

Air Quality Services



Air quality regulations affect almost all industrial, commercial, and governmental operations. Shaw Environmental & Infrastructure, Inc. (Shaw E & I) serves clients in diverse industries and operations to meet their air quality improvement needs.

The 1990 amendments of the Clean Air Act (CAA) greatly increased the regulatory and technology-based compliance requirements for industrial, commercial, and government facilities. Additionally, in the last decade, there has been a shift in the approach for achieving compliance from an approach dictated by regulatory agencies (command and control) to market-driven innovative approaches developed by the regulated community.

We provide a full spectrum of air quality services to integrate both immediate and strategic compliance planning into our client's business management and operating practices.

Air Emission Inventories

Identification, characterization, and estimation of the emissions of regulated pollutants is a first step in developing compliance strategies. Emission inventories are the foundation of compliance assessments, permitting, dispersion modeling, and emission control evaluations. Air emission inventories are also required as part of Toxic Release Inventory calculations.

Installation and Operating (Air) Permits

Any process or equipment with the potential to emit a significant quantity of regulated pollutants usually requires a permit prior to installation and a permit for operation. A sound permit application can help a facility achieve flexibility in operation and create a competitive advantage in meeting business goals. Permit applications can vary from simple two-page forms to complex New Source Review (NSR) permit application documentation. Understanding clients' business operations and goals in light of applicable regulations is key to the preparation of a sound permit application.

Major Industries Served

- Manufacturing
- Automotive
- Paper and pulp
- Printing
- Petroleum refining
- Utilities
- Petrochemicals
- Specialty chemicals
- Metallurgy
- Pharmaceuticals
- Surface coating
- Synthetic organic chemicals and rubber
- Wood products and treatment

Air Pollution Control Technology Evaluation, Design, Engineering, and Installation

Several regulations under the CAA require evaluation and installation of control technologies for particulate and gaseous air pollutants including odors. Examples are Best Available Control Technology evaluation required by Prevention of Significant Deterioration analysis under NSR and Maximum Available Control Technology (MACT) implementation for hazardous air pollutants. The process involves developing a cost benefit and other analyses for various control options.

Air Dispersion Modeling

Determining the estimated impact of regulated pollutants on ambient air quality using air dispersion modeling may be required for a variety of reasons such as a permit application, regulatory compliance, health risk assessment, or public relations. Air dispersion modeling may also be required for conducting air pathway impact analysis under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Risk Management Planning

Risk Management Plans (RMP) are required for all facilities storing listed chemicals above threshold quantities. The RMP assesses the impact of potential accidental releases of listed chemicals on the community and environment. The RMP integrates CAA requirements with OSHA's accident prevention program and EPA's emergency response program into a single plan.

Stack Emission Testing

Stack testing provides snapshots of process-specific air emissions, which may be required for compliance demonstration, emission control equipment design or troubleshooting, emission characterization, and for continuous emission monitor (CEM) certification. Stack testing is also an integral part of RCRA, Toxic Substances Control Act, and Boiler and Industrial Furnaces trial burns.

Fugitive Emission Monitoring

Leak detection and repair (LDAR) is a necessary component of compliance for facilities under Hazardous Organic NESHAP (HON) MACT rules and requires identification of fugitive emissions from pipes, valves, and fittings. Periodic inspection, monitoring, and training are required. Fugitive emissions monitoring may also be required at Superfund sites during remediation.

Development and implementation of turn-key LDAR programs includes component identification and tagging, maintenance of leaking components, emission calculations and reporting, compliance/efficiency evaluations, compliance management documentation, and the training of onsite personnel.

Meteorological and Ambient Monitoring

Meteorological and ambient monitoring data are required for ambient air quality-related studies including air dispersion modeling. Monitoring of both surface and upper air meteorological data may be required following stringent EPA and state requirements.

All data are reviewed by qualified meteorologists prior to use in air quality studies. Projects may include design, specification, regulatory approval, installation, operation, and data management of meteorological and ambient monitors. In many cases, remote data download and analyses are performed to reduce the onsite cost and reduce the demand on clients' resources.

Greenhouse Gas (GHG) Services

Shaw E & I provides a wide variety of services to clients to address and benefit by rules being proposed and adopted to address climate change and GHG reductions. We continue to participate in GHG discussions and strategy developments in many state, regional, and local levels as the United States plans how to achieve GHG reductions. Our experts have been active participants in the Regional Greenhouse Gas Initiative (RGGI) group of Northeast states and the Western Governors Alliance. Shaw E & I's services include: i) GHG source identification and emission inventory; ii) GHG certification; iii) developing programs to reduce GHG emissions; iv) advising on creating and facilitating sale of certified emission reduction (CER) credits; and v) integrating GHG issues within an overall sustainability solutions.



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