

**Knox County Department of Air Quality Management
(Department)
Title V and New Source Review Program Review**

The U.S. Environmental Protection Agency (EPA) Region 4 committed to conduct detailed title V and New Source Review (NSR) program reviews for all state and local programs that have at least ten title V major sources within their jurisdiction. These evaluations also include a review of the title V fees collected and billed annually. This commitment results from an agreement between the EPA Office of Air and Radiation and the EPA Office of Inspector General, which required EPA to conduct title V program evaluations of all state and local programs. EPA Region 4 decided, in addition to title V, to use this opportunity, when applicable, to evaluate the NSR programs at each of the state and local programs. The program reviews are to be completed by the end of Fiscal Year 2006. The Knox County Air Quality Management (Department) program review was conducted the week of January 23, 2006 in Knoxville, Tennessee. Prior to EPA's arrival, EPA mailed copies of the title V and NSR questionnaires to the Department to complete. Upon EPA's arrival at the Knox County office, EPA provided the Department with a list of title V source files that were to be reviewed as part of the evaluation. EPA spent the first day reviewing the title V files and discussing the responses to the title V questionnaire with Department staff. The following day was used to complete the review of the permit files and discuss the NSR questionnaire. The following parties attended the title V questionnaire discussion: Randy Terry (EPA Region 4), Brandi Jenkins (EPA Region 4), Yolanda Adams (EPA Region 4), Katy Forney (EPA Region 4) and Steve McDaniel (Department).

Knox County Title V Program Review

1. Program Review

The Department's organizational structure for air permitting resides at the office in Knoxville, Tennessee. All title V permits for the Knox County area are processed in the Knoxville office. Separate program evaluation reports will be written covering the Tennessee Department of Environment and Conservation, Nashville-Davidson County, Chattanooga/Hamilton County and Memphis-Shelby County title V programs.

The headings in the title V portion of this report duplicate the headings in the title V program review questionnaire administered during the visit.

EPA appreciates the Department's efforts to aid the evaluation process by providing an answered copy of the program review questionnaire prior to the meeting. For many questionnaire items, the answers provided by the Department are more detailed than indicated in the summary discussion below. The answered questionnaire from the Department will be on file at EPA Region 4 for reference.

A. Title V Permit Preparation and Content

The Department has processed 100 percent of their initial title V applications. All of the initial applications submitted by the sources during the initial round of title V permit issuance contained sufficient information to create the title V permit.

The Department does not automatically require sources to update their application if a significant amount of time has passed, nor does the Department require a source to submit a new compliance certification. The Department does, however, verify source compliance prior to issuance of the permit. The Department conducts full compliance evaluations on all title V sources every two years and reviews the files. Additionally the Department conducts partial compliance evaluations and inspections yearly. If at any time prior to the issuance of a permit non-compliance is discovered, the Department delays issuance of the permit until the facility has attained compliance. No permits are issued to a facility during an enforcement action.

Since the implementation of the title V program, the Department has improved their permit writing and processing time by attending various EPA sponsored training courses and internal permit writer training. At the time of the program evaluation, the Department did not have a procedure in place to quality assure the title V permits but were in the process of developing a second level of permit review prior to permit issuance. Currently, the permit writer for the Department writes the permit and submits it for public notice without any additional internal review.

The Department prepares a statement of basis (SOB) for each title V permit processed, incorporating the requirements of 40 CFR part 70.7(a)(5). Department permit writers utilize an

EPA SOB training document for guidance when developing SOBs. The purpose of the SOB is to address all applicable requirements, any streamlining contained within the permit, identification of any deviations in monitoring requirements and the rationale behind these deviations.

Regarding the overall strengths and weakness of the format of title V permits, the Department believes the format for the title V permits is a strength in that the permits are self contained and detail all the requirements within one document for the facility to follow.

B. General Permits

Although local ordinances authorize the Department the ability to issue general permits, with such a small number of sources in the Knox County area, the Department elects not to do so.

C. Monitoring

The Department works with each title V source in order to ensure that its operating permits contain adequate monitoring. Almost all of the permits issued by the Department contain some monitoring requirements not required as a part of any underlying requirements. Each Department permit writer is provided training for monitoring including periodic monitoring and sufficiency monitoring. The Department has begun to incorporate compliance assurance monitoring (CAM) requirements into their permit renewals and has not found it to delay permit issuance. Since the implementation of title V, the Department believes that monitoring has helped to ensure that sources are in compliance with their permits.

D. Public Participation and Affected State Review

The Department utilizes the “Knoxville News Sentinel,” which is the most widely circulated newspaper in Knox County, to give general public notice of title V permitting actions. The cost of publishing public notices in the newspaper has averaged \$80 and is paid for by the Department. In addition, the Department has created a mailing list as one of their methods of public notification. The mailing list includes city and county officials, environmental organizations, and any citizen who request to be included on the mailing list. The Department provides copies of the public notice, which informs the recipients on where to go for additional information, to everyone included on the mailing list. If requested, the Department will also provide a copy of the SOB. The Department does not publish their notices in any language other than English.

In order to help the public determine when the 60-day citizen petition clock expires, the Department has agreed to include language within all title V public notices referring the public to EPA Region 4’s website. The Department conducts public hearings for all new title V permits, renewal title V permits, or any significant modification upon receipt of a written request. On occasion in which the Department anticipates public interest, they will plan the public hearing without waiting for a written request. These hearings are usually scheduled for near the end of the 30-day public comment period. The Department has, when requested by the public, extended their public comment period for an additional 30 days.

Very rarely does the Department receive comments from the public. At the time of the program evaluation, the Department had received comments on only one title V permit and had not made any permit revisions based on public comments. On the occasions that the Department does receive comments on a permit, it is usually from the source involving minor changes. However some comments have been significant enough to delay permit issuance until the comment has been resolved. In cases where there are changes to emissions limits, monitoring or reporting requirements, the Department would renote the permit. The Department has not noticed any trend to the comments being received from sources and citizens nor have they noticed a trend in the types of sources that receive comments. The Department contributes this to working with the sources to resolve any potential issues prior to the comment period.

The Department provides electronic copies of the public notice, draft permit, and SOBs to anyone that requests it free of charge. Anyone requesting paper copies of permit related documents is billed at a rate of 50 cents per page, with the first five pages free. The Department is generally able to provide the requested information within one business day depending upon the volume of material requested. The Department also maintains a website which allows the public and the sources to access the necessary forms and the applicable regulations for title V.

The Department notifies all affected states of draft permits by email. The States of Tennessee and North Carolina qualify as “affected.” No tribes are contacted by the Department as “affected.” The Department has never received comments from an affected state, nor have they ever provided comments to another program as an affected “state.”

E. Permit Issuance/ Revision/ Renewal

The Department has issued 100 percent of their initial title V permits. The Department has been able to process all types of title V revisions within the time frames allotted by Part 70. The Department uses a database to track permit revisions. The Department has not developed any written guidance for use by their permit writers to assist in evaluating whether a proposed revision qualifies as an administrative amendment, off-permit change, significant, or minor revision.

The Department has begun to issue renewal permits and have found their renewal applications to be timely and complete. The Department does not allow sources to submit a short form application for renewals. Each source must submit a full renewal title V application. The Department does not foresee any problems with issuing their renewals within the timeframes allocated by part 70. At the time of the program evaluation, the Department had received one title V renewal application.

F. Compliance

The Department requires any deviations from opacity or emission limits to be reported by telephone and a follow-up written report must be submitted within 24 hours. The Department defines a deviation as any variance from the permit conditions. Each deviation report must

contain the probable cause of the deviation, corrective actions taken, and the magnitude and duration of the deviation. Following the receipt of a deviation report, the Department reviews the report and evaluates a course of action on a case-by-case basis. The Department reviews 100 percent of all deviation reports, semi-annual monitoring reports, and annual compliance certifications. Upon receipt of a semi-annual monitoring report or an annual compliance certification, Department permit engineers review the report and determine if enforcement action for the identified violations should be pursued. During the discussion, it was explained that in practice Knox County granted automatic exemptions for those exceedances that fell within the de minimis level within regulation 34.6, "Report Required upon Issuance of a Notice of Violation." This is an incorrect interpretation of the regulation needs to be corrected immediately. While the regulation does allow Knox County to avoid sending out notice of violations immediately upon receipt of an exceedance below the de minimis level, it does not automatically exempt these exceedances from being reviewed for potential violations. In the future, Knox County needs to ensure that each exceedance is evaluated on a case-by-case basis to determine if a notice of violation is needed.

G. Resources and Internal Management Support

The Department establishes its title V fee based on the presumptive minimum fee established by EPA annually. Currently the Department's title V fees are \$38.29/ton based on actual emissions. Title V revenue is processed and tracked within an account, separate from the general fund account. This system can produce financial reports for management oversight and accurately accounts for title V revenue as well as expenditures.

The Department has three full time equivalents (FTE) allocated to title V, of which approximately two FTEs are used by actual permit writers. The Department has two engineers which account for 0.65 FTE each, dedicated to title V, and a title V program manager who accounts for 0.75 FTE. The permit writers' title V work competes with the priority of NSR permits. At the time of the program evaluation, the Department was in the process of filling one vacancy within the title V program. The Department has experienced some staff turnover with the loss of five permit writers over the past three years but recently has had minimal staff turnover. The Department does not have a career ladder but does have a pay band with 10 step increases.

The Department permit writers are afforded opportunities for EPA, STAPPA/ALAPCO and Metro4/SESARM training as their budget allows. The Department's training plan for new permit writers includes how to develop periodic and sufficiency monitoring in permits and enforceable permit terms and conditions as a practical matter.

The Department has not developed an EJ strategic plan, or an in-house coordinator charged with oversight of EJ related activities. EPA has volunteered to provide the Department with information on EJ training courses available and the Department has requested the EPA return at a later date to discuss and provide training on EJ. Department permit writers do have access readily available to demographic information necessary for EJ assessments.

H. Title V Benefits

The Department believes that significant benefits have been gained as a result of the title V program. Since the implementation the title V program, the Department has a better understanding of how to write enforceable permits and the operation of the sources within Knox County. Also, title V has resulted in the sources having a better awareness of their compliance obligations. Title V has also led to a better emission inventory and clarity and enforceability of NSR permit terms. Other benefits of the title V program and the title V fee revenue include better training, more resources for the Department staff and funding stability.

2. Permit Reviews

EPA-Region 4 staff conducted an administrative review of all seven title V permitted sources in Knox County. The permitting authority has files for the following categories: 1) Title V Permits; 2) Compliance; 3) Correspondence; 4) Inspections; 5) Semi-Annual Reports; 6) Permits file; 7) Background and Application file. The following documents did not appear to be consistently included within the permit files: SOBs, proposed permits, and EPA related permit comments. Additionally, the permits did not appear to be in chronological order and some documents were misfiled. EPA recommends that the Department consider reorganizing the contents of the permit files. EPA suggests that the Department develop a written procedure for the title V files detailing the content and location of specific materials within the permit file to create uniformity within the files and enhance the ease of use for interested parties.

Additionally, EPA Region 4 staff conducted an overview of the permit content for each facility. Overall, the permits are easy to read and well organized. The permits are clear and applicable emission limits are easily identified, along with the corresponding monitoring and record-keeping requirements. The Department staff has recently developed the use of a modification log to aid in tracking changes made at the facility. The log is very useful for inspections purposes and will aid in preparing the permit for the renewal process.

Although the SOBs were not included in each file, EPA Region 4 staff was provided a copy for review. Improvements could be made to the SOBs to include information regarding rationale for monitoring conditions in the permit. EPA Region 4 staff provided the Department with guidance for the types of information that needs to be included in the statement of basis.

Program Highlights

1. The Department has issued 100 percent of their initial title V permits, and their initial renewal title V permits. The Department's ability to complete the issuance of the renewals so quickly allows them the time to focus on other issues such as enforcement, compliance, and annual inspections.
2. The Department has been able to process their permit revisions well within the part 70 timeframes.

Suggested Improvements

1. With a high level of staff turnover, the Department should develop a written training program to assist in expediting the development of their permit writers. Developing a training program at this time will ensure that the Department will retain institutional knowledge and be prepared to develop future permit writers at some point in the future when staff turnover is experienced.
2. The practice of Knox County providing automatic exemptions for certain excess emissions levels under regulations 34.6 “Report Required upon Issuance of a Notice of Violation” is being implemented incorrectly. Knox County needs to ensure that each exceedance is evaluated on a case-by-case basis to determine if a notice of violation is needed.

Knox County New Source Review (NSR) Program Review

On January 25, 2006, EPA’s Region 4 conducted a review of the NSR permit program administered by Knox County Department of Air Quality Management (the Department). The NSR program review consisted of administering a questionnaire developed for EPA’s national NSR program review project. Since the Department issues very few major NSR permits and since Region 4 has reviewed the only major NSR permit processed by the Department in recent years, no major NSR permits were evaluated as part of the on-site review.

The primary EPA staff person conducting the review was Katy Forney from Region 4’s Air Permits Section. The Department’s primary participant was Steve McDaniel.

Knox County is designated as a nonattainment area for the fine particulate matter (PM_{2.5}) and the 8-hour ozone national ambient air quality standards (NAAQS). To date, the Department has not received a nonattainment permit application. Consequently, the program review questionnaire items pertaining to major NSR nonattainment were not covered in detail. The Department agreed to contact Region 4 in the event a major source applies for a nonattainment construction permit.

The Department’s organizational structure for air permitting consists of the central office staff in Knoxville. All major and minor NSR permits are processed in the Knoxville office. The Department’s permitting jurisdiction covers all of Knox County.

As an appreciated aid to EPA, the Department provided a copy of the program review questionnaire annotated with the Department’s answers. For many questionnaire items, the answers provided by the Department are more detailed than indicated in the summary discussion

below. The annotated questionnaire from the Department will be on file at EPA Region 4 for reference if needed.

The headings in the following report duplicate the headings in the NSR program review questionnaire administered during the visit.

Overview of New Source Review (NSR) Permitting Program

A. NSR Permits

Since the Department has only issued one major NSR permit their major source permits are tracked manually. However, synthetic minor NSR permits are logged in and tracked in an electronic database (spreadsheet).

In 2005, the Department issued one PSD permit and two synthetic minor NSR permits. From the time that a permit application is deemed complete, the average period for permit issuance is 12 months for PSD permit issuance (based on the Department's limited experience with PSD permits) and one month for minor NSR permits.

The Department's permits contain all the necessary elements to establish effective and practically enforceable permit conditions.

B. Staff and Training

Most of the Department's staff members have some NSR (either major and minor source) permitting responsibilities. The permitting staff has attended NSR training from SESARM/Metro 4. The Department expressed interest in receiving additional NSR permitting training from EPA with an emphasis on the applicability of the new NSR Reform rules.

C. NSR Implementation

The Department follows EPA's NSR program guidance and policy as direction for implementing NSR procedures. Additionally, the Department expressed its desire for Region 4 to continue hosting permitting conference calls to discuss new rules and important developments. Finally, the Department expressed its appreciation for NSR related emails from Region 4 air permitting staff.

D. Public Participation

The Department issues a public notice for major PSD permits and synthetic minor permits, but does not routinely issue public notices for minor source permits. The Department publishes all public notices in a newspaper of general circulation, Knoxville News Sentinel, and all notices are sent to a mailing list. Although the Department does not currently publish notices in any language besides English, they expressed a desire to begin publishing in Spanish. Region 4

agreed to provide a Spanish template to use for noticing both title V and NSR permits. Finally, the Department does not put permit related information on the Internet. Region 4 discussed the advantages to providing the public with certain permitting information, especially during the public comment period.

E. Program Benefits

The Department believes that the NSR program provides an incentive for sources to reduce emissions below major source levels and helps sustain good air quality. Additionally, the Department believes that the NSR program provides the public with a mechanism to be more involved in improving air quality.

Major NSR Permitting

A. Applicability

The Department rules contain a definition of “major stationary source” that is the same as the EPA definition of major stationary source.

When assessing whether two or more non-contiguous facilities owned by the same company should be considered one source for applicability purposes, the Department does not have a pre-set distance between the facilities, but evaluates the situation on a case-by-case basis. The Department does consider the facilities’ financial, contractual, and personnel relationship with each other as well as the two-digit SIC codes of the facilities.

The Department prefers that an applicant use source specific information or stack test data from similar sources before using AP-42 emission factors. When no other information is readily available, AP-42 emissions factors are considered acceptable.

Condensable particles are taken into account for NSR applicability purposes.

The Department has a definition of fugitive emissions that is consistent with the federal definition. Additionally, fugitive emissions could be used in a netting analysis if a credible method is used to demonstrate the emissions baseline.

The Department has not encountered a situation where debottlenecking has occurred. Region 4 discussed this issue and made the Department aware of EPA guidance memoranda regarding the inclusion of emissions from debottlenecking and increased utilization activities in NSR applicability analyses.

Although applicants do not commonly avoid PSD applicability via netting it has been used before and EPA believes that the Department has a good understanding of the process.

B. Prevention of Significant Deterioration (PSD) Permitting

The Department has only processed one PSD permit, issued in 2005. Despite the lack of extensive PSD permitting experience, the Department representatives present during the evaluation interview were knowledgeable of PSD permitting requirements and should be able to handle future PSD permitting actions successfully. In addition, EPA Region 4 is available to assist the Department, as needed with future PSD permit applications.

The one PSD permit issued by the Department did not include a BACT cost analysis, since any disregarded controls were based on technical feasibility issues. Consequently, the Department did not respond to many of the questions related to BACT cost analyses.

It should be noted that the Department has a Growth Policy, which applies to new construction as well as modifications. The Growth Policy requires either BACT or LAER level controls if a project's potential to emit is greater than 5 tons per year (TPY). Due to this policy, the Department staff believed that there was a 5 TPY de minimis level and if an applicant fell below this level, BACT was not required. Region 4 discussed the concept that once a project was subject to PSD, there was no such de minimis level and no "insignificant" emissions units that avoided a BACT analysis as required by the Department's NSR program. This federal requirement should not be confused with the Department's Growth Policy requirement for BACT-like controls on all projects over 5 TPY.

Finally, the Department agreed to submit their most recent PSD project to the RACT/BACT/LAER Clearinghouse as soon as the title V permit has been issued.

C. Nonattainment Major NSR Permitting

Although the County has been designated nonattainment for PM_{2.5} and ozone, the Department has never issued a nonattainment NSR permit. Consequently, the Department did not respond to the nonattainment section of the NSR questionnaire and this topic was not discussed in detail during the interview. The Department agreed to contact EPA in the event a nonattainment NSR permit application is received.

NSR Avoidance

A. RMRR Exemption

The Department is aware of the procedures required for a routine maintenance, repair, and replacement (RMRR) exemption assessments, but has not made a formal RMRR assessment in recent history. The Department agreed to contact EPA in the event a request for an RMRR exemption is received.

B. PCP Exemption

Since the pollution control project (PCP) exemption rules and policies have been vacated by the U.S. Court of Appeals for the District of Columbia Circuit as of June 24, 2005, the PCP exemption was not discussed in detail. The Department has not relied on any PCP exemptions when issuing synthetic minor NSR permits in the past.

C. Circumvention/Aggregation

The Department does not believe this has been a problem in the past and did not answer the questions in this section of the questionnaire. Upon discussion of this topic with the Department, Region 4 believes that some of the permitting staff is aware of the possibility of NSR circumvention and watches for this circumstance during their permitting actions; however, not all permit engineers have had training (formal or informal) to watch for this occurrence. Region 4 suggests that all permitting staff be made aware of this potential method of avoiding NSR applicability given the number of minor source permits processed by the Department.

D. Synthetic Minor Permit Limits

The Department issues several synthetic minor sources; however, very few of these are synthetic minor for PSD. The Department maintains a list of all synthetic minor permits, but those with specific PSD avoidance limits are not separately identified. EPA recommended to the Department that synthetic minor permits with PSD avoidance conditions be identified in their list of permits.

E. Relaxation

The Department has encountered only one situation in the last five years where a relaxation assessment has been made. EPA discussed the basic concepts associated with relaxation assessments and suggested that the Department identify any PSD avoidance conditions in their permits so that any modifications that may trigger relaxation in the future will be readily identifiable.

Minor Source Construction Permitting Program

In general, the Department's minor source permits are well written and contain practically enforceable permit conditions; however, the permits do not identify the requirements being avoided to keep the source minor (e.g., PSD). As mentioned earlier, the Department's Growth Policy requires BACT controls on any minor source construction project who's PTE is greater than 5 TPY. The Department's minor source application process does not require modeling for minor sources.

[Note: Also see comment below on minor source modeling.]

Modeling

A. PSD Modeling

The Department does require PSD permit applicants to prepare a modeling protocol prior to submitting modeling results, but does not routinely provide this protocol to EPA or other interested organization (e.g., Federal Land Manager (FLM)). Because the Department does not process many PSD permit applications, this has not been a major problem in the past; however, EPA recommends that the Department provide any protocols to the FLM and EPA Region 4 early in the application process. This will allow EPA to provide its modeling experience as a resource to the Department as well as allow all interested parties to agree ahead of time on the specifics of the modeling process to be used by the applicant.

In the most recent PSD permit, cumulative impact modeling and a PSD increment analysis were not required. In the event cumulative modeling is required in the future, the Department would request an inventory from TDEC if a PSD modeling analysis requires consideration of emissions sources located outside the county. The Department would require a PSD increment analysis for each pollutant subject to PSD review for which an increment exists.

There is only one class I area within 100 km of the county. The Department normally sends a copy of the PSD application to the FLM and coordinates with them during the PSD application process. The Department has never issued a PSD permit where the FLM had objections.

B. Nonattainment Major NSR Modeling

Although Knox County has been designated nonattainment for PM_{2.5}, the Department has not had to process a nonattainment NSR.

C. Minor Source Modeling

The Department does not require minor source applicants to perform modeling to ensure that a violation of the NAAQS or PSD increment has not occurred. Although modeling is not routinely performed for minor sources, the Department understands that minor source emissions can cause or contribute to a violation of the NAAQS and that minor sources consume PSD increment once the minor source baseline date has been triggered for that pollutant.

D. Increment Tracking

In the only major NSR permit issued in Knox County, carbon monoxide (CO) was the only pollutant subject to PSD review. Since there is no PSD increment for CO, the Department does not have a system for tracking PSD increment consuming/expanding sources. Additionally, the minor source baseline date has not been triggered so the Department does not track minor source increment consumption. In the future, if the Department must start tracking PSD increment

consumption, actual emissions will be used for tracking purposes, as allowed by the PSD regulations.

NSR-related Recommendations and Suggestions

The following NSR-related recommendations and suggestions are largely a restatement of previous comments:

1. The one PSD permitting project processed by the Department may not provide sufficient on-the-job experience for permitting staff to remain current in all aspects of NSR regulatory requirements. The Department expressed an interest in receiving additional NSR training from EPA with a focus on the NSR reform rules. Additionally, EPA encourages the Department to use resources such as the Region 7 Policy & Guidance Database to keep track of changes to and implementation issues of the NSR program.
2. Region 4 recommends that the Department add permit related information (draft permits, public notices, etc.) to the Knox County website to improve the public's access to information and encourage their participation in the permitting process.
3. Since the Department does not often receive various types of NSR requests, EPA recommends that the Department contact the Region in the event a request for an RMRR exemption is received or if an applicant potentially needs a nonattainment NSR permit.
4. EPA recommends that synthetic minor construction permits identify the federal requirements being avoided in the permit conditions and to identify the type of synthetic minor permit in the Departments list of permits. This will allow the Department's permitting staff to better identify potential PSD relaxation situations as well as maintain this knowledge during future permit modifications and in the event of permitting staff turnover.
5. The Department should ensure that all permitting staff is aware of NSR circumvention and source aggregation issues and that they actively look for potential NSR circumvention while processing minor source permits and modifications.
6. The Department should add the Ameristeel BACT determination to the RACT/BACT/LAER Clearinghouse as soon as the title V permit has been issued

Conclusion

At the conclusion of the onsite portion of the Title V and NSR program reviews, Region 4 personnel met with Department officials to conduct an exit interview. During this exit interview Region 4 shared the findings of the review and laid out the next steps for completion of the final report. Personnel in attendance from EPA Region 4 were Randy Terry, Katy Forney, Brandi Jenkins, and Yolanda Adams. Gregg Worley and Kay Prince of EPA Region 4 participated in the exit interview via telephone. Department officials in attendance included Steve McDaniel, Lynne Liddington, Will Schaad, and Janet Hart.

Overall, EPA believes that the Department is operating both the title V and NSR programs at a high level of proficiency and looks forward to working with the Department in the future.