more than 4%, and are typically in a range of 5% to 15%. In order for an oxidation catalyst system to accomplish CO reduction, the exhaust temperature from the lean-burn engine should be at least 450ºF. Generally, the following reactions take place in the oxidation catalyst:

$$CO + \tfrac{1}{2}O_2 \rightarrow CO_2$$

$$CH_2O + O_2 \rightarrow CO_2 + H_2O$$

$$NOx + H_2 \rightarrow N_2 + H_2O$$

$$C_XH_Y + O_2 \rightarrow CO_2 + H_2O$$

Similar to NSCR catalysts, the performance of the oxidation catalyst is affected by catalytic deactivation, thermal degradation, poisoning, sintering, or masking.

B. Performance Indicators and Ranges

a. Exhaust Gas Temperature

As mentioned in the General Description, oxidation catalyst requires minimum inlet temperature of 450ºF to reduce formaldehyde emissions. Therefore, the typical minimum inlet temperature for the oxidation catalyst should be at least 450ºF. 90% of CO reduction can be achieved at 450ºF and 60% to 80% of CH_2O reduction can be achieved at 550 ºF according to a catalyst manufacturer's report. EPA's "MACT Compliance Handbook for RICE[9]" requires a catalyst inlet temperature greater than or equal to 450ºF, and less than or equal to 1,350ºF. 1,350ºF is a typical temperature used as an upper limit to assure both proper oxidation of unburned hydrocarbons and protection of the oxidation catalyst.

Monitoring exhaust temperature at either the inlet or outlet of the catalytic unit can ensure proper performance of the catalyst. The temperature rise across oxidation catalyst could be set as an indication of catalyst performance. However, the temperature rise is significantly affected by ambient conditions and some oxidation catalysts show small temperature rise. Therefore, the minimum requirement is to monitor either the catalyst inlet, with a range of 450°F to 1,350°F, or outlet temperature, with a range of 500°F to 1,350°F. An individual facility may make a site-specific determination of the appropriate exhaust temperature range, as justified by on-site testing and/or manufacturer's recommendation.

b. Pressure Drop Across the Catalyst

As with NSCR, the pressure drop across the catalyst should be used as a performance indicator. The rationale for this performance indicator is the same as that for the NSCR catalyst. If the pressure drop across the catalyst deviates by more than 2 inches of water from the pressure drop across the catalyst measured during the initial performance test, the catalyst may be damaged, fouled, or channeled.

For the purpose of CAM, a benchmark pressure drop must be established. If no benchmark was previously established, the first pressure drop reading obtained after a permit with an approved initial CAM plan is issued should be used as the benchmark for existing catalyst. For fresh catalyst or reinstalled catalyst, a pressure drop reading is required immediately after installation, and should be used as the benchmark. The CAM should set an acceptable range for the pressure drop across the catalyst as a deviation of less than 2 inches of water from the benchmark.

C. Performance Criteria

The general requirements for performance criteria are the same as those for NSCR. This section describes any minimum performance specification, quality assurance and control requirements, monitoring frequency requirements, and data availability requirements that are specific to oxidation catalytic reduction.

a. Data Representativeness

See the example in Appendix B for details of location and installation specifications designed to ensure that the data obtained are representative of the emissions or parameters being monitored.

b. Quality Assurance and Control (QA/QC)

QA/QC is required to ensure the continuing validity of the data.

Exhaust gas temperature thermocouples should be visually checked quarterly and tested for performance annually. A thermocouple should have minimum accuracy within ±5°F.

The pressure gauge(s) (if applicable) used to measure pressure drop across the catalyst should be calibrated quarterly. For facilities that measure pressure drop manually with water manometers or other devices, the device should be checked before measurement of the pressure drop. The pressure drop measurements should be accurate within ±0.25 in. H_2O.

c. Inspection and Preventive Maintenance (IPM)

An IPM plan must be submitted with the CAM Plan. IPM should be performed on the engine and emissions control and monitoring systems, including the catalyst, thermocouples and pressure gauge(s). Records must be maintained to document weekly and monthly IPM. An example IPM plan has been included in Appendix B.

d. Frequency of Monitoring and Data Collection Procedures

Frequency of monitoring and data collection for catalyst inlet and/or outlet temperatures and pressure drop across the oxidation catalyst are similar to NSCR (see the "Frequency of Monitoring and Data Collection Procedures" section for NSCR).

(1). Catalyst Inlet and/or Outlet Temperature

Catalyst inlet or outlet temperature should be monitored continuously. 40 CFR Part 63, Subpart ZZZZ also requires continuous monitoring and recording for catalyst inlet temperature. Under the CAM plan, data should be recorded continuously (with strip chart or digital data recorder, etc.) for large units (after-control emission exceeding 100 TPY) and the 4-hour rolling average of the valid data used to compare against the indicator range. For other units with controlled emissions less than 100 TPY, recording the temperature once per day during workdays is acceptable.

(2). Pressure Drop

Similar to the rationale for monitoring pressure drop in the NSCR section, monthly measurement for pressure drop across the oxidation catalyst is acceptable for CAM purposes.

REFERENCES

1. Compliance Assurance Monitoring Rulemaking (40 CFR Parts 64, 70, and 71), Responses to Public Comments (Part III). Clean Air Act Information Network, 10/2/1997.

2. Compliance Assurance Monitoring; Final Rule Notice (62 FR 54900, 10/22/97).

3. State of Art (SOTA) Manual for Reciprocating Internal Combustion Engines. Department of Environmental Protection, State of New Jersey, 2003.

4. Emission Control Technology for Stationary Internal Combustion Engines, Status Report. Manufacturers of Emission Controls Association, July 1997.

5. Altronic Air/Fuel Ratio Controller Operating Manuals, http://www.altronicinc.com.

6. Example Compliance Assurance Monitoring: Catalyst for NOx Control – Facility G. EPA Document.

7. How to Apply Non-Selective Catalytic Reduction Systems to Rich Burn Engines Successfully. Southern California Gas Company, Presented at 2002 CMRC Gas Machinery Conference, October 7-9, 2002.

8. National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines; Final Rule (69 FR 33474, 6/15/2004).

9. MACT Compliance Handbook for RICE NESHAP, OAQPS, US EPA, July, 2004

10. Technical Guidance Document: Compliance Assurance Monitoring. U.S. Environmental Protection Agency, August 1998.

11. AP 42, Fifth Edition, Volume I, Chapter 3: Stationary Internal Combustion Sources.

Appendix A: Example CAM Plan for Non Selective Catalytic Reduction (NSCR)

Note: This is a sample CAM Plan. Indicators and indicator ranges were selected as minimum requirement based on our research of EPA documents and technical papers. The plan includes a Monitoring Approach Justification and a sample Inspection and Preventive Maintenance Plan. However, a facility's CAM Plan should be customized to reflect actual site conditions. Indicators and indicator ranges included in the monitoring approach should be determined during testing and refined during periodic monitoring. AQD expects CAM plans to have tighter acceptable temperature ranges, based on actual site conditions. The agency will also consider alternative monitoring methods, if solid documentation is provided that demonstrates a link between proper operation, emissions, and the proposed monitoring.

I. Background

A. Emissions Unit

Description:	Rich Burn Natural Gas Compressor Engines
AQD ID:	C1, C2
Facility:	Compressor Station Any town, OK

B. Applicable Requirement, Emission Limits, and Monitoring Requirements

Requirement:	AQD Permit No. 99-XXX-TVR
Emission limits:	
NOx:	2.0 g/hp/hr
CO	3.0 g/hp/hr
Monitoring requirements:	Oxygen percent of gas into catalyst (O_2 %), Pressure drop across catalyst, temperature into or out of catalyst, inspection and preventive maintenance program

C. Control Technology:

Non-selective catalytic reduction (NSCR w/AFRC)

II. Monitoring Approach

The key elements of the monitoring approach for both engines are presented in Table A.

III. Response to Excursion

Excursions outside of the indicator ranges will trigger an inspection, corrective action, and reporting. Maintenance personnel will inspect the compressors, the catalytic converters, and the air-to-fuel ratio controllers within 24 hours of receiving notification of an excursion and make

needed repairs as soon as practicable. See Table A for additional details. Operation will return to normal upon completed corrective action.

TABLE A. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2	Indicator No. 3*	Indicator No 4*
I. Indicator	O_2 from engines	Pressure drop across the catalyst.	Temperature of exhaust gas into catalyst.	Temperature of exhaust gas out of catalyst.
Measurement Approach	O_2 concentration into the catalyst is measured continuously using an in-line O_2 sensor.	Pressure drop across the catalyst beds is measured monthly using a differential pressure gauge.	Exhaust gas temperature is measured continuously using an in-line thermocouple.	Exhaust gas temperature is measured continuously using an in-line thermocouple.
II. Indicator Range	The indicator range is O_2% < 0.5% Excursion is an alarmed event lasting 30 minutes or longer. Excursions trigger corrective action, logging and reporting in semiannual report.	The indicator range is a pressure drop deviation of less than 2 in. H_2O from the benchmark. Excursions trigger corrective action, logging and reporting in semiannual report	The indicator range is above 750°F, but lower than 1,250°F. Excursions trigger corrective action, logging and reporting in semiannual report.	The indicator range is above 800°F, but lower than 1,300°F. Excursions trigger corrective action, logging and reporting in semiannual report.
III. Performance Criteria A. Data Representativeness	Observations are performed at the engine exhaust while the engine is operating.	Pressure drop across the catalyst is measured at the catalyst inlet and exhaust. The minimum accuracy of the device is ±0.25 in. H_2O.	Temperature is measured at the inlet to the catalyst by a thermocouple. The minimum accuracy is ±5°F.	Temperature is measured at the outlet of the catalyst by a thermocouple. The minimum accuracy is ±5°F.
B. QA/QC – Practices and Criteria	O_2 sensor replaced quarterly.	Pressure gauge calibrated quarterly. Pressure taps checked monthly for plugging.	Thermocouple visually checked quarterly and tested annually.	Thermocouple visually checked quarterly and tested annually.
C. Monitoring Frequency	O_2 percent monitored continuously.	Pressure drop is measured monthly.	Temperature is measured continuously.	Temperature is measured continuously.
D. Data Collection Procedures	O_2 is measured whenever the oxygen sensor is replaced. Records are maintained to document alarmed events and any required maintenance.	Records are maintained to document monthly readings and any required maintenance.	A strip chart records the temperature continuously.	A strip chart records the temperature continuously.
E. Averaging period	None, not to exceed maximum.	None, not to exceed maximum.	4-hour rolling average.	4-hour rolling average.

*Minimum requirement is to include at least one of these two indicators.

Monitoring Approach Justification

I. Background

The monitoring approach outlined here applies to the non-selective catalysts (NSCR) on compressor engines C1 and C2 at this facility. The NSCR lowers NO_x, as well as CO, CH_2O, and hydrocarbon emissions. The catalysts are passive units and have no mechanical components.

II. Rationale for Selection of Performance Indicators

The oxygen content of the engine exhaust gas was selected as a performance indicator because the gas must have less than 0.5 percent oxygen as it enters the catalyst. Oxygen can interfere with proper reactions and oxygen content indicates if the engine is running rich as is required. Oxygen content is typically measured using an oxygen sensor that creates an output voltage inversely proportionally to the oxygen content.

The pressure drop across the catalyst is measured monthly. A significant change in pressure drop from the benchmark can indicate that the catalyst is becoming fouled, slowing gas flow through the unit, and lowering the effectiveness of the unit.

Temperature into or out of the unit is measured because temperature excursions can indicate problems with engine operation and can prevent the chemical reduction from taking place in the catalyst bed. An exhaust gas temperature that is too low reduces the activity of the intended chemical/catalyst reaction. A temperature that is too high can indicate engine problems and can damage the catalyst unit.

Implementation of an engine and catalyst inspection and preventive maintenance (IPM) program provides assurance that the engine and catalyst are in good repair and are being operated as anticipated. Once per week, proper operation of the engine is verified to ensure that the catalysts aren't being fouled or damaged. Proper operation of the engine also facilitates catalyst reactions. Other items on the daily IPM checklist include inspecting the air-to-fuel ratio controller, visual inspection of probes to ensure there is no clogging, and inspection of temperature gauges and chart recording devices. The inspection and preventive maintenance plan contains a schedule for replacing oxygen sensors quarterly or every 2,200 hours of operation.

III. Rationale for Selection of Indicator Ranges

The output voltage range (typically 0.1 to 0.9 volts above 650°F) is site-specific and must be set by using an exhaust gas analyzer to determine the set-point voltage that results in the best emission performance. An alarm will be triggered if the position of an AFRC stepper valve is at the minimum travel limit (indicating the engine is too rich and the controller cannot close the valve any further) or maximum travel limit (indicating that the engine is too lean and the controller cannot open the valve any further to enrich the mixture). The field office will receive notification when the alarm sounds for 30 minutes. Such excursions should trigger corrective action, logging, and reporting in the semiannual reports.

The indicator range for the catalyst pressure drop is a pressure drop that deviates less than 2 inches of H_2O from the benchmark. This range was selected based on the manufacturer's specifications. A change in pressure drop indicates fouling of the catalyst and requires either cleaning or replacing of the catalyst bed.

Each catalyst bed is designed to work optimally at recommended temperatures. The temperature ranges selected are based on the catalyst manufacturer's suggested operating parameters for optimal chemical reaction.

The most recent periodic monitoring, using AQD's approved portable monitoring protocol, was conducted on July 8-9,2004. During this test, the average measured NOx emissions were 1.6 g/hp/hr for engine C1 and 1.7 g/hp/hr for engine C2 (both were below the compliance limit of 2.0 g/hp/hr). Oxygen content from the engine exhaust averaged 0.2 percent during testing. Temperature averaged 1,000˚F for the inlet and 1,100˚F for the outlet temperature. Pressure drop across the unit averaged 0.8 inches of H_2O. This data point will serve as the benchmark for monitoring changes in the pressure drop. The complete test results are documented in the test report.

Inspection and Preventive Maintenance Plan

The following is an inspection and preventive maintenance plan for engines equipped with NSCR. The plan is designed to ensure optimum operation of the converters, avoid situations that could cause converter damage and identify problems in a timely manner.

I. Engine Operations

Proper engine operation is critical to the performance of catalytic converters. Emissions are directly influenced by a number of factors that affect combustion temperature and efficiency, including the engine timing, the type and heat-content of the fuel, the ambient air temperature and relative humidity, the fuel temperature, and changes in load. An Air-to-Fuel Ratio Controller (AFRC) is used to automatically adjust for changes in these factors. However, the range of adjustment of most AFRCs is limited. Each engine is equipped with an alarm system that sounds if the AFRC is unable to fully compensate for significant changes in the load or fuel heat-content that may result in the engine prematurely detonating or misfiring. If an engine misfires, it produces high catalyst temperatures because the unburned air/fuel mixture burns when it contacts the catalyst. Several misfiring cylinders can produce enough heat to cause permanent damage to the catalyst.

Preventive Maintenance: Engines will be checked weekly for proper operation and for misfiring conditions. Corrective action may include adjusting the engine timing to a different setting at which the AFRC can adequately adjust the air-to-fuel ratio over the expected range of fuel heat content and loading. The timing setting is site-specific, based on the fuel heat-content and the expected load on the engine. Once the timing is set, the AFRC is adjusted so that it can compensate for the range of other expected changes in air and fuel over which the engine is expected to operate. If significant changes in fuel heat-content or loading occur, the timing must be reset and the AFRC again adjusted to the new operating conditions.

II. Over-Temperature System

The converter is equipped with an over-temperature system that protects the catalyst from excessive temperature conditions caused by engine misfires.

Preventive Maintenance: The catalyst over-temperature system will be tested annually to ensure it is working.

III. Exhaust Temperature

For efficient converter operations, the NSCR inlet gas must be above 750ºF at all times, with a maximum of 1,250ºF; or the NSCR outlet gas must be above 800ºF at all times, with a maximum of 1,300ºF.

Preventive Maintenance: The thermocouples measuring the exhaust temperature will be tested annually. The thermocouple probes will be visually inspected quarterly.

IV. Air-to-Fuel Ratio Controller

The air-to-fuel ratio controllers are used in conjunction with catalytic converters to control the oxygen content of the exhaust. The air/fuel ratio controllers are set to control oxygen content to less than 0.5%.

Preventive Maintenance: The air-to-fuel ratio set-points will be checked and adjusted quarterly and the oxygen sensors will be replaced on an as-needed basis, but at least quarterly or every 2200 hours of operation. The controller will be checked weekly to ensure that the alarm set-points are correct.

V. Performance Monitoring

Catalyst temperature will be used to monitor catalyst performance.

Preventive Maintenance: A portable analyzer will be used quarterly (semiannually or annually) to test the NOx and CO emission rates in the exhaust gas.

Appendix B: Example CAM Plan for Oxidation Catalyst

Note: This is a sample CAM Plan. Indicators and indicator ranges were selected as minimum requirement based on our research of EPA documents and technical papers. The plan includes a Monitoring Approach Justification and a sample Inspection and Preventive Maintenance Plan. However, a facility's CAM Plan should be customized to reflect actual site conditions. Indicators and indicator ranges included in the monitoring approach should be determined during testing and refined during periodic monitoring. AQD expects CAM plans to have tighter acceptable temperature ranges, based on actual site conditions. The agency will also consider alternative monitoring methods, if solid documentation is provided that demonstrates a link between proper operation, emissions, and the proposed monitoring.

I. Background

A. Emissions Unit

Description:	Lean Burn Natural Gas Compressor Engines
AQD ID:	CE1, CE2
Facility:	Compressor Station Any town, OK

B. Applicable Requirement, Emission Limits, and Monitoring Requirements

Requirement:	AQD Permit No. 99-XXX-TVR
Emission limits:	
CO	3.0 g/hp/hr
CH_2O	0.18 g/hp/hr
Monitoring requirements:	Pressure drop across catalyst, temperature into or out of catalyst, inspection and preventive maintenance program

C. Control Technology:

Oxidation catalyst

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table B.

III. Response to Excursion

A. Excursions outside of the indicator ranges will trigger an inspection, corrective action, and reporting. Maintenance personnel will inspect the compressors and the catalytic converters within 24 hours of receiving notification of an excursion and make needed repairs as soon as practicable. See Table B for additional details. Operation will return to normal upon completed corrective action.

TABLE B MONITORING APPROACH

	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator	Pressure drop across the catalyst.	Temperature of exhaust gas into catalyst.	Temperature of exhaust gas out of catalyst.
Measurement Approach	Pressure drop across the catalyst beds is measured monthly using a differential pressure gauge.	Exhaust gas temperature is measured continuously using an in-line thermocouple.	Exhaust gas temperature is measured continuously using an in-line thermocouple.
II. Indicator Range	The indicator range is a pressure drop deviation of less than 2 in. H_2O from the benchmark. Excursions trigger corrective action, logging and reporting in semiannual report	The indicator range is above 450ºF, but lower than 1,350ºF. Excursions trigger corrective action, logging and reporting in semiannual report.	The indicator range is above 500ºF, but lower than 1,350ºF. Excursions trigger corrective action, logging and reporting in semiannual report.
IV. <u>Performance Criteria</u> A. Data Representativeness	Pressure drop across the catalyst is measured at the catalyst inlet and exhaust. The minimum accuracy of the device is ±0.25 in. H_2O.	Temperature is measured at the inlet to the catalyst by a thermocouple. The minimum accuracy is ±5ºF.	Temperature is measured at the outlet of the catalyst by a thermocouple. The minimum accuracy is ±5ºF.
B. QA/QC Practices and Criteria	Pressure gauge calibrated quarterly. Pressure taps checked monthly for plugging.	Thermocouple visually checked quarterly, and tested annually.	Thermocouple visually checked quarterly, and tested annually.
C. Monitoring Frequency	Pressure drop is measured monthly.	Temperature is measured continuously.	Temperature is measured continuously.
D. Data Collection Procedures	Records are maintained to document monthly readings and any required maintenance.	A digital data recorder collects the temperature continuously.	A digital data recorder collects the temperature continuously.
E. Averaging period	None, not to exceed maximum.	4-hour rolling average.	4-hour rolling average.

Monitoring Approach Justification

I. Background

The monitoring approach outlined here applies to the oxidation catalysts on compressor engines CE1 and CE2 at this facility. The oxidation catalyst lowers CO, as well as CH_2O, NOx, and hydrocarbon emissions. The catalysts are passive units and have no mechanical components.

II. Rationale for Selection of Performance Indicators

The pressure drop across the catalyst is measured monthly. A significant change in pressure drop from the benchmark can indicate that the catalyst is becoming fouled, slowing gas flow through the unit, and lowering the effectiveness of the unit.

Temperature into or out of the unit is measured because temperature excursions can indicate problems with engine operation and can prevent the chemical reduction from taking place in the catalyst bed. An exhaust gas temperature that is too low reduces the activity of the intended chemical/catalyst reaction. A temperature that is too high can indicate engine problems and can damage the catalyst unit.

Implementation of an engine and catalyst inspection and preventive maintenance (IPM) program provides assurance that the engine and catalyst are in good repair and are being operated as anticipated. Once per week, proper operation of the engine is verified to ensure that the catalysts aren't being fouled or damaged. Proper operation of the engine facilitates catalyst reactions. Other items on the daily IPM checklist include visual inspection of probes to ensure there is no clogging, and inspection of temperature gauges and chart recording devices.

III. Rationale for Selection of Indicator Ranges

The indicator range for the catalyst pressure drop is a pressure drop that deviates less than 2 inches of H_2O from the benchmark. This range was selected based on the manufacturer's specifications. A change in pressure drop indicates fouling of the catalyst and requires either cleaning or replacing of the catalyst bed.

Each catalyst bed is designed to work optimally at recommended temperatures. The temperature ranges selected are based on the catalyst manufacturer's suggested operating parameters for optimal chemical reaction.

Inspection and Preventive Maintenance Plan

The following is an inspection and preventive maintenance plan for engines equipped with an oxidation catalyst. The plan is designed to ensure optimum operation of the catalyst, avoid situations that could cause the catalyst damage and identify problems in a timely manner.

I. Engine Operations

Proper engine operation is critical to the performance of an oxidation catalyst. If an engine misfires, it produces high catalyst temperatures because the unburned air/fuel mixture burns when it contacts the catalyst. Several misfiring cylinders can produce enough heat to cause permanent damage to the catalyst.

Preventive Maintenance: Each engine will be checked weekly for proper operation and for misfiring conditions.

II. Over-Temperature System

The oxidation catalyst is equipped with an over-temperature system that protects the catalyst from excessive temperature conditions caused by engine misfires.

Preventive Maintenance: The catalyst over-temperature system will be tested quarterly to ensure it is working.

III. Exhaust Temperature

For efficient oxidation catalyst operations, the catalyst inlet gas must be above 450ºF at all times, with a maximum of 1,350ºF; or the catalyst outlet gas must be above 500ºF at all times, with a maximum of 1,350ºF.

Preventive Maintenance: The thermocouples measuring the exhaust temperature will be tested annually. The thermocouple probes will be visually inspected quarterly.

IV. Performance Monitoring

Catalyst temperature will be used to monitor catalyst performance.

Preventive Maintenance: A portable analyzer will be used quarterly (semiannually or annually) to test the NOx and CO emission rates in the exhaust gas.

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **February 6, 2006**

TO: Dawson Lasseter, P.E., Chief Engineer

THROUGH: Grover Campbell, P.E., Existing Source Permits Section

THROUGH: Phil Martin, P.E., New Source Permits Section

THROUGH: Peer Review

FROM: Eric L. Milligan, P.E., Engineering Section

SUBJECT: Evaluation of Permit Application No. **2001-272-O**
Jetta Corporation
Edmond Manufacturing Facility (SIC Code 3088)
425 Centennial Boulevard, Edmond, Oklahoma
SW/4 of Section 2, T13N, R3W, Oklahoma County
Directions: From Oklahoma City take I-35 north to Edmond; Turn west on West 33rd Street, then north on South Kelly Avenue, and finally east on Centennial Boulevard, the facility is on the north side of the road.

SECTION I. INTRODUCTION

Jetta Corporation has submitted an application for a "synthetic minor" operating permit. The facility is currently operating under Permit No. 96-468-O. The company has operated since 1986, but expanded in 1996 to include the manufacturing of hot tubs and spas at the same location as their current jetted bathtub and hydrotherapy manufacturing facility. This facility emitted more than 10 TPY of a single HAP (styrene) after the major source deadline and was considered a major source. This permit will establish emission limits to keep the facility a minor source.

SECTION II. FACILITY DESCRIPTION

Jetta Corporation produces jetted bathtubs and sink bowls/shower pans. Manufacturing of the tubs and sink bowls/shower pans are described below.

Tub Manufacturing

An acrylic sheet is placed in an electric oven to heat the material. A carriage is used to slide the sheet in. The tub "tool" (form/mold) is pressed onto the sheet and a vacuum sucks it up into the mold or formed-shaped by a vacuum. The vacuuming takes place for two minutes and then air is injected through to separate the tool from the newly formed tub. The tub is then cooled with fans

for about four minutes before it is taken out of the machine. It is then taped up and moved to the tub room where it is stored until there is an order. The only chemicals used in this part are a little bit of baby powder to make the acrylic sheets slide better, some enamel 3812 reducer, and mold wax.

When an order is placed the tub moves from the tub storage room to the glassing room. The tubs are first cleaned with water. Resin used for spraying is stored in a 6,200-gallon tank (TM-1, P1) where it is then pumped into a smaller 320-gallon tank (TM-5, P5) and mixed with filler and pigment. The sprayer used is a Fit Chop sprayer made by Magnum Venus Industries. It is a low pressure (15-30 psia), non-atomized unit. There are a total of three coats sprayed on each tub. The first coat, the tack coat, contains resin without the chopped fiberglass. The second coat is a base coat with the full spray using resin and fiberglass. The third coat is the main coat and it uses resin and fiberglass. In this operation the resin, catalyst, pigment, and filler are used for spray-on. This is where the majority of the styrene emissions come from (TM-2, P2). Acetone is used for cleaning tools. This operation utilizes a filter bank of mat filters.

Other side productions in the tub manufacturing facility include the wood shop where shelves and bases for the tub are made, a repair room where tubs are painted and repaired, and the tools room. In the repair room, paint and repair epoxy are used. In the tool room (TM-3, P3), original tub designs and mold fabrication take place. In this room they do hand layup resin work using Airtool 2001 resin. Other chemicals used here are acetone, wax, and gelcoat for the top layer.

After the tubs have been glassed, they are moved to the cut down room (TM-3, P3) where the edges are chopped for clean installation. In the cut down room, there are filers used for dust control (48 individual filters). No chemicals are used here. The tubs are then moved to the jetting/drilling area (TM-4, P4) where holes are drilled in the tubs for jets. Some silicone is used as a sealant. Next, in the plumbing area all the proper plumbing is installed. PVC glue is used in this area. After plumbing is complete, tubs have the edge or flange surface ground flat for precision installation. The motor is then installed and each tub is water tested. From there they go to the spray foam booth where a two part spray foam insulating foam is applied. Nitrogen is used as a propellant for the spray gun and some adhesive is used. After foaming, the tubs go to the cleaning area. Some Jetta Blend #1 buffering compound is used in this area. After this point, the tubs are wrapped up in plastic and tape and are ready to be shipped.

Sink Bowl and Shower Pan Manufacturing

The bowl manufacturing area is located in Buildings 1 and 2. The material used is an aluminum trihydrate (ATH) filled polyester resin. The ratio is approximately 1/3 resin to 2/3 ATH. The resin is stored in a 7,000-gallon resin tank (SS1, P6). The ATH/resin mixture is blended with pigments to provide the desired color and crushed aggregate polyester chips to provide the desired appearance. The ATH and resin are blended using a Gisko commercial blender (SS6, P11). Additional components are blended in open containers using a drill mixer (SS3, P8). On the final blend, an air release and wetting agent are mixed prior to catalyzation. When the catalyst is added, the containers are placed in a vacuum mixer (SS2, P7) for approximately five minutes. After removal from the vacuum mixer, layout and setup is done using a sink cavity mold. Styrene monomer is used to thin excessively viscous materials. A limited amount of sanding is done for finishing using a 50 grit sandpaper and is captured by a bank of 24 filters.

Other chemicals used in this process include a 90/10 blend of acetone and isopropyl alcohol used to clean the mixer agitators, a super flush solution to clean the mixing buckets, and styrene monomer to thin excessively viscous materials.

SECTION III. EQUIPMENT

Tub Manufacturing Area

EU	Point	Description	Const. Date
TM-1	P1	6,200 Gallon Resin Storage Tank	1997
TM-2	P2	Resin/Fiberglass Spray Applicators	1999
TM-3	P3	Tool Manufacturing	1997
TM-4	P4	Tub Finish Operations	1997
TM-5	P5	Resin/Filler Mixing Tank	1996

Sink Bowls/Shower Pan Manufacturing Area

EU	Point	Description	Const. Date
SS-1	P6	7,000 Gallon Resin Storage Tank	1998
SS-2	P7	Gruber & Gisko Vacuum Mixers	1998
SS-3	P8	Open Hand Mixers	1997
SS-4	P9	Resin Laying and Curing	1998
SS-5	P11	Gisko Mixer	1998

SECTION IV. EMISSIONS

Emissions from the facility mainly consists of Hazardous Air Pollutants (HAP) (mainly styrene) and VOC. Non-HAP VOC emissions are based on the maximum non-HAP VOC content. VOC as defined in Subchapter 37 excludes acetone. Materials with a vapor pressure of less than 0.01 mmHg are not considered to be emitted to the atmosphere.

Emissions from the tanks are based on AP-42 (9/97), Section 7.1 and were calculated using the TANKS4.0 program. Fugitive emissions are based on EPA's *1995 Protocol for Equipment Leak Emission Estimates* (EPA-453/R-95-017), SOCMI average emission factors, an estimated percentage of VOC, and an estimated equipment count.

HAP emissions from the resins and gelcoat originate from several points located within the facility but are primarily generated in the Tub Manufacturing Area and the Sink Bowl and Shower Pan Manufacturing Area during resin or gel coat application. As required in §§ 63.5796, 63.5799(a)(1) and (b), and 63.5810(a)(1), to calculate organic HAP emission factors for specific open molding process streams, a facility must use the equations in Table 1 of Subpart WWWW which is reproduced on the following pages. HAP emission estimates from the use of

resins and gel coats were then calculated using the required NESHAP, Subpart WWWW, emission factors that were calculated using the equations in Table 1 of Subpart WWWW.

Facility Wide Styrene Emissions from Resin/Gelcoat Usage

Resin Description (Styrene %)	Method Of Application	Usage (lb/yr)	Factor (lb/Ton Resin)	Emissions (TPY)
Tub Manufacturing Facility				
Resin 733-6914 (42.5% HAP)[1]	Non-Atom.	431,974	75.1[2]	8.110
Gel Coat (40.0% HAP)	Atom.	225	439.2[3]	0.025
Aerotool 2001 (30.0% HAP)	Atom.	228	68.4[4]	0.004
Stypol 040-4908 (47.44% HAP)	Atom.	880	317.4[4]	0.070
Duraglas (20.0% HAP)	Manual	71	50.4[5]	0.001
Resin SIL95BA-40 (38.0% HAP)	Manual	90	111.6[5]	0.003
Resin SIL17BA-628 (33.0% HAP)	Manual	45	83.0[5]	0.001
Sink Bowl/Shower Pan Facility				
Resin 748-3645 (33.9% HAP)	Manual	3,591	88.1[5]	0.079
Resin 748-2465 (41.9% HAP)	Manual	77,000	62.1[6]	1.197
Total				**9.490**

[1] – Vapor Suppressed Resin with a manufacturer's VSE factor of 0.56.
[2] – Factor calculated from the nonatomized mechanical resin application for vapor-suppressed resins equation.
[3] – Factor calculated from the atomized spray gel coat application for nonvapor-suppressed gel coats equation.
[4] – Factor calculated from the atomized mechanical resin application for nonvapor-suppressed resins equation.
[5] – Factor calculated from the manual resin application for nonvapor-suppressed resins equation.
[6] – Factor calculated from the manual resin application vacuum bagging/closed mold curing without roll-out equation and using a factor equal to the ratio of the percent of styrene (38.9%) to the percentage of total HAP.

Facility Wide Speciated HAP Emissions

Pollutant	CAS#	Emissions	
		lb/hr	TPY
Methyl Methacrylate	80-62-6	0.33	0.34
Ethyl Benzene	100-41-4	0.05	0.05
Styrene	100-42-5	8.09	9.49
Xylene	1330-20-7	0.17	0.18
Toluene	108-88-3	0.06	0.07
Dimethyl Phthalate	131-11-3	0.56	0.58
Methyl Ethyl Ketone	78-93-3	1.09	1.13
Total HAP	**--**	**10.35**	**11.84**

Table 1 to Subpart WWWW – Equations to Calculate Organic HAP Emission Factors Specific Open Molding and Centrifugal Casting Process Streams[1]

If your operation type is a new or existing …	And you use …	With …	Use this organic HAP Emission Factor (EF) Equation for materials with less than 33 % organic HAP (19 % organic HAP for nonatomized gel coat)[2 3 4] …	Use this organic HAP Emission Factor (EF) Equation for materials with 33 % or more organic HAP (19 % organic HAP for nonatomized gel coat)[2 3 4] …
1. Open molding operations	a. Manual resin application	i. Nonvapor-suppressed resin.	EF = 0.126 × %HAP × 2000.	EF = ((0.286 × %HAP) ! 0.0529) × 2000.
		ii. Vapor-suppressed resin.	EF = 0.126 × %HAP × 2000 × (1!(0.5 × VSE factor))	EF = ((0.286 × %HAP) ! 0.0529) × 2000× (1!(0.5 × VSE factor)).
		iii. Vacuum bagging/closed mold curing with roll-out.	EF = 0.126 × % HAP × 2000 × 0.8.	EF = ((0.286 × %HAP) ! 0.0529) × 2000 × 0.8.
		iv. Vacuum bagging/closed mold curing with out roll-out.	EF = (0.126 × % HAP × 2000 × 0.5.	EF = ((0.286 ×%HAP) !0.0529) × 2000× 0.5.
	b. Atomized mechanical resin application	i. Nonvapor-suppressed resin.	EF = 0.169 × %HAP × 2000.	EF = ((0.714 × %HAP) ! 0.18) × 2000.
		ii. Vapor-suppressed resin.	EF = 0.169 × %HAP × 2000 × (1!(0.45 × VSEfactor)).	EF = ((0.714 × %HAP) ! 0.18) × 2000 ×(1!(0.45 × VSE factor)).
		iii. Vacuum bagging/closed mold curing with roll-out.	EF = 0.169 × %HAP × 2000 × 0.85.	EF = ((0.714 × %HAP) ! 0.18) × 2000 ×0.85.
		iv. Vacuum bagging/closed mold curing with out roll -out.	EF = 0.169 × %HAP × 2000 × 0.55.	EF = ((0.714 × %HAP) ! 0.18) × 2000 ×0.55.
	c. Nonatomized mechanical resin application	i. Nonvapor-suppressed resin.	EF = 0.107 × %HAP × 2000.	EF = ((0.157 × %HAP) ! 0.0165) × 2000.
		ii. Vapor-suppressed resin.	EF = 0.107 × %HAP × 2000 × (1!(0.45 × VSEfactor)).	EF = ((0.157 × %HAP) ! 0.0165) × 2000× (1!(0.45 × VSE factor)).
		iii. Closed mold curing with roll-out.	EF = 0.107 × %HAP × 2000 × 0.85.	EF = ((0.157 × %HAP) ! 0.0165) × 2000 × 0.85.
		iv. Vacuum bagging/closed mold curing with out roll -out.	EF = 0.107 × %HAP × 2000 × 0.55.	EF = ((0.157 × %HAP) ! 0.0165) × 2000 × 0.55.
	d. Atomized mechanical resin application with robotic or automated spray control[5]	Nonvapor-suppressed resin.	EF = 0.169 × %HAP × 2000 × 0.77.	EF = 0.77 × ((0.714 × %HAP) ! 0.18) × 2000.

Table 1 to Subpart WWWW – Equations to Calculate Organic HAP Emission Factors Specific Open Molding and Centrifugal Casting Process Streams (Cont.)

If your operation type is a new or existing …	And you use …	With …	Use this organic HAP Emission Factor (EF) Equation for materials with less than 33 % organic HAP (19 % organic HAP for nonatomized gel coat)[1 2 3] …	Use this organic HAP Emission Factor (EF) Equation for materials with 33 % or more organic HAP (19 % organic HAP for nonatomized gel coat)[1 2 3] …
	e. Filiment application[6]	i. Nonvapor-suppressed resin	EF = 0.184 × %HAP × 2000	EF = ((0.2746 × %HAP) ! 0.0298) × 2000
		ii. Vapor-suppressed resin	EF = 0.12 × %HAP × 2000	EF = ((0.2746 × %HAP) ! 0.0298) × 2000× 0.65
	f. Atomized spray gel coat application	Nonvapor-suppressed gel coat	EF = 0.446 × %HAP × 2000	EF = ((1.03646 × %HAP) ! 0.195) × 2000
	g. Nonatomized spray gel coat application	Nonvapor-suppressed gel coat	EF = 0.185 × %HAP × 2000	EF = ((0.4506 × %HAP) ! 0.0505) ×2000
	h. Atomized spray gel coat application using robotic or automated spray	Nonvapor-suppressed gel coat	EF = 0.445 × % HAP × 2000 × 0.73	EF = ((1.03646 × %HAP) ! 0.195) × 2000 × 0.73
2. Centralfugal casting operations.[7 8]	a. Heated air blown through molds	Nonvapor-suppressed resin	EF = 0.558 × (%HAP) × 2000	EF = 0.558 × (%HAP) × 2000
	b. Vented molds, but air vented through the molds is not heated	Nonvapor-suppressed resin	EF = 0.026 × (%HAP) × 2000	EF = 0.026 × (%HAP) × 2000

Footnotes to Table 1

[1] The equations in this table are intended for use in calculating emission factors to demonstrate compliance with the emission limits in Subpart WWWW. These equations may not be the most appropriate method to calculate emission estimates for other purposes. However, this does not preclude a facility from using the equations in this table to calculate emission factors for purposes other than rule compliance if these equations are the most accurate available.

To obtain the organic HAP emissions factor value for an operation with an add-on control device multiply the EF above by the add-on control factor calculated using Equation 1 of § 63.5810. The organic HAP emissions factors have units of lbs of organic HAP per ton of resin or gel coat applied.

[3] %HAP means total weight percent of organic HAP (styrene, methyl methacrylate, and any other organic HAP) in the resin or gel coat prior to the addition of fillers, catalyst, and promoters. Input the percent HAP as a decimal, *i.e.* 33 %HAP should be input as 0.33, not 33.

[4] The VSE factor means the percent reduction in organic HAP emissions expressed as a decimal measured by the VSE test method of appendix A to this subpart.

[5] This equation is based on a organic HAP emissions factor equation developed for mechanical atomized controlled spray. It may only be used for automated or robotic spray systems with atomized spray. All spray operations using hand held spray guns must use the appropriate mechanical atomized or mechanical nonatomized organic HAP emissions factor equation. Automated or robotic spray systems using nonatomized spray should use the appropriate nonatomized mechanical resin application equation.

[6] Applies only to filament application using an open resin bath. If resin is applied manually or with a spray gun, use the appropriate manual or mechanical application organic HAP emissions factor equation.

[7] These equations are for centrifugal casting operations where the mold is vented during spinning. Centrifugal casting operations where the mold is completely sealed after resin injection are considered to be closed molding operations.

[8] If a centrifugal casting operation uses mechanical or manual resin application techniques to apply resin to an open centrifugal casting mold, use the appropriate open molding equation with covered cure and no rollout to determine an emission factor for operations prior to the closing of the centrifugal casting mold. If the closed centrifugal casting mold is vented during spinning, use the appropriate centrifugal casting equation to calculate an emission factor for the portion of the process where spinning and cure occur. If a centrifugal casting operation uses mechanical or manual

resin application techniques to apply resin to an open centrifugal casting mold, and the mold is then closed and is not vented, treat the entire operation as open molding with covered cure and no rollout to determine emission factors.

Facility Wide VOC/HAP Emissions from Product Usage (Other than Resins/Gelcoats)

Material	lb/yr	%VOC	%HAP	TPY VOC	TPY HAP
Jetta Blend 9010	34,042	10	0	1.702	0.000
PartAll Film #10	90	52	0	0.011	0.000
Mold Cleaner	17	50	50	0.004	0.004
Norox MEKP-30	150	1	1	0.001	0.001
Norox MEKP-925	416	2	2	0.004	0.004
Methyl Methacrylate	500	100	100	0.250	0.250
Chemlease PMR	80	77	50	0.031	0.020
Styrene	76	100	100	0.038	0.038
Super Flush S-0280	4,320	100	0	1.210	0.000
Marble Wash C95-0102	4,410	100	0	2.205	0.000
#15 Sealer	17	95	0	0.008	0.000
Air Release BMC-747	9,600	100	6.5	1.248	0.240
Bermawet 3000	6,800	50	0	1.700	0.000
Acrylic Lacquer Thinner	401	70	55	0.140	0.110
Enamel Reducer 3812-S	63	90	21	0.028	0.007
Swift Adhesive 18093	1,800	25	25	0.225	0.225
Foam Part B	46,207	15	0	0.000	0.000
Foam Part A	50,638	0	0	0.185	0.185
Methyl Ethyl Ketone	370	100	100	0.017	0.017
Acrylic Base/Toner	39	88	88	0.006	0.006
Weld-On 810 Part A	17	75	75	0.001	0.001
Weld-On 810 Part B	2	60	60	3.261	1.920
Weld-On 795	7,247	90	53	1.337	0.976
Jetta Blend #1	2,674	100	73	0.050	0.050
DDM-9	4,965	2	2	0.046	0.000
Kantstick Cure Fast	92	100	0	0.000	0.000
#17 High Heat Resistant Filler	**24 gal**	**UNK**	**UNK**	0.000	0.000
Totals				**13.708**	**4.054**

A small amount of particulate matter will result from overspray of the material. The particulate emissions were calculated with a 95% transfer efficiency and a 98% collection efficiency. Particulate emissions from other operations are considered de minimis and are not listed.

SECTION V. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

OAC 252:100-4 (New Source Performance Standards) [Not Applicable]
Federal regulations in 40 CFR Part 60 are incorporated by reference as they exist on July 1, 2002, except for the following: Subpart A (Sections 60.4, 60.9, 60.10, and 60.16), Subpart B, Subpart C, Subpart Ca, Subpart Cb, Subpart Cc, Subpart Cd, Subpart Ce, Subpart AAA, and Appendix G. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories have been submitted and fees paid for the past years.

OAC 252:100-7 (Permits for Minor Facilities) [Applicable]
Subchapter 7 sets forth the permit application fees and the basic substantive requirements of permits for minor facilities. This facility will become a "synthetic minor" facility subject to this subchapter after issuance of the permit.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the "Insignificant Activities" or "Trivial Activities" thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for single HAP that the EPA may establish by rule

Emission limits have been established to make this facility a "synthetic minor" facility after issuance of this permit.

OAC 252:100-9 (Excess Emission Reporting Requirements) [Applicable]
In the event of any release which results in excess emissions, the owner or operator of such facility shall notify the Air Quality Division as soon as practical during normal office hours and no later than 4:30 p.m. the next working day. Within ten (10) business days further notice shall be tendered in writing containing specific details of the incident.

OAC 252:100-13 (Open Burning) [Applicable]
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]
This subchapter specifies a particulate matter (PM) emissions limitation of 0.6 lb/MMBTU from fuel-burning equipment with a rated heat input of 10 MMBTUH or less. No fuel-burning equipment is located at this facility. This subchapter also limits emissions of particulate matter from direct-fired fuel-burning equipment and industrial processes based upon their process weight rates. Only negligible emissions are produced by any process at this facility.

OAC 252:100-25 (Visible Emissions and Particulate Matter) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case, shall the average of any six-minute period exceed 60% opacity. Particulate emissions from the sanding and grinding are controlled by use of filters. PM emissions from the coating operations overspray are controlled by use of either HVLP or flow coat application and use of particulate emission filters. All other emissions are VOC. This facility has little possibility of exceeding the opacity standards; therefore it is not necessary to require specific precautions to be taken.

OAC 252:100-29 (Fugitive Dust) [Applicable]
No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. Under normal operating conditions, this facility will not cause a problem in this area, therefore it is not necessary to require specific precautions to be taken.

OAC 252:100-31 (Sulfur Compounds) [Not Applicable]
Part 5 limits sulfur dioxide emissions from new fuel-burning equipment (constructed after July 1, 1972). For gaseous fuels the limit is 0.2 lb/million BTU heat input. There is no new fuel-burning equipment at the facility.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. The resin storage tanks store resins that have a vapor pressure less than 1.5 psia.
Part 3 requires VOC loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. This facility does not have the physical equipment (loading arm and pump) to conduct this type of loading and is not subject to this requirement.
Part 5 limits the VOC content of alkyd primer, epoxy, and maintenance finish coatings to 4.8 lbs/gallon, vinyl and acrylic coatings to 6.0 lbs/gallon, lacquers to 6.4 lbs/gallon, and custom product finishes to 6.5 lbs/gallon less water. Facilities that emit less than 100 lbs of VOC per 24-hour day are exempt from this requirement. The coating operations at this facility do not emit more than 100 lb VOC per day. Also, the gel coats do not exceed the 6.5 lb/gal VOC content standard for custom product finishes. The gel coats contain less than 4.0 lb/gallon of VOC of which only a small portion is emitted. The resins are not surface coatings and are not subject to the VOC limitations.
Part 7 requires all effluent water separator openings, which receive water containing more than 200 gallons per day of any VOC, to be sealed or the separator to be equipped with an external floating roof or a fixed roof with an internal floating roof or a vapor recovery system. There are no effluent water separators located at this facility.
Part 7 also requires all reciprocating pumps handling VOCs to be equipped with packing glands that are properly installed and maintained in good working order and rotating pumps handling VOCs to be equipped with mechanical seals. All pumps installed after December 28, 1974, are subject to these requirements.

OAC 252:100-41 (Hazardous Air Pollutants) [Applicable]
Part 3 addresses hazardous air contaminants. NESHAP, as found in 40 CFR Part 61, are adopted by reference as they exist on September 1, 2004, with the exception of Subparts B, H, I, K, Q, R, T, W and Appendices D and E, all of which address radionuclides. In addition, General Provisions as found in 40 CFR Part 63, Subpart A, and the Maximum Achievable Control Technology (MACT) standards as found in 40 CFR Part 63, Subparts F, G, H, I, J, L, M, N, O, Q, R, S, T, U, W, X, Y, AA, BB, CC, DD, EE, GG, HH, II, JJ, KK, LL, MM, OO, PP, QQ, RR, SS, TT, UU, VV, WW, XX, YY, CCC, DDD, EEE, GGG, HHH, III, JJJ, LLL, MMM, NNN, OOO, PPP, QQQ, RRR, TTT, UUU, VVV, XXX, AAAA, CCCC, DDDD, EEEE, FFFF, GGGG, HHHH, IIII, JJJJ, KKKK, MMMM, NNNN, OOOO, PPPP, QQQQ, RRRR, SSSS, TTTT, UUUU, VVVV, WWWW, XXXX, YYYY, ZZZZ, AAAAA, BBBBB, CCCCC, EEEEE, FFFFF, GGGGG, HHHHH, IIIII, JJJJJ, KKKKK, LLLLL, MMMMM, NNNNN, PPPPP, QQQQQ, RRRRR, SSSSS and TTTTT are hereby adopted by reference as they exist on September 1, 2004. These standards apply to both existing and new sources of HAPs. These requirements are covered in the “Federal Regulations” section.

Part 5 is a **state-only** requirement governing toxic air contaminants. Part 5 regulates sources of toxic air contaminants that have emissions exceeding a *de minimis* level. However, Part 5 of Subchapter 41 has been superseded by OAC 252:100-42. The Air Quality Council approved Subchapter 42 for permanent rulemaking on April 20, 2005. The Environmental Quality Board approved Subchapter 42 as both a permanent and emergency rule on June 21, 2005. The emergency Subchapter 42 was sent for Gubernatorial signature on June 30, 2005, and became effective by emergency August 11, 2005. Subchapter 42 is expected to become permanently effective on June 15, 2006. Because Subchapter 41, Part 5 has been superseded, the requirements of Part 5 will not be reviewed in this memorandum. Should Subchapter 42 fail to take effect, this permit will be reopened to address the requirements of Subchapter 41, Part 5.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
All parts of OAC 252:100-41, with the exception of Part 3, shall be superseded by this subchapter. Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-33	Nitrogen Oxides	not in source category
OAC 252:100-35	Carbon Monoxide	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

SECTION VI. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Not Applicable]
The potential emissions are less than the level of significance of 250 TPY of any single regulated pollutant and the facility is not one of the 26 specific industries with a threshold of 100 TPY.

NSPS, 40 CFR Part 60 [Not Applicable]
Subparts K, Ka, Kb, VOL Storage Vessels. The storage tanks at the facility are below the de-minimis levels of 19,813 gallons of Subpart Kb and 40,000 gallons for Subparts K and Ka.

NESHAP, 40 CFR Part 61 [Not Applicable]
There are no emissions of any of the regulated pollutants: arsenic, asbestos, beryllium, benzene, coke oven emissions, mercury, radionuclides or vinyl chloride.

NESHAP, 40 CFR Part 63 [Not Applicable]
Subpart WWWW, Reinforced Plastics Composites Production. This subpart was promulgated on April 21, 2003 and affects all existing and new reinforced plastic composite production facilities using thermoset resins located at a major source of HAP. Existing sources have till April 21, 2006 to comply with this subpart or to get a minor source permit. This facility will be a minor source of HAP after issuance of this permit and will not be subject to this subpart.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
The facility does not store any substance listed in CAAA 90 Section 112(r) above its threshold. More information on this federal program is available on the web page: www.epa.gov/ceppo.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subparts A and F are Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).
Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

This facility uses a polyurethane isocyanate foam that contains HCFC-22 as a blowing agent. The foam is a closed cell rigid polyurethane foam, a foam insulation product, that is exempted from the ban on nonessential Class II products.

SECTION VII. COMPLIANCE

Inspection
A full compliance inspection was performed on February 16, 2005, by Clint Johnson and Brad Flaming of the Air Quality Division. All significant emission sources were observed and the facility was operating as described in the permit application.

Tier Classification and Public Review
This application has been determined to be Tier II based on the request for a "synthetic minor" facility operating permit. The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant has provided legal notice to those that do own the property.

The applicant published the "Notice of Filing a Tier II Application" in *The Edmond Sun*, a daily newspaper in Oklahoma County, on December 20, 2001. The notice stated that the application was available for public review at the Edmond Public Library located at 10 South Boulevard, Edmond, Oklahoma. The applicant published the "Notice of Draft Permit" in *The Edmond Sun*, a daily newspaper, in Oklahoma County on November 18, 2005. The notice stated that the draft operating permit was available for public review at Edmond Public Library, at the Air Quality Division main office, and on the Air Quality section of the DEQ web page at www.deq.state.ok.us. This facility is not within 50 miles of the border of Oklahoma and any other state. No comments were received from the public. The proposed permit was forwarded to EPA for a 45-day review period. No comments were received from the EPA.

Fees Paid
A Part 70 source operating permit application fee of $2,000.

SECTION VIII. SUMMARY

The facility is operating as described in the permit application. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues concerning this facility. Issuance of the permit is recommended.

PERMIT TO OPERATE
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

Jetta Corporation **Permit Number 2001-272-O**
Edmond Manufacturing Facility

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on November 27, 2001 and all supplemental information. The Evaluation Memorandum dated February 6, 2006, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

1. Points of emissions: [OAC 252:100-8-6(a)(1)]

EUG 1: HAP and VOC emissions shall not exceed the following limits based on a twelve month rolling total. Each month the permittee shall calculate the emissions from the previous twelve months.

Facility Emissions Cap

HAP	**Units***	
Individual HAP	**TPY**	9.5
Combination of HAP	**TPY**	24.5
VOCs	**TPY**	98.0

* - compliance with TPY limits shall be based upon a twelve month rolling total.

All HAP/VOC emissions shall be calculated each month, from use of each product at the facility, for the previous 12 months. Emissions from materials other than resins and gel coats shall be based on the maximum VOC and/or HAP content of the material and the material usage. Emissions from resin and gelcoat usage shall be based on the maximum HAP content, material usage, and emission factors developed from Table 1 of 40 CFR Part 63, Subpart WWWW.

Until 12 consecutive months of data has been collected to determine the 12-month rolling totals, the facility shall fill the missing data for the previous months with an estimated average monthly figure based on the applicable rolling total divided by 12. If there exists enough data to determine the values for the previous months, it can be used to determine the applicable 12-month rolling totals.

2. The permittee shall be authorized to operate this facility continuously (24 hours per day, every day of the year).

3. Particulate filters shall be installed and operable during all operations. The filters shall be maintained in accordance with manufacturer's recommendations on a scheduled basis to insure maximum operating efficiency of the particulate filters. The particulate filters may be replaced only by a control device with an equal or greater control efficiency (98%).

4. The main resins used shall contain a vapor suppressant. The VSE factor shall be determined using the methods in Appendix A (Test Method for Determining Vapor Suppressant Effectiveness), of 40 CFR Part 63, Subpart WWWW by the permittee or the manufacturer of the resin.

5. All gel coat operations shall only be performed using either High Volume Low Pressure (HVLP) applicators or hand layup. Resins application shall only be performed using flow coat applicators or hand layup.

6. The permittee shall maintain records of operations as listed below. These records shall be maintained on-site for at least two years after the date of recording and shall be provided to regulatory personnel upon request.

    a. Facility wide raw material usage (monthly and 12-month rolling totals).
    b. Emission calculations (monthly and 12-month rolling totals)
    c. Material Safety Data Sheets (MSDS) for all raw materials showing the HAP and VOC content of each.
    d. Records of the vapor suppressant effectiveness factor determinations for each resin used with a vapor suppressant.

6. This permit supersedes all other Air Quality permits for this facility, which are now null and void.

MINOR SOURCE PERMIT TO OPERATE / CONSTRUCT
AIR POLLUTION CONTROL FACILITY
STANDARD CONDITIONS
(September 1, 2005)

A. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ) in accordance with and under the authority of the Oklahoma Clean Air Act. The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. This specifically includes compliance with the rules of the other Divisions of DEQ: Land Protection Division and Water Quality Division.

B. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-7-15(g)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-7-15(f)]

C. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 60 days following the first day of operation. [OAC 252:100-7-18(a)]

D. Unless specified otherwise, the term of an operating permit shall be unlimited.

E. Notification to the Air Quality Division of DEQ of the sale or transfer of ownership of this facility is required and shall be made in writing by the transferor within 10 days after such date. A new permit is not required. [OAC 252:100-7-2(f)]

F. The following limitations apply to the facility unless covered in the Specific Conditions:

1. No person shall cause or permit the discharge of emissions such that National Ambient Air Quality Standards (NAAQS) are exceeded on land outside the permitted facility. [OAC 252:100-3]
2. All facilities that emit air contaminants are required to file an emission inventory and pay annual operating fees based on the inventory. Instructions and forms are available on the Air Quality section of the DEQ web page. *www.deq.state.ok.us* [OAC 252:100-5]
3. All excess emissions shall be reported to the Director of the Air Quality Division as soon as practical during normal office hours and no later than the next working day following the malfunction or release. Within ten (10) business days further notice shall be tendered in writing containing specific details of the incident. [OAC 252:100-9]
4. Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning subchapter. [OAC 252:100-13]
5. No particulate emissions from new fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lbs/MMBTU. [OAC 252:100-19]
6. No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to

exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. [OAC 252:100-25]

7. No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]
8. No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lbs/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
9. Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with an organic material vapor-recovery system. [OAC 252:100-37-15(b)]
10. All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

G. Any owner or operator subject to provisions of NSPS shall provide written notification as follows: [40 CFR 60.7 (a)]

1. A notification of the date construction (or reconstruction as defined under §60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.
2. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.
3. A notification of the actual date of initial start-up of an affected facility postmarked within 15 days after such date.
4. If a continuous emission monitoring system is included in the construction, a notification of the date upon which the test demonstrating the system performance will commence, along with a pretest plan, postmarked no less than 30 days prior to such a date.

H. Any owner or operator subject to provisions of NSPS shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility or any malfunction of the air pollution control equipment. [40 CFR 60.7 (b)]

I. Any owner or operator subject to the provisions of NSPS shall maintain a file of all measurements and other information required by this subpart recorded in a permanent file suitable for inspection. This file shall be retained for at least five years following the date of such measurements, maintenance, and records. [40 CFR 60.7 (d)]

J. Any owner or operator subject to the provisions of NSPS shall conduct performance test(s) and furnish to AQD a written report of the results of such test(s). Test(s) shall be conducted within 60 days after achieving the maximum production rate at which the facility will be operated, but not later than 180 days after initial start-up. [40 CFR 60.8]

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 NORTH ROBINSON, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2001-272-O

Jetta Corporation

having complied with the requirements of the law, is hereby granted permission to operate the Edmond Manufacturing Facility located in the SW/4 of Section 17, T13N, R3W, Oklahoma County, Oklahoma, subject to the following conditions, attached:

[X] Standard Conditions dated September 1, 2005

[X] Specific Conditions

Division Director, Air Quality Division **Date**

Jetta Corporation
Attn: Mr. David Collins
Engineering Manager
425 Centennial Boulevard
Edmond, OK 73013

SUBJECT: Permit No. 2001-272-O
Facility: Edmond Manufacturing Facility
Location: SW/4 of S2, T13N, R3W, Oklahoma County, Oklahoma

Dear Mr. Collins:

Enclosed is the permit authorizing operation of the referenced facility. Please note that this permit is issued subject to the standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by March 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at 405-702-4100.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me at eric.milligan@deq.state.ok.us or at (405) 702-4217.

Sincerely,

Eric L. Milligan, P.E.
Engineering Section
AIR QUALITY DIVISION

Enclosures

Public Participation

40 CFR 52.21(q)

(q) *Public participation.* The Administrator shall follow the applicable procedures of 40 CFR part 124 in processing applications under this section. The Administrator shall follow the procedures at 40 CFR 52.21(r) as in effect on June 19, 1979, to the extent that the procedures of 40 CFR part 124 do not apply.

Public Review Notice Receipients

Contact Group Name: Public Review

Members:

AQD-Permit Updates
C Kreman ckreman@quapawtribe.com
Callison, Ryan rcallison@cherokee.org
Erin Arnall (earnall@peoriatribe.com) earnall@peoriatribe.com
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M D Lawson mdlawson@choctawnation.com
Summer King srking@ukb-nsn.gov

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

STANDARD OPERATING PROCEDURE B **Effective Date: March 15, 2007**

TO: Permits Staff

THROUGH: Dawson Lasseter, P.E., Chief Engineer, Air Quality Division

THROUGH: Phillip Fielder, Engineering Manager III, Air Quality Division

FROM: Dave Dimick, Engineering Manager II, Existing Source Permit Section
Richard Kienlen, Engineering Manager II, New Source Permit Section

SUBJECT: Permit Writer Training

INTRODUCTION

This SOP covers a four year training program for permit writers. It is organized as a checklist to document completion of training and you may want to use an electronic copy to keep a record of completed training. Training formats include self study, classroom courses, satellite courses (either live or taped), and web-based self-instruction (SI) courses. All training other than classroom courses must be completed no later than listed in the yearly requirements. Classroom courses should be completed as early as course schedules, work load, and/or training funds allow. This training program only covers technical training relevant to permit writing and does not address human resource development training.

All self study items that are not located on a website or the DEQ network are available in the AQD Library. A few of the self study items include tests that must be passed to show completion, but most are just relevant information on environmental laws, rules, and regulations for which a permit writer should have a good general understanding. Permit writers should make hard copies of information they may need to reference frequently, if the information is not available on a website or the DEQ network.

Training requirements are much heavier for the first and second year. Your supervisor will determine which 12 month period applies to yearly requirements depending on your start date.

Courses are available from the EPA's Air Pollution Training Institute (APTI), the Rutgers Air Compliance Center (Rutgers), and the California Air Resources Board (CARB). The Rutgers courses are made available either directly to DEQ or through one of six regional consortiums. The consortium for our region is the Central States Air Resources Agencies (CenSARA). Rutgers maintains a training calendar at http://www.envsci.rutgers.edu/org/racc. The EPA maintains a list of available courses, available formats, and schedules (for APTI and CARB courses) on the APTI webpage: http://www.epa.gov/oar/oaqps/eog. You will need to fill out an APTI "Application for Training" form and obtain a PIN to take the web-based courses. The AQD training coordinator can help.

In addition to formal training, a good training work habit is to review the final rule and preamble, any "background document", and any "response to comments" document for all NSPS and NESHAP subparts the first time you address the applicability of that subpart in drafting a permit. Also read the AP-42 document for any unfamiliar AP-42 emissions factors used in a permit. This takes more time and effort for each permit initially, but you will quickly increase your knowledge of the federal regulations and various emissions sources as a result.

The APTI website has web videos and satellite broadcasts available on current environmental topics and you are encouraged to view these periodically.

You must pass a test to obtain CU credit (and credit for this SOP) for the web-based APTI SI courses. Many of the APTI SI course handbooks and taped satellite courses are available in the AQD Library (see Appendix A and Appendix B). These can be used when taking the course and the course test, or you may print off the course text from the APTI website.

Courses should be taken as a classroom course when available. Unless noted with the SI designation, APTI courses are available as classroom courses. Classroom courses listed in italics should be taken no later than the scheduled year if at all possible. Other classroom courses may have to be delayed or taken early if the opportunity arises. Your supervisor will help advise you in scheduling courses based on availability, work load, and/or training funds available. Note that approval from your supervisor is required prior to taking any classroom course.

The following CARB courses may be substituted for the listed APTI Courses. Also, APTI – 418, 445, 446, and 452 are offered by Rutgers in addition to APTI.

APTI Course	Substitute Course
APTI SI – 452 Principles and Practices of Air Pollution Control	**CARB 100 Series**
APTI – 454 Effective Permit Writing	**CARB 333** Permit Writing
APTI – 461 Intermediate Permitting	**CARB 334** Intermediate Permit Writing

The following APTI SI courses are available online, and may be taken at any time, but are not required, unless specifically assigned by your supervisor.

Optional Training Description	**Date Completed**
APTI SI-412A Fabric Filter Operation Review	
APTI SI-412B Electrostatic Precipitator Plan Review	
APTI SI-412C Wet Scrubber Plan Review	
APTI SI-433 Network Design and Site Selection for Monitoring $PM_{2.5}$ and PM_{10} in Ambient Air	
APTI SI-434 Introduction to Ambient Air Monitoring	
APTI SI-436 Site Selection for the Monitoring of SO_2 and PM_{10} in Ambient Air	
APTI SI-471 General Quality Assurance Consideration for Ambient Air Monitoring	
APTI SI-476B Operation & Maintenance of Gas Monitors	

1st Year Training Description	**Complete Within**	**Date Completed**
Read all topics covered in The Plain English Guide to the Clean Air Act. Located at http://www.epa.gov/air/oaqps/peg_caa/pegcaain.html	1st month	
Review Title I Part A and Title III – General, of the Clean Air Act as amended in 1990. Located at http://www.epa.gov/oar/caa	1st month	
Read OAC 252: Chapter 4 Rules of Practice and Procedure (air related)	1st month	
Read OAC 252: Chapter 100 Air Pollution Control	1st month	
Read all current SOPs. Located at G:\Permits\SOPs\New Final	1st month	
Review the organization of, and general information provided on, the AQD web page http://www.deq.state.ok.us/AQDnew/index.htm	1st month	
Review the organization of, and general information provided on, the EPA Air Homepage http://www.epa.gov/ebtpages/air.html	1st month	
Read the following Fact Sheets for AIR listed on the DEQ website: Nitrogen Dioxide, Ozone, Particulate Matter, Sulfur Dioxide, Air Quality Minor Permit Modifications, Potential to Emit, Permitting Collocated Facilities, Portable Analyzer Guidance, and Calculation of Flashing Losses/VOC Emissions.	3rd month	
Read all materials in the 1st Year Study Notebook.	3rd month	
Read the following sections of AP-42, Volume I, Fifth Edition, located at http://www.epa.gov/ttn/chief/ap42. Introduction; Chapter 1.3 and 1.4; Chapter 3.1 and 3.2; Chapter 5; Chapter 7; and Chapter 13.5.	3rd month	
Review the network G drive to see how it is organized and types of information available and stored there, especially files under Permits.	3rd month	
Accompany another permit writer or a compliance inspector to inspect a compressor station and/or a natural gas plant.	3rd month	
APTI SI-100 Mathematics Review for Air Pollution Control	3rd month	
APTI RE-100 Basic Concepts in Environmental Science	3rd month	
APTI SI-422 R Air Pollution Control Orientation Course	3rd month	
APTI SI-460 Introduction to Permitting	3rd month	
Study and pass test for OAC 252:100 Subchapters 1, 3, 4, 5, and 7. Located: G:\PERMITS\Special Projects\Air Quality Rules Tests 12-23-04	6th month	
APTI SI-428 Introduction to Boiler Operation	6th month	
APTI SI-445 * Introduction to Baseline Source Inspection Techniques	6th month	
Study and pass test for OAC 252:100 Subchapters 8, 9, 19, and 29.	9th month	
APTI SI-300 Introduction to Air Pollution Toxicology	9th month	
APTI SI-409 Basic Air Pollution Meteorology	9th month	
APTI SI-410 Introduction to Dispersion Modeling	9th month	
Study and pass test for OAC 252:100 Subchapters 31, 33, 35, 37, 39, 41, and 43.	12th month	
APTI R – 452 Principles and Practices of Air Pollution Control	12th month	
APTI – 454 Effective Permit Writing	12th month	
APTI – 400 Introduction to Hazardous Air Pollutants	12th month	
APTI R – 446 Inspection Procedures and Safety	12th month	

R- This course is also available through Rutgers.

* - APTI-445 is also available as satellite APDLN taped course T-445-00.

2nd Year Training Description	**Complete Within**	**Date Completed**
Read all materials in the 2nd Year Study Notebook.	3rd month	
Review Title V - Permits, of the Clean Air Act as amended in 1990. Located at http://www.epa.gov/oar/caa	3rd month	
Read "EPA Region 3's TV Operating Permit Writing Tips." Located at http://www.epa.gov/reg3artd/permitting/permits1c.htm.	3rd month	
Become familiar with EPA's Applicability Determination Index. Located at http://cfpub.epa.gov/adi.	3rd month	
Become familiar with EPA's TV and NSR/PSD Policy & Guidance Database. Located at http://www.epa.gov/region7/programs/artd/air/policy/search.htm.	3rd month	
Read EPA Region 9's "TV (DRAFT) Permit Review Guidelines." Located at http://www.epa.gov/region09/air/permit/titlev-public-part.html.	3rd month	
Read these Fact Sheets for AIR listed on the DEQ website: Title V Program, Title V Program FAQ's, and Title V – Oil & Gas Facilities.	3rd month	
APTI SI-431 R Air Pollution Control Systems for Selected Industries	3rd month	
APTI SI-417 Controlling VOC Emissions from Leaking Process Equipment	3rd month	
APTI SI-473A Beginning Environmental Statistical Techniques	6th month	
APTI OS-411 * Computational Atmospheric Sciences	6th month	
APTI T021-00 Particulate Control Instructional Series (90 min)	6th month	
APTI – 461 Intermediate Permitting	12th month	
APTI – 413 Control of Particulate Emissions	12th month	
APTI – 415 Control of Gaseous Emissions	12th month	
APTI – 415 R Control of Nitrogen Oxides Emissions	12th month	
APTI – 427 Combustion Evaluation	12th month	

R- This course is also available through Rutgers.

* APTI OS-411 may just be reviewed since a course test is not available. You may need to get with Computer Solutions to have the web-browser plug-ins "Livemath Plugin" and "Chime 2.6 SP4" installed on your computer in order to use the interactive features of the course.

3rd Year Training Description	**Complete Within**	**Date Completed**
Review Title V – Part C Prevention of Significant Deterioration of Air Quality, of the Clean Air Act as amended in 1990. Located at http://www.epa.gov/oar/caa	3rd month	
APTI SI -453 * Overview of PSD Regulations	3rd month	
APTI SI – 476B ** CEMS Operation and Maintenance of Gas Monitors	6th month	
T-007-02 CAM and TV Workshop (if tape is available)	9th month	
APTI – 482 Sources and Control of Volatile Organic Air Pollutants	12th month	
APTI – 345 Emission Capture & Gas Handling System Inspection	12th month	
APTI – 474 R – Continuous Emissions Monitoring	12th month	
Rutgers – Compliance Assurance Monitoring	12th month	

R- This course is also available through Rutgers.

* The APTI SI-453 study book and tape are available in AQD Library. The course is slightly out of date with DEQ's adoption of NSR reform rules in 2006.

** Complete APTI SI-476B course if APTI-474 or the Rutgers Continuous Emissions Monitoring classroom course is not taken by the end of 3rd year.

4th Year Training Description	**Complete Within**	**Date Completed**
Complete any classroom courses from 1st, 2nd, and 3rd year not yet taken.	12th month	-
Makeup Course:		
Makeup Course:		
Makeup Course:		
T-468-01/02 Stack Testing/Stack Test Observation for Traditional and Hazardous Air Pollutants (HAP)	12th month	
Take any equivalent APDLN taped satellite courses for any listed classroom course that cannot be taken by end of 4th year. *	12th month	-
Equivalent APDLN Course:		
Equivalent APDLN Course:		
Equivalent APDLN Course:		
Take any other classroom course or APDLN taped satellite course specified by supervisor.	12th month	-
Specified Course :		
Specified Course :		
Specified Course :		

* Equivalent APDLN taped courses are available in the AQD Library for APTI-413 Control of Particulate Emissions (T-313-99 Particulate Source Inspection); APTI-415 Control of Nitrogen Oxides Emissions (T-418-01); APTI-427 Combustion Evaluation (T-427-04); APTI-446 Inspection Procedures and Safety (T-446-01); and APTI-454 Effective Permit Writing (T-454-03).

STANDING POLICIES OF THE DEQ

I. EQUAL EMPLOYMENT OPPORTUNITY AND AFFIRMATIVE ACTION

The DEQ's policy of equal employment opportunity is to recruit, hire, promote, reassign, compensate and train for all job classifications without regard to race, color, religion, gender, age, national origin, disability or veteran status. It is the goal of the DEQ through its employee selection and promotion processes to achieve a work force that reflects the agency's commitment to equal opportunity for present and future employees. It is the responsibility of the manager that is hiring to ensure that the hiring and promotion process is conducted in a nondiscriminatory manner consistent with this policy.

The DEQ's Equal Employment Opportunity and Affirmative Action Guidelines are maintained by the DEQ's Civil Rights Administrator and are provided to all managers to use in making employment decisions.

II. SEXUAL HARASSMENT

As used in this policy, sexual harassment means unwelcome verbal or physical conduct of a sexual nature which is used as a basis for employment decisions, or which has the purpose or effect of interfering with work performance, or which creates an intimidating, offensive or hostile work environment. Acts of sexual harassment may include, but are not limited to, requests for sexual favors, sexual kidding, physical touching or other contact in an intimate or sexual way, sexual jokes or stories, whistles or catcalls, and pornographic materials.

Sexual harassment is a form of employee misconduct and of unlawful discrimination based on gender. Under federal and state law and this policy, sexual harassment is prohibited.

Employees who believe they are being sexually harassed should inform the Grievance Manager or the Civil Rights Administrator. Allegations of sexual harassment will be kept confidential, except as needed for the investigative process.

III. HOSTILE WORKPLACE

DEQ employees shall not engage in any conduct which creates an intimidating, hostile or abusive work environment.

IV. DRUG-FREE WORKPLACE

DEQ employees shall not engage in the unlawful manufacturing, distributing or dispensing, or possession or use without a prescription, of any controlled substance. DEQ employees who handle drugs illegally in the workplace will face discipline, including possible termination.

The federal Drug-Free Workplace Act applies to state agencies that receive federal funds through grants or contracts. An employee must notify his or her manager within five days of being convicted of violating a drug law in the workplace. Notice must be forwarded to the Administrative Services Division of DEQ, which has ten days to inform the federal agency that funded the project.

While discipline will be used as appropriate, DEQ encourages positive alternatives, through the State Employees Assistance Program (EAP). Confidential assistance and referral is available by contacting the EAP Coordinator at the Office of Personnel Management.

V. WHISTLEBLOWER LAW

Certain communications between DEQ employees and others regarding operations of the agency are protected by law [74 O.S. §840-2.5 and Merit Rule 455:10-3-6]. A copy of the law is posted on the DEQ Intranet.

VI. ENVIRONMENTAL JUSTICE

Environmental Justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Where there is opportunity for public comment and other input, DEQ programs work to assure that potentially interested persons (*e.g.*, members of the community around a facility or proposed facility) have meaningful notice of their rights, and a meaningful opportunity to be heard. Language translations and use of media targeted to the local neighborhood may be necessary in some communities.

Complaint response and compliance inspections are accomplished with the same thoroughness, statewide, and non-compliance pursued as vigorously in minority and disadvantaged communities as it is anywhere else in the state.

ADOPTED by:

Steven A. Thompson, Executive Director Date Signed: May 5, 2008

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **September 3, 2013**

TO: Phillip Fielder, P.E., Permits and Engineering Group Manager

THROUGH: Phil Martin, P.E., Engineering Manager, Existing Source Permit Section

THROUGH: Peer Review

FROM: Eric L. Milligan, P.E., Engineering Section

SUBJECT: Evaluation of Permit Application No. **2007-115-C (M-3) PSD**
Associated Electric Cooperative, Inc.
Chouteau Power Plant
Mid America Industrial Park, Mayes County
SW/4, SW/4 of Section 10, T20N, R19E
Latitude: 36.2225N; Longitude: 95.2778W
Directions: From the Mid America Industrial Park east off of State Highway 412B and North on Robertson Street

SECTION I. INTRODUCTION

Associated Electric Cooperative, Inc. (AECI) has submitted an application for modification of the CO startup and shutdown BACT emission limits established in construction Permit No. 2007-115-C (M-1) PSD, issued on January 23, 2009. Per OAC 252:100-8-30, no modification of a PSD source to which a BACT analysis, air quality impact evaluation, or additional Impact analyses including Class I visibility analysis applies shall begin actual construction without a construction permit that states that the source or modification will meet those requirements. This modification requires reevaluation of the CO BACT analysis for startup and shutdown and an air quality impact evaluation for the increase in CO emissions. Therefore, this modification requires a construction permit.

Permit No. 2007-115-C (M-1) PSD authorized the construction of a natural gas-fired combined cycle (two-on-one) electricity generating facility located next to the existing Chouteau Power Plant in Mayes County, Oklahoma. The major components that were added to the facility included the following:

1) Two Combustion Turbines, each mated to a nominal 178 MW generator,
2) Two Heat Recovery Steam Generating Units (HRSGs) with Duct Burners that supply steam to a single 182 MW generator,
3) Two Selective Catalytic Reduction units to control NO_X emissions from each combustion turbine and the duct burners,
4) One Cooling Tower with nine (9) individual cells equipped with drift eliminators,

5) One Auxiliary Boiler to maintain the system in hot/ready standby,
6) One Emergency Diesel Generator limited to 500 hours.

The facility is currently operating as authorized by Permit No. 2007-115-TVR (M-2), issued on August 27, 2012. The modification will propose new startup and shutdown CO emission limits for EU 1-03 and 1-04. The original startup and shutdown CO emission limits have proven to be unachievable on a consistent basis. A voluntary disclosure was submitted on June 8, 2012. The compliance and enforcement section was updated periodically with the status of the CO startup and shutdown emissions. EU 1-03 and 1-04 were adjusted to reduce CO emissions. Emissions were monitored through the end of 2012 to get a reasonable average performance of the units so that an informed decision could be made concerning what CO emission limits would ensure consistent compliance.

The initial estimate for CO startup and shutdown emissions for EU 1-03 and 1-04 were based on EU 1-01 and 1-02. However, the new turbines have a different burner configuration (burner lite) than the traditional diffusion/premix configuration installed on the existing turbines. Very little data was available for the Siemens "burner lite" configuration. The units were optimized for efficient startup and shutdown emissions while maintaining safe and reliable operation. The absence of the diffusion mode with the "burner lite" configuration significantly reduces startup and shutdown NO_X emissions. Another advantage is that it enables the combustion turbines to be turned down to lower loads in the band of normal operation and maintain compliance with the normal operation limits. This flexibility improves the ability of system operations to follow load demand and off-set more intermittent generation sources while enabling compliance with the NERC (North American Electric Reliability Council) requirements to continuously maintain a reserve of spinning power, typically called spinning reserve. There are also times when improvement in lower load operation may allow a unit to remain online during periods of low demand as opposed to shutting down and starting back up a few hours later. This can effectively reduce net emissions of NO_X and CO over the short term.

The facility is also proposing to further subdivide startup into two separate categories, hot and cold, as compared to the current emission limit for all startup modes. Hot startup would be defined as a startup that occurs within 12-hours of the previous shutdown. Cold startup would be defined as a startup that occurs greater than 12-hours from the previous shutdown. The facility will utilize the currently installed continuous emission monitoring systems (CEMS) to show compliance with the new CO startup and shutdown emission limits.

SECTION II. FACILITY DESCRIPTION

The facility contains four combined cycle gas turbines (CCGT) firing exclusively natural gas. Hot exhaust gases from the gas turbines are passed through separate drum-type heat recovery steam generators (HRSG) where the heat is converted to steam. Steam from paired CCGT (EU 1-01 & 1-02, and EU 1-03 & 1-04) drive two separate conventional steam turbines. Waste heat is rejected through a condenser and mechanical draft-cooling tower.

EU 1-01 and 1-02 are Siemens KWU, Model V84.3A, advanced gas turbine design with a rated output of 176 MW (1,783 MMBTUH) at IS0 conditions. This model utilizes Siemens hybrid burner ring combustor designed for pre-mix firing above 60 percent output. This machine has a 15-stage compressor and 4-stage turbine. Advanced design features, in addition to the low-NO_X hybrid burner ring combustor, include single crystal blade castings and extensive use of film cooling. Film cooling ensures high cooling efficiency in the first two turbine stages. The design allows slightly higher firing temperatures, higher exhaust temperatures, and improved heat rates, in both simple and combined cycle modes.

The HRSG, for EU 1-01 and 1-02, are three-pressure level boilers (low, intermediate, and high) with superheat and reheat sections. The gas turbines exhaust gases at about 1,050 °F that contact the boiler surfaces and transfer heat to the feed water and steam. This arrangement enables higher efficiencies of the combined cycle power plant by using the exhaust gas energy. Each HRSG produces about 375,000 pounds of steam per hour at 1,566 psia and 1,016 °F. The HRSGs house a selective catalytic reduction (SCR) system for each unit to reduce NO_X emissions.

EU 1-03 and 1-04 incorporate lean pre-mix dry low-NO_X combustors as well as the add-on Selective Catalytic Reduction (SCR) to minimize NO_X formation. In addition, these units utilize a new Siemens technology that allows the combustion turbines to operate in the pre-mix mode throughout the load range. In the pre-mix mode, fuel combustion is more efficient and results in lower NO_X emissions. In contrast, the existing units must reach approximately 60% of the rated turbine load before pre-mix operation is permissible.

Each HRSG, for EU 1-03 and 1-04, is a three-pressure, superheat and reheat, duct fired, natural circulation unit with a horizontal gas turbine exhaust flow receiver containing vertical heat tube transfer sections. Both HRSG may utilize duct firing at 100 percent load. Duct firing generates additional heat (99 MMBTUH each) to the exhaust gases of the combustion turbines by burning natural gas. This heat energy is then converted to steam and electricity.

The primary consumers of the steam are a reheat, condensing steam turbine. It consists of a high pressure section, which receives high-pressure superheated steam from the HRSGs and exhausts to the reheat section of the HRSG. The steam from the reheat section is then supplied to the intermediate-pressure section of the turbine, which expands to the low-pressure section. The low-pressure section of the steam turbine also receives excess low-pressure superheated steam from the HRSGs and exhausts to the condenser unit.

The combustion gas turbine generators are shut down as necessary for scheduled maintenance, or as dictated by economic or electrical demand.

The cooling towers, for the two pairs of turbines, are two nine cell mechanical draft towers with up to seven cycles of concentration. Drift (water loss) from the towers is about 15,000-18,000 gallons (i.e., 0.0005% of total water flow) each per day at full load. Water treatment chemicals are non-chromium chemicals including sodium hypochlorite (14 lbs/day) and sulfuric acid (5,000 gallons/year). The facility may also use NALCO 1333T, a scale inhibitor/corrosion inhibitor (300-310 lbs/day) and/or NALCO 7330 a non-oxidizing biocide (1,200 lbs/year). In addition, a liquid dispersant, NALCO 8301 D is used at an approximate rate of 6.8 lbs/day.

The facility also includes two auxiliary boilers and a fuel gas heater that fire natural gas only and are equipped with low-NO_X burner control. The auxiliary boilers are utilized to maintain the turbine systems in hot-ready standby. This helps minimize the duration of the startup period for each turbine, which lowers the overall emissions. The fuel gas heater is used predominantly during winter months to heat a glycol/water solution that will circulate in a small heat exchanger preheating the supply of gas to prevent icing. There are also four pressurized 10,000-gallon anhydrous ammonia tanks, two emergency generator engines (diesel-fired), and a fire pump engine (diesel-fired). The emergency generators' engines and fire pump engine are limited to 500 hours.

The plant is designed for base load operation, but has the ability to cycle. Other than specified maintenance periods, the plant is designed to have an availability of over 90 percent. However, emissions estimates for this permit were based on continuous operation and 100% load. Other than startup, shutdown, and malfunctions, both combustion turbines are operated at approximately 60 percent rated turbine load and above to assure operations in the "pre-mix" mode. Pre-mix is the operating mode for the burner that optimizes combustion efficiency and produces the lowest NO_X emissions. However, elevated levels of NO_X and CO can result during cold startups and/or in the diffusion mode for periods up to four hours. Although the permit does limit the diffusion mode of operation to four hours, the auxiliary boiler may shorten this time to three hours, under normal operating conditions. (i.e outside startup, shutdown, and malfunctions).

SECTION III. EQUIPMENT

EUG 1. Electric Generating Units

EU	Name & Make	Heat Capacity (MMBTUH)	Serial #	Installed Date
1-01	Siemens V84.3A	1,783	800390	1999
1-02	Siemens V84.3A	1,783	800394	1999
1-03	Siemens V84.3A w/Duct Burner	1,882	800451	2009
1-04	Siemens V84.3A w/Duct Burner	1,882	800461	2009

EUG 2. Auxiliary Boilers

EU	Make/Model	Heat Capacity (MMBTUH)	Serial #	Installed Date
2-01	Donlee	33.5	9920891	1999
2-02	Superior 4-X-4502-5150-PFCF-G	37.7	100935707	2009

EUG 3. Fuel Gas Water Bath Heater

EU	Make/Model	Heat Capacity (MMBTUH)	Serial #	Installed Date
3-01	ThermoFlux/CryoFlux	18.8	9105	1999

EUG 4. Emergency Diesel Generators

EU	Make/Model	hp	Serial #	Installed Date
4-01	Detroit Diesel/T1237K36	2,200	5262000436	2000
4-02	Caterpillar 3516C	2,937	CCSBJ00955	2009

EUG 5. Emergency Fire Pump (Diesel)

EU	Make/Model	hp	Serial #	Installed Date
5-01	Caterpillar/3306- A552598	267	64Z29015	1999

EUG 6. Cooling Towers

EU	Make/Model	No. of Towers	Installed Date
6-01	Psychometrics, Inc. Forced Draft	9	1999
6-02	Psychometrics, Inc. Forced Draft	9	2009

SECTION III. EMISSIONS

Emissions are generated from combustion in the turbines, duct burners, auxiliary boiler, fuel gas water bath heater, and to a much smaller extent the backup diesel generators and fire water pump engine. A small amount of VOC emissions are expected from the diesel storage tanks and a small amount of PM emissions from the cooling towers. Ammonia is supplied to the SCR process in amounts slightly above the stoichiometric requirement, so there will be some emissions of ammonia, called “ammonia slip,” in the exhaust.

A. Criteria Pollutants

Emissions from EU 1-01 and 1-02 are based on continuous operation, use of SCR, and the manufacturer's data listed below:

Manufacturer's Data for EU 1-01 & 1-02

Pollutant	Units	Concentration
NO_X	ppmvd @ 15% O_2	12.0
CO	ppmvd @ 15% O_2	10.0
VOC	ppmvd @ 15% O_2	0.3
Ammonia	ppmvd @ 15% O_2	10.0

Although the plant is expected to operate at a 70 to 75% capacity factor, short and long term emissions for the turbines were based on 100% load since this resulted in the highest emissions. VOC emissions are estimated at 0.0028 lb/MMBTU for the turbines. SO_2 emissions, from the turbines are estimated at 0.00056 lb/MMBTU based on usage of natural gas with a sulfur content of 0.25 grains/100 SCF. PM_{10} emissions, from the turbines are estimated at 0.0035 lb/MMBTUH based on stack testing of a similar unit.

Emissions from the Electrical Generating Units 1-01 & 1-02

	NO_X		**CO**		**VOC**		**SO_2**		**$PM_{10}/PM_{2.5}$**	
EU	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**
1-01	86.70	379.75	59.00	258.42	4.99	21.87	1.00	4.38	6.24	27.33
1-02	86.70	379.75	59.00	258.42	4.99	21.87	1.00	4.38	6.24	27.33
Subtotal	**173.40**	**759.50**	**118.00**	**516.84**	**9.98**	**43.74**	**2.00**	**8.76**	**12.48**	**54.66**

1 - lb/hr emissions are based on the worst case scenarios for the turbines.

Estimated NO_X Emissions (Per Unit) Combustion Turbines 1-01 & 1-02

	Event	**Number**	**Total**			
Operating Mode	**Duration (hr)**	**of Events**	**Hours**	**lb/event**	**lb/hr**	**TPY**
Cold Startup	4	20	120	568	142.00	5.68
Warm Startup	3	120	360	426	142.00	25.56
Hot Startup	2.5	100	250	355	142.00	17.75
Shutdown	1	240	240	142	142.00	17.04
Normal	----	----	7,790	N/A	15.25	59.42
Total						**125.45**

Estimated CO Emissions (Per Unit) Combustion Turbines 1-01 & 1-02

Operating Mode	Event Duration (hr)	Number of Events	Total Hours	lb/event	lb/hr	TPY
Cold Startup	4	20	120	1,596.00	399.00	15.96
Warm Startup	3	120	360	1,197.00	399.00	71.82
Hot Startup	2.5	100	250	997.50	399.00	49.88
Shutdown	1	240	240	399.00	399.00	47.88
Normal	----	----	7,790	N/A	51.32	199.89
Total						**385.43**

During startups and shutdowns, alternate short term emission limits apply to the combustion turbines. The short term emission limits for each combustion turbine during startup and shutdown are shown below:

Startup & Shutdown Emission Limits for EU 1-01 & 1-02

Event	Maximum Duration (hr)	NO_X Emissions (lbs/event)	CO Emissions (lbs/event)
Startup	4	568	1,596
Shutdown	1	142	399

Emissions from EU 1-03 and 1-04 are based on continuous operation, use of SCR, and the manufacturer's data listed below:

Manufacturer's Data for EU 1-03 & 1-04

Pollutant	Units	Concentration
NO_X	ppmvd @ 15% O_2	2.0
CO	ppmvd @ 15% O_2	8.0
VOC	ppmvd @ 15% O_2	0.3
Ammonia	ppmvd @ 15% O_2	10.0

Although the plant is expected to operate at a 70 to 75% capacity factor, short and long term emissions for the turbines were based on 100% load since this resulted in the highest emissions. VOC emissions, from the turbines with duct burners firing, are estimated at 0.0028 lb/MMBTU for the turbines with duct burners. SO_2 emissions, from the turbines with duct burners firing, are estimated at 0.00056 lb/MMBTU based on usage of natural gas with a sulfur content of 0.25 grains/100 SCF. PM_{10} emissions, from the turbines with duct burners firing, are estimated at 0.0035 lb/MMBTUH based on stack testing of a similar unit. Since market forces and other factors may force the facility to experience many startups and shutdowns during the course of a year an analysis of annual emissions for NO_X and CO based on the historical number of startups and shutdowns was used to determine annual emissions. Startup and shutdown are not expected to affect emissions of VOC, SO_2, and PM_{10}.

Emissions from the Electrical Generating Units 1-03 & 1-04

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr[1]**	**TPY[2]**	**lb/hr[1]**	**TPY[2]**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**
1-03	15.25	125.45	51.32	588.81	5.27	23.08	1.06	4.62	10.54	46.16
1-04	15.25	125.45	51.32	588.81	5.27	23.08	1.06	4.62	10.54	46.16
Subtotal	**30.50**	**250.90**	**102.64**	**1,177.6**	**10.54**	**46.16**	**2.12**	**9.24**	**21.08**	**92.32**

1 - lb/hr emissions are based on the worst case scenarios for the turbines with the duct burners firing.

2 - TPY values include startup emissions based on a representative sample of data from the existing units and 8,760 hours of operation.

Estimated NO_X Emissions (Per Unit)
Combustion Turbines W/Duct Burner EU 1-03 & 1-04

	Event	Number	Total			
Operating Mode	**Duration (hr)**	**of Events**	**Hours**	**lb/event**	**lb/hr**	**TPY**
Cold Startup	4	20	120	568	142.00	5.68
Warm Startup	3	120	360	426	142.00	25.56
Hot Startup	2.5	100	250	355	142.00	17.75
Shutdown	1	240	240	142	142.00	17.04
Normal	----	----	7,790	N/A	15.25	59.42
Total						**125.45**

Estimated CO Emissions (Per Unit)
Combustion Turbines W/Duct Burner EU 1-03 & 1-04
From Permit No. 2007-115-C (M-1) PSD

	Event	Number	Total			
Operating Mode	**Duration (hr)**	**of Events**	**Hours**	**lb/event**	**lb/hr**	**TPY**
Cold Startup	4	20	120	1,596.00	399.00	15.96
Warm Startup	3	120	360	1,197.00	399.00	71.82
Hot Startup	2.5	100	250	997.50	399.00	49.88
Shutdown	1	240	240	399.00	399.00	47.88
Normal	----	----	7,790	N/A	51.32	199.89
Total						**385.43**

Proposed Estimated CO Emissions (Per Unit)
Combustion Turbines W/Duct Burner EU 1-03 & 1-04

	Event	Number	Total			
Operating Mode	**Duration (hr)**	**of Events**	**Hours**	**lb/event**	**lb/hr**	**TPY**
Cold Startup	2	60	120	4,500	2,250.00	135.00
Hot Startup	2	180	360	1,750	875.00	157.50
Shutdown	1	240	240	750	750.00	90.00
Normal	----	----	8,040	N/A	51.32	206.31
Total						**588.81**

CO emissions will increase by 407 TPY from the original construction permit.

During startups and shutdowns, alternate short term emission limits apply to the combustion turbines. The short term emission limits for each combustion turbine during startup and shutdown are shown below:

Startup & Shutdown Emission Limits for EU 1-03 & 1-04

Event	Maximum Duration (hr)	NO_X Emissions (lbs/event)	CO Emissions (lbs/event)
Startup-Hot	2	568	1,750
Startup-Cold	2	568	4,500
Shutdown	1	142	750

Emissions from the auxiliary boilers and fuel gas water bath heater are based on manufacturer's data and 8,760 hours/year of operation.

Emissions from the Auxiliary Boiler

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
2-01	2.36	10.34	5.02	21.99	0.54	2.37	0.03	0.14	0.34	1.49
2-02	2.66	11.63	5.65	24.74	0.61	2.66	0.03	0.15	0.38	1.68

Emissions from the Fuel Gas Water Bath Heater

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
3-01	2.70	11.83	0.39	1.71	0.10	0.44	0.01	0.04	0.10	0.44

NO_X, CO, VOC, and PM emissions from EU 4-01, the backup diesel generator engine, are based on AP-42 (10/96), Section 3.4 and 500 hours/year of planned operation. NO_X, CO, VOC, and PM emissions from EU 4-02, the backup diesel generator engine, are based on NSPS, Subpart IIII emission limits (NET testing limit for lb/hr) and 500 hours/year of planned operation. NO_X, CO, VOC, and PM emissions from the diesel fire water pump engine are based on AP-42 (10/96), Section 3.3 and 500 hours/year of planned operation. SO_2 emissions for the emergency generator engines and fire pump engine are based on AP-42 (10/96), Section 3.4 and a fuel sulfur content of 0.05 % sulfur by weight.

Emissions from the Emergency Diesel Generators

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
4-01	52.80	13.20	12.10	3.03	1.41	0.35	0.89	0.22	1.54	0.39
4-02[1]	38.63	7.77	21.24	4.21	2.07	0.52	1.19	0.30	1.21	0.24

[1] – Based on § 89.112 Tier II Standards (lb/hr estimates are based on the NTE testing limits); NO_X is inclusive of NMHC. VOC emissions are estimated based on the AP-42 (10/96), Section 3.4 TOC factor.

Emissions from the Emergency Fire Pump (Diesel)

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
5-01	8.28	2.07	1.78	0.45	0.66	0.17	0.11	0.03	0.59	0.15

Emissions from each of the cooling towers were based on a conservative estimate of 10,920-ppmw of Total Dissolved Solids (TDS) in the cooling tower drift and a total circulating water flow of 130,000 gallons per minute. The expected drift is approximately 0.0005% of the circulating water flow.

Emissions from the Cooling Tower

	NOx		CO		VOC		SO_2		PM_{10}	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
6-01	--	--	--	--	--	--	--	--	3.55	15.56
6-02	--	--	--	--	--	--	--	--	3.55	15.56

Facility Wide Criteria Pollutant Emissions from the Facility

	NOx		CO		VOC		SO_2		PM_{10}	
EUs	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
1-01 & 02	173.40	759.50	118.00	516.84	9.98	43.74	2.00	8.76	12.48	54.66
1-03 & 04	30.50	250.90	102.64	1,177.62	10.54	46.16	2.12	9.24	13.18	57.72
2-01	2.36	10.34	5.02	21.99	0.54	2.37	0.03	0.14	0.34	1.49
2-02	2.66	11.63	5.65	24.74	0.61	2.66	0.03	0.15	0.38	1.68
3-01	2.70	11.83	0.39	1.71	0.10	0.44	0.01	0.04	0.10	0.44
4-01	52.80	13.20	12.10	3.03	1.41	0.35	0.89	0.22	1.54	0.39
4-02	38.63	7.77	21.24	4.21	2.07	0.52	1.19	0.30	1.21	0.24
5-01	8.28	2.07	1.78	0.45	0.66	0.17	0.11	0.03	0.59	0.15
6-01	--	--	--	--	--	--	--	--	3.55	15.56
6-02	--	--	--	--	--	--	--	--	3.55	15.56
Total	**311.33**	**1,067.2**	**266.82**	**1,750.6**	**25.91**	**96.41**	**6.38**	**18.88**	**36.92**	**147.89**

B. Hazardous Air Pollutants (HAPs)

HAP emissions from the turbines are based on AP-42, Section 3.1 (4/2000). HAP emissions from the auxiliary boiler and heater are based on AP-42, Section 1.4 (7/98). HAP emissions from the emergency generator and fire water pump are based on AP-42, Sections 3.4 and 3.3 (10/96), respectively. Only emissions greater than 1.0E-3 (lb/hr and TPY) are listed.

		HAP Emissions	
HAP	**CAS #**	**lb/hr**	**TPY**
1,3-Butadiene	106990	0.004	0.015
Acetaldehyde	75070	0.295	1.285
Acrolein	107028	0.049	0.205
Arsenic	7440382	0.000	0.002
Barium	7440393	0.110	0.382
Benzene	71432	0.278	1.220
Ethylbenzene	100414	0.235	1.028
Formaldehyde	50000	5.177	22.661
Hexane	110543	0.162	0.708
Naphthalene	91203	0.012	0.043
POM	N/A	0.022	0.070
Propylene Oxide	75569	0.116	0.499
Toluene	108883	0.958	4.176
Xylene	1330207	0.472	2.055

C. Greenhouse Gas (GHG) Emissions

Potential GHG emissions are estimated at approximately 3.8 billion tons per year based on the total heat input for facility, 40 CFR Part 98, Subpart C default factors for natural gas and diesel, and the global warming potentials for each pollutant.

SECTION IV. PSD REVIEW

Since the facility is relaxing the CO startup and shutdown emission limits, the CO startup and shutdown BACT has to be revised.

A. Best Available Control Technology (BACT)

Methodology

A BACT analysis is required for each new or physically modified emissions unit for each pollutant which exceeds an applicable PSD Significant Emission Rate (SER). The pollutant subject to review is CO.

BACT must be at least as stringent as any NSPS applicable to the emissions source. After determining whether any NSPS is applicable, the first step in this approach is to determine for the emission unit in question the most stringent control available for a similar or identical source or source category. If it can be shown that this level of control is technically infeasible for the unit in question, the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical or environmental concerns. The remaining technologies are evaluated on the basis of operational and economic effectiveness. The EPA-required top-down BACT approach must look not only at the most stringent emission control technology previously approved, but it also must evaluate all demonstrated and potentially applicable technologies, including innovative controls, lower polluting processes, etc.

Presented below are the five basic steps of a top-down BACT review procedure as identified by the U.S. EPA in the March 15, 1990, Draft BACT Guidelines:

Step 1. Identification of all control technologies
Step 2. Determination of technical feasibility of control options
Step 3. Ranking of remaining control technologies by control effectiveness
Step 4. Evaluation of most effective controls and document results
Step 5. Selection of BACT

Control technologies and related emissions data were identified through a review of EPA's RACT/BACT/LAER Clearinghouse (RBLC), as well as EPA's NSR and CTC websites, recent DEQ BACT determinations for similar facilities, and vendor-supplied information.

BACT Evaluation, Turbines (Startup/Shutdown), in Permit No. 2007-115-C (M-1) PSD
A review of the EPA's RBLC database in April 2008 did not identify any control technologies for gas turbines specifically during the startup and shutdown periods. Therefore, BACT was selected as a limit on the quantity of emissions during startup and shutdown while minimizing the startup and shutdown periods.

Event	Maximum Duration (hr)	CO Emissions (lbs/event)
Startup	4	1,596
Shutdown	1	399

Revised BACT Evaluation, Turbines (Startup/Shutdown)
A review of the EPA's RBLC database in January 2013 did not identify any control technologies for gas turbines specifically during the startup and shutdown periods. Therefore, BACT was selected as a limit on the quantity of emissions during startup and shutdown while minimizing the startup and shutdown periods.

Event	Maximum Duration (hr)	CO Emissions (lbs/event)
Startup-Hot	2	1,750
Startup-Cold	2	4,500
Shutdown	1	750

B. Air Quality Impacts

Prevention of Significant Deterioration (PSD) is a construction permitting program designed to ensure air quality does not degrade beyond the National Ambient Air Quality Standards (NAAQS) or beyond specified incremental amounts above a prescribed baseline level. The PSD rules set forth a review procedure to determine whether a source will cause or contribute to a violation of the NAAQS or maximum increment consumption levels. If a source has the potential to emit a pollutant above the PSD significance levels, then it triggers this review process.

EPA has provided significance impact levels (SIL) for the PSD review process to determine whether a source will cause or contribute to a violation of the NAAQS or consume increment. A revised air quality impact analysis was conducted for CO to determine if ambient impacts would be above the SIL and monitoring significance levels (MSL). If impacts are above the SIL, a radius of impact (ROI) is defined for the facility for each pollutant out to the farthest receptor at or above the SIL. If a ROI is established for a pollutant, then a full impact analysis is required for that pollutant. If the air quality analysis does not indicate a ROI, no further air quality analysis is required for the Class II area.

The ROI is used to determine the distance out to which nearby sources need to be reviewed for inclusion in the NAAQS and increment modeling. The nearby source inventories for each pollutant that exceeded the SIL were obtained from the AQD using the determined ROI. Inventory sources included in the full impact analysis are generally sources that are within the ROI plus 50 km.

AERMOD (12345) was used for the modeling analyses. AERMOD is a refined, steady-state, multiple source, Gaussian dispersion model and is the preferred model for these analyses. The modeling analysis was performed using the regulatory default models settings, which include stack heights adjusted for stack-tip downwash and missing data processing.

Source and building elevations were obtained from engineering elevation drawings. Receptor terrain elevations entered into the model were the highest elevations extracted from USGS 7.5 minute digital elevation model (DEM) data of the area surrounding the proposed site. For each receptor elevation, the maximum terrain elevation associated with the four DEM points surrounding the receptor will be selected.

In order to account for building wake effects, direction-specific building dimensions used as input to the model were calculated using the algorithms of the Building Profile Input Program (BPIP). BPIP is designed to incorporate the concepts and procedures expressed in the GEP Technical Support document, and the Building Downwash Guidance document while incorporating the enhancements to improve prediction of ambient impacts in building cavities and wake regions.

As described in the *Air Dispersion Modeling Guidelines for Oklahoma Air Quality Permits*, meteorological data was derived from Oklahoma Mesonet surface data, National Climactic Data Center (NCDC) Integrated Surface Hourly (ISH) data, and FSL/NCDC Radiosonde upper air data. Oklahoma Mesonet data was provided to the AQD courtesy of the Oklahoma Mesonet, a cooperative venture between Oklahoma State University and The University of Oklahoma and supported by the taxpayers of Oklahoma. The model runs were performed using 2006-2010 meteorological data using NWS surface observations from Tulsa, upper air measurements from Springfield, Missouri, and adjusting the surface data using the Oklahoma Mesonet data from Pryor, OK. The 2006-10 data set used in this analysis was provided by the AQD.

Three Cartesian grids for the modeling analyses were defined as follows:

1. A fence line grid containing receptors spaced at 50-meter (m) intervals along the facility fence line.
2. A 100-m grid containing receptors spaced at 100-m intervals extending 1.0 km from the fence line, exclusive of the fence line grid.
3. A 250-m grid containing receptors spaced at 250-m intervals extending 2.5 km from the fence line, exclusive of the 100-m grid.
4. A 500-m grid containing receptors spaced at 500-m intervals extending 5.0 km from the fence line, exclusive of the 250-m grid.
5. A 750-m grid containing receptors spaced at 750-m intervals extending 7.5 km from the

fence line, exclusive of the 500-m grid.

6. A 1-km grid containing receptors spaced at 1-km intervals extending 20.0 km from the fence line, exclusive of the 750-m grid.

Significance Analyses

In addition to emissions from normal operations, the modeling analysis included emissions from startup and shutdown periods of operation. The combustion turbines operate under several different types of startup conditions, as described below. During these startup and shutdown periods, the combustion turbine typically exhibits CO emission levels greater than what is listed in the manufacturer's emission guarantee, which corresponds to normal operations. The facility has made very conservative estimates regarding the duration of each of these startup events and their expected emission rates based on a combination of manufacturer-provided data and the operating performance of the existing turbines. Modeled CO emissions are based on the specific event durations.

The modeled emissions were based on the short term (lb/hr) emission rate.

Modeled Source Emissions

EU #	EU Description	CO (g/s)	CO (lb/hr)
1-03	Turbine No.3	598.49	4,750
1-04	Turbine No.4	598.49	4,750
2-02	Auxiliary Boiler No.2	0.63	5.0
3-02	Fuel Gas Heater No.2	0.05	0.4

A summary of results from the significance analysis is shown below.

Class II Area Significance Analysis Results

Pollutant	Averaging Period	SIL µg/m^3	Max Impact µg/m^3	Full Impact Analysis Required?
CO	**1-hr**	**2,000**	**3,628**	**Yes**
	8-hr	**500**	**2,100**	**Yes**

As seen above, CO impacts exceeded the respective SIL and require a full impact analysis. Since there are no increments for CO a Class I or Class II Increment analysis was not required. The modeling results were then compared to the MSL.

Monitoring Significance Level Comparison

Pollutant	Averaging Period	MSL µg/m^3	Max Impact µg/m^3
CO	**8-hr**	**575**	**2,100**

The CO impacts exceed the MSL. However, an existing monitoring site was used to determine the background concentration. Since impacts from the project are less than 25% of the NAAQS and current monitoring data is less than 20% of the NAAQS, the project does not threaten the NAAQS. No additional monitoring will be required of the facility.

NAAQS Analysis

Significance results indicated that the furthest significance receptor for CO was located approximately 20 km from the plant, resulting in an ROI of 70 kilometers. The inventory source data provided by the AQD included review of all major sources located 70 km from the plant and all minor sources within 10 km. To complete the NAAQS Analysis, the proposed emissions from the facility were modeled simultaneously with the emissions from the NAAQS sources identified in the inventory provided by the AQD. A full list of the sources used in the modeling was provided in the application. Permit allowable emission rates were modeled for all short-term averaging periods. The background concentrations were added to the modeled concentration for comparison with the NAAQS.

Monitoring data from the state's network of ambient monitors was utilized to develop background concentrations for use in NAAQS analysis. The north Tulsa monitor was used as the most representative monitoring data and is located north of an industrial area similar to the Pryor Mid-America Industrial Park.

NAAQS Background Concentrations

	Averaging	Concentrations		Monitor	
Pollutant	**Period[1]**	**ppm**	**µg/m³**	**Site ID**	**Year**
CO	1-hr	1.85	2,118	401431127	2012
CO	8-hr	1.20	1,374	401431127	2012

[1] – The second highest concentration of the most recent data.

The results of the NAAQS analysis and including background concentrations are summarized below.

NAAQS Analyses Results

	Averaging	Impact	Background	Total	NAAQS
Pollutant	**Period**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**
CO	1-hr	2,958	2,118	5,076	40,000
CO	8-hr	1,866	1,374	3,240	10,000

C. Evaluation of Source-Related Impacts on Growth, Soils, Vegetation, Visibility

The change in permitted CO emissions does not affect impacts on growth, soils, vegetation, and visibility so these issues were not addressed.

SECTION V. INSIGNIFICANT ACTIVITIES

The insignificant activities identified and justified in the application are duplicated below. Records are available to confirm the insignificance of the activities. Appropriate recordkeeping of activities indicated below with "*" is specified in the Specific Conditions.

1. * Stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or distillate fuel oil which are used exclusively for emergency power generation not to exceed 500 hours/year. The backup diesel generator is used for emergency power generation and is not expected to operate more than 500 hours/year. Engine subject to NESHAP or NSPS are not insignificant activities.

2. Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTU/hr heat input (commercial natural gas). None identified but may be used in the future.

3. * Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature. None identified but may be used in the future.

4. * Activities that have the potential to emit no more than 5 TPY (actual) of any criteria pollutant. None identified but may be used in the future.

SECTION VI. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards. Compliance with the NAAQS is addressed in the "PSD Review" section.

OAC 252:100-5 (Registration, Emission Inventory, And Annual Fees) [Applicable]
The owner or operator of any facility that is a source of air emissions shall submit a complete emission inventory annually on forms obtained from the Air Quality Division. This facility has recently submitted the required emission inventories and has paid the applicable or fees.

OAC 252:100-8 (Major Source/Part 70 Permits) [Applicable]
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the "Insignificant Activities" or "Trivial Activities" thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for single HAP that the EPA may establish by rule

Emissions limitations have been established for each emission unit based on information from the permit application and Permit No. 2007-115-TVR.

OAC 252:100-9 (Excess Emission Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for affirmative defense, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]
Subchapter 19 regulates emissions of particulate matter from fuel-burning equipment. Particulate emission limits are based on maximum design heat input rating. For units less than 1,000 MMBTUH but greater than 10 MMBTUH, the allowable PM emissions are calculated using the formula: $E = 1.042808\ X^{(-0.238561)}$, where E is the limit in lb/MMBTU and X is the maximum heat input. For units greater than or equal to 1,000 MMBTUH, the allowable PM emissions are calculated using the following formula $E = 1.60\ X^{(-0.30103)}$, where E is the limit in lb/MMBTU and X is the maximum heat input. The EU listed below are subject to the requirements of this subchapter and will be in compliance as shown.

Equipment	Max. Heat Input (MMBTUH) (HHV)	Allowable PM Emission Rate (lb/MMBTU) (HHV)	Potential PM Emissions (lb/MMBTU) (HHV)
Turbines (EU 1-01 & 1-02)	1,783	0.168	<0.01
Turbines (EU 1-03 & 1-04)	1,882	0.165	<0.01
Auxiliary Boiler (EU 2-01)	33.5	0.451	0.01
Auxilary Boiler (EU 2-02)	37.7	0.438	0.01
Fuel Gas Water Bath Heater	18.8	0.518	0.01
Backup Generators (2)	<10	0.600	0.10
Diesel Fire Water Pump	<10	0.600	0.31

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences, which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. All of the emission units are subject to this subchapter. The turbines, Auxiliary Boiler, and Fuel Gas Water Bath Heater will assure compliance with this rule by ensuring "complete combustion" and utilizing pipeline-quality natural gas as fuel. The Backup Diesel Generator and the Diesel Fire Water Pump assure compliance with this rule by ensuring "complete combustion."

OAC 252:100-29 (Fugitive Dust) [Applicable]
No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originated in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. No activities are expected that would produce fugitive dust beyond the facility property line.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 5 limits sulfur dioxide emissions from new equipment (constructed after July 1, 1972). For gaseous fuels, the limit is 0.2 lb/MMBTU heat input, three-hour average. The permit will require the new/existing turbines to be fired with pipeline-grade natural gas with SO_2 emissions of 2.2/2.0 lb/hr, which is equivalent to 0.001 lb/MMBTU. The auxiliary boiler and fuel gas heater emissions are approximately 0.0009 and 0.004 lb/MMBTU, respectively. The backup diesel generator and diesel fire water pump fire diesel fuel with a maximum sulfur content of 0.05 % by weight. This fuel will produce emissions of approximately 0.05 lb/MMBTU, which is well below the allowable emission limitation of 0.8 lb/MMBTU for liquid fuels.
Part 5 also requires an opacity monitor and sulfur dioxide monitor for equipment rated above 250 MMBTU. Equipment burning gaseous fuel is exempt from the opacity monitor requirement, and equipment burning gaseous fuel containing less than 0.1 percent sulfur is exempt from the sulfur dioxide monitoring requirement, so the turbines do not require such monitoring.

OAC 252:100-33 (Nitrogen Oxides) [Applicable]
This subchapter limits emissions of NO_X from new gas-fired fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to a three-hour average of 0.2 lb/MMBTU. Listed below is the 3-hr average emission limit (lb/hr) of NO_X for each combustion turbine and the equivalent emission rates (lb/MMBTU) based on the maximum heat input, which are below the standard of 0.2 lb/MMBTU. However, for operational flexibility, the permit will establish a limit based on the Subchapter 33 allowable of 0.2 lb/MMBTU, three-hour average. The Auxiliary Boilers, Fuel Gas Water Bath Heater, Backup Diesel Generators, and the Diesel Fire Water Pump are below 50 MMBTUH heat input and are, therefore, not subject to this regulation.

	MMBTUH	**lb/hr**	**lb/MMBTU**
New Turbines	1,882	15.25	0.012
Existing Turbines	1,783	86.70	0.050

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
None of the following affected processes are located at this facility: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. The anticipated diesel tanks will be below the 1.5 psia threshold.
Part 5 limits the VOC content of coatings used in coating lines or operations. This facility will not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is exempt.
Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize emissions of VOC. Temperature and available air must be sufficient to provide essentially complete combustion. The turbines are designed to provide essentially complete combustion of VOC.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant

source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

SECTION VII. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Applicable]

Total potential emissions for NO_X and VOC are greater than the level of significance of 250 TPY. Any future increases of emissions must be evaluated for PSD if they exceed a significance level.

NSPS, 40 CFR Part 60 [Subparts Dc, GG, and IIII are Applicable]

Subpart Da, Electric Steam Generating Units. This subpart affects electric steam generating units with a design capacity greater than 250 MMBTUH constructed after September 18, 1978. The duct burners in the new HRSG are rated at 90 MMBTUH (LHV), and therefore are not subject to Subpart Da. Furthermore, since the turbines are subject to NSPS, Subpart GG, they would be exempt from this subpart as per § 60.40a(b).

Subpart Db, Industrial-Commercial-Institutional Steam Generating Units. This subpart affects electric steam generating units with a design capacity greater than 100 MMBTUH constructed after June 19, 1984. The duct burners in the new HRSG are rated at 90 MMBTUH (LHV), and therefore are not subject to Subpart Db. Furthermore, since the turbines are subject to NSPS, Subpart GG, they would be exempt from this subpart as per § 60.40b(i).

Subpart Dc, Industrial-Commercial-Institutional Steam Generating Units. This subpart affects industrial-commercial-institutional steam generating units with a design capacity between 10 and 100 MMBTUH heat input and which commenced construction or modification after June 9, 1989. For gaseous-fueled units, the only applicable standard of Subpart Dc is a requirement to keep records of the fuels used. The duct burners in the new HRSG are rated at 90 MMBTUH (LHV). However, since the turbines are subject to NSPS, Subpart GG, the duct burners are exempt from this subpart as per § 60.40c(e). The 33 MMBTUH (LHV) and 37 MMBTUH gas-fired auxiliary boilers and 18.8 MMBTUH fuel gas water heaters are affected units as defined in the subpart since the heating capacity is above the de minimis level. Recordkeeping will be specified in the permit.

Subpart GG, Stationary Gas Turbines. This subpart affects combustion turbines which commenced construction, reconstruction, or modification after October 3, 1977, and which have a heat input rating of 10 MMBTUH or more. Each of the new turbines has a rated heat input of greater than 10 MMBTUH and is subject to this subpart.

EPA guideline document EMTIC, GD-009 advises to use zero for the value of F with natural gas-fired turbines. So, the lowest NO_X limit is 0.0075% or 75 ppmdv when Y = 14.4. The NO_X emission limitation for turbines EU 1-01 and 1-02 is 12 ppmdv at 15% O_2 and is therefore more stringent than the Subpart GG standards. Similarly, the NO_X emission limitation for turbines EU 1-03 and 1-04 is 2 ppmdv at 15% O_2 and puts them at an even greater compliance margin compared to the Subpart GG standard. Monitoring fuel for nitrogen content is not required if the owner or operator does not claim an allowance for fuel bound nitrogen per § 60.334(h)(2).

Sulfur dioxide standards specify that no fuel shall be used which exceeds 0.8% by weight sulfur or the exhaust gases shall not contain SO_2 in excess of 150 ppm. The owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted if the gaseous fuel is demonstrated to meet the definition of "natural gas" using either the gas quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract, or using representative fuel sampling data. The maximum total sulfur content of "natural gas" is 20 grains/100 SCF (680 ppmw or 338 ppmv) or less.

Subpart IIII, Stationary Compression Ignition Internal Combustion Engines. This subpart affects stationary compression ignition (CI) internal combustion engines (ICE) based on power and displacement ratings, depending on date of construction, beginning with those constructed after July 11, 2005. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. The existing backup diesel generator (EU 4-01) was manufactured prior to the applicability date of this subpart and is not subject to this subpart. However, the new backup diesel generator (EU 4-02) was manufactured after the April 1, 2006 date (for units procured after July 11, 2005). Therefore, the new unit is subject to the requirements in Subpart IIII. The new unit has a displacement of less than 30 liters and a heat input rating of 1,640.5 kW. According to the NSPS, this unit is subject to the following emission limitations:

NSPS Emission Limits for Emergency Engines

NMHC + NO_X	CO	PM	Opacity		
g/kW-hr (lb/hr)	g/kW-hr (lb/hr)	g/kW-hr (lb/hr)	Acceleration	Lugging	Peak
6.4 (23.15)	3.5 (12.66)	0.2 (0.72)	20%	15%	50%

Subpart KKKK, Stationary Combustion Turbines. This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBTU) per hour, based on the higher heating value of the fuel, that commenced construction, modification, or reconstruction after February 18, 2005. The stationary combustion turbines in this permit were constructed prior the applicability date of this subpart and therefore are not subject to this subpart.

NESHAP, 40 CFR Part 61 [Not Applicable]
There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides, or vinyl chloride except for trace amounts of benzene. Subpart J, Equipment Leaks of Benzene, concerns only process streams that contain more than 10% benzene by weight. Analysis of Oklahoma natural gas indicates a maximum benzene content of less than 1%.

NESHAP, 40 CFR Part 63 [Subparts ZZZZ and DDDDD are Applicable]
Subpart YYYY, Stationary Combustion Turbines. This subpart affects stationary combustion turbines that are located at major source of HAP. This facility is a major source of HAP. On August 18, 2004, the EPA stayed the effectiveness of two subcategories of this subpart: lean premix gas-fired stationary combustion turbines and diffusion flame gas-fired stationary combustion turbines pending the outcome of EPA's proposal to delete these subcategories from the source category list. This facility is a major source but the turbines located at this facility are in the lean premix gas-fired stationary combustion turbine and diffusion flame gas-fired stationary combustion turbine categories and are expected to be deleted from the source category list. They were required to comply with the initial notification requirements set forth in § 63.6145 but do not need to comply with any other requirement of this subpart until EPA takes final action to require compliance and publishes a document in the Federal Register.

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions. Owners and operators of the following new or reconstructed RICE must meet the requirements of Subpart ZZZZ by complying with either 40 CFR Part 60 Subpart IIII (for CI engines) or 40 CFR Part 60 Subpart JJJJ (for SI engines):

1) Stationary RICE located at an area source;
2) The following Stationary RICE located at a major source of HAP emissions:
   i) 2SLB and 4SRB stationary RICE with a site rating of ≤ 500 brake HP;
   ii) 4SLB stationary RICE with a site rating of < 250 brake HP;
   iii) Stationary RICE with a site rating of ≤ 500 brake HP which combust landfill or digester gas equivalent to 10% or more of the gross heat input on an annual basis;

iv) Emergency or limited use stationary RICE with a site rating of ≤ 500 brake HP; and
v) CI stationary RICE with a site rating of ≤ 500 brake HP.

No further requirements apply for engines subject to NSPS under this part. This facility is a major source of HAP. Existing emergency stationary RICE are exempt from this subpart. The existing emergency generator and fire pump engine at this facility is exempt from this subpart. The new emergency generator is subject to this subpart and must meet the requirements of this part by meeting the requirements of 40 CFR Part 60, Subpart IIII, for compression ignition engines.

Subpart DDDDD, Industrial, Commercial and Institutional Boilers and Process Heaters at major sources of HAP. On January 31, 2013, the EPA took final action on its reconsideration of certain issues in the emission standards for the control of HAP from new and existing industrial, commercial, and institutional boilers and process heaters at major sources of HAP. The compliance dates for the rule are January 31, 2016, for existing sources and, January 31, 2013, or upon startup, whichever is later, for new sources. New sources are defined as sources that began operation on or after June 4, 2010. There are three affected units at this facility the two auxiliary boilers and the fuel gas bath water heater. All three of these units are existing sources in the unit designed to burn gas 1 subcategory and are rated greater than 10 MMBTUH. Units with a continuous oxygen trim system that maintains an optimum air to fuel ratio are required to conduct a tune-up of the boiler initially and then every 5 years thereafter as specified in § 63.7540. Units without a continuous oxygen trim system are required to conduct a tune-up of the boiler initially and then every 5 years thereafter as specified in § 63.7540. Units greater than 10 MMBTUH without a continuous oxygen trim system will conduct this tune-up as a work practice for all regulated emissions under this subpart. These affected units must conduct the required initial tune-up by January 31, 2016.

CAM, 40 CFR Part 64 [Not Applicable]

Compliance Assurance Monitoring (CAM), as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source, which is required to obtain a Title V permit, if it meets all of the following criteria:

- It is subject to an emission limit or standard for an applicable regulated air pollutant
- It uses a control device to achieve compliance with the applicable emission limit or standard
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant greater than major source levels.

The turbines use a control device to meet an applicable emission limit and have the potential to emit greater than major source levels. However, the turbines are subject to a continuous monitoring requirement and are exempt from this part per § 64.2(b)(vi).

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable At This Time]
There will be no regulated substances used, stored or processed at the facility above threshold levels as a result of this project except possibly ammonia. If ammonia will be stored above the applicable threshold, the facility will need to comply with the requirements of this part by the date on which the regulated substance (ammonia) is present above the threshold quantity. More information on this federal program is available on the web page: *www.epa.gov/ceppo*.

Acid Rain, 40 CFR Part 72 (Permit Requirements) [Applicable]
This facility is an affected source since it will commence operation after November 15, 1990, and is not subject to any of the exemptions under 40 CFR 72.7, 72.8 or 72.14. Paragraph 72.30(b)(2)(ii) requires a new source to submit an application for an Acid Rain permit at least 24 months prior to the start of operations. However, Mr. Dwight Alpern, U.S. EPA, has confirmed that this requirement was for the benefit of the regulating agency (Oklahoma DEQ) which can waive this requirement and has done so. The applicant submitted a Phase II Acid rain permit application on June 2, 2008.

Acid Rain, 40 CFR Part 73 (SO_2 Requirements) [Applicable]
This part provides for allocation, tracking, holding, and transferring of SO_2 allowances.

Acid Rain, 40 CFR Part 75 (Monitoring Requirements) [Applicable]
The facility shall comply with the emission monitoring and reporting requirements of this Part.
Acid Rain, 40 CFR Part 76 (NO_X Requirements) [Not Applicable]
This part provides for NO_X limitations and reductions for coal-fired utility units only.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subparts A and F are Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

Conditions are included in the standard conditions of the permit to address the requirements specified at §82.156 for persons opening appliances for maintenance, service, repair, or disposal; §82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; §82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; §82.166 for recordkeeping; § 82.158 for leak repair requirements; and §82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

The standard conditions of the permit address the requirements specified at § 82.156 for persons opening appliances for maintenance, service, repair, or disposal; § 82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; § 82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; § 82.166 for recordkeeping; § 82.158 for leak repair requirements; and § 82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

SECTION VIII. COMPLIANCE

Tier Classification

This application has been determined to be Tier II based on the request for a construction permit for a significant modification of a Part 70 source.

The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant has option to purchase the land.

Public Review

The applicant published the "Notice of Filing a Tier II Application" in *The Times* a local newspaper in Mayes County on August 4, 2013. The notice stated that the application was available for public review at the Pryor Public Library and the Air Quality Division's main office at 707 North Robinson, Oklahoma City, Oklahoma. The applicant also published the "Notice of Tier II Draft Permit" in *The Times* a local newspaper in Mayes County on August 4, 2013. The notice stated that the draft permit was available for public review at the Pryor Public Library, the Air Quality Division's main office at 707 North Robinson, Oklahoma City, Oklahoma, and on the Air Quality section of the DEQ Web Page: http://www.deq.state.ok.us/. No comments were received from the public.

State Review
This site is within 50 miles of the Oklahoma – Arkansas and Oklahoma – Missouri borders. The states of Arkansas and Missouri were notified of the draft permit. No comments were received from either state.

EPA Review
This permit was approved for concurrent public and EPA review. The draft permit was forwarded to EPA for a 45-day review period. Since no comments were received from the public, the draft permit was deemed the proposed permit. No comments were received from the EPA.

Fees Paid
Part 70 construction permit modification application fee of $5,000.

SECTION IX. SUMMARY

The applicant has demonstrated the ability to comply with the requirements of the applicable Air Quality rules and regulations. Ambient air quality standards are not threatened at this site. Compliance and enforcement concur with issuance of this permit. Issuance of the permit is recommended.

PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

Associated Electric Cooperative, Inc.
Chouteau Power Plant **Permit No. 2007-115-C (M-3) PSD**

The permittee is authorized to construct/modify in conformity with the specifications submitted to Air Quality on July 1, 2008, August 19, 2011, October 13, 2011, March 5, 2013, and all supplemental materials. The Evaluation Memorandum dated September 3, 2013, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating permit limitations or permit requirements. Commencing construction and/or continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

1. Points of emissions and emissions limitations for each point: [OAC 252:100-8-6(a)]

EUG 1. Electric Generating Units.

Emission limits and standards for Emission Units (EUs) 1-01 and 1-02; The emission limits for each EU include but are not limited to the following:

Pollutant	lb/hr	TPY[3]	ppmvd[1]	lb/MMBTU[5]
NO_X	86.70[2]	379.75	12[3]	0.20[2]
CO	59.00	258.42	10	
VOC	4.99	21.87		
SO_2	1.00	4.38		
PM_{10}	6.24	27.33		0.0035
Ammonia	18.14[4]	79.46		
H_2SO_4	0.15[4]	0.61		

[1] All concentrations are corrected to 15% O_2, per turbine.
[2] Three-hour rolling average, based on contiguous operating hours.
[3] Twelve-month rolling total.
[4] 24-hour average.
[5] Based on HHV.

Emission limits and standards for EU 1-03 and 1-04 (Turbines with Duct Burners); The emissions limits for each EU include but are not limited to the following:

Pollutant	lb/hr	TPY[5]	ppmvd[1]	lb/MMBTU[7]
NO_X	15.25[2]	125.45	2.0[2]	0.20[4]
CO	51.32[3]	588.81	8.0[3, 8]	
VOC	5.27[3]	23.08		
SO_2	1.06[3]	4.62		
PM_{10}	6.59[3]	28.86		0.0035[6, 8]
Ammonia	18.14[6]	79.46		
H_2SO_4	0.15[6]	0.61		

[1] All concentrations are corrected to 15% O_2, per turbine.
[2] One-hour average.
[3] Three-hour average.
[4] Three-hour rolling average, based on contiguous operating hours.
[5] 12-month rolling total.
[6] 24-hour average.
[7] Based on HHV.
[8] At operating levels ≥ 75% load.

a. The turbines shall only be fired with natural gas as defined in New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart GG having 20.0 grains or less of total sulfur per 100 standard cubic feet. Compliance can be shown by the following methods: for gaseous fuel, a current gas company bill, lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once annually. [OAC 252:100-31 & 8-34]

b. The turbines shall be equipped with dry low-NO_X burners. [OAC 252:100-8-34]

c. Emissions from each turbine and duct burner shall be controlled by a properly operated and maintained SCR. [OAC 252:100-8-34]

d. During startups and shutdowns, alternate short term emission limits apply to the combustion turbines. The short term emission limits for each combustion turbine during startup and shutdown are shown below:

i. For EU 1-01 and 1-02

Event	Maximum Duration (hr)	NO_X Emissions (lbs/event)	CO Emissions (lbs/event)
Startup	4	568	1,596
Shutdown	1	142	399

ii. For EU 1-03 and 1-04

Event	Maximum Duration (hr)	NO_X Emissions (lbs/event)	CO Emissions (lbs/event)
Cold Startup	2	568	4,500
Hot Startup	2	568	1,750
Shutdown	1	142	750

e. Hot startup is defined as a startup that occurs within 12-hours of the previous shutdown. Cold startup is defined as a startup that occurs greater than 12-hours from the previous shutdown. Startup ends when the turbine reaches normal operating mode (pre-mix Low-NO_X) and the SCR is operational.

f. The permittee shall keep hourly records of the operational status (startup, shutdown, and normal operation) of each unit.

g. To demonstrate compliance with the NO_X startup and shutdown emission limits, the permittee shall calculate the total NO_X emissions during the event using CEM data and compare it to the limits above.

h. Compliance with the CO emission limits for EU 1-01 and 1-02 shall be based on the duration of the event and compliance with the NO_X emission limit. To demonstrate compliance with the CO startup and shutdown emission limits, for EU 1-03 and 1-04, the permittee shall calculate the total CO emissions during the event using CEM data and compare it to the limits. [OAC 252:100-8-6(a)(1)]

i. Turbines 1-01, 1-02, 1-03, and 1-04 are subject to the NSPS for Stationary Gas Turbines, 40 CFR Part 60, Subpart GG, and shall comply with all applicable requirements. [40 CFR § 60.330 to § 60.335]

i. § 60.332: Standard for nitrogen oxides
ii. § 60.333: Standard for sulfur dioxide
iii. § 60.334: Monitoring of operations
iv. § 60.335: Test methods and procedures
v. Monitoring of the fuel sulfur content is not required if the permittee can demonstrate that the gaseous fuel meets the definition of “natural gas” with a maximum total sulfur content of less than 20 grains/100 SCF (680 ppmw or 338 ppmv) or less using either a current valid purchase contract, tariff sheet, or transportation contract or representative fuel sampling. Monitoring of fuel nitrogen content under NSPS, 40 CFR Part 60, Subpart GG shall not be required unless the permittee claims an allowance for fuel bound nitrogen.

EUG 2. Auxiliary Boilers. Emission limits and standards for EU 2-01 and 2-02 include but are not limited to the following:

	NO_X		CO	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**
2-01	2.36	10.34	5.02	21.99
2-02	2.66	11.63	5.65	24.74

a. The Auxiliary Boilers shall be equipped with low-NO_X burners. [OAC 252:100-8-34]

b. The Auxiliary Boilers shall only be fired with natural gas as defined in NSPS, 40 CFR Part 60, Subpart GG having 20.0 grains or less of total sulfur per 100 standard cubic feet. Compliance can be shown by the following methods: for gaseous fuel, a current gas company bill, lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once annually. [OAC 252:100-31 & 8-34]

c. The permittee shall maintain a record of the amount of natural gas burned in the Auxiliary Boilers for compliance with NSPS, 40 CFR Part 60, Subpart Dc. [40 CFR § 60.48c(g) & § 60.13(i)]

EUG 3. Fuel Gas Water Bath Heater. Emission limits and standards for EU 3-01 include but are not limited to the following:

	NO_X		CO	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**
3-01	2.70	11.83	0.39	1.71

a. The Fuel Gas Water Bath Heater shall only be fired with natural gas as defined in NSPS, 40 CFR Part 60, Subpart GG having 20.0 grains or less of total sulfur per 100 standard cubic feet. Compliance can be shown by the following methods: for gaseous fuel, a current gas company bill, lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once annually. [OAC 252:100-31 & 8-34]

b. The permittee shall maintain a record of the amount of natural gas burned in the Fuel Gas Water Bath Heater for compliance with NSPS, 40 CFR Part 60, Subpart Dc. [40 CFR § 60.48c(g) & § 60.13(i)]

EUG 4A. Backup Diesel Generator. Emission limits and standards for EU 4-01 include but are not limited to the following:

	NO_X		CO	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**
4-01	52.80	13.20	12.10	3.03

a. EU 4-01 the Backup Diesel Generator shall not operate more than 500 hours per in any 12-month period. [OAC 252:100-8-6(a)(1)]

b. EU 4-01 the Backup Diesel Generators shall each be fitted with a non-resettable hour-meter. [OAC 252:100-8-6(a)(3)]

c. EU 4-01 the Backup Diesel Generators shall only be fired with fuel oil with a maximum sulfur content of 0.05% S by weight. Compliance can be shown by the following methods: for fuel oil, supplier's latest delivery ticket(s). Compliance shall be demonstrated at least once annually. [OAC 252:100-31 & 8-34]

d. Replacement (including temporary periods of 6 months or less for maintenance purposes), of the internal combustion engine associated with the Backup Diesel Generator with an engine of lesser or equal emissions of each pollutant (in lbs/hr and TPY) are authorized under the following conditions:

   i. The permittee shall notify AQD in writing not later than 7 days in advance of the start-up of the replacement engine. Said notice shall identify the equipment removed and shall include the new engine make, model, and horsepower; date of the change, fuel usage, stack flow (ACFM), stack temperature (^{o}F), stack height (feet), stack diameter (inches), and pollutant emission rates (g/hp-hr, lbs/hr, and TPY) at maximum rated horsepower for the altitude/location and any change in emissions.

   ii. Replacement equipment and emissions are limited to equipment and emissions which do not subject the engine/turbine to an applicable requirement not already included in this permit.

   iii. The permittee shall calculate the net emissions increase resulting from the replacement to document that it does not exceed significance levels and submit the results with the notice required by Specific Condition 1, EUG 4A, (d). [OAC 252:100-8-6 (f)]

EUG 4B. Backup Diesel Generator Subject to NSPS, Subpart IIII. Emission limits and standards for EU 4-02 include but are not limited to the following:

a. EU 4-02 the Backup Diesel Generator is subject to the federal NSPS for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and shall comply with all applicable requirements: [40 CFR § 60.4200 - § 60.4219]

   What This Subpart Covers

   i. 60.4200 Am I subject to this subpart?

   Emission Standards for Owners and Operators

   ii. 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

   iii. 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

   iv. 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Fuel Requirements for Owners and Operators

v. 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

Other Requirements for Owners and Operators

vi. 60.4208 What is the deadline for importing and installing stationary CI ICE produced in the previous model year?

vii. 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

Compliance Requirements

viii. 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

Testing Requirements for Owners and Operators

ix. 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Notification, Reports, and Records for Owners and Operators

x. 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

General Provisions

xi. 60.4218 What parts of the General Provisions apply to me?

Definitions

xii. 60.4219 What definitions apply to this subpart?

b. EU 4-02 the Backup Diesel Generator shall not operate more than 500 hours per in any 12-month period. [OAC 252:100-8-6(a)(1)]

c. The Backup Diesel Generators shall each be fitted with a non-resettable hour-meter. [OAC 252:100-8-6(a)(3)]

EUG 5A. Emergency Fire Water Pump (Diesel). EU 5-01 is considered an insignificant activity and is limited to the following:

EU	Make/Model	Hp
5-01	Caterpillar/3306- A552598	267

a. EU 5-01 the Emergency Fire Water Pump shall not operate more than 500 hours in any 12-month period. [OAC 252:100-8-6(a)(1)]

b. EU 5-01 the Emergency Fire Water Pump shall be fitted with a non-resettable hour-meter. [OAC 252:100-8-6(a)(3)]

c. The Emergency Fire Water Pump shall only be fired with a fuel oil with a maximum sulfur content of 0.05% S by weight. Compliance can be shown by the following methods: for fuel oil, supplier's latest delivery ticket(s). Compliance shall be demonstrated at least once annually. [OAC 252:100-31 & 8-34]

EUG 6. Cooling Towers. EU 6-01 and 6-02 are considered insignificant activities and are limited to the following standards:

EU	Make/Model	No. of Towers
6-01	Psychometrics, Inc	9
6-02	To be determined	9

a. The Cooling Towers shall be equipped with drift eliminators. [OAC 252:100-8-34]

2. The permittee shall be authorized to operate the turbines, auxiliary boiler, and fuel gas water bath heater continuously (24 hours per day, every day of the year). [OAC 252:100-8-6]

3. The turbines, Auxiliary Boiler, Fuel Gas Water Bath Heater, Backup Diesel Generator, and Emergency Fire Water Pump shall have a permanent (non-removable) identification plate attached which shows the make, model number, and serial number. [OAC 252:100-43]

4. The permittee shall comply with all applicable requirements of NESHAP: Industrial, Commercial, and Institutional Boilers and Process Heaters located at a Major Source (ICE), Subpart DDDDD, for each affected facility including but not limited to:

<u>What This Subpart Covers</u>

a. § 63.7480 What is the purpose of this subpart?
b. § 63.7485 Am I subject to this subpart?
c. § 63.7490 What is the affected source of this subpart?
d. § 63.7491 Are any boilers or process heaters not subject to this subpart?
e. § 63.7495 When do I have to comply with this subpart?

<u>Emission Limitations and Work Practice Standards</u>

f. § 63.7499 What are the subcategories of boilers and process heaters?
g. § 63.7500 What emission limitations, work practice standards, and operating limits must I meet?
h. § 63.7501 Affirmative Defense for Violation of Emission Standards During Malfunction.

<u>General Compliance Requirements</u>

i. § 63.7505 What are my general requirements for complying with this subpart?
j. Testing, Fuel Analyses, and Initial Compliance Requirements
k. § 63.7510 What are my initial compliance requirements and by what date must I conduct them?
l. § 63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?
m. § 63.7520 What stack tests and procedures must I use?
n. § 63.7521 What fuel analyses, fuel specification, and procedures must I use?
o. § 63.7522 Can I use emissions averaging to comply with this subpart?
p. § 63.7525 What are my monitoring, installation, operation, and maintenance requirements?

q. § 63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?
r. § 63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?

Continuous Compliance Requirements

s. § 63.7535 Is there a minimum amount of monitoring data I must obtain?
t. § 63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?
u. § 63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?

Notification, Reports, and Records

v. § 63.7545 What notifications must I submit and when?
w. § 63.7550 What reports must I submit and when?
x. § 63.7555 What records must I keep?
y. § 63.7560 In what form and how long must I keep my records?

Other Requirements and Information

z. § 63.7565 What parts of the General Provisions apply to me?
aa. § 63.7570 Who implements and enforces this subpart?
bb. § 63.7575 What definitions apply to this subpart?

5. The permittee shall comply with all acid rain control permitting requirements and SO_2 emissions allowances and SO_2, NO_X, and O_2 continuous emissions monitoring and reporting. SO_2 emissions shall be monitored in accord with Part 75, Appendix D.

6. When monitoring shows concentrations or emissions in excess of the limits of Specific Condition No. 1, the owner or operator shall comply with the provisions of OAC 252:100-9.
[OAC 252:100-9]

7. The following records shall be maintained on-site to verify Insignificant Activities. No recordkeeping is required for those operations that qualify as Trivial Activities.
[OAC 252:100-8-6 (a)(3)(B)]

a. For stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or distillate fuel oil which are used exclusively for emergency power generation: records of hours of operation, size of engines, and type of fuel.
b. For fluid storage tanks with a capacity of less than 39,894 gallons and a true vapor pressure less than 1.5 psia: records of capacity of the tanks and contents.
c. For activities that have the potential to emit less than 5 TPY (actual) of any criteria pollutant: the type of activity and the amount of emissions from that activity (annual).

8. The permittee shall maintain records of operations as listed below. These records shall be maintained on-site or at a local field office for at least five years after the date of recording and shall be provided to regulatory personnel upon request. [OAC 252:100-8-6 (a)(3)(B)]

a. Total fuel consumption for each turbine, the Auxiliary Boilers and the Fuel Gas Water Bath Heaters (monthly and 12-month rolling totals).
b. Operational status of each combustion turbine as required by Specific Condition No. 1, EUG 1, (f).
c. Startup and shutdown emission calculations required by Specific Condition No. 1, EUG 1, (g).
d. Operating hours for the Backup Diesel Generators and Emergency Fire Water Pumps (monthly and 12-month rolling totals).
e. For fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 1.
f. Diesel fuel consumption for the Backup Diesel Generators and Emergency Fire Water Pumps (12-month rolling totals).
g. CEMS data required by the Acid Rain program.
h. Records required by NSPS, Subparts Dc, GG, and IIII.
i. Records required by NESHAP, Subparts ZZZZ and DDDDD.

9. No later than 30 days after each anniversary date of the issuance of the original Title V operating permit (December 6, 2002), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit. [OAC 252:100-8-6 (c)(5)(A) & (D)]

10. The permittee shall apply for a modification of their current Title V operating permit within 180 days of issuance of this permit.

MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(July 21, 2009)

SECTION I. DUTY TO COMPLY

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.
[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements.
[OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

(1)the date, place and time of sampling or measurement;
(2)the date or dates analyses were performed;
(3)the company or entity which performed the analyses;
(4)the analytical techniques or methods used;
(5)the results of such analyses; and
(6)the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report. [OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions. [OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act. [OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards ("NSPS") under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants ("NESHAPs") under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer's instructions and in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM_{10}). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification. [OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.
[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege.
[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued. [OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the

DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.
[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.
[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.
[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.
[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances: [OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

(1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
(2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
(3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
(4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d). [OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The

notification should include any changes which may alter the status of a "grandfathered source," as defined under AQD rules. Such changes may require a permit modification.
[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(18) for confidential information submitted to or obtained by the DEQ under this section):

(1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
(2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
(3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
(4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.
[OAC 252:100-8-6(c)(2)]

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.
[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

(1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
(2) the permitted facility was at the time being properly operated;
(3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

SECTION XVI. INSIGNIFICANT ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

(1) 5 tons per year of any one criteria pollutant.
(2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

(1) result in no net emissions increases,
(2) are not modifications under any provision of Title I of the federal Clean Air Act, and
(3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

(1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]
(2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]
(3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]
    (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
    (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
    (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
    (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and

the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.

(4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

(5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]

(6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]

(7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

(1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;

(2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and

(3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;

(2) Equipment used during the maintenance, service, repair, or disposal of appliances must

comply with the standards for recycling and recovery equipment pursuant to § 82.158;

(3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;

(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;

(5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and

(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

SECTION XXI. TITLE V APPROVAL LANGUAGE

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

(1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.

(2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).

(3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).

(4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R.§ 70.8(a) and (c).

(5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.

(6) The DEQ complies with 40 C.F.R. § 70.8(d).

(7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).

(8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.

(9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by

DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

(10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[OAC 252:100-43-6]

Associated Electric Cooperative, Inc.
Attn: Mr. Tadd Henry
Environmental Analyst
2814 S. Golden, P.O. Box 754
Springfield, MO 65801-0754

Re: Permit Number 2007-115-C (M-3) PSD
Chouteau Power Plant
Location: Mid America Industrial Park, Mayes County

Dear Mr. Henry:

Enclosed is the permit authorizing construction/modification of the referenced facility. Please note that this permit is issued subject to the standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at 405-702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact me at eric.milligan@deq.ok.gov or (405) 702-4217.

Sincerely,

Eric L. Milligan, P.E.
Engineering Section
AIR QUALITY DIVISION

Enclosures

PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 NORTH ROBINSON, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2007-115-C (M-3) PSD

Associated Electric Cooperative, Inc.,

having complied with the requirements of the law, is hereby granted permission to modify/operate the Chouteau Power Plant located in Section 10, T20N, R19E, Mayes County, Oklahoma, subject to the Standard Conditions dated July 21, 2009, and Specific Conditions, both of which are attached.

In the absence of construction commencement, this permit shall expire 18 months from the issuance date, except as authorized under Section VIII of the Standard Conditions.

Division Director
Air Quality Division

Date

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

MEMORANDUM **March 11, 2014**

TO: Phillip Fielder, P.E., Permits and Engineering Group Manager

THROUGH: Phil Martin, P.E., Engineering Manager, Existing Source Permit Section

THROUGH: Peer Review

FROM: Eric L. Milligan, P.E., Engineering Section

SUBJECT: Evaluation of Permit Application No. **2012-1223-TVR2**
Associated Electric Cooperative, Inc.
Chouteau Power Plant (SIC Code 4911)
Mid America Industrial Park, Mayes County
SW/4, SW/4 of Section 10, T20N, R19E
Latitude: 36.2225N; Longitude: 95.2778W
Directions: From the intersection of US HWY 412 and SH 412B, travel 3.5 north on SH 412B into the Mid America Industrial Park and to the facility.

SECTION I. INTRODUCTION

Associated Electric Cooperative, Inc. (AECI) has submitted an application for renewal of their current Title V operating permit for their existing Chouteau Power Plant, an electric generating station. The facility is currently operating as authorized by Permit No. 2007-115-TVR (M-2), issued on August 27, 2012. This permit will incorporate all modifications authorized by Permit No. 2007-115-C (M-3) PSD, issued on September 5, 2013, which revised the CO startup and shutdown emission limits for emission units (EU) 1-03 and 1-04. The permit and permit memorandum will also be updated to reflect all current rules and regulations.

SECTION II. FACILITY DESCRIPTION

The facility contains four combined cycle gas turbines (CCGT) firing exclusively natural gas. Hot exhaust gases from the gas turbines are passed through separate drum-type heat recovery steam generators (HRSG) where the heat is converted to steam. Steam from paired CCGT (EU 1-01 & 1-02, and EU 1-03 & 1-04) drive two separate conventional steam turbines. Waste heat is rejected through a condenser and mechanical draft-cooling tower.

EU 1-01 and 1-02 are Siemens KWU, Model V84.3A, advanced gas turbine design with a rated output of 176 MW (1,783 MMBTUH) at IS0 conditions. This model utilizes Siemens hybrid burner ring combustor designed for pre-mix firing above 60 percent output. This machine has a 15-stage compressor and 4-stage turbine. Advanced design features, in addition to the low-NO_X hybrid burner ring combustor, include single crystal blade castings and extensive use of film cooling. Film cooling ensures high cooling efficiency in the first two turbine stages. The design allows slightly higher firing temperatures, higher exhaust temperatures, and improved heat rates, in both simple and combined cycle modes.

The HRSG, for EU 1-01 and 1-02, are three-pressure level boilers (low, intermediate, and high) with superheat and reheat sections. The gas turbines exhaust gases at about 1,050 °F that contact the boiler surfaces and transfer heat to the feed water and steam. This arrangement enables higher efficiencies of the combined cycle power plant by using the exhaust gas energy. Each HRSG produces about 375,000 pounds of steam per hour at 1,566 psia and 1,016 °F. The HRSGs house a selective catalytic reduction (SCR) system for each unit to reduce NO_X emissions.

EU 1-03 and 1-04 incorporate lean pre-mix dry low-NO_X combustors as well as the add-on Selective Catalytic Reduction (SCR) to minimize NO_X formation. In addition, these units utilize a new Siemens technology that allows the combustion turbines to operate in the pre-mix mode throughout the load range. In the pre-mix mode, fuel combustion is more efficient and results in lower NO_X emissions. In contrast, the existing units must reach approximately 60% of the rated turbine load before pre-mix operation is permissible.

Each HRSG, for EU 1-03 and 1-04, is a three-pressure, superheat and reheat, duct fired, natural circulation unit with a horizontal gas turbine exhaust flow receiver containing vertical heat tube transfer sections. Both HRSG may utilize duct firing at 100 percent load. Duct firing generates additional heat (99 MMBTUH each) to the exhaust gases of the combustion turbines by burning natural gas. This heat energy is then converted to steam and electricity.

The primary consumers of the steam are a reheat, condensing steam turbine. It consists of a high pressure section, which receives high-pressure superheated steam from the HRSGs and exhausts to the reheat section of the HRSG. The steam from the reheat section is then supplied to the intermediate-pressure section of the turbine, which expands to the low-pressure section. The low-pressure section of the steam turbine also receives excess low-pressure superheated steam from the HRSGs and exhausts to the condenser unit.

The combustion gas turbine generators are shut down as necessary for scheduled maintenance, or as dictated by economic or electrical demand.

The cooling towers, for the two pairs of turbines, are two nine cell mechanical draft towers with up to seven cycles of concentration. Drift (water loss) from the towers is about 15,000-18,000 gallons (i.e., 0.0005% of total water flow) each per day at full load. Water treatment chemicals are non-chromium chemicals including sodium hypochlorite (14 lbs/day) and sulfuric acid (5,000 gallons/year). The facility may also use NALCO 1333T, a scale inhibitor/corrosion inhibitor (300-310 lbs/day) and/or NALCO 7330 a non-oxidizing biocide (1,200 lbs/year). In addition, a liquid dispersant, NALCO 8301 D is used at an approximate rate of 6.8 lbs/day.

The facility also includes two auxiliary boilers and a fuel gas heater that fire natural gas only and are equipped with low-NO_X burner control. The auxiliary boilers are utilized to maintain the turbine systems in hot-ready standby. This helps minimize the duration of the startup period for each turbine, which lowers the overall emissions. The fuel gas heater is used predominantly during winter months to heat a glycol/water solution that will circulate in a small heat exchanger preheating the supply of gas to prevent icing. There are also four pressurized 10,000-gallon anhydrous ammonia tanks, two emergency generator engines (diesel-fired), and a fire pump engine (diesel-fired). The emergency generators' engines and fire pump engine are limited to 500 hours.

The plant is designed for base load operation, but has the ability to cycle. Other than specified maintenance periods, the plant is designed to have an availability of over 90 percent. However, emissions estimates for this permit were based on continuous operation and 100% load. Other than startup, shutdown, and malfunctions, both combustion turbines are operated at approximately 60 percent rated turbine load and above to assure operations in the "pre-mix" mode. Pre-mix is the operating mode for the burner that optimizes combustion efficiency and produces the lowest NO_X emissions. However, elevated levels of NO_X and CO can result during cold startups and/or in the diffusion mode for periods up to four hours. Although the permit does limit the diffusion mode of operation to four hours, the auxiliary boiler may shorten this time to three hours, under normal operating conditions. (i.e outside startup, shutdown, and malfunctions).

SECTION III. EQUIPMENT

EUG 1. Electric Generating Units

EU	Name & Make	Heat Capacity (MMBTUH)	Serial #	Installed Date
1-01	Siemens V84.3A	1,783	800390	1999
1-02	Siemens V84.3A	1,783	800394	1999
1-03	Siemens V84.3A w/Duct Burner	1,882	800451	2009
1-04	Siemens V84.3A w/Duct Burner	1,882	800461	2009

EUG 2. Auxiliary Boilers

EU	Make/Model	Heat Capacity (MMBTUH)	Serial #	Installed Date
2-01	Donlee	33.5	9920891	1999
2-02	Superior 4-X-4502-5150-PFCF-G	37.7	100935707	2009

EUG 3. Fuel Gas Water Bath Heater

EU	Make/Model	Heat Capacity (MMBTUH)	Serial #	Installed Date
3-01	ThermoFlux/CryoFlux	18.8	9105	1999

EUG 4. Emergency Diesel Generator Engines

EU	Make/Model	hp	Serial #	Installed Date
4-01	Detroit Diesel/T1237K36	2,200	5262000436	2000
4-02	Caterpillar 3516C	2,937	CCSBJ00955	2009

EUG 5. Emergency Fire Pump (Diesel) Engine

EU	Make/Model	hp	Serial #	Installed Date
5-01	Caterpillar/3306- A552598	267	64Z29015	1999

EUG 6. Cooling Towers

EU	Make/Model	No. of Towers	Installed Date
6-01	Psychometrics, Inc. Forced Draft	9	1999
6-02	Psychometrics, Inc. Forced Draft	9	2009

SECTION IV. EMISSIONS

Emissions are generated from combustion in the turbines, duct burners, auxiliary boiler, fuel gas water bath heater, and to a much smaller extent the diesel-fired generator engines and fire water pump engine. A small amount of VOC emissions are expected from the diesel storage tanks and a small amount of PM emissions are expected from the cooling towers. Ammonia is supplied to the SCR process in amounts slightly above the stoichiometric requirement, so there will be some emissions of ammonia, called “ammonia slip,” in the exhaust.

A. Criteria Pollutants

Emissions from EU 1-01 and 1-02 are based on continuous operation, use of SCR, and the manufacturer's data listed below:

Manufacturer's Data for EU 1-01 & 1-02

Pollutant	Units	Concentration
NO_X	ppmvd @ 15% O_2	12.0
CO	ppmvd @ 15% O_2	10.0
VOC	ppmvd @ 15% O_2	0.3
Ammonia	ppmvd @ 15% O_2	10.0

Although the plant is expected to operate at a 70 to 75% capacity factor, short and long term emissions for the turbines were based on 100% load since this resulted in the highest emissions. VOC emissions are estimated at 0.0028 lb/MMBTU for the turbines. SO_2 emissions, from the turbines are estimated at 0.00056 lb/MMBTU based on usage of natural gas with a sulfur content of 0.25 grains/100 SCF. PM_{10} emissions, from the turbines are estimated at 0.0035 lb/MMBTUH based on stack testing of a similar unit.

Emissions from the Electrical Generating Units 1-01 & 1-02

	NO_X		**CO**		**VOC**		**SO_2**		**$PM_{10}/PM_{2.5}$**	
EU	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**
1-01	86.70	379.75	59.00	258.42	4.99	21.87	1.00	4.38	6.24	27.33
1-02	86.70	379.75	59.00	258.42	4.99	21.87	1.00	4.38	6.24	27.33
Subtotal	**173.40**	**759.50**	**118.00**	**516.84**	**9.98**	**43.74**	**2.00**	**8.76**	**12.48**	**54.66**

1 - lb/hr emissions are based on the worst case scenarios for the turbines.

Estimated NO_X Emissions (Per Unit) Combustion Turbines 1-01 & 1-02

	Event	**Number**	**Total**			
Operating Mode	**Duration (hr)**	**of Events**	**Hours**	**lb/event**	**lb/hr**	**TPY**
Cold Startup	4	20	120	568	142.00	5.68
Warm Startup	3	120	360	426	142.00	25.56
Hot Startup	2.5	100	250	355	142.00	17.75
Shutdown	1	240	240	142	142.00	17.04
Normal	----	----	7,790	N/A	15.25	59.42
Total						**125.45**

Estimated CO Emissions (Per Unit) Combustion Turbines 1-01 & 1-02

Operating Mode	Event Duration (hr)	Number of Events	Total Hours	lb/event	lb/hr	TPY
Cold Startup	4	20	120	1,596.00	399.00	15.96
Warm Startup	3	120	360	1,197.00	399.00	71.82
Hot Startup	2.5	100	250	997.50	399.00	49.88
Shutdown	1	240	240	399.00	399.00	47.88
Normal	----	----	7,790	N/A	51.32	199.89
Total						**385.43**

During startups and shutdowns, alternate short term emission limits apply to the combustion turbines. The short term emission limits for each combustion turbine during startup and shutdown are shown below:

Startup & Shutdown Emission Limits for EU 1-01 & 1-02

Event	Maximum Duration (hr)	NO_X Emissions (lbs/event)	CO Emissions (lbs/event)
Startup	4	568	1,596
Shutdown	1	142	399

Emissions from EU 1-03 and 1-04 are based on continuous operation, use of SCR, and the manufacturer's data listed below:

Manufacturer's Data for EU 1-03 & 1-04

Pollutant	Units	Concentration
NO_X	ppmvd @ 15% O_2	2.0
CO	ppmvd @ 15% O_2	8.0
VOC	ppmvd @ 15% O_2	0.3
Ammonia	ppmvd @ 15% O_2	10.0

Although the plant is expected to operate at a 70 to 75% capacity factor, short and long term emissions for the turbines were based on 100% load since this resulted in the highest emissions. VOC emissions, from the turbines with duct burners firing, are estimated at 0.0028 lb/MMBTU for the turbines with duct burners. SO_2 emissions, from the turbines with duct burners firing, are estimated at 0.00056 lb/MMBTU based on usage of natural gas with a sulfur content of 0.25 grains/100 SCF. PM_{10} emissions, from the turbines with duct burners firing, are estimated at 0.0035 lb/MMBTUH based on stack testing of a similar unit. Since market forces and other factors may force the facility to experience many startups and shutdowns during the course of a year an analysis of annual emissions for NO_X and CO based on the historical number of startups and shutdowns was used to determine annual emissions. Startup and shutdown are not expected to affect emissions of VOC, SO_2, and PM_{10}.

Emissions from the Electrical Generating Units 1-03 & 1-04

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr[1]**	**TPY[2]**	**lb/hr[1]**	**TPY[2]**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**	**lb/hr[1]**	**TPY**
1-03	15.25	125.45	51.32	588.81	5.27	23.08	1.06	4.62	6.59	28.86
1-04	15.25	125.45	51.32	588.81	5.27	23.08	1.06	4.62	6.59	28.86
Subtotal	**30.50**	**250.90**	**102.64**	**1,177.6**	**10.54**	**46.16**	**2.12**	**9.24**	**13.18**	**57.72**

1 - lb/hr emissions are based on the worst case scenarios for the turbines with the duct burners firing.

2 - TPY values include startup emissions based on a representative sample of data from the existing units and 8,760 hours of operation.

Estimated NO_X Emissions (Per Unit)
Combustion Turbines W/Duct Burner EU 1-03 & 1-04

	Event	Number	Total			
Operating Mode	**Duration (hr)**	**of Events**	**Hours**	**lb/event**	**lb/hr**	**TPY**
Cold Startup	4	20	120	568	142.00	5.68
Warm Startup	3	120	360	426	142.00	25.56
Hot Startup	2.5	100	250	355	142.00	17.75
Shutdown	1	240	240	142	142.00	17.04
Normal	----	----	7,790	N/A	15.25	59.42
Total						**125.45**

Estimated CO Emissions (Per Unit)
Combustion Turbines W/Duct Burner EU 1-03 & 1-04
From Permit No. 2007-115-C (M-1) PSD

	Event	Number	Total			
Operating Mode	**Duration (hr)**	**of Events**	**Hours**	**lb/event**	**lb/hr**	**TPY**
Cold Startup	4	20	120	1,596.00	399.00	15.96
Warm Startup	3	120	360	1,197.00	399.00	71.82
Hot Startup	2.5	100	250	997.50	399.00	49.88
Shutdown	1	240	240	399.00	399.00	47.88
Normal	----	----	7,790	N/A	51.32	199.89
Total						**385.43**

Proposed Estimated CO Emissions (Per Unit)
Combustion Turbines W/Duct Burner EU 1-03 & 1-04

	Event	Number	Total			
Operating Mode	**Duration (hr)**	**of Events**	**Hours**	**lb/event**	**lb/hr**	**TPY**
Cold Startup	2	60	120	4,500	2,250.00	135.00
Hot Startup	2	180	360	1,750	875.00	157.50
Shutdown	1	240	240	750	750.00	90.00
Normal	----	----	8,040	N/A	51.32	206.31
Total						**588.81**

CO emissions will increase by 407 TPY from the original construction permit.

During startups and shutdowns, alternate short term emission limits apply to the combustion turbines. The short term emission limits for each combustion turbine during startup and shutdown are shown below:

Startup & Shutdown Emission Limits for EU 1-03 & 1-04

Event	Maximum Duration (hr)	NO_X Emissions (lbs/event)	CO Emissions (lbs/event)
Startup-Hot	2	568	1,750
Startup-Cold	2	568	4,500
Shutdown	1	142	750

Emissions from the auxiliary boilers and fuel gas water bath heater are based on manufacturer's data and 8,760 hours/year of operation.

Emissions from the Auxiliary Boilers

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
2-01	2.36	10.34	5.02	21.99	0.54	2.37	0.03	0.14	0.34	1.49
2-02	2.66	11.63	5.65	24.74	0.61	2.66	0.03	0.15	0.38	1.68

Emissions from the Fuel Gas Water Bath Heater

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
3-01	2.70	11.83	0.39	1.71	0.10	0.44	0.01	0.04	0.10	0.44

NO_X, CO, VOC, and PM emissions from EU 4-01, a diesel-fired generator engine, are based on AP-42 (10/96), Section 3.4 and 500 hours/year of planned operation. NO_X, CO, VOC, and PM emissions from EU 4-02, a diesel-fired generator engine, are based on NSPS, Subpart IIII emission limits (NET testing limit for lb/hr) and 500 hours/year of planned operation. NO_X, CO, VOC, and PM emissions from the diesel-fired fire water pump engine are based on AP-42 (10/96), Section 3.3 and 500 hours/year of planned operation. SO_2 emissions for the diesel-fired emergency generator engines and fire pump engine are based on AP-42 (10/96), Section 3.4 and a fuel sulfur content of 0.05 % sulfur by weight.

Emissions from the Emergency Diesel Generator Engines

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
4-01	52.80	13.20	12.10	3.03	1.41	0.35	0.89	0.22	1.54	0.39
4-02[1]	38.63	7.77	21.24	4.21	2.07	0.52	1.19	0.30	1.21	0.24

[1] – Based on § 89.112 Tier II Standards (lb/hr estimates are based on the NTE testing limits); NO_X is inclusive of NMHC. VOC emissions are estimated based on the AP-42 (10/96), Section 3.4 TOC factor.

Emissions from the Emergency Fire Pump (Diesel) Engine

	NO_X		CO		VOC		SO_2		$PM_{10}/PM_{2.5}$	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
5-01	8.28	2.07	1.78	0.45	0.66	0.17	0.11	0.03	0.59	0.15

Emissions from each of the cooling towers were based on a conservative estimate of 10,920-ppmw of Total Dissolved Solids (TDS) in the cooling tower drift and a total circulating water flow of 130,000 gallons per minute. The expected drift is approximately 0.0005% of the circulating water flow.

Emissions from the Cooling Tower

	NOx		CO		VOC		SO_2		PM_{10}	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
6-01	---	---	---	---	---	---	---	---	3.55	15.56
6-02	---	---	---	---	---	---	---	---	3.55	15.56

Facility Wide Criteria Pollutant Emissions from the Facility

	NOx		CO		VOC		SO_2		PM_{10}	
EUs	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
1-01 & 02	173.40	759.50	118.00	516.84	9.98	43.74	2.00	8.76	12.48	54.66
1-03 & 04	30.50	250.90	102.64	1,177.62	10.54	46.16	2.12	9.24	13.18	57.72
2-01	2.36	10.34	5.02	21.99	0.54	2.37	0.03	0.14	0.34	1.49
2-02	2.66	11.63	5.65	24.74	0.61	2.66	0.03	0.15	0.38	1.68
3-01	2.70	11.83	0.39	1.71	0.10	0.44	0.01	0.04	0.10	0.44
4-01	52.80	13.20	12.10	3.03	1.41	0.35	0.89	0.22	1.54	0.39
4-02	38.63	7.77	21.24	4.21	2.07	0.52	1.19	0.30	1.21	0.24
5-01	8.28	2.07	1.78	0.45	0.66	0.17	0.11	0.03	0.59	0.15
6-01	---	---	---	---	---	---	---	---	3.55	15.56
6-02	---	---	---	---	---	---	---	---	3.55	15.56
Total	**311.33**	**1,067.2**	**266.82**	**1,750.6**	**25.91**	**96.41**	**6.38**	**18.88**	**36.92**	**147.89**

B. Hazardous Air Pollutants (HAPs)

HAP emissions from the turbines are based on AP-42, Section 3.1 (4/2000). HAP emissions from the auxiliary boiler and heater are based on AP-42, Section 1.4 (7/98). HAP emissions from the emergency generator engines and fire water pump engine are based on AP-42, Sections 3.4 and 3.3 (10/96), respectively. Only emissions greater than 1.0E-3 (lb/hr and TPY) are listed.

		HAP Emissions	
HAP	**CAS #**	**lb/hr**	**TPY**
1,3-Butadiene	106990	0.004	0.015
Acetaldehyde	75070	0.295	1.285
Acrolein	107028	0.049	0.205
Arsenic	7440382	0.000	0.002
Barium	7440393	0.110	0.382
Benzene	71432	0.278	1.220
Ethylbenzene	100414	0.235	1.028
Formaldehyde	50000	5.177	22.661
Hexane	110543	0.162	0.708
Naphthalene	91203	0.012	0.043
POM	N/A	0.022	0.070
Propylene Oxide	75569	0.116	0.499
Toluene	108883	0.958	4.176
Xylene	1330207	0.472	2.055
Total			**34.349**

C. Greenhouse Gas (GHG) Emissions

Potential GHG emissions are calculated using the heat input for specific equipment located at the facility, 40 CFR Part 98, Subpart C, default factors for natural gas and diesel, and the global warming potentials for each pollutant.

Facility Wide GHG Emissions from the Facility

	CO_2		CH_4[1]		NO_2[1]		Total CO_{2e}	
EUs	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**	**lb/hr**	**TPY**
1-01	208,413	912,850	83	362	122	534	208,618	913,745
1-02	208,413	912,850	83	362	122	534	208,618	913,745
1-03	219,985	963,535	87	382	129	563	220,201	964,480
1-04	219,985	963,535	87	382	129	563	220,201	964,480
2-01	3,916	17,151	2	7	2	10	3,920	17,168
2-02	4,407	19,301	2	8	3	11	4,411	19,320
3-01	2,198	9,625	1	4	1	6	2,200	9,635
4-01	2,613	653	2	1	6	2	2,621	655
4-02	3,488	872	3	1	8	2	3,499	875
5-01	317	79	0	0	1	0	318	80
6-01	---	---	---	---	---	---	---	---
6-02	---	---	---	---	---	---	---	---
Total	**873,735**	**3,800,451**	**350**	**1,509**	**523**	**2,225**	**874,607**	**3,804,183**

[1] – Includes the global warming potentials of 21 for CH_4 and 310 for N_2O.

SECTION V. INSIGNIFICANT ACTIVITIES

The insignificant activities identified and justified in the application are duplicated below. Records are available to confirm the insignificance of the activities. Appropriate recordkeeping of activities indicated below with "*" is specified in the Specific Conditions. Any Activity to which a State of federal applicable requirement applies is not insignificant even if it is included on this list.

1. * Stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or distillate fuel oil which are used exclusively for emergency power generation not to exceed 500 hours/year. The diesel-fired generator engines are used for emergency power generation and are not expected to operate more than 500 hours/year. However, all of the engines are subject to NESHAP or NSPS are not considered insignificant activities.

2. Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTU/hr heat input (commercial natural gas). None identified but may be used in the future.

3. * Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature. None identified but may be used in the future.

4. * Activities that have the potential to emit no more than 5 TPY (actual) of any criteria pollutant. None identified but may be used in the future.

SECTION VI. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the "Federal Regulations" section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards. Compliance with the NAAQS is addressed in the "PSD Review" section.

OAC 252:100-5 (Registration, Emission Inventory, And Annual Fees) [Applicable]
The owner or operator of any facility that is a source of air emissions shall submit a complete emission inventory annually on forms obtained from the Air Quality Division. This facility has recently submitted the required emission inventories and has paid the applicable or fees.

OAC 252:100-8 (Major Source/Part 70 Permits) [Applicable]
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the "Insignificant Activities" or "Trivial Activities" thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for single HAP that the EPA may establish by rule

Emissions limitations have been established for each emission unit based on information from the permit application and Permit No. 2007-115-TVR (M-2) and 2007-115-C (M-3) PSD.

OAC 252:100-9 (Excess Emission Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for affirmative defense, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]
Subchapter 19 regulates emissions of particulate matter from fuel-burning equipment. Particulate emission limits are based on maximum design heat input rating. This subchapter specifies a PM emissions limitation of 0.6 lb/MMBTU from fuel-burning units with a rated heat input of 10 MMBTUH or less. For fuel-burning equipment greater than 10 MMBTUH, this subchapter specifies a PM emission limitation based upon the heat input of the equipment and is calculated according to the following equations:

$E = 1.042808\ X^{-0.238561}$ – For Units > 10 MMBTUH but < 1,000 MMBTUH
$E = 1.6\ X^{-0.30103}$ – For Units > 1,000 MMBTUH but < 10,000 MMBTUH

Where: E = allowable total particulate matter emissions in pounds per MMBTU and
X = the maximum heat input in MMBTU per hour.

The EU listed below are subject to this subchapter and will be in compliance as indicated.

Equipment	**Max. Heat Input (MMBTUH) (HHV)**	**PM Emission Limit (lb/MMBTU) (HHV)**	**PM Emissions (lb/MMBTU) (HHV)**
Turbines (EU 1-01 & 1-02)	1,783	0.168	<0.01
Turbines (EU 1-03 & 1-04)	1,882	0.165	<0.01
Auxiliary Boiler (EU 2-01)	33.5	0.451	0.01
Auxilary Boiler (EU 2-02)	37.7	0.438	0.01
Fuel Gas Water Bath Heater	18.8	0.518	0.01
Detroit Diesel Em. Gen.	15.4	0.543	0.10
Caterpillar Em. Gen.	20.5	0.507	0.10
Diesel Fire Water Pump	<10	0.600	0.31

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
No discharge of greater than 20% opacity is allowed except for short-term occurrences, which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. All of the emission units are subject to this subchapter. The turbines, auxiliary boiler, and fuel gas water bath heater will assure compliance with this rule by ensuring "complete combustion" and utilizing pipeline-quality natural gas as fuel. The diesel-fired generator engines and fire water pump engine assure compliance with this rule by ensuring "complete combustion."

Continuous monitoring of opacity (COM) is required for fluid bed catalytic cracking unit catalyst regenerators at petroleum refineries and fossil fuel-fired steam generators in accordance with 40 CFR Part 51, Appendix P and any fuel-burning equipment with a design heat input value of 250 MMBTUH or more, that does not burn gaseous fuel exclusively, and that was not in being on or before July 1, 1972, or that is modified after July 1, 1972. 40 CFR Part 51, Appendix P exempts fossil fuel-fired steam generators from the COM requirements when gaseous fuel is the only fuel burned. Since the combustion turbine and duct burner will only burn natural gas they are exempt from the opacity monitor requirements.

OAC 252:100-29 (Fugitive Dust) [Applicable]
No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originated in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. No activities are expected that would produce fugitive dust beyond the facility property line.

OAC 252:100-31 (Sulfur Compounds) [Applicable]
Part 5 limits sulfur dioxide emissions from new equipment (constructed after July 1, 1972). For gaseous fuels, the limit is 0.2 lb/MMBTU heat input, three-hour average. The permit will require the new/existing turbines to be fired with pipeline-grade natural gas with SO_2 emissions of 2.2/2.0 lb/hr, which is equivalent to 0.001 lb/MMBTU. The auxiliary boiler and fuel gas heater emissions are approximately 0.0009 and 0.004 lb/MMBTU, respectively. These emissions limits are well below the 0.2 lb/MMBTU limit.

For liquid fuels, the limit is 0.8 lb/MMBTU heat input, three-hour average. The diesel-fired generator engines and fire water pump engine utilize diesel fuel with a maximum sulfur content of 0.05 % by weight. This fuel will produce emissions of approximately 0.05 lb/MMBTU, which is well below the allowable emission limitation of 0.8 lb/MMBTU for liquid fuels.

OAC 252:100-33 (Nitrogen Oxides) [Applicable]
This subchapter limits emissions of NO_X from new gas-fired fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to a three-hour average of 0.2 lb/MMBTU. Listed below is the 3-hr average emission limit (lb/hr) of NO_X for each combustion turbine and the equivalent emission rates (lb/MMBTU) based on the maximum heat input, which are below the standard of 0.2 lb/MMBTU. However, for operational flexibility, the permit will establish a three-hour average emission limit based on the Subchapter 33 allowable of 0.2 lb/MMBTU. The

auxiliary boilers, fuel gas water bath heater, and the diesel-fired generator engines and fire water pump engine are below 50 MMBTUH heat input and are, therefore, not subject to this subchapter.

	MMBTUH	**lb/hr**	**lb/MMBTU**
Siemens V84.3A	1,783	15.25	0.012
Siemens V84.3A w/Duct Burner	1,882	86.70	0.050

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]
None of the following affected processes are located at this facility: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit, or petroleum catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]
Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. The diesel tanks store a VOC with a vapor pressure less than 1.5 psia.
Part 5 limits the VOC content of coatings used in coating lines or operations. This facility will not normally conduct coating or painting operations except for routine maintenance of the facility and equipment, which is exempt.
Part 7 requires fuel-burning equipment to be operated and maintained so as to minimize emissions of VOC. Temperature and available air must be sufficient to provide essentially complete combustion. All fuel burning equipment at this facility are designed to provide essentially complete combustion of VOC.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this

subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:		
OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

SECTION VII. FEDERAL REGULATIONS

PSD, 40 CFR Part 52 [Applicable]

Total potential emissions of NO_X and CO are greater than the major source threshold of 250 TPY and total potential emissions of CO_{2e} are greater than the major source threshold of 100 KTPY. Any future increases of emissions must be evaluated for PSD if they exceed a significance level (40 TPY NO_X, 100 TPY CO, 40 TPY VOC, 40 TPY SO_2, 25 TPY PM, 15 TPY PM_{10}, 10 TPY $PM_{2.5}$, 75 KTPY CO_{2e}).

NSPS, 40 CFR Part 60 [Subparts Dc, GG, and IIII are Applicable]

Subpart Da, Electric Steam Generating Units. This subpart affects electric steam generating units with a design capacity greater than 250 MMBTUH constructed after September 18, 1978. The duct burners in the new HRSG are rated at 90 MMBTUH (LHV), and therefore are not subject to Subpart Da. Furthermore, since the turbines are subject to NSPS, Subpart GG, they are exempt from this subpart as per § 60.40a(b).

Subpart Db, Industrial-Commercial-Institutional Steam Generating Units. This subpart affects electric steam generating units with a design capacity greater than 100 MMBTUH constructed after June 19, 1984. The duct burners in the new HRSG are rated at 90 MMBTUH (LHV), and therefore are not subject to Subpart Db. Furthermore, since the turbines are subject to NSPS, Subpart GG, they are exempt from this subpart per § 60.40b(i).

Subpart Dc, Industrial-Commercial-Institutional Steam Generating Units. This subpart affects industrial-commercial-institutional steam generating units with a design capacity between 10 and 100 MMBTUH heat input and which commenced construction or modification after June 9, 1989. For gaseous fuel fired units, the only applicable standard of Subpart Dc is a requirement to keep records of the fuels used. The duct burners in the HRSG for EU 1-03 and 1-04 are rated at 90 MMBTUH (LHV). Only the emissions resulting from combustion of fuels in the steam generating units (duct burners) are subject to this subpart. The turbines are subject to NSPS, Subpart GG and are exempt from this subpart as per § 60.40c(e). The 33 MMBTUH (LHV) and 37 MMBTUH gas-fired auxiliary boilers and 18.8 MMBTUH fuel gas water heaters are also

affected units as defined in the subpart since the heat input for these units is above the de minimis level. Recordkeeping is specified in the permit.

Subpart GG, Stationary Gas Turbines. This subpart affects combustion turbines which commenced construction, reconstruction, or modification after October 3, 1977, and which have a heat input rating of 10 MMBTUH or more. Each of the new turbines has a rated heat input of greater than 10 MMBTUH and is subject to this subpart.

EPA guideline document EMTIC, GD-009 advises to use zero for the value of F with natural gas-fired turbines. So, the lowest NO_X limit is 0.0075% or 75 ppmdv when Y = 14.4. The NO_X emission limitation for turbines EU 1-01 and 1-02 is 12 ppmdv at 15% O_2 and is more stringent than the Subpart GG standards. Similarly, the NO_X emission limitation for turbines EU 1-03 and 1-04 is 2 ppmdv at 15% O_2 and puts them at an even greater margin of compliance compared to the Subpart GG standard. Monitoring fuel for nitrogen content is not required if the owner or operator does not claim an allowance for fuel bound nitrogen per § 60.334(h)(2).

Sulfur dioxide standards specify that no fuel shall be used which exceeds 0.8% by weight sulfur or the exhaust gases shall not contain SO_2 in excess of 150 ppm. The owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted if the gaseous fuel is demonstrated to meet the definition of "natural gas" using either the gas quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract, or using representative fuel sampling data. The maximum total sulfur content of "natural gas" is 20 grains/100 SCF (680 ppmw or 338 ppmv) or less.

All applicable requirements of this subpart are incorporated into the permit.

Subpart IIII, Stationary Compression Ignition Internal Combustion Engines. This subpart affects stationary compression ignition (CI) internal combustion engines (ICE) based on power and displacement ratings, depending on date of construction, beginning with those constructed after July 11, 2005. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. EU 4-01, a diesel-fired emergency generator engine, was manufactured prior to the applicability date of this subpart and is not subject to this subpart. However, EU 4-02, a diesel-fired emergency generator engine, was manufactured after the April 1, 2006 date (for units procured after July 11, 2005). Therefore, EU 4-02 is subject to the requirements in Subpart IIII. EU 4-02 has a displacement of less than 30 liters and a heat input rating of 1,640.5 kW. According to the NSPS, this unit is subject to the following emission limitations:

NSPS Emission Limits for Emergency Engines

NMHC + NO_X	**CO**	**PM**	**Opacity**		
g/kW-hr (lb/hr)	**g/kW-hr (lb/hr)**	**g/kW-hr (lb/hr)**	**Acceleration**	**Lugging**	**Peak**
6.4 (23.15)	3.5 (12.66)	0.2 (0.72)	20%	15%	50%

All applicable requirements of this subpart are incorporated into the permit.

Subpart KKKK, Stationary Combustion Turbines. This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBTU) per hour, based on the higher heating value of the fuel, that commenced construction, modification, or reconstruction after February 18, 2005. The stationary combustion turbines in this permit were constructed prior the applicability date of this subpart (1999-2000) and therefore are not subject to this subpart.

NESHAP, 40 CFR Part 61 [Not Applicable]

There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides, or vinyl chloride except for trace amounts of benzene. Subpart J, Equipment Leaks of Benzene, concerns only process streams that contain more than 10% benzene by weight. Analysis of Oklahoma natural gas indicates a maximum benzene content of less than 1%.

NESHAP, 40 CFR Part 63 [Subparts ZZZZ and DDDDD are Applicable]

Subpart YYYY, Stationary Combustion Turbines. This subpart affects stationary combustion turbines that are located at major source of HAP. On August 18, 2004, the EPA stayed the effectiveness of two subcategories of this subpart: lean premix gas-fired stationary combustion turbines and diffusion flame gas-fired stationary combustion turbines pending the outcome of EPA's proposal to delete these subcategories from the source category list. This facility is a major source but the turbines located at this facility are in the lean premix gas-fired stationary combustion turbine and diffusion flame gas-fired stationary combustion turbine categories and are expected to be deleted from the source category list. They were required to comply with the initial notification requirements set forth in § 63.6145 but do not need to comply with any other requirement of this subpart until EPA takes final action to require compliance and publishes a document in the Federal Register.

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart affects any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions. Owners and operators of the following new or reconstructed RICE must meet the requirements of Subpart ZZZZ by complying with either 40 CFR Part 60 Subpart IIII (for CI engines) or 40 CFR Part 60 Subpart JJJJ (for SI engines):

1) Stationary RICE located at an area source;
2) The following Stationary RICE located at a major source of HAP emissions:
   i) 2SLB and 4SRB stationary RICE with a site rating of ≤ 500 brake HP;
   ii) 4SLB stationary RICE with a site rating of < 250 brake HP;
   iii) Stationary RICE with a site rating of ≤ 500 brake HP which combust landfill or digester gas equivalent to 10% or more of the gross heat input on an annual basis;
   iv) Emergency or limited use stationary RICE with a site rating of ≤ 500 brake HP; and
   v) CI stationary RICE with a site rating of ≤ 500 brake HP.

No further requirements apply for engines subject to NSPS under this part. This facility is a major source of HAP. RICE > 500-hp located at a major source are new or reconstructed if construction or reconstruction commenced after December 19, 2002. RICE ≤ 500-hp located at

a major source are new or reconstructed if construction or reconstruction commenced after June 12, 2006. The engine listed below (EU 4-02) falls into the new or reconstructed category of engines and is subject to NSPS.

EU	Make/Model	hp	Serial #	Installed Date
4-02	Caterpillar 3516C	2,937	CCSBJ00955	2009

The following stationary RICE at major sources do not have to meet the requirements of this subpart and of Subpart A of this part, including initial notification requirements:

1. Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating > 500-hp;
2. Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating > 500-hp;
3. Existing emergency stationary RICE with a site rating > 500-hp that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii).
4. Existing limited use stationary RICE with a site rating > 500-hp; and
5. Existing stationary RICE with a site rating of > 500-hp that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

The engine listed below (EU 4-01) fall into this limited requirements category and is not subject to the requirements of this subpart.

EU	Make/Model	hp	Serial #	Installed Date
4-01	Detroit Diesel/T1237K36	2,200	5262000436	2000

A summary of the requirements for emergency CI RICE are shown below.

RICE Category	Emission Limit/Operating Limits
Emergency CI RICE ≤ 500-hp	Change oil and filter every 500 hours of operation or annually, whichever comes first;
	Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
	Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The following RICE (EU 5-01) is subject to the requirements for emergency CI RICE.

EU	Make/Model	hp	Serial #	Installed Date
5-01	Caterpillar/3306- A552598	267	64Z29015	1999

All applicable requirements have been incorporated into the permit.

Subpart DDDDD, Industrial, Commercial and Institutional Boilers and Process Heaters. On January 31, 2013, the EPA took final action on its reconsideration of certain issues in the emission standards for the control of HAP from industrial, commercial, and institutional boilers and process heaters at major sources of HAP. The compliance dates for the rule are January 31, 2016, for existing sources and, January 31, 2013, or upon startup, whichever is later, for new sources.

A boiler or process heater is new or reconstructed if construction or reconstruction of the boiler or process heater commenced on or after June 4, 2010. There are no new or reconstructed boilers or process heaters located at this facility. All of the boilers are considered existing sources. Most of the affected sources at the facility are considered units designed to burn gas 1 fuels. *Unit(s) designed to burn gas 1 subcategory* includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels.

Boilers and process heaters in the units designed to burn gas 1 fuels subcategory must complete a tune-up initially and periodically as indicated below and as specified in § 63.7540:

Heat Input Capacity	Period
≤ 5 MMBTUH	Every 5 Years
> 5 MMBTUH & < 10 MMBTUH	Every 2 Years
≥ 10 MMBTUH W/O Continuous Oxygen Trim System	Annually
≥ 10 MMBTUH W/Continuous Oxygen Trim System	Every 5 Years

Units in the gas 1 subcategories will conduct these tune-ups as a work practice for all regulated emissions under Subpart DDDDD. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 of Subpart DDDDD, or the operating limits in Table 4 of Subpart DDDDD.

Limited-use boilers and process heaters must complete a tune-up every 5 years as specified in § 63.7540. They are not subject to the emission limits in Tables 1 and 2 or 11 through 13 of Subpart DDDD, the annual tune-up, or the energy assessment requirements in Table 3 of Subpart DDDDD, or the operating limits in Table 4 of Subpart DDDDD. Limited-use boiler or process heater means any boiler or process heater that has a federally enforceable average annual capacity factor of no more than 10 percent.

Waste heat boilers are excluded from the definition of boiler. Waste heat boiler means a device that recovers normally unused energy (i.e., hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from an industrial (e.g., thermal oxidizer, kiln, furnace) or power (e.g., combustion turbine, engine) equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas. The 90 MMBTUH duct burners associated with the waste heat boilers are not subject to this subpart.

Existing boilers and process heaters located at a major source facility, not including limited use units must have a one-time energy assessment performed by a qualified energy assessor. The boilers and process heaters subject to this subpart are shown in the tables below.

EU	Unit	Heat Capacity (MMBTUH)	Installed Date
2-01	Donlee	33.5	1999
2-02	Superior	37.7	2009
3-01	ThermoFlux/CryoFlux	18.8	1999

All of these units are existing sources in the unit designed to burn gas 1 subcategory and are rated greater than 10 MMBTUH. These affected units must conduct the required initial tune-up and energy assessment by January 31, 2016. Since none of these EU have federally enforceable annual capacity factors, they are not considered limited use boilers or process heaters. All applicable requirements of this subpart are incorporated into the permit.

CAM, 40 CFR Part 64 [Not Applicable]
Compliance Assurance Monitoring (CAM), as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source, which is required to obtain a Title V permit, if it meets all of the following criteria:

- It is subject to an emission limit or standard for an applicable regulated air pollutant
- It uses a control device to achieve compliance with the applicable emission limit or standard
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant greater than major source levels.

The turbines use a control device to meet an applicable emission limit and have the potential to emit greater than major source levels. However, the turbines are subject to a continuous monitoring requirement and are exempt from this part per § 64.2(b)(vi).

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable At This Time]
There will be no regulated substances used, stored or processed at the facility above threshold levels as a result of this project except possibly ammonia. If ammonia will be stored above the applicable threshold, the facility will need to comply with the requirements of this part by the date on which the regulated substance (ammonia) is present above the threshold quantity. More information on this federal program is available on the web page: *www.epa.gov/ceppo*.

Acid Rain, 40 CFR Part 72 (Permit Requirements) [Applicable]
This facility is an affected source since it will commence operation after November 15, 1990, and is not subject to any of the exemptions under 40 CFR 72.7, 72.8 or 72.14. Paragraph 72.30(b)(2)(ii) requires a new source to submit an application for an Acid Rain permit at least 24 months prior to the start of operations. However, Mr. Dwight Alpern, U.S. EPA, has confirmed that this requirement was for the benefit of the regulating agency (Oklahoma DEQ) which can waive this requirement and has done so. The applicant submitted a Phase II Acid rain permit application on June 2, 2008.

Acid Rain, 40 CFR Part 73 (SO_2 Requirements) [Applicable]
This part provides for allocation, tracking, holding, and transferring of SO_2 allowances.

Acid Rain, 40 CFR Part 75 (Monitoring Requirements) [Applicable]
The facility shall comply with the emission monitoring and reporting requirements of this Part.

Acid Rain, 40 CFR Part 76 (NO_X Requirements) [Not Applicable]
This part provides for NO_X limitations and reductions for coal-fired utility units only.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subparts A and F are Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

The standard conditions of the permit address the requirements specified at § 82.156 for persons opening appliances for maintenance, service, repair, or disposal; § 82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; § 82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; § 82.166 for recordkeeping; § 82.158 for leak repair requirements; and § 82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

SECTION VIII. COMPLIANCE

Tier Classification

This application has been determined to be Tier II based on the request for a construction permit for a significant modification of a Part 70 source.

The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant has option to purchase the land.

Public Review

The applicant published the "Notice of Filing a Tier II Application" in *The Times*, a local newspaper in Mayes County, on November 6, 2012. The notice stated that the application was available for public review at the Pryor Public Library and the Air Quality Division's main office at 707 North Robinson, Oklahoma City, Oklahoma. The applicant published the "Notice of Tier II Draft Permit" in *The Times*, a local newspaper in Mayes County, on December 17, 2013. The notice stated that the draft permit was available for public review at the Pryor Public Library, the Air Quality Division's main office at 707 North Robinson, Oklahoma City, Oklahoma, and on the Air Quality section of the DEQ Web Page: http://www.deq.state.ok.us/. No comments were received from the public.

State Review

This site is within 50 miles of the Oklahoma – Arkansas and Oklahoma – Missouri borders. The states of Arkansas and Missouri were notified of the draft permit. No comments were received from either Arkansas or Missouri.

EPA Review

The proposed permit was forwarded to EPA for a 45-day review period. No comments were received from the EPA.

Fees Paid

Part 70 operating permit renewal application fee of $7,500.

SECTION IX. SUMMARY

The applicant has demonstrated the ability to comply with the requirements of the applicable Air Quality rules and regulations. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance and enforcement issues concerning this facility. Issuance of the permit is recommended.

PERMIT TO OPERATE
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS

Associated Electric Cooperative, Inc.
Chouteau Power Plant **Permit No. 2012-1223-TVR2**

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality on July 1, 2008, August 19, 2011, October 13, 2011, March 5, 2013, and all supplemental materials. The Evaluation Memorandum dated March 11, 2014, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating permit limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to, the conditions contained herein:

1. Points of emissions and emissions limitations for each point: [OAC 252:100-8-6(a)]

EUG 1. Electric Generating Units.

Emission limits and standards for Emission Units (EUs) 1-01 and 1-02; The emission limits for each EU include but are not limited to the following:

Pollutant	lb/hr	TPY[3]	ppmvd[1]	lb/MMBTU[5]
NO_X	86.70[2]	379.75	12[3]	0.20[2]
CO	59.00	258.42	10	
VOC	4.99	21.87		
SO_2	1.00	4.38		
PM_{10}	6.24	27.33		0.0035
Ammonia	18.14[4]	79.46		
H_2SO_4	0.15[4]	0.61		

[1] All concentrations are corrected to 15% O_2, per turbine.
[2] Three-hour rolling average, based on contiguous operating hours.
[3] Twelve-month rolling total.
[4] 24-hour average.
[5] Based on HHV.

Emission limits and standards for EU 1-03 and 1-04 (Turbines with Duct Burners); The emissions limits for each EU include but are not limited to the following:

Pollutant	lb/hr	TPY[5]	ppmvd[1]	lb/MMBTU[7]
NO_X	15.25[2]	125.45	2.0[2]	0.20[4]
CO	51.32[3]	588.81	8.0[3, 8]	
VOC	5.27[3]	23.08		
SO_2	1.06[3]	4.62		
PM_{10}	6.59[3]	28.86		0.0035[6, 8]
Ammonia	18.14[6]	79.46		
H_2SO_4	0.15[6]	0.61		

[1] All concentrations are corrected to 15% O_2, per turbine.
[2] One-hour average.
[3] Three-hour average.
[4] Three-hour rolling average, based on contiguous operating hours.
[5] 12-month rolling total.
[6] 24-hour average.
[7] Based on HHV.
[8] At operating levels ≥ 75% load.

a. The turbines shall only be fired with natural gas as defined in New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart GG having 20.0 grains or less of total sulfur per 100 standard cubic feet. Compliance can be shown by the following methods: for gaseous fuel, a current gas company bill, lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once per calendar year. [OAC 252:100-31 & 8-34]

b. The turbines shall be equipped with dry low-NO_X burners. [OAC 252:100-8-34]

c. Emissions from each turbine and duct burner shall be controlled by a properly operated and maintained SCR. [OAC 252:100-8-34]

d. During startups and shutdowns, alternate short term emission limits apply to the combustion turbines. The short term emission limits for each combustion turbine during startup and shutdown are shown below:

i. For EU 1-01 and 1-02

Event	Maximum Duration (hr)	NO_X Emissions (lbs/event)	CO Emissions (lbs/event)
Startup	4	568	1,596
Shutdown	1	142	399

ii. For EU 1-03 and 1-04

Event	Maximum Duration (hr)	NO_X Emissions (lbs/event)	CO Emissions (lbs/event)
Cold Startup	2	568	4,500
Hot Startup	2	568	1,750
Shutdown	1	142	750

e. Hot startup is defined as a startup that occurs within 12-hours of the previous shutdown. Cold startup is defined as a startup that occurs greater than 12-hours from the previous shutdown. Startup ends when the turbine reaches normal operating mode (pre-mix Low-NO_X) and the SCR is operational.

f. The permittee shall keep hourly records of the operational status (startup, shutdown, and normal operation) of each unit.

g. To demonstrate compliance with the NO_X startup and shutdown emission limits, the permittee shall calculate the total NO_X emissions during the event using CEM data and compare it to the limits above.

h. Compliance with the CO emission limits for EU 1-01 and 1-02 shall be based on the duration of the event and compliance with the NO_X emission limit. To demonstrate compliance with the CO startup and shutdown emission limits, for EU 1-03 and 1-04, the permittee shall calculate the total CO emissions during the event using CEM data and compare it to the limits. [OAC 252:100-8-6(a)(1)]

i. Turbines 1-01, 1-02, 1-03, and 1-04 are subject to the NSPS for Stationary Gas Turbines, 40 CFR Part 60, Subpart GG, and shall comply with all applicable requirements. [40 CFR § 60.330 to § 60.335]

i. § 60.332: Standard for nitrogen oxides
ii. § 60.333: Standard for sulfur dioxide
iii. § 60.334: Monitoring of operations
iv. § 60.335: Test methods and procedures
v. Monitoring of the fuel sulfur content is not required if the permittee can demonstrate that the gaseous fuel meets the definition of "natural gas" with a maximum total sulfur content of less than 20 grains/100 SCF (680 ppmw or 338 ppmv) or less using either a current valid purchase contract, tariff sheet, or transportation contract or representative fuel sampling. Monitoring of fuel nitrogen content under NSPS, 40 CFR Part 60, Subpart GG shall not be required unless the permittee claims an allowance for fuel bound nitrogen.

j. The permittee shall maintain a record of the amount of natural gas burned in the Duct Burners for compliance with NSPS, 40 CFR Part 60, Subpart Dc.
[40 CFR § 60.48c(g) & § 60.13(i)]

EUG 2. Auxiliary Boilers. Emission limits and standards for EU 2-01 and 2-02 include but are not limited to the following:

	NO_X		CO	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**
2-01	2.36	10.34	5.02	21.99
2-02	2.66	11.63	5.65	24.74

a. The Auxiliary Boilers shall be equipped with low-NO_X burners. [OAC 252:100-8-34]

b. The Auxiliary Boilers shall only be fired with natural gas as defined in NSPS, 40 CFR Part 60, Subpart GG having 20.0 grains or less of total sulfur per 100 standard cubic feet. Compliance can be shown by the following methods: for gaseous fuel, a current gas company bill, lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once per calendar year.

[OAC 252:100-31 & 8-34]

c. The permittee shall maintain a record of the amount of natural gas burned in the Auxiliary Boilers for compliance with NSPS, 40 CFR Part 60, Subpart Dc.

[40 CFR § 60.48c(g) & § 60.13(i)]

EUG 3. Fuel Gas Water Bath Heater. Emission limits and standards for EU 3-01 include but are not limited to the following:

	NO_X		CO	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**
3-01	2.70	11.83	0.39	1.71

a. The Fuel Gas Water Bath Heater shall only be fired with natural gas as defined in NSPS, 40 CFR Part 60, Subpart GG having 20.0 grains or less of total sulfur per 100 standard cubic feet. Compliance can be shown by the following methods: for gaseous fuel, a current gas company bill, lab analysis, stain-tube analysis, gas contract, tariff sheet, or other approved methods. Compliance shall be demonstrated at least once annually. [OAC 252:100-31 & 8-34]

b. The permittee shall maintain a record of the amount of natural gas burned in the Fuel Gas Water Bath Heater for compliance with NSPS, 40 CFR Part 60, Subpart Dc.

[40 CFR § 60.48c(g) & § 60.13(i)]

EUG 4A. Backup Diesel Generator. Emission limits and standards for EU 4-01 include but are not limited to the following:

	NO_X		CO	
EU	**lb/hr**	**TPY**	**lb/hr**	**TPY**
4-01	52.80	13.20	12.10	3.03

a. EU 4-01 the Backup Diesel Generator shall not operate more than 500 hours per in any 12-month period. [OAC 252:100-8-6(a)(1)]

b. EU 4-01 the Backup Diesel Generators shall each be fitted with a non-resettable hour-meter. [OAC 252:100-8-6(a)(3)]

c. EU 4-01 the Backup Diesel Generators shall only be fired with fuel oil with a maximum sulfur content of 0.05% S by weight. Compliance can be shown by the following methods: for fuel oil, supplier's latest delivery ticket(s). Compliance shall be demonstrated at least once per calendar year. [OAC 252:100-31 & 8-34]

d. Replacement (including temporary periods of 6 months or less for maintenance purposes), of the internal combustion engine associated with the Backup Diesel Generator with an engine of lesser or equal emissions of each pollutant (in lbs/hr and TPY) are authorized under the following conditions:

   i. The permittee shall notify AQD in writing not later than 7 days in advance of the start-up of the replacement engine. Said notice shall identify the equipment removed and shall include the new engine make, model, and horsepower; date of the change, fuel usage, stack flow (ACFM), stack temperature (^{o}F), stack height (feet), stack diameter (inches), and pollutant emission rates (g/hp-hr, lbs/hr, and TPY) at maximum rated horsepower for the altitude/location and any change in emissions.

   ii. Replacement equipment and emissions are limited to equipment and emissions which do not subject the engine/turbine to an applicable requirement not already included in this permit.

   iii. The permittee shall calculate the net emissions increase resulting from the replacement to document that it does not exceed significance levels and submit the results with the notice required by Specific Condition 1, EUG 4A, (d). [OAC 252:100-8-6 (f)]

EUG 4B. Backup Diesel Generator Subject to NSPS, Subpart IIII. Emission limits and standards for EU 4-02 include but are not limited to the following:

a. EU 4-02 the Backup Diesel Generator is subject to the federal NSPS for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), 40 CFR Part 60, Subpart IIII, and shall comply with all applicable requirements: [40 CFR § 60.4200 - § 60.4219]

   <u>What This Subpart Covers</u>

   i. 60.4200 Am I subject to this subpart?

   <u>Emission Standards for Owners and Operators</u>

   ii. 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

   iii. 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

   iv. 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Fuel Requirements for Owners and Operators

v. 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

Other Requirements for Owners and Operators

vi. 60.4208 What is the deadline for importing and installing stationary CI ICE produced in the previous model year?

vii. 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

Compliance Requirements

viii. 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

Testing Requirements for Owners and Operators

ix. 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Notification, Reports, and Records for Owners and Operators

x. 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

General Provisions

xi. 60.4218 What parts of the General Provisions apply to me?

Definitions

xii. 60.4219 What definitions apply to this subpart?

b. EU 4-02 the Backup Diesel Generator shall not operate more than 500 hours per in any 12-month period. [OAC 252:100-8-6(a)(1)]

c. The Backup Diesel Generators shall each be fitted with a non-resettable hour-meter. [OAC 252:100-8-6(a)(3)]

EUG 5A. Emergency Fire Water Pump (Diesel). EU 5-01 is considered an insignificant activity and is limited to the following:

EU	Make/Model	Hp
5-01	Caterpillar/3306- A552598	267

a. EU 5-01 the Emergency Fire Water Pump shall not operate more than 500 hours in any 12-month period. [OAC 252:100-8-6(a)(1)]

b. EU 5-01 the Emergency Fire Water Pump shall be fitted with a non-resettable hour-meter. [OAC 252:100-8-6(a)(3)]

c. The Emergency Fire Water Pump shall only be fired with a fuel oil with a maximum sulfur content of 0.05% S by weight. Compliance can be shown by the following methods: for fuel oil, supplier's latest delivery ticket(s). Compliance shall be demonstrated at least once annually. [OAC 252:100-31 & 8-34]

EUG 6. Cooling Towers. EU 6-01 and 6-02 are considered insignificant activities and are limited to the following standards:

EU	Make/Model	No. of Towers
6-01	Psychometrics, Inc	9
6-02	To be determined	9

a. The Cooling Towers shall be equipped with drift eliminators. [OAC 252:100-8-34]

2. The permittee shall be authorized to operate the turbines, auxiliary boiler, and fuel gas water bath heater continuously (24 hours per day, every day of the year). [OAC 252:100-8-6]

3. The turbines, Auxiliary Boiler, Fuel Gas Water Bath Heater, Backup Diesel Generator, and Emergency Fire Water Pump shall have a permanent (non-removable) identification plate attached which shows the make, model number, and serial number. [OAC 252:100-43]

4. The permittee shall comply with all applicable requirements of NESHAP: Stationary Reciprocating Internal Combustion Engines, Subpart ZZZZ: [40 CFR 63.6580-63.6675]

What This Subpart Covers

a. § 63.6580 What is the purpose of subpart ZZZZ?
b. § 63.6585 Am I subject to this subpart?
c. § 63.6590 What parts of my plant does this subpart cover?
d. § 63.6595 When do I have to comply with this subpart?

Emission and Operating Limitations

e. § 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?
f. § 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?
g. § 63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?
h. § 63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?
i. § 63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

General Compliance Requirements

j. § 63.6605 What are my general requirements for complying with this subpart?

Testing and Initial Compliance Requirements

k. § 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

l. § 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

m. § 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

n. § 63.6615 When must I conduct subsequent performance tests?

o. § 63.6620 What performance tests and other procedures must I use?

p. § 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

q. § 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

Continuous Compliance Requirements

r. § 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

s. § 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

Notifications, Reports, and Records

t. § 63.6645 What notifications must I submit and when?

u. § 63.6650 What reports must I submit and when?

v. § 63.6655 What records must I keep?

w. § 63.6660 In what form and how long must I keep my records?

Other Requirements and Information

x. § 63.6665 What parts of the General Provisions apply to me?

y. § 63.6670 Who implements and enforces this subpart?

z. § 63.6675 What definitions apply to this subpart?

5. The permittee shall comply with all applicable requirements of NESHAP: Industrial, Commercial, and Institutional Boilers and Process Heaters located at a Major Source, Subpart DDDDD: [40 CFR 63.7480-63.7575]

What This Subpart Covers

a. § 63.7480 What is the purpose of this subpart?

b. § 63.7485 Am I subject to this subpart?

c. § 63.7490 What is the affected source of this subpart?

d. § 63.7491 Are any boilers or process heaters not subject to this subpart?

e. § 63.7495 When do I have to comply with this subpart?

Emission Limitations and Work Practice Standards

f. § 63.7499 What are the subcategories of boilers and process heaters?
g. § 63.7500 What emission limitations, work practice standards, and operating limits must I meet?
h. § 63.7501 Affirmative Defense for Violation of Emission Standards During Malfunction.

General Compliance Requirements

i. § 63.7505 What are my general requirements for complying with this subpart?
j. Testing, Fuel Analyses, and Initial Compliance Requirements
k. § 63.7510 What are my initial compliance requirements and by what date must I conduct them?
l. § 63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?
m. § 63.7520 What stack tests and procedures must I use?
n. § 63.7521 What fuel analyses, fuel specification, and procedures must I use?
o. § 63.7522 Can I use emissions averaging to comply with this subpart?
p. § 63.7525 What are my monitoring, installation, operation, and maintenance requirements?
q. § 63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?
r. § 63.7533 Can I use efficiency credits earned from implementation of energy conservation measures to comply with this subpart?

Continuous Compliance Requirements

s. § 63.7535 Is there a minimum amount of monitoring data I must obtain?
t. § 63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?
u. § 63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?

Notification, Reports, and Records

v. § 63.7545 What notifications must I submit and when?
w. § 63.7550 What reports must I submit and when?
x. § 63.7555 What records must I keep?
y. § 63.7560 In what form and how long must I keep my records?

Other Requirements and Information

z. § 63.7565 What parts of the General Provisions apply to me?
aa. § 63.7570 Who implements and enforces this subpart?
bb. § 63.7575 What definitions apply to this subpart?

6. The permittee shall comply with all acid rain control permitting requirements and SO_2 emissions allowances and SO_2, NO_X, and O_2 continuous emissions monitoring and reporting. SO_2 emissions shall be monitored in accord with Part 75, Appendix D.

7. When monitoring shows concentrations or emissions in excess of the limits of Specific Condition No. 1, the owner or operator shall comply with the provisions of OAC 252:100-9.

[OAC 252:100-9]

8. The following records shall be maintained on-site to verify Insignificant Activities. No recordkeeping is required for those operations that qualify as Trivial Activities. [OAC 252:100-8-6 (a)(3)(B)]

a. For stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or distillate fuel oil which are used exclusively for emergency power generation: records of hours of operation, size of engines, and type of fuel.
b. For fluid storage tanks with a capacity of less than 39,894 gallons and a true vapor pressure less than 1.5 psia: records of capacity of the tanks and contents.
c. For activities that have the potential to emit less than 5 TPY (actual) of any criteria pollutant: the type of activity and the amount of emissions from that activity (annual).

9. The permittee shall maintain records of operations as listed below. These records shall be maintained on-site or at a local field office for at least five years after the date of recording and shall be provided to regulatory personnel upon request. [OAC 252:100-8-6 (a)(3)(B)]

a. Operational status of each combustion turbine as required by Specific Condition No. 1, EUG 1, (f).
b. Startup and shutdown emission calculations required by Specific Condition No. 1, EUG 1, (g).
c. Operating hours for the Backup Diesel Generators and Emergency Fire Water Pumps (monthly and 12-month rolling totals).
d. For fuel(s) burned, the appropriate document(s) as described in Specific Condition No. 1.
e. Diesel fuel consumption for the Backup Diesel Generators and Emergency Fire Water Pumps (12-month rolling totals).
f. CEMS data required by the Acid Rain program.
g. Records required by NSPS, Subparts Dc, GG, and IIII.
h. Records required by NESHAP, Subparts ZZZZ and DDDDD.

10. No later than 30 days after each anniversary date of the issuance of the original Title V operating permit (December 6, 2002), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit. [OAC 252:100-8-6 (c)(5)(A) & (D)]

11. This permit supersedes all other Air Quality operating permits for this facility which are now null and void.

MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(July 21, 2009)

SECTION I. DUTY TO COMPLY

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.
[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements.
[OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

(1)the date, place and time of sampling or measurement;
(2)the date or dates analyses were performed;
(3)the company or entity which performed the analyses;
(4)the analytical techniques or methods used;
(5)the results of such analyses; and
(6)the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report. [OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions. [OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act. [OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards ("NSPS") under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants ("NESHAPs") under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer's instructions and in accordance with a protocol meeting the requirements of the "AQD Portable Analyzer Guidance" document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM_{10}). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification. [OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.
[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege.
[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued. [OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the

DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.
[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.
[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.
[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.
[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances: [OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

(1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
(2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
(3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
(4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d). [OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The

notification should include any changes which may alter the status of a "grandfathered source," as defined under AQD rules. Such changes may require a permit modification.
[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(18) for confidential information submitted to or obtained by the DEQ under this section):

(1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
(2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
(3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
(4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.
[OAC 252:100-8-6(c)(2)]

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.
[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

(1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
(2) the permitted facility was at the time being properly operated;
(3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F.
[OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

SECTION XVI. INSIGNIFICANT ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

(1) 5 tons per year of any one criteria pollutant.
(2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

(1) result in no net emissions increases,
(2) are not modifications under any provision of Title I of the federal Clean Air Act, and
(3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

(1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]
(2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]
(3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]
    (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
    (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
    (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
    (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and

the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.

(4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

(5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]

(6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]

(7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

(1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;

(2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and

(3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;

(2) Equipment used during the maintenance, service, repair, or disposal of appliances must

comply with the standards for recycling and recovery equipment pursuant to § 82.158;

(3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;

(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;

(5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and

(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

SECTION XXI. TITLE V APPROVAL LANGUAGE

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

(1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.

(2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).

(3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).

(4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R.§ 70.8(a) and (c).

(5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.

(6) The DEQ complies with 40 C.F.R. § 70.8(d).

(7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).

(8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.

(9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by

DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

(10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[OAC 252:100-43-6]

Associated Electric Cooperative, Inc.
Attn: Mr. Tadd Henry
Environmental Analyst
2814 S. Golden, P.O. Box 754
Springfield, MO 65801-0754

Re: Permit Number 2012-1223-TVR2
Chouteau Power Plant
Location: Mid America Industrial Park, Mayes County

Dear Mr. Henry:

Enclosed is the permit authorizing operation of the referenced facility. Please note that this permit is issued subject to the standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at 405-702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact me at eric.milligan@deq.ok.gov or (405) 702-4217.

Sincerely,

Eric L. Milligan, P.E.
Engineering Section
AIR QUALITY DIVISION

Enclosures

PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 NORTH ROBINSON, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2012-1223-TVR2

Associated Electric Cooperative, Inc.,

having complied with the requirements of the law, is hereby granted permission to modify/operate the Chouteau Power Plant located in Section 10, T20N, R19E, Mayes County, Oklahoma, subject to the Standard Conditions dated July 21, 2009, and Specific Conditions, both of which are attached.

This permit shall expire five years from the date of issuance, except as authorized under Section VIII of the Standard Conditions.

Division Director
Air Quality Division

Date

Duke Energy Field Services
Attn: Mr. Michael Smith
515 Central Park Drive, Building Two, Suite 100
Oklahoma City, OK 73105

Permit Number: 2008-348-TVR2
Permit Writer: David Schutz
Date: December __, 2008

SUBJECT: Straight North Booster
Texas County, Oklahoma

Dear Mr. Smith:

Air Quality Division has completed the initial review of your permit application referenced above. This application has been determined to be a **Tier II**. In accordance with 27A O.S. § 2-14-302 and OAC 252:002-31 the enclosed draft permit is now ready for public review. The requirements for public review include the following steps which you must accomplish:

1. Publish at least one legal notice (one day) in at least one newspaper of general circulation within the county where the facility is located. (Instructions enclosed)

2. Provide for public review (for a period of 30 days following the date of the newspaper announcement) a copy of this draft permit and a copy of the application at a convenient location within the county of the facility.

3. Send to AQD a copy of the proof of publication notice from Item #1 above together with any additional comments or requested changes which you may have on the draft permit.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me or the permit writer at (405) 702-4100.

Sincerely,

Phillip Fielder, P.E.
Permits & Engineering Group Manager
AIR QUALITY DIVISION

enclosures

NOTICE OF DRAFT PERMIT
TIER II or TIER III AIR QUALITY PERMIT APPLICATION

APPLICANT RESPONSIBILITIES

Permit applicants are required to give public notice that a **Tier II** or **Tier III** draft permit has been prepared by DEQ. The notice must be published in one newspaper local to the site or facility. Upon publication, a signed affidavit of publication must be obtained from the newspaper and sent to AQD. Note that if a public meeting is requested by either the applicant or the public, this must be arranged through the Customer Services Division of the DEQ.

REQUIRED CONTENT (27A O.S. § 2-14-302 and OAC 252:4-7-13(c))

1. A statement that a Tier II or Tier III draft permit has been prepared by DEQ;
2. Name and address of the applicant;
3. Name, address, driving directions, legal description and county of the site or facility;
4. The type of permit or permit action being sought;
5. A description of activities to be regulated, including an estimate of emissions from the facility;
6. Location(s) where the application and draft permit may be reviewed (a location in the county where the site/facility is located must be included);
7. Name, address, and telephone number of the applicant and DEQ contacts;
8. Any additional information required by DEQ rules or deemed relevant by applicant;
9. A 30-day opportunity to request a formal public meeting on the draft permit.

SAMPLE NOTICE on page 2.

SAMPLE NOTICE *(Italicized print is to be filled in by the applicant.)***:**

DEQ NOTICE OF TIER *…II or III…* **DRAFT PERMIT**

A Tier *…II or III…* **application for an air quality** *…type of permit or permit action being sought [e.g., Construction Permit for a Major Facility]…* **has been filed with the Oklahoma Department of Environmental Quality (DEQ) by applicant,** *…name and address.*

The applicant requests approval to *…brief description of purpose of application…* **at the** *…site/facility name … …[proposed to be]…* **located at** *…physical address (if any), driving directions, and legal description including county…..*

In response to the application, DEQ has prepared a draft permit [modification] (Permit Number: *…xx-xxx-x…***), which may be reviewed at** *…locations (one must be in the county where the site/facility is located)…* **or at the Air Quality Division's main office (see address below). The draft permit is also available for review in the Air Quality Section of DEQ's Web Page: http://www.deq.state.ok.us/**

This draft permit would authorize the facility to emit the following regulated pollutants (list each pollutant and amounts in tons per year (TPY)).

This public notice shall include notice to the public that this permit is subject to Environmental Protection Agency (EPA) review, EPA objection, and petition to EPA, as provided by 40 CFR § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.

The public comment period ends 30 days after the date of publication of this notice. Any person may submit written comments concerning the draft permit to the Air Quality Division contact listed below. [Modifications only, add: **Only those issues relevant to the proposed modification(s) are open for comment.**] **A public meeting on the draft permit [modification] may also be requested in writing at the same address. Note that all public meetings are to be arranged and conducted by DEQ/CSD staff.**

For additional information, contact *…names, addresses and telephone numbers of contact persons for the applicant,* **or contact DEQ at: Chief Engineer, Permits Section, Air Quality Division, 707 N. Robinson, Suite 4100, P.O. Box 1677, Oklahoma City, OK, 73101-1677, (405) 702-4100.**

December __, 2008

Texas Commission on Environmental Quality
Operating Permits Division (MC 163)
P.O. Box 13087
Austin, TX 78711-3087

SUBJECT: DCP Midstream Straight North Booster
Permit Number: 2008-348-TVR2
Guymon, Texas County
Permit Writer: David Schutz

Dear Sir / Madame:

The subject facility has requested an operating permit at a major source operating permit under 40 CFR Part 70. Air Quality Division has completed the initial review of the application and prepared a draft permit for public review. Since this facility is within 50 miles of the **Oklahoma - Texas** border, a copy of the proposed permit will be provided to you upon request. The draft permit is also available for review on the Air Quality section of the DEQ web page at *http://www.deq.state.ok.us*.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me or the permit writer at (405) 702-4198.

Sincerely,

Phillip Fielder, P.E.
Permits & Engineering Group Manager
AIR QUALITY DIVISION

December __, 2008

Department of Public Health and Environment
4300 Cherry Creek Drive South, A130
Denver, CO 80246-1530

SUBJECT: DCP Midstream Straight North Booster
Permit Number: 2008-348-TVR2
Guymon, Texas County
Permit Writer: David Schutz

Dear Sir / Madame:

The subject facility has requested an operating permit at a major source operating permit under 40 CFR Part 70. Air Quality Division has completed the initial review of the application and prepared a draft permit for public review. Since this facility is within 50 miles of the **Oklahoma – Colorado** border, a copy of the proposed permit will be provided to you upon request. The draft permit is also available for review on the Air Quality section of the DEQ web page at *http://www.deq.state.ok.us*.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me or the permit writer at (405) 702-4198.

Sincerely,

Phillip Fielder, P.E.
Permits & Engineering Group Manager
AIR QUALITY DIVISION

December __, 2008

KDHE, BAR
Forbes Field, Building 283
Topeka, KS 66620

SUBJECT: DCP Midstream Straight North Booster
Permit Number: 2008-348-TVR2
Guymon, Texas County
Permit Writer: David Schutz

Dear Sir / Madame:

The subject facility has requested an operating permit at a major source operating permit under 40 CFR Part 70. Air Quality Division has completed the initial review of the application and prepared a draft permit for public review. Since this facility is within 50 miles of the **Oklahoma - Kansas** border, a copy of the proposed permit will be provided to you upon request. The draft permit is also available for review on the Air Quality section of the DEQ web page at *http://www.deq.state.ok.us*.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me or the permit writer at (405) 702-4198.

Sincerely,

Phillip Fielder, P.E.
Permits & Engineering Group Manager
AIR QUALITY DIVISION

APPENDIX B: Selection of Files Reviewed

Selection of Files Reviewed for ODEQ Title V Program Evaluation

ODEQ Permit #	Fac ID	Name	Company	City (near)	County	Type	Date Rec	Date Issued	ODEQ Staff	# Of Documents Received
98-174-TV M-21	166	TULSA ROGERS CNTY LINE	TULSA CEMENT LLC DBA CENTRAL PLAINS CEMENT CO	TULSA	ROGERS	Major	5/1/2013	1/14/2015	Martin	4
2008-337-TVR M-2	1700	HUGO GNRTNG STA	WESTERN FARMERS ELEC COOP	FORT TOWSON	CHOCTAW	Major	3/10/2015	9/16/2015	Schutz	5
2009-179-TVR2 M-2	799	GRAND RIVER ENGRY CTR	GRAND RIVER DAM AUTH	CHOUTEAU	MAYES	Major	11/14/2013	6/10/2014	Neumann	3
2011-018-TV	7643	TIDAL CUSHING CRUDE TERML	TIDAL ENGRY MKTG LLC	CUSHING	PAYNE	Major	1/9/2014	4/3/2015	Hossain	3
2011-1000-TVR2	216	PSO WELEETKA POWER STA	PUBLIC SVC CO OF OK	WELEETKA	OKFUSKEE	Major	11/28/2011	11/6/2014	Richardson	7
2014-0014-TVR	3553	MERTZ METAL FABRICATION	MERTZ MFG INC	PONCA CITY	KAY	Major	1/8/2014	5/19/2016	Fischer	7
2014-0297-TVR2	1413	SOY ISOLATE PROD PLT	SOLAE CO LLC	PRYOR	MAYES	Major	2/27/2014	5/24/2016	Pollard	11
2013-0038-TVR2	3606	CANADIAN CNTY LNDFLL	OK ENVIR MGMT ATHRTY	UNION CITY	CANADIAN	Major	1/17/2013	2/27/2015	Chen	7
2013-0123-TVR2 M-2	855	JENKS FACLTY	KIMBERLY CLARK CORP	JENKS	TULSA	Major	6/2/2015	10/26/2015	Howell	4
2013-0286-TVR2 M-1	1428	GYPSUM WALLBOARD PLT	AMERICAN GYPSUM CO LLC	DUKE	JACKSON	Major	11/19/2014	4/14/2015	Buntyn	3
2012-1056-TVR2 M-9	1496	WOODWARD COMPLEX	TERRA INTL OKLAHOMA LLC	WOODWARD	WOODWARD	Major	10/15/2015	2/9/2016	Schutz	4
2012-1523-TVR M-1	1534	VALERO ARDMORE RFNRY	VALERO RFNRY CO - OKLAHOMA	ARDMORE	CARTER	Major	1/15/2014	10/16/2014	Richardson	6
2013-2140-TV	1621	COVINGTON CMPSR STA	MUSTANG GAS PROD LLC	COVINGTON	GARFIELD	Major	11/21/2014	12/29/2015	Thomas	3
2015-1127-TV	2642	EDMOND FACLTY	JETTA CORP	EDMOND	OKLAHOMA	Major	6/17/2015	4/19/2016	Milligan	5
2016-0307-TV	16241	LANDFILL	WEATHERFORD CITY OF	WEATHERFORD	CUSTER	Major	3/30/2016	6/3/2016	Yue	3
2008-349-TVR M-1	940	ALUMINUM BEVERAGE CAN LID MFG FACLTY	METAL CONTAINER CORP	OKLAHOMA CITY	OKLAHOMA	Major	4/3/2014	10/23/2014	Wills	5
2011-102-TVR2	2330	OKLAHOMA STATE UNIV	OK STATE UNIV	STILLWATER	PAYNE	Major	3/1/2011	12/17/2014	Walker	7
2013-0288-AR	10350	CHARLES D LAMB ENERGY CENTER	OK MUNI PWR ATHRTY	PONCA CITY	KAY	Major	3/21/2013	4/27/2016	Yue	7

APPENDIX C: ODEQ Responses to Draft Report and ODEQ Commitments

Oklahoma Department of Environmental Quality
Air Quality Division
Title V Operating Permit Program Evaluation

DRAFT REPORT ODEQ Response

March 25, 2019

I. Introduction

EPA Region VI conducted a Title V Operating Permit Program evaluation and has submitted a draft report to ODEQ, AQD (AQD) for review. AQD has reviewed the findings/recommendations and is providing this response.

II. Review Area 1: Acting in a timely manner on applications for initial, revisions and renewals permits.

EPA Discussion

EPA did not indicate any specific issue related to issuing Title V permits and renewals in a timely fashion.

ODEQ Response

No specific response needed. ODEQ will prioritize the issuance of Title V and Title V renewals to meet specified timelines.

III. Review Area 2: Issuing permits that are consistent with the requirements of 40 CFR Part 70.

EPA Discussion

As part of the program review, EPA reviewed many permits with respect to the Federal requirements regarding permit content as outlined in 40 CFR 70.4. Each permit was reviewed for consistency with these part 70 requirements. The majority of the part 70 requirements related to permit content were found in the general conditions of ODEQ's permits. However, several recommendations have been developed to improve ODEQ's title V permit program.

EPA states that ODEQ generally develops well written SOBs (which the ODEQ refers to as Permit Memorandum) for initial and renewal permits that contain the relevant topics that are typically needed to explain what requirements apply to the facility. However, for the permits EPA Region 6 reviewed, several recommendations to improve ODEQ's title V operating permitting record were

identified. These include several recommendations with regard to the SOB. Each item is discussed following.

1. Thoroughly document or discuss why CAM applies to particular units or how ODEQ made a determination to approve particular CAM plans.

EPA Discussion

Sufficient detail should be provided in order to understand whether or not any emission unit at the facility is subject to CAM. When CAM does apply, ODEQ should consider summarizing the facility's proposed CAM plan and state whether ODEQ is approving or has approved the plan. If ODEQ is approving the plan, but some aspects of the CAM monitoring in the permit differ from the facility's proposal, these differences should be highlighted and explained as well. The lack of information about CAM discussions makes meaningful review of proposed permits by the public and EPA staff more challenging.

As an example, the SOB for Mustang Gas Products' Covington Compressor Station permit (No. 2013-2140-TV) issued on December 29, 2015, the permitting record does not appear to clearly document why the specifications for CAM will be incorporated into the renewal title V operating permit and not the current issued title V operating permit (see page 16 of the permit memorandum, Engines CM-7 and CM-11.2).

ODEQ Response

ODEQ believes the CAM requirements in issued permits reasonably implement the monitoring requirements of CAM. While it is clear that not all decisions are clearly explained in every issued permit, ODEQ believes if the public or EPA has concerns about the finally approved criteria comments can be submitted and ODEQ will provide responses to these specific concerns.

However, ODEQ will commit to providing better detail regarding CAM determinations, with special attention given to situations in which the proposed CAM differs from the finally approved CAM.

With regard to the specific example, ODEQ reviewed the subject permit. A CAM analysis was conducted. This analysis indicated units were not affected or that units would be subject upon renewal. While not plainly stated in this review, certain emission units must apply CAM upon the Title V renewal.

While ODEQ believes this is readily available information via publically available resources and the fact that the statements are technically accurate, ODEQ will commit to providing a definitive statement of when and/or how CAM will be implemented for affected units.

It should be noted that ODEQ review of some Title V permits did show a definitive statement of future CAM applicability. ODEQ will strive for consistent wording application.

2. Explicitly state or document when ODEQ is using its streamlined or "enhanced NSR" process for the issuance of modified NSR and Title V permits. Improved QA/QC for permit record consistency and procedural permit processing requirements.

EPA Discussion

EPA clarifies that permitting authorities can utilize an option known as "enhanced NSR" for NSR permit modifications. EPA clarifies that this process is subject to the procedural requirements of Part 70, including 45-day EPA review period and a 60-day petition period that allows citizens to petition the Administrator to object to permit issuance.

The "enhanced NSR" process allows sources to simultaneously apply for, and permitting authorities to process, revisions to NSR and title V permits. In this process, after the NSR permit has been issued, and the project has been completed, the permitting authority revises the Title V permit to add (or delete) the new or revised conditions via an administrative amendment. The benefits of consolidating the NSR and Title V permitting processes include reduced processing time and the opportunity for EPA to review and concur with NSR permit changes.

EPA is suggesting that if the NSR permitting and title v permit action are intended to be processed concurrently, the statement of basis and public notice need to be clear in stating the legal authority. ODEQ should also pay attention to permit actions that propose to amend, relax, or change terms and conditions established in an NSR permit and whether those actions qualify for a Tier I action with no public notice.

EPA provided specific comments on two permit actions.

The first was for the Grand River Dam Authority (No. 2009-179-TVR M-2). EPA clarifies that ODEQ states that the permit action is for an amendment to the permit and not a "modified title V renewal permit" as stated in the permit letter.

The second permit is for the Tidal Energy Marketing permit (2011-018-TV). EPA again states that the NSR permit and title V permit should use the enhanced NSR processing steps. EPA also points out that changes were requested by Tidal and made in the title V permit that is inconsistent with the administrative amendment process.

ODEQ Response

With regard to notifying the public of the intent to allow for petition during the NSR process in both the public notice and Memo/SOB, ODEQ has relied upon the public notice to notify the public.

ODEQ believed the public notice was the best option as this is the primary method that the public would be notified that a permit is open for public review/petition. However, the Memo/SOB does contain a section that discusses public and EPA review. ODEQ will commit to adjusting this language to notify the public of the process being followed including the petition option.

Regarding the "enhanced NSR" requiring the NSR and title V permit to be processed simultaneously. Current ODEQ regulations do not require this. ODEQ understands EPA position regarding enhanced NSR processing. This issue is currently under consideration as part of the EPA/ODEQ SIP review and discussions.

Regarding the two permit examples:

For the Grand River Dam Authority (No. 2009-179-TVR2 M-2), the permit letter states ODEQ is issuing a modified Title V renewal permit. EPA clarifies that this is inconsistent with the action being done which is an administrative amendment.

Calling it an amendment or modification of the title V renewal permit is really semantics. The Memo/SOB is clear in the introduction and compliance section regarding the action ODEQ is taking. ODEQ will strive to use consistent wording in permit letters.

For the Tidal Energy Marketing permit (2011-018-TV), EPA again states that the NSR permit and title V permit should use the enhanced NSR processing steps. This issue was addressed in a previous response. EPA clarified an additional concern related to the issuance of the title V permit. Tidal requested and received some minor changes to the NSR permit that were incorporated into the title V permit without modifying the NSR permit. While some changes were made to the title V permit with regard to storage and throughput limitations, the resulting emission limits decreased. These changes should have been detailed in the Memo/SOB and a clarifying statement made regarding the processing. The title V permit would most likely have required full Tier II review as some changes to the construction permit were made. ODEQ will strive to better clarify changes made and processes used.

3. Provide compliance history discussion in SOBs

EPA Discussion

EPA clarifies that the ODEQ Memo/SOB should contain a discussion of the facility's detailed compliance history, settlements and compliance plans. EPA points to the Region V guidance to Ohio on adequate content that meets 40 CFR 70.7(a)(5). This information should include the compliance history of the source such as inspection, any violations noted, a listing of consent decrees into which the permittee has entered and corrective action(s) taken to address noncompliance.

ODEQ Response

Prior to issuance of title V permits, ODEQ does a review of current compliance status. This process includes a review by ODEQ compliance and enforcement section for each title v renewal or significant change to a title V permit.

ODEQ does not believe a comprehensive listing will provide any compliance benefit. ODEQ will continue to review the need for this detailed listing.

4. Consistently provide permitting history in SOBs

EPA Discussion

EPA is requesting that ODEQ's Memo/SOB contain a detailed construction and permitting history especially for those actions being brought forward into the title V permit. EPA provided a specific example regarding a Tulsa Cement permit.

ODEQ Response

ODEQ's Memo/SOB contains a clarifying statement in the introduction regarding the permit action. This includes any NSR permit being incorporated into the title V permit. ODEQ will update the process to specifically list all permit actions since the last operating permit was issued.

With regard to the Tulsa Cement plant permit, the current structure of the AQD rules allow minor modifications to be directly inserted into Title V permits without NSR permitting. These rules are part of the approved SIP. The introduction clearly states that the permit action is for minor modifications to the Title V permit. The ability to continue to use this process is currently being evaluated as part of ODEQ/EPA SIP review.

Regarding the timely Title V renewal. Tulsa Cement failed to submitt a timely Title V renewal application. The Title V renewal application was submitted on May 5, 2016. ODEQ took enforcement action as a result. The current application is under review and pending facility action.

5. ODEQ's Memo/SOB should adequately describe or document decisions the ODEQ has made in the permitting process regarding the methods to demonstrate compliance with emission limitations

EPA Discussion

Part 70 requires title V permitting authorities to provide "a statement that sets forth the legal and factual basis for the draft permit conditions" (40 C.F.R. § 70.7(a)(5)). The purpose of this requirement is to support the proposed title V permit with a discussion of the decision-making that went into the development of the permit, and provide the permitting authority, the public, and EPA a record of the applicability determinations along with the technical issues surrounding the issuance of the permit. The statement of basis should document any regulatory and policy issues applicable to the source, and is an essential tool for conducting meaningful permit review by the public and EPA.

EPA identified a specific issue regarding a Valero Refining permit. EPA identified an erroneous citation and the failure to identify a regulatory applicability.

ODEQ Response

ODEQ believes the purpose of public review is to allow the public to request clarification of compliance methods included in the permit. ODEQ also believes including excessive and possibly redundant clarification is not conducive to a streamlined process. With this being said, ODEQ will review the current process and commit to include a compliance section in the memo that clarifies the more important compliance decisions. This section may also include some general criteria applied when compliance demonstrations are inserted into permits.

Regarding the Valero permit:

The Title V citation to 8-30(b)(4) for the 0.06 lb/MMBTU is a bit of a semantic issue. This citation is correct that the review done for installation of the heater was based on the 8-30(b)(4) method. The facility proposed the PTE option based on a 0.06 lb/MMBTU vendor factor and the design capacity of the heater.

Based on small potential emissions, compliance is based on a design capacity limit and a fuel limit.

As indicated by EPA, the memo clarifies heater H-2601 is subject to Part 63 DDDDD. A permit condition is not needed in order for Part 63 DDDDD requirements to apply. This heater is subject to this standard regardless of a specific condition in a Title V permit mandating compliance. As such, EPA has indicated high level citations are sufficient when incorporating NSPS/NEHAP regulations into permits. Specific Condition No. 8 includes a condition that requires all affected equipment to comply.

6. Improve documentation on "Insignificant Activities" in the permit application and permitting record.

EPA Discussion

The title V program regulations require insignificant activities that are exempted because of size or production rate to be included as a list in the title V permit application [40 C.F.R. § 70.5(c)]. In the EPA Region 6 review of the selected ODEQ title V permitting actions, ODEQ permitting records are inconsistent in carrying forward insignificant activities lists from underlying title I permits or previously issued title V permits.

EPA identified the following issues with regard to insignificant activities and the application and permit record:

1 The ODEQ permit application and instructions do not require the permit application to include a list of insignificant activities that are exempt because of size or production rate. The ODEQ website contains title V permit application forms and instructions. In the March 2012 Application Guide file, the instructions require applicants to identify only once the insignificant actions contained in form "Part 1b". The number of insignificant emission units and information used to evaluate title V fees do not appear to be included within the "Part 1b" form.
2 The Mustang Gas Production permitting record showed inconsistent emission unit descriptions for the emission units outlined in a provided table. Based on the emission unit

descriptions, it is unclear if the emission units contained in the table below meet the insignificant activities criteria selected by the applicant in Part 1b of the permit application and if ODEQ has evaluated and determined the applicability of State or Federal requirements for the emission units. Section 70.6(a)(1) requires the inclusion of all applicable requirements in the title V permit and Section 70.6(a)(3)(i) requires all applicable requirements for monitoring and analysis procedures or test methods to be included in the title V permit.

3 It is unclear in the permitting record if all of the facility's storage tanks, Emission Unit Group F, are considered IEUs. EPA Permitting Guidance Documents (White Papers 1 and 2) have stated that, in general, permitting authorities have considerable discretion in tailoring the amount and quality of information required in permit applications and permit as they relate to IEUs. Section XVI of the issued permit generally states that an activity below 5 TPY of any one criteria pollutant is authorized as an insignificant activity. However, page 14 of the SOB states that the applicant has requested a federally enforceable limit of less than 6 TPY of VOC.

4 The boilerplate language in Section XII. Reopening, Modification & Revocation includes a citation to the ODEQ rules for reopening of operating permits for cause (252:100-8-7.3). However, the special conditions contained in Section XII(B)(1-4) do not appear to contain all of the regulatory requirements identified at 40 CFR 70.7(f) or OAC 252:100-8-7.3.

ODEQ Response

ODEQ will strive to be consistent in identifying and carrying forward insignificant activities. Regarding each comment:

1. Correct, as insignificant activities ODEQ did not find it necessary to complicate the process by asking for this information multiple times or in great detail. Since the list is not used to evaluate title V fees, any additional information is not needed.
2. While the units could each have been described in the insignificant list, review of the application and permit indicated each of these qualifies as insignificant or trivial. ODEQ will strive to provide complete lists in the memo.
3. Please see response to item #2. However, the federally enforceable limit applies to tanks 24, 25, and 26 as indicated on page 14 of the memo. These tanks do not qualify as insignificant and have specific limits in the permit.
4. After review, it appears all regulatory requirements are included or included by reference to the rules. The only omission is 8-7.3(a)(2). Since ODEQ issues independent acid rain permits, it is not applicable to the Mustang permit.

IV. Review Area 3: Compliance with the public participation requirements for title V permit issuance.

EPA Discussion

The Federal title V regulations require all permit actions, except minor permit modifications, to provide adequate public notice. Oklahoma has adopted provisions regarding public notice and public participation in Oklahoma title 252: Chapter 4.7-13.

In Oklahoma, permit applicants are required to give public notice that a Tier II or Tier III draft permit has been prepared by ODEQ. The notice must be published in one newspaper local to the site or facility. Upon publication, a signed affidavit of publication must be obtained from the newspaper and sent to ODEQ. Note that if either the applicant or the public requests a public meeting, this must be arranged through the Customer Services Division of ODEQ.

The public notices are also published on the agency's website. ODEQ has a website that allows the public to search electronically for all draft permits while in active review, and for final issued PSD permits. Also, ODEQ maintains a listing of permits issued in the last 12 months and permit applications still in active review. The agency also maintains a mailing list of people who may be interested in the proposed title V permits. The public may request to be added to this list. The public can also request permitting information in person at the two main ODEQ offices in Oklahoma City and Tulsa.

EPA Region 6 permitting staff requested and reviewed the permit files supplied by ODEQ to assure that adequate information was available in the public notices published in the newspapers. The public notices EPA reviewed also contained information that provides 30 days for public comment and is required to give notice of any public hearing at least 30 days in advance of the hearing. EPA Region 6's review of the air permit files included a review of the draft permit, final permit (if applicable), and the permit application.

EPA Region 6 reviewed the public notice for CenterPoint Energy Field Services (Permit No. 2003-027-C (M-3)), and documented the following concerns.

A . Ensure ODEQ permit issuance process implementation fully satisfies the enhanced title V process outlined in 40 CFR 70.7(d)(1)(v).

EPA Discussion

Under 40 CFR § 70.7(d)(1)(v), the enhanced authority to construct (also referred to as "merged NSR" or "enhanced NSR") allows for all title V procedural requirements, most notably public notice and EPA review, to be met at the time of construction review. Once this is accomplished and the authority to construct (ATC) permit is issued, the title V permit can be changed as an *administrative amendment*. The enhanced ATC process applies to minor and significant modifications and must be requested by the applicant at the time of construction permit application submittal. 40 CFR 70.7(d)(1)(v) allows the incorporation into the part 70 permit the requirements from preconstruction review permits authorized under an EPA-approved program, provided that such a program meets procedural requirements substantially equivalent to the requirements of [40 CFR 70.7 and 70.8] that would be applicable to the change if it were subject to review as a permit modification and compliance requirements substantially equivalent to those contained in Sec. 70.6.

Oklahoma's Operating Permit Program was submitted in response to the directive in the 1990 CAA Amendments that States develop, and submit to EPA, programs for issuing operating permits to all major stationary sources and to certain other sources within the States' jurisdiction. The EPA granted interim approval to Oklahoma's Operating Permit Program on February 5, 1996 (61 FR 4220). The interim approval notice stipulated seven conditions that had to be met in order for

Oklahoma's program to receive full approval. One of these seven condition was to revise administrative amendments provisions (60 FR at 4223). By correspondence dated September 4, 2001, and September 19, 2001, Oklahoma agreed to implement provisions in the permit that meet the requirements of 40 CFR 70.7 and 70.8 (e.g., affected state review, EPA review, EPA petition) except compliance requirements substantially equivalent to those contained in 40 CFR 70.6. Although during final approval of Oklahoma's title V program, Oklahoma has expressly chosen not to enhance its minor NSR program, it seems to envision using administrative permit amendments for changes that require preconstruction authorization. Title V rule authorizes the incorporation of construction permit terms and conditions into title V permits, only if the enhanced procedural requirements of 40 C.F.R. section 70.7(d)(1)(v) are met and approved in state's program.

Specifically, Oklahoma's administrative amendment process rule at OAC 252:100-8-7.2(a) does not fully outline procedural requirements. It should be clear to the public that if significant public comments are received and EPA is provided a "proposed" permit for an additional review period, that the public has the ability to file a title V petition or to amend an earlier "pre-emptive" title V petition (if one was filed not knowing what the action the State might take on the permit). ODEQ should ensure that its public notice and instructions in its public notice are adequate to outline what happens in those instances where they receive significant public comments.

ODEQ Response

ODEQ operates a dual permitting system - construction and operating permits - to control major (Part 70) and minor sources. A construction permit is required before a new source is constructed or an existing source is modified. Public review and notice to adjacent states is required prior to the issuance of the major source construction permit. The construction permit is then issued after it is determined the source is designed to meet applicable rules and pre-construction requirements. An operating permit is issued after construction is completed and demonstration is made that the source is capable of meeting applicable emissions limitations and air pollution control requirements. If no significant changes are proposed within the operating permit application, the public will not receive another opportunity to comment. EPA published full program approval of ODEQ's Part 70 Operating Permit Program, as outlined above, on December 5, 2001. 66 Fed. Reg. 63170 (Dec. 5, 2001); see Appendix A to Part 70 (full final approval effective on November 30, 2001).

ODEQ and EPA addressed the public notice content issue through correspondence provided between June 12, 2001, and October 25, 2002. In the October 25, 2002, letter, EPA confirmed the solution to this issue would be resolved through the revision of ODEQ's rules – specifically the addition of Oklahoma Administrative Code ("OAC") 252:4-7-13(g)(4). This proposed revision was offered by EPA through correspondence dated May 21, 2002.

For changes that require a construction permit, ODEQ regulations do not allow changes to be permitted through the administrative amendment procedures. Facilities can utilized the Enhance NSR process if requested.

Additionally, ODEQ and EPA are currently reviewing any perceived deficiencies in the ODEQ Enhanced NSR process through a SIP review. It is anticipated that any deficiencies will be resolved through that process.

B. ODEQ should ensure that applicants applying for minor permit modifications certify that the proposed modifications meet the title V minor modification criteria.

EPA Discussion

There are three title V permit revision tracks in the title V permitting program: administrative permit amendments, minor permit modifications, and significant permit modifications. Minor permit modifications do not require public notice, and for this reason the types of revisions eligible for treatment as minor permit modifications are restricted to those that do not trigger any of a defined set of minor modification precepts. Section 70.7(e)(2)(i) of part 70 rule identifies several criteria, which are intended to screen a proposed change for applicability as a minor modification. Examples of permit revisions that qualify as minor modifications include changes that do not increase the emissions of any air pollutant above the permitted emission limits, and permit revisions that do not involve a significant change to existing monitoring, reporting or recordkeeping requirements in the permit.

When applying for a minor modification, applicants are required to certify "that the proposed modification meets the criteria for use of minor permit modification procedures" (70.7(e)(2)(ii)(C), and OAC 252:100-8-7.2(b)(1)(B)(iii)). However, in our review of minor modification applications submitted to the ODEQ, we found that ODEQ does not require applicants to certify that the proposed permit revision qualifies to be processed as a minor modification. Neither ODEQ's Air Quality permit application form (DEQ Form 100-884) or the Emissions Unit Group Compliance Demonstration Form (DEQ Form 100-001) address the certification requirement.

ODEQ should require that all applicants for title V permit minor modifications certify that the proposed permit revision qualifies to be processed by the ODEQ as a minor modification. ODEQ should revise current application forms or create a new form to explicitly include specific certification language making the applications easier to understand and provide a more distinct certification to satisfy this required program element. The other option is for ODEQ to explain whether it believes its current forms require such certification under a broader certification requirement within its existing forms or program requirements.

ODEQ Response

ODEQ produces a memo/SOB for each permit action requested. As part of the memo/SOB for actions in which the applicant is requesting a minor modification, ODEQ includes a review of the action to make sure it qualifies.

ODEQ agrees that the application forms should include a requirement for the applicant to justify and document how the proposed change qualifies. ODEQ will review the forms for appropriate updating.

V. Review Area 4: Collecting, retaining, or allocating fee revenue consistent with the requirements of 40 CFR Part 70.

EPA Discussion

The Federal requirements regarding title V fee adequacy are found in 40 CFR Section 70.9. The provisions in part 70 require that the State program require part 70 sources to pay a fee sufficient to cover the permit program costs. Further, the State can only use title V fee revenues solely for title V program costs.

EPA Region 6 conducted a review of ODEQ's title V fee collection and fee utilization. EPA sent a list of questions and requested specific documentation in the title V evaluation questionnaire. The purpose was to verify that there were procedures in place for the receipt, separation, expenditure, and adequacy of the State's title V funds. Oklahoma responded to EPA's questionnaire with specific answers and documentation. ODEQ ensures that title V revenues are segregated from other air fees collected. EPA verified that Title V revenue and expenditures were accounted for separately from non-title V by using organizational codes. Title V Program direct costs and items of overhead like maintenance, utilities, and rent are directly charged by organizational codes. Indirect costs are charged to title V by the Administrative Services and a percentage of the budget of the office of the Division Director.

Region 6 reviewed various aspects of the title V program. These are as follows: (1) split 105 vs. title V; (2) current title V resources; (3) fees calculated; (4) collections tracked; (5) billing process; (6) revenues allocated; (7) current program costs (FTE and OH); and (8) cost of an "effective" program, i.e., resources to address backlog and renewals.

A. ODEQ met the Federal requirements regarding title V adequacy and administers those fees very well.

EPA Discussion

The title V (part 70) regulations require that permit programs ensure that title V fees collected are adequate to cover title V permit program costs and are used solely to cover the permit program costs. ODEQ provided several examples and screen shots in support while responding to EPA's questions related to title V administration and Fee review portion of the questionnaire. As shown in Appendix __ (a screenshot of a typical timecard for an employee working on title V permitting actions), ODEQ accounts for time spent on the title V program by its employees. Other title V-related expenses include personnel services, travel, indirect costs, information services, and training. ODEQ's title V fee revenues are made up of application fees and annual fees for emissions and maintenance. The average annual fees collected for fiscal years 2012 through 2014 were $6,340,083. Based upon EPA review and evaluation of the ODEQ financial systems, ODEQ is meeting the title V financial requirements. EPA encourages the ODEQ to maintain its existing accounting practices and improve the level of details if needed regarding costs associated with all activities related to title V permits.

ODEQ Response

ODEQ will continue to track fees associated with the title V program and assure they are utilized for title V purposes.

VI. Conclusion

ODEQ will continue to work with EPA to resolve issues identified through both day to day permit issuance and SIP reviews.