Stephen Treimel
Environmental Scientist

An environmental scientist with 16 years of experience in

- EPA Oil and Gas (O&G) regulatory support.
- O&G emission inventory development.
- Inventory and monitoring data analysis.
- Extensive air quality permitting experience.
- Development of inspection tools and outreach materials.

EMPLOYMENT

2003–present
Environmental Scientist, Eastern Research Group, Morrisville, NC

EDUCATION

M.S., Environmental Science and Engineering, University of North Carolina – Chapel Hill, 2003

B.S., Environmental Science, North Carolina State University, 2001

RELEVANT PROJECTS

U.S. Oil and Natural Gas Emissions Inventory Development

Client: Texas Commission on Environmental Quality (TCEQ). Served as technical lead on eight projects developing emission inventories and emission factors for volatile organic compounds (VOC) and hazardous air pollutants (HAP) for onshore oil and gas production operations, including: oil and condensate storage tanks, liquids loading, oil heaters and boilers, hydraulic pump engines, mud degassing, drill rig engines, controls on storage tanks, pneumatic devices, and natural gas compressor engines. These projects for the TCEQ involved conducting mail and phone surveys of businesses in the oil and gas industry to gather data on current practices. The data was used to derive region-specific activity factors and emission factors for the targeted operations. TCEQ used this information in improving the quality and precision of their state-wide emissions inventory for oil and gas sources. Identified appropriate O&G businesses operating in the regions of interest, prepared and implemented mail surveys followed by phone calls to collect the data, and developed an Excel-based emissions inventory workbook for estimating emissions of criteria pollutants and HAPs.

New Source Performance Standard (NSPS) Subpart OOOO Technical Support

Client: U.S. EPA Office of Air Quality Planning and Standards (OAQPS). Provided technical and analytical support to EPA in evaluating oil, gas, and coalbed methane well information contained in the DrillingInfo database. Analyses conducted included identifying hydraulically fractured wells, estimating associated gas production from each well, and summarizing this information at the national and county level.

Emissions Measurement at Natural Gas Production Sites

Client: U.S. EPA Office of Research and Development. Participated in a two-week field study in Ohio County WV measuring emissions from equipment at natural gas production sites. Inventoried the types, quantity and size/capacity of the production equipment at 15 natural gas production sites and compared to permit records. Photographed the production equipment. Wrote a narrative for each site describing how the production equipment

interacted, what control devices were used, and other features unique to the site. After the field work was completed, he evaluated the sampling data and gas speciation data and derived VOC and HAP emissions factors for production equipment.

Inspection Guidance/Tools and NSPS Implementation

Client: U.S. EPA OAQPS. Assisted EPA in the implementation of NSPS Subpart OOOO and NESHAPs Subparts HH and HHH by conducting over 40 reviews of stack tests of vapor combustors for technical accuracy and adherence to the requirements in the federal rule. Drafted a comprehensive stack testing guidance manual for manufacturers wishing to have their control devices approved for use under NSPS Subpart OOOO and NESHAPs Subparts HH and HHH. Mr. Treimel produced a plain English version of the testing requirements in the rule and added clarifications for details required in the stack test report.

Boiler and Engine Fuel Use Study

Client: TCEQ. Compiled county-level data from national and state databases on existing commercial and industrial boilers and engines in use in Texas. Extracted and analyzed information on engine and boiler size and fuel type. Estimated fuel usage for commercial boilers and engines. TCEQ utilized this information to estimate amounts of fuel oil and natural gas used in the commercial sector and county-level estimates of emissions from burning of diesel and gas fuels in stationary boilers and engines.

Organic Liquids Distribution - Permit Review

Client: U.S. EPA OAQPS. Reviewed the state and federal level emission control requirements for the permits for fifteen facilities subject to the organic liquids distribution NESHAP (40 CFR Part 63, Subpart EEEE) and determined if there were any other state-imposed permit regulations equivalent to, or more stringent than the federal NESHAP regulations.

Air Permitting

Clients: Indiana Department of Environmental Management, Alaska Department of Environmental Conservation, Minnesota Pollution Control Agency, Nebraska Department of Environmental Quality, Allegheny County Health Department. Assisted state air agencies in writing air permits for sources of all sizes and complexities. Reviewed air permit applications, determined the permitting level, and wrote technical support documents, permits, calculations appendices, and public notice documents. Developed estimates of uncontrolled and controlled emissions of criteria and HAPs using emissions factors from U.S. EPA's Compilation of Air Pollution Emission Factors (AP-42), Factor Information Retrieval (FIRE) Data System, SPECIATE, TANKS4.09D, and LandGEM. Identified in detail the specific emissions units existing at each source, identified and incorporated the applicable state and federal regulations (NSPS, National Emission Standards for Hazardous Air Pollutants (NESHAP), Compliance Assurance Monitoring (CAM), Prevention of Significant Deterioration (PSD), determined the limits on operations necessary for the source to comply with existing regulations, and wrote source-specific language identifying the monitoring, recordkeeping, and reporting requirements necessary to insure compliance. Assessed New Source Review (NSR) applicability, evaluated the appropriate level of review by the public and EPA, responded to comments received during review periods, and prepared permit conditions and language as guided by the state agency. Wrote source-specific permit language for businesses engaged in furniture manufacturing, municipal landfills, boat manufacturing, automotive parts manufacturing, plastics composites, waste incinerators, foundries, natural gas pipelines, petroleum, VOC and HAP storage and distribution, magnet wire manufacturing, woodworking, metalworking, and surface coating. He worked on a wide variety of permit types, including Registrations, Administrative Amendments, Minor Source, Synthetic Minor, Title V, PSD, PSD-BACT, and permit revisions.