Air Quality, Asbestos and Lead-Based Paint Management

Photograph of a windmill in Northwest Oklahoma
by Barry Fogerty

PERMITTING, INSPECTION AND MONITORING

Permitting

The Air Quality Division issues construction, operating, relocation and applicability determination permits for major and minor sources. These sources range from facilities such as refineries and chemical manufacturing to rock crushers and compressor stations. Oklahoma has also incorporated the federal Acid Rain Program into state rules.

During FY99, AQD received 657 permit applications and issued 595 permits; 37 applications were withdrawn. Of the permits issued, 124 were construction permits, 308 were operating permits, 24 were relocation permits, and 139 were for applicability determination.

There are 17 facilities in Oklahoma affected by the Acid Rain Program. Fifteen of these have received their Acid Rain Permits and the others are awaiting EPA approval of their Continuous Emissions Monitoring System certifications. The Acid Rain permits have been modified for coal-fired power plants to incorporate the requirements for nitrogen oxides reduction.

Inspection

The issuance of permits, on-site inspections and responses to citizen complaints safeguard compliance with applicable rules. In an effort to ensure fair, consistent, and effective compliance with environmental laws, AQD performed a total of 1,327 facility inspections in FY99. AQD performed 287 compliance evaluation inspections, 139 follow-up enforcement inspections, 428 asbestos inspections and 299 performance inspections conducted by the permitting section as part of overall permitting process requirements.

Air Quality also received and resolved 238 complaints in FY99. The Regional Office in Tulsa received 67 of these complaints. Complaints are received either directly to AQD or through the Environmental Complaints and Local Services Division of DEQ.

Permit Administration

	QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
Air Quality Permitting					
Construction Applications/Permits Issued					
Minor Received	26	26	26	14	92
Minor Issued	22	21	24	21	88
Major Received	6	11	9	11	37
Major Issued	5	13	3	10	31
PSD Received	0	3	2	2	7
PSD Issued	2	1	1	1	5
Operating Applications/Permits Issued					
Minor Received	63	59	58	51	231
Minor Issued	38	52	42	63	195
Major Received	1	2	1	5	9
Major Issued	4	5	4	3	16
PSD Received	0	0	0	0	0
PSD Issued	1	1	0	0	2
Title V Received	42	5	47	5	99
Title V Issued	21	31	22	17	91
Acid Rain Received	2	0	2	0	4
Acid Rain Issued	0	2	0	2	4
Relocation Received	8	9	4	8	29
Relocation Issued	8	8	4	4	24
Applications Withdrawn	12	6	11	8	37
Applicability Determination Received	36	33	30	50	149
Applicability Determination Issued	32	32	35	40	139
Permits Denied	0	0	0	0	0
Total Applications Received	184	148	179	146	657
Total Permits Issued	133	166	135	161	595
Permits Issuance > Timelines	0	0	0	0	0
Tests Observed	2	3	3	1	9
Performance Inspections	64	91	55	89	299
Permit Protest Hearings	0	0	0	0	0
Open Burning Requests	5	21	15	28	69

Inspection

	QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
Air Inspections					
Monitoring Inspections (from ECLS)	100	173	99	171	543
Compliance Evaluation Inspections	94	57	94	42	287
Follow-up Enforcement Inspections	28	36	40	35	139
Asbestos Inspections	122	97	118	91	428
Complaint Inspection	75	45	29	25	174
Mobile Sources					
Inspections (in thousands)	133	474	259	261	1,127
Covert Audits	47	52	31	42	172

Compliance Monitoring

At times, facilities will experience releases of air pollutants in excess of their permitted limits or other DEQ requirements. Some of these releases are due to equipment malfunction, start-up or shutdown of equipment or maintenance activities. Additional causes for excess emission releases include process upsets and opacity excursions. During FY99, 1,610 excess emission occurrences were reported. Air Quality Division requires these facilities to report such excess emission occurrences so they can be evaluated for compliance and considered when monitoring the overall quality of Oklahoma's ambient air. Air Quality Division is actively pursuing reductions in the quantity and severity of these releases.

Compliance Monitoring

	QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
Compliance Monitoring					
Excess Emissions Report	395	432	158	625	1,610

Ambient Monitoring

A network of air quality monitoring stations routinely measures concentrations of the criteria air pollutants in the ambient air. The Oklahoma air quality monitoring network consists of 134 monitors located at 34 sites throughout the state. Monitors are placed in counties containing significant air pollution sources.

As a result of the National Ambient Air Quality Standard for fine particulate matter, PM 2.5, 1,500 monitoring sites will be established nation wide. Oklahoma has determined, based upon EPA guidance, that the proposed State PM 2.5 Monitoring Network should consist of 20 sites, 17 of which were operational by April 1, 1999. The remaining three sites should be operational by December 31, 1999. The Division has developed a list of proposed monitoring sites based upon existing PM 10 monitoring site locations and locations of Oklahoma towns and areas that could serve as sites according to EPA's siting criteria. The list of towns and areas includes:

Oklahoma City	Tulsa	Enid
Stillwater	Shawnee	Pryor
Ponca City	Ardmore	Lawton
McAlester	Moore	Clinton
Muskogee		

All ambient air monitoring stations in the state are equipped with EPA approved instruments. Qualified Air Quality personnel provide maintenance and calibration. Data from the network provide an overall view of the state's air quality and are used in the development of statewide control strategies. Likewise, these data are an integral component for measuring the success of national pollution control initiatives.

All monitoring sites and methodologies are consistent with requirements set forth by the EPA in 40 CFR Part 50. Essentially, air quality data are obtained using two basic methods: continuous monitoring of gaseous pollutants and noncontinuous sampling of particulate pollutants. Both types of monitors are routinely inspected to verify and maintain the operation of the instruments. Since the measurable concentration of a given air contaminant at a particular time and place is highly dependent upon meteorological conditions, the Oklahoma Mesonet is used to obtain weather data for air quality calculations and determinations.

During FY99, gaseous pollutant data were collected at 23 sites across the state. At these sites, approximately 50,700 carbon monoxide hourly averages were collected, approximately 99,700 nitrogen dioxide hourly averages were collected, approximately 42,000 sulfur dioxide hourly averages were collected, and approximately 80,400 ozone hourly averages were collected. Noncontinuous monitors collected data at 23 sites. From these sites, 720 samples of PM 10 and 578 samples of PM 2.5 were collected and analyzed. In FY99, a total of 1,298 samples from noncontinuous monitors and approximately 345,000 hourly averages from continuous monitors were collected by AQD. In addition, the division sometimes conducts special monitoring projects as needed.

Detailed explanations of the monitoring methods, quality assurance procedures, auditing procedures, and other references are given in the "Quality Assurance Handbook for Air Pollution Measurement Systems Volumes I - V" published by EPA. Additional monitoring and quality assurance references may be found in 40 CFR, Parts 50, 51, and 58 as required by EPA.

An additional consideration for the Oklahoma air monitoring program are the changes and additions to the National Ambient Air Quality Standards for substratospheric ozone and PM that EPA has adopted. Standards for ozone have changed from 0.12 ppm

Ambient Monitoring

	QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
Ambient Monitoring					
Continuous Monitoring Systems	22	23	22	23	0
Non-continuous Stations	19	14	23	23	0
Number of Samples Analyzed					
Ozone (in thousands)	21.6	20.5	19.2	19.1	80.4
Sulfur Oxides (in thousands)	10.6	10.4	10.5	10.5	42
Nitrogen Oxides	22.9	22.5	26.1	28.2	99.7
PM 10	258	201	125	136	720
PM 2.5	0	0	96	482	578
Lead	0	0	0	0	0
Carbon Monoxide (in thousands)	12.8	12.8	12.1	13	50.7
Other (in thousands)	25.3	20.7	11.2	15	72.2
Precision Tests	255	233	117	233	838

measured over one hour to 0.08 ppm measured over eight hours. A three-year average of the 4th highest daily maximum eight-hour average ozone concentration will be used to determine violations. On May 14, 1999, an appeals court remanded the eight-hour standard to EPA. This is in the process of being appealed and the final legal outcome is unclear at this time. The EPA and the Air Quality Division are currently evaluating several options including possibly reinstating the 1-hour standard until the legal issues relative to the remand are resolved.

The new PM standard has been added to consider particles 2.5 μm and smaller. Most of the provisions of the old standard that dealt with particles less than 10 μm were also retained. Additionally, EPA has proposed new regional haze regulations aimed at improving visibility in our national parks and wilderness areas.

These new standards are based on health risk data produced by and for EPA. EPA has interpreted the data to indicate that the new standards will significantly improve human health. Oklahoma City and Tulsa, which were in attainment with the old standards, will likely fall out of attainment with the new ones. It is possible that Lawton, Muskogee and Ponca City will join these cities. Nonattainment status would induce additional control measures at a cost to Oklahoma citizens and industries. Since these changes originated at the federal level, DEQ and local officials have urged that future EPA actions continue only if and when they have provided compelling scientific, economic, health and other information to justify the need for changes.

Implementation of these new standards could result in considerable costs to the citizens of our state due to increased control of emissions, particularly from the electric utility industry. Also, Oklahoma could lose any economic advantage associated with being an attainment area.

Since there has been no monitoring for small particles in the past, the determination of Oklahoma attainment status with the new PM 2.5 standard will require a new monitoring network consisting of more than 20 sites. DEQ will participate in additional modeling and analysis activities in developing contingency plans to reduce hydrocarbon and nitrogen oxide emissions. DEQ activities related to the proposed Regional Haze rules could involve increased inventory, planning, and monitoring activities.

Congress is considering several actions to overturn or delay implementation of these standards. Likewise, interested parties requesting that these new standards be revoked have filed numerous petitions. For more information on the new standards, consult the Internet at http://www.epa.gov/ttn/oarpg.

During the summer of 1998, smoke and haze generated by thousands of fires impacted the air quality of Oklahoma and several other southern states. These fires (set for land clearing purposes in Mexico and Central America) raged out of control due to extremely dry conditions caused by the El Nino weather pattern. The southerly spring winds carried the pollutant-laden air to Oklahoma resulting in reduced visibility and increased levels of respirable particulate matter.

The Air Quality Division increased the number of monitors and frequency of sampling to better monitor the situation. While the concentrations observed were less than those observed along the Gulf Coast, the impact was significant. The peak concentrations were observed in May 1998 with increased levels of respirable particulates being observed all summer. At the peak observed concentrations, the levels were still relatively low and only very sensitive individuals felt any affects from the smoke.

Higher than normal concentrations of ozone were also detected at several of the state's ambient air monitoring sites during this same time. The possibility exists that the plume from the fires may have contributed to higher than normal ozone concentrations. The Air Quality Division is discussing this possibility with EPA.

COMPLIANCE AND ENFORCEMENT

Enforcement Administration

During FY99, AQD conducted 287 facility inspections and 428 asbestos inspections. As a result, 37 potential facility violations and seven potential asbestos violations were referred for further investigation. This resulted in the issuance of 24 notices of violation (NOV). Generally, NOVs lead to the issuance of an administrative or consent order to restore the facility to compliance and assess a penalty if appropriate. These actions formally close the enforcement process. Currently, inspections are chosen with a database, maintained by AQD, that tracks comprehensive data regarding all known facilities in Oklahoma. This system is known as the TEAM database. TEAM tracks information for each facility such as compliance, enforcement and permitting activities; applicable pollutant standards and permitted levels; and historical information about each facility. TEAM uses criteria such as 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.

Enforcement Administration

	QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
Air Enforcement					
Notices of Violation	5	5	7	7	24
Formal Actions	3	2	1	4	10
Asbestos Actions	1	0	1	0	2

SPECIAL/SUPPORT ENFORCEMENT PROGRAMS

Quality Assurance

AQD's policy is to affect comprehensive quality control and quality assurance activities to ensure the completeness, comparability, representativeness, precision and accuracy of all ambient air data so that regulatory actions based upon the data are supported. To implement this policy, a statewide "Quality Assurance Plan for Ambient Air Monitoring" has been developed. Data validations, instrument calibrations, audits, and certifications are performed regularly as part of this plan. During FY99 a total of 2,655 filter checks, 145 audits, 501 data validations and 838 precision tests were conducted.

Lead-Based Paint Certification

The federal LBP Certification and Accreditation Program was delegated to DEQ's LBP Management Program on August 10, 1998. DEQ rules (OAC 252:110) apply to all individuals and firms engaged in LBP services in target housing and child-occupied facilities. They contain procedures and requirements for the certification of individuals and firms engaged in LBP services, and work practice standards for performing such services. LPB services include: lead-based paint hazard evaluations; detection, reduction or abatement of lead-based paint; renovation or remodeling of structures that contain lead-based paint; and evaluation of any other activity that may create a lead-based paint hazard. Certification is required for all individuals and firms who perform or offer to perform LBP services in target housing and child-occupied facilities. Certification is available in six disciplines. In FY99 certifications were issued for 16 Inspectors, 45 Risk Assessors, 20 Supervisors, 21 Abatement Workers, 45 Firms and no Project Designers. Accreditation is available to government agencies and training programs that offer LBP training in Oklahoma for the purposes of certification. For the most part, DEQ-accredited training is required to obtain certification.

Quality Assurance

	QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
Audits					
Continuous	22	16	16	21	75
Non-Continuous	5	7	3	26	41
Interlab	5	8	0	16	29
Data Validation	135	114	135	117	501
Standards Certified	67	105	111	171	454
Filter Checks	810	740	575	530	2,655

Lead-Based Paint Certification

	QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
Inspector	4	1	0	11	16
Risk Assessor	2	8	0	35	45
Abatement Worker	0	6	0	15	21
Supervisor	0	6	0	14	20
Project Designer	0	0	0	0	0
Firm	0	9	0	36	45

Emissions Inventory

Facilities which are potential sources of air contaminants are required to register with AQD, pay annual operating fees and file an emission inventory. Emission inventories provide the information necessary to evaluate the source's potential for causing air pollution. In FY99, Air Quality processed 2,610 inventories. Billings were issued to 25 major sources and 45 minor sources.

Emissions Inventory

	QTR 1	QTR 2	QTR 3	QTR 4	TOTAL
Billings					
Major Sources	15	10	0	0	25
Minor Sources	20	25	0	0	45
Inventories Processed	425	150	300	1,735	2,610