

EMISSIONS TESTING

SERVICES OVERVIEW



**COMPRESSOR
ENGINEERING CORP.**

SINCE 1964



CECO has been delivering quality OEM SuperiorSM products and services to the gas transmission, gas processing, and petrochemical industries since 1964. CECO's Emissions Testing team continues this tradition of quality and value.

CECO Emissions Testing offers specialized stack testing & air emissions testing on reciprocating engines, turbines, and generators. Our engineers, technicians, analysts, and air quality scientists are experts who focus specifically on the natural gas industry. Our vast experience, knowledge and understanding of the industry allows us to assist our clients with tough compliance issues and challenges. The emissions and analysis team members at CECO are widely considered some of the best and brightest engine and compressor experts in the natural gas industry. We are frequently called upon to provide real world, useful solutions and solve our clients' toughest problems. Our ever expanding knowledge base and possession of the latest in measurement technology enables us to troubleshoot, correct, and implement solutions to ensure reliable engine and compressor operations and successful emissions compliance programs.

COMPLIANCE TESTING

CECO Emissions Testing mobilizes the highest quality technology and technical expertise to each job. Our proven engine experts have years of experience performing air emissions compliance testing to meet EPA and state regulatory requirements with our state-of-the-art instrumentation. Our cutting-edge trailers are equipped with dual sets of analyzers, allowing two tests to be performed simultaneously. Alternatively, inlet/outlet measurements can be taken for destruction efficiency calculations. We are one of the few companies that routinely mobilize equipment to every client site allowing for simultaneous inlet and outlet real time formaldehyde measurements.

Our experienced FTIR technicians and engine analysts can evaluate engine emissions as well as the mechanical health and performance of your engines. If an engine is found to be out of compliance, CECO Emissions Testing personnel can tell you why and suggest adjustments or other remedial action.

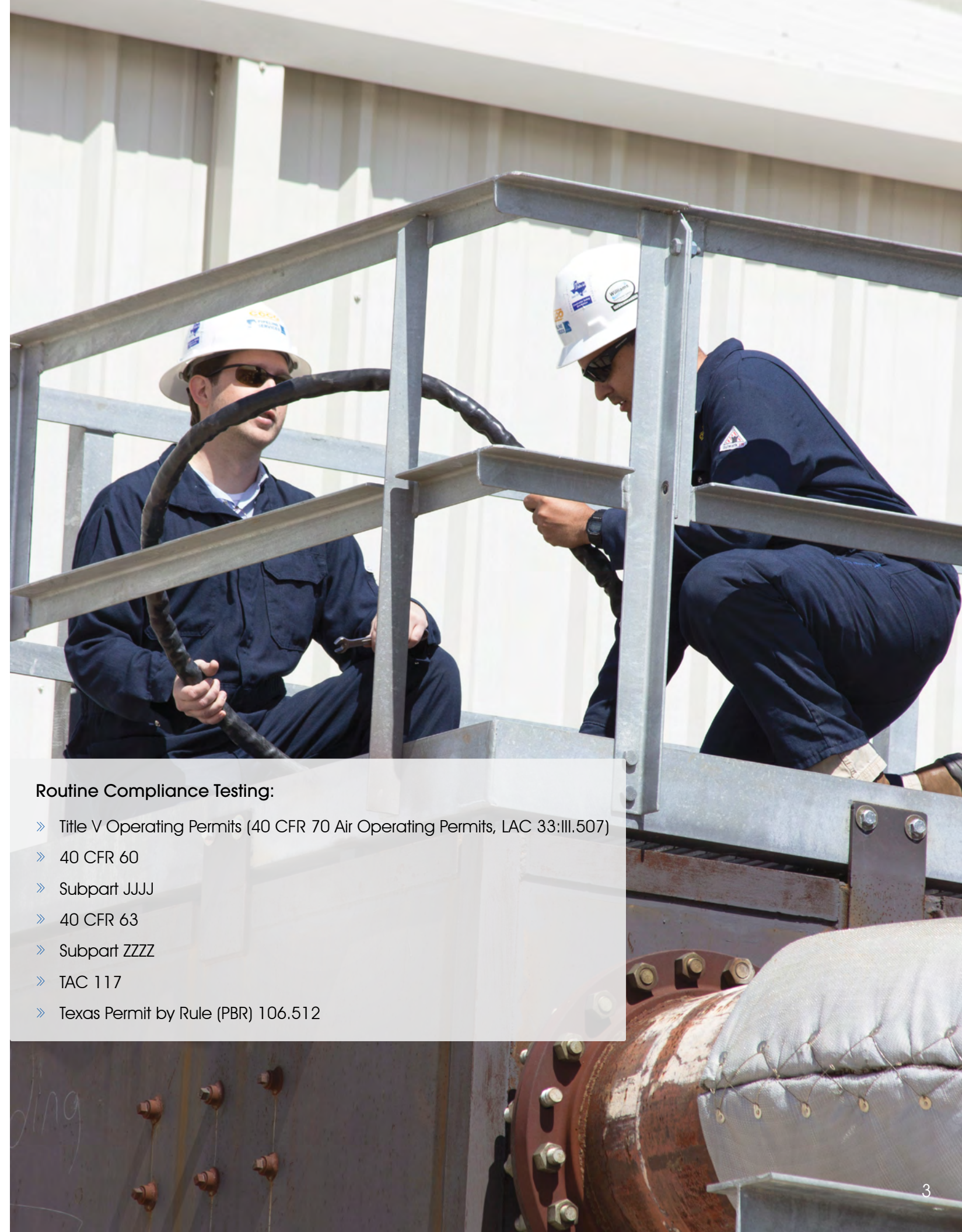
All data collected goes through CECO's extensive quality analysis program, ensuring accuracy and defensibility. Even with this rigorous post test QA/QC, we are able to get our reports into your hands in an industry leading 5 days.

Turnkey Services:

- » Planning
- » Coordinating
- » Scheduling
- » State Notifications
- » Protocols
- » Testing
- » Quality Analysis
- » Reporting
- » Submittals

Routine Compliance Testing:

- » Title V Operating Permits (40 CFR 70 Air Operating Permits, LAC 33:III.507)
- » 40 CFR 60
- » Subpart JJJJ
- » 40 CFR 63
- » Subpart ZZZZ
- » TAC 117
- » Texas Permit by Rule (PBR) 106.512





PORTABLE TESTING

CECO Emissions Testing can mobilize a technician, or technicians, with a portable analyzer and support equipment to your location anywhere in the United States, even offshore. Whether it is to troubleshoot a problem, profile emissions, optimize and verify combustion, or simply do your quarterly state tests, CECO can help. Our other on-site services include compressor mechanical health determination and horsepower measurements.

DIAGNOSTIC TESTING

In addition to assistance with mandatory compliance testing, CECO Emissions Testing offers a variety of services that can help your engines and compressors run more efficiently and ultimately save you money.

- » **Performance/Guarantee Testing** - Verify that the emissions control equipment you were sold actually performs as promised and avoid nasty surprises at compliance test time.
- » **Catalyst Efficiency Studies** - Perform real time pre and post catalyst measurements and calculate Removal Efficiencies for NOx, CO, VOC, THC, formaldehyde or any other gaseous compound. Determine catalyst efficiency and degradation.
- » **Engine Combustion Optimization** - Balance your engine to reduce vibration and other stresses and improve the reliability and performance. Verify emissions after adjustment.
- » **Ammonia Slip Determination** - Check your SCR to ensure you are not venting an excess of ammonia, resulting in pollution and wasted money. Tune the injection to optimize NOx reduction and minimize ammonia/urea usage
- » **Specialized Compound Measurement** - Look for a unique compound in your exhaust or process stream. Our FTIR experts will construct a method specially tuned to your source and provide you with real time data as you make adjustments.
- » **Air/Fuel Ratio Curve Development**
- » **Horsepower Curve Development**

EMISSIONS MAPPING

CECO's Emissions Testing offers comprehensive emissions mapping to help maintain your engine at peak performance. We'll perform several tests that measure emissions at various engine speeds and load conditions; then the engine will be balanced and adjusted to ensure safe peak firing pressures and optimum peak firing angles. The resulting Emission Map will enable the engine's controls to adjust ratios and timing to maintain the proper emissions levels throughout the unit's operating range and varying conditions.

ADVANCED EQUIPMENT

CECO Emissions Testing Mobile Laboratories are equipped with the latest technology for making quick and accurate measurements. Our equipment includes:

- » Fourier Transform Infrared (FTIR) Spectroscopy Analyzers for the Analysis of Various Gaseous Emissions Utilizing ASTM D6348-12, EPA Method 320, and EPA Method 321
- » Paramagnetic Analyzers for Exhaust Oxygen Determination
- » Dilution System with Spectrum of Gas Blends, so We Are Never Lacking the Proper Cylinder Range
- » 200 Feet of Top Quality Heated Sample Line to Preserve the Constituents of Interest for Transport to the Analyzers
- » Hi Flow Refrigerant System for Gas Conditioning
- » Customized Data Acquisition Equipment & Software
- » Windrock and Recip-Trap Equipment Analyzers
- » Portable Emissions Analyzers, Where Required
- » 10 kW Generator to Provide for All of Our Power Requirements





TEST REQUIREMENTS

CECO will mobilize a self-powered, fully equipped, self-sufficient test trailer to any location to perform required emissions testing. However, in order for CECO to conduct the emission testing, report the results in the appropriate value(s), and prepare the final test report as required by the regulatory agency(s), the client must provide the following 5 key pieces of information.

- » Rated Brake Horsepower (BHP)
- » Actual Brake Horsepower (BHP)
- » Fuel Flow in Standard Cubic Feet Hour (SCFH)
- » Fuel Flow Meter Calibration Certificate
- » Fuel Analysis From Date of Test

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visit our website



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