



FOCUS ENVIRONMENTAL, INC.

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## GENERAL CAPABILITIES SUMMARY

### OVERVIEW

Focus Environmental, Inc. (Focus) is an employee-owned environmental engineering consulting firm located in Knoxville, Tennessee. Focus specializes in providing engineering and regulatory compliance services for applications involving



combustion, waste treatment, and emissions control equipment. Examples of equipment for which Focus has provided services include hazardous waste incinerators, boilers, industrial furnaces, thermal desorbers, glass furnaces, aluminum furnaces, and cement kilns. These services include process engineering, operations support, regulatory compliance support, regulatory compliance testing, and general industrial regulatory compliance support. Focus also supports fixed-based industrial facilities and transportable units used for the thermal remediation of contaminated soils and sediments.

### FOCUS HISTORY

Focus was established in 1988 and has successfully completed over 1,500 projects for over 400 clients in the chemical, petrochemical, pharmaceutical, explosives, ammunition, metallurgical, biomedical, automotive, textiles, minerals, aluminum, and waste management service industries. In addition to work in these industrial sectors, a number of projects have been completed for site remediation contractors, utilities, and government agencies. These projects have been conducted throughout the United States in all 10 EPA regions, located in 47 states, and internationally in 21 countries.

### DEMONSTRATED PROFESSIONAL QUALIFICATIONS

We offer our clients a unique blend of technical expertise, regulatory compliance insight, and practical hands-on operating experience. Focus staff includes experienced engineers and scientists with degrees in chemical, civil and environmental engineering, and in environmental science. All of Focus' engineers hold either PE or EIT certifications. Focus' senior principals average over 30 years of experience in the environmental field.

**Air Emission Testing and Test Management**

**Environmental Regulatory Compliance**

**Combustion, Thermal Treatment, and Air Pollution Control Engineering**

**Environmental Remediation Management**

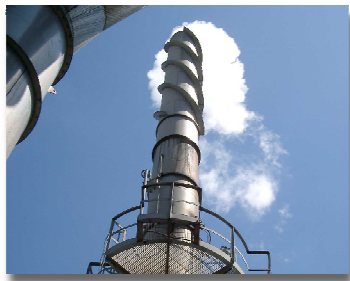
**Thermal Desorption Remediation Engineering**

**Process Engineering**

## FOCUS ENGINEERING SERVICES

### Air Emission Testing & Test Management

Focus assists clients in planning and conducting performance test programs that meet regulatory requirements and result in permit operating conditions that allow maximum operational flexibility. Focus will work closely with the client's operations, regulatory, and management personnel to:



- Develop a comprehensive test plan that includes effective test operating protocols; sampling, analysis, and monitoring methods; and appropriate quality assurance and quality control procedures (QA/QC)
- Assist in permit negotiations and in preparing responses to questions from the regulatory agencies
- Provide complete services to manage the successful implementation of the test program and prepare complete and accurate test reports covering the sampling, analysis, QA/QC, and process operations.

### Environmental Regulatory Compliance

Focus' environmental regulatory compliance services range from preparing permit applications and performance test plans to developing strategies for meeting new standards and custom programs for assuring day-to-day compliance.



Focus assists clients in achieving compliance with major federal environmental regulations as well as state and local rules and statutes for solid and hazardous waste, air, and wastewater. We provide:

- Compliance Management
- New Source Review (NSR)/Title V/Minor Source Permitting and Emission Inventories

- NSPS/MACT/NESHAP/Permit Compliance Assessments/Audits
- Resource Conservation and Recovery Act (RCRA) auditing, permitting, and modification
- Continuous Emissions Monitoring Systems (CEMS)
- Greenhouse Gas (GHG) Permitting/Reporting
- Air Dispersion Modeling
- Ambient Air Quality Monitoring
- Consulting
- Development and Delivery of Operator Certification Training
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Superfund
- Trial Burns, Compliance Tests, and Other Emissions Testing.

### Combustion, Thermal Treatment, & Air Pollution Control Engineering

Focus personnel design, evaluate, and operate treatment technologies and air pollution control



equipment for our clients. This capability extends to virtually all types of processes and air pollution control equipment. Hands-on experience enables us

to effectively evaluate and recommend alternative/comparable energy sources as well as troubleshoot combustion problems and air pollution control equipment.

With our strong process and regulatory background, Focus engineers are well suited to perform technology assessment studies for energy consuming process systems. Our engineers conduct studies for energy efficiency, throughput optimization, increased operational capacity, use of alternative fuels, and emissions impacts. Focus engineers design and evaluate fans, ductwork, hooding, and general air handling systems. These services include:

- Application of Combustion Equipment
- Emissions Estimates and Waste Characterization

- Emission Control Systems Engineering
- Energy Savings Calculations
- Alternative Fuel Evaluations
- Process Modeling
- Training.

### Environmental Remediation Management

Focus has been involved in the oversight of numerous remediation projects involving the excavation and



treatment or disposal of contaminated soils. Focus personnel have experience in various elements of the oversight ranging from contractual

elements to field elements involving the actual remediation of the sites. A major portion of the sites that we have overseen have used thermal treatment technologies to remediate the site, however, the activities associated with these projects are similar to “hog and haul” projects. These services include:

- Remedial Action Planning
- Contractual Documents
- Remedial Action Oversight
- Project Management
- Ambient Air Monitoring
- Closeout Reporting.

### Thermal Desorption Remediation

Focus has worked on over 180 projects that used or evaluated mobile thermal treatment systems for the remediation of contaminated materials. These services have been provided on some of the largest thermal remediation projects conducted in North America, Europe, and Australia.

Focus has performed all aspects of delivery of thermal remediation projects including: 1) design and procurement of services for a specific application, 2) evaluation of contractors equipment for specific opportunities, 3) assist contractors with the design and modification of their equipment to ensure effective and efficient treatment of specific contaminated materials,

4) design and delivery of full-scale thermal desorption systems, and 5) provide staff for the erection, commissioning, startup, testing, operation and maintenance of thermal treatment systems.



If you have a thermal application, there is no doubt that Focus can add value to the project. Focus has significant experience

with numerous thermal treatment technologies including: rotary dryers, thermal screws, regenerative thermal oxidizers, in-situ electric heater wells, infrared static box, rotary kiln incineration, fluid bed incineration, and rotary hearth incineration. This experience provides a basis for evaluating the applicability of the myriad of thermal treatment technologies to waste matrices that may be encountered at a specific site. Focus can not only evaluate the technical aspects of applying a specific technology but also estimate costs and then manage the process of executing the remedy. Services include:

- Feasibility Studies
- Treatability Studies
- Emission Estimates and Dispersion Modeling
- Remedial Specifications
- Bid Solicitation and Evaluation
- Performance Testing
- Process Design and Evaluation
- Startup Assistance and Troubleshooting
- Operations Support

Using the following proprietary tools:

- Contractor Database
- Treatment Database
- Performance Test Database
- Remediation Cost Model
- Mass and Energy Balances (MEBs).

### Process Engineering

Focus personnel offer a unique blend of extensive process knowledge and regulatory compliance understanding that is brought to bear on the process

development of technologies for regulated environments. Focus is also effective at evaluating and troubleshooting operations.



Integrating a strong and diverse process and regulatory background, Focus engineers perform technology assessment studies for technological systems

that are installed or being planned for regulated environments. Our engineers have conducted studies for technology evaluation, comparison, and selection, energy efficiency and recovery, throughput optimization and increased operational capacity, use of alternative reagents, emission inventories, and emissions impacts. Focus engineers design and evaluate most unit operations found in a regulated environment. We offer

- Design Basis
- Technology Evaluation, Feasibility Studies, and Engineering Evaluations
- Process Modeling
- Process Design
- Life Cycle Cost Estimation
- Air Handling and Ventilation System Evaluations
- Technical Support for Operations
- Design, Procurement, and Construction Services
- Process Hazard Analysis, Safety Management, and Risk Analysis
- Training.

## TRADE GROUP INVOLVEMENT

Focus is recognized internationally for work in the environmental field and has provided services in more than 20 foreign countries. Focus staff members serve on several industry and government committees responsible for technology assessment, regulatory

review, standards development and information exchange. Focus has participated in the annual conference on Incineration and Thermal Treatment Technologies (IT3 Conference) since its inception, serving on the program committee, acting as session chairs and making numerous technical presentations. Focus is also a member of the Coalition for Responsible Waste Incineration. Additionally, our personnel hold memberships in the American Institute of Chemical Engineers (AIChE) and the Air & Waste Management Association (A&WMA).

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Please contact us if Focus can assist you with your compliance requirements.



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