

SERVICE, SUPPORT & TESTING CAPABILITIES

Environmental Monitoring System Support and Source Emissions Testing



Monitoring Solutions offers full Support of Compliance Stack Monitoring Systems, and Source and Stack Testing on all Emissions Sources to help customers achieve their maximum equipment uptime and meet all their regulatory air requirements.

Monitoring Solutions employs a large US service force dedicated to assisting customers with their CEMS, Opacity, Flow, and Source Emissions Testing. We offer a wide range of services and support to our customers including:

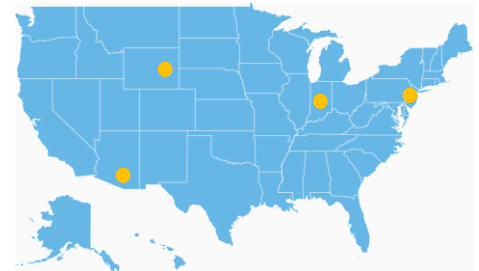
- Preventative Maintenance and Overhauls
- Start-up and Installation Support
- Training
- Certification Testing and Support
- CGA and Linearity Support
- Opacity Filter Audits
- Opacity Clear Stack Audits
- Parts & Repairs (on-site or factory)
- Source Testing

MonSol Advantages:

- Decades of combined technical experience and expertise
- Maximization of system uptime and availability
- Competitive rates and flexible contract services
- 100's of contracts nationwide means lower T&E with shared costs
- 24/7 Phone Support line with unlimited access
- Multiple dispatch locations around the country for quick emergency response

Field Service Office Locations include:

- Hampton, NJ
- Indianapolis, IN
- Casper, WY
- Tucson, AZ



MONITORING SOLUTIONS

Complete source for all your Continuous Emissions Monitoring (CEMS) needs:

- > Both Dilution and Extraction CEMS systems
- > Data Acquisition Systems (DAS)
- > Flow Monitoring
- > Opacity Monitoring
- > Oxygen Monitoring Systems
- > Particulate (PM) Monitoring
- > Process Monitoring Systems

SERVICE CAPABILITIES

Environmental & Process Monitoring

Monitoring Solutions can tailor a hardware support contract to your plants' specific needs. Some of the standard support contract features include:

Operation & Maintenance & 24/7 Emergency Support	Unlimited telephone support for any emergencies outside of normal business hours.
Quarterly Preventive Maintenance	Includes quarterly visits to perform comprehensive preventive maintenance on your CEM System Equipment, including analyzers, opacity, flow, and probes. This includes pump/analyzer overhauls, flow check, filter replacements, media replacements, and cleaning.
Annual Relative Accuracy Test Audit Support	A Monitoring Solutions Service Engineer will supervise the annual RATA performed by a customer-provided stack test crew.
Cylinder Gas Audits (CGA's)	Monitoring Solutions' Service Engineer will perform the required Cylinder Gas Audits (3 per year). A written report will be submitted within 30 business days.
Quarterly Linearity's	Monitoring Solutions' Service Engineer will perform the required Linearity Gas Audits (4 per year). An electronic report will be emailed within 30 business days.
Opacity Monitor Audits	Monitoring Solutions will perform the quarterly Performance Audits in accordance with State and Federal Regulations. An electronic report will be emailed within 30 business days.
Opacity Clear Stack Audit	A Monitoring Solutions' Service Engineer will perform the required annual Clear Stack Test or Annual "Zero Alignment". An electronic report will be emailed within 30 business days.
Additional On-site Labor	In conjunction with the quarterly visits, Monitoring Solutions' Service Engineer will perform services (repairs, etc.) outside the scope of the preventive maintenance contract as necessary.
Emergency Visits with Guaranteed On-Site Response Time	A Monitoring Solution's Service Engineer will be on-site within 24 hours of the determination that on-site support is required.
Priority Support	Service Contract clients receive priority emergency support for both site visits and in-house repairs.
Emergency Parts Shipment	Monitoring Solutions will provide expedited shipment and delivery (including commercial airline freight services) of in-stock parts for any emergencies which occur during or outside of Monitoring Solutions' normal business hours.
Discount on Travel Rates	Service Contract clients receive a substantial discount on the rate charged for travel time.

SERVICE CAPABILITIES

Environmental & Process Monitoring

Service & Support Satisfaction

Monitoring Solutions Service Engineers strive to supply the highest level of service and support possible. Feedback is solicited with every service call and customer suggestions and comments are used for continuous improvement.

See what some of our customers have said about us:

<p>Monitoring Solutions Client Satisfaction Survey</p> <p>Please complete this survey regarding our service visit & then drop it in the mail.</p> <p>Client/Facility Name: [Redacted] Service Date(s): 5/22/17 - 5/24/17 Service Engineer(s): JOHN L Service Performed: pm text/pm 10PAC/1CGA/1OPAC</p> <p>Please rate this service visit by circling the appropriate response: Below Expectations <input type="radio"/> Met Expectations <input checked="" type="radio"/> Exceeded Expectations <input type="radio"/></p> <p>Please add any other comments you would like: John does an excellent job when onsite, He is very thorough.</p> <p>Completed By: [Redacted] Telephone: [Redacted]</p> <p>Thank you for your valuable input! 1186</p>	<p>Monitoring Solutions Client Satisfaction Survey</p> <p>Please complete this survey regarding our service visit & then drop it in the mail.</p> <p>Client/Facility Name: [Redacted] Service Date(s): 3/13/17 - 3/17/17 Service Engineer(s): Brian/Dan Service Performed: DAS Controls Install</p> <p>Please rate this service visit by circling the appropriate response: Below Expectations <input type="radio"/> Met Expectations <input type="radio"/> Exceeded Expectations <input checked="" type="radio"/></p> <p>Please add any other comments you would like: Brian + Dan did a great job installing the new system</p> <p>Completed By: [Redacted] Telephone: [Redacted]</p> <p>Thank you for your valuable input! 1161</p>	<p>Monitoring Solutions Client Satisfaction Survey</p> <p>Please complete this survey regarding our service visit & then drop it in the mail.</p> <p>Client/Facility Name: [Redacted] Service Date(s): 4/4/17 Service Engineer(s): DAVE J Service Performed: 2nd of visit</p> <p>Please rate this service visit by circling the appropriate response: Below Expectations <input type="radio"/> Met Expectations <input type="radio"/> Exceeded Expectations <input checked="" type="radio"/></p> <p>Please add any other comments you would like: Dave does well on the CGA & training of Am Operators in the CGAs areas.</p> <p>Completed By: [Redacted] Telephone: [Redacted]</p> <p>Thank you for your valuable input! 1168</p>
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**"John does an excellent job...
He is very thorough"**

**"Brian & Dan did a great job installing
the new system"**

**"Dave does well on the CGA
& training ..."**

<p>Monitoring Solutions Client Satisfaction Survey</p> <p>Please complete this survey regarding our service visit & then drop it in the mail.</p> <p>Client/Facility Name: [Redacted] Service Date(s): 6/5/17 - 6/6/17 Service Engineer(s): JOHN L Service Performed: pm 10PAC/1OPAC AVOID</p> <p>Please rate this service visit by circling the appropriate response: Below Expectations <input type="radio"/> Met Expectations <input checked="" type="radio"/> Exceeded Expectations <input type="radio"/></p> <p>Please add any other comments you would like: Great service as usual</p> <p>Completed By: [Redacted] Telephone: [Redacted]</p> <p>Thank you for your valuable input! 1191</p>	<p>Monitoring Solutions Client Satisfaction Survey</p> <p>Please complete this survey regarding our service visit & then drop it in the mail.</p> <p>Client/Facility Name: [Redacted] Service Date(s): 4 - 11/17 Service Engineer(s): Rick Surace/Koren Foster Service Performed: Opacity Reduction</p> <p>Please rate this service visit by circling the appropriate response: Below Expectations <input type="radio"/> Met Expectations <input type="radio"/> Exceeded Expectations <input checked="" type="radio"/></p> <p>Please add any other comments you would like: Despite numerous delays onsite Koren & Rick worked with us to get our opacity permit under a tight schedule. Great job</p> <p>Completed By: [Redacted] Telephone: [Redacted]</p> <p>Thank you for your valuable input! 1062</p>	<p>Monitoring Solutions Client Satisfaction Survey</p> <p>Please complete this survey regarding our service visit & then drop it in the mail.</p> <p>Client/Facility Name: [Redacted] Service Date(s): 6/8/17 - 6/9/17 Service Engineer(s): JOHN L Service Performed: pm 10PAC/1OPAC AVOID</p> <p>Please rate this service visit by circling the appropriate response: Below Expectations <input type="radio"/> Met Expectations <input checked="" type="radio"/> Exceeded Expectations <input type="radio"/></p> <p>Please add any other comments you would like: AS ALWAYS</p> <p>Completed By: [Redacted] Telephone: [Redacted]</p> <p>Thank you for your valuable input! 1189</p>
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"Great service as usual"

**"... Koren and Rick worked with
us to get our opacity moved under
a tight schedule"**

**"Professional job as
always"**

Austin, TX | Indianapolis, IN | Pittsburgh, PA | Pensacola, FL | Casper, WY

Contact Us
sales@escspectrum.com // 512-250-7900

EMISSIONS/SOURCE TESTING CAPABILITIES

Monitoring Solutions offers complete Source Testing with mobile labs fully equipped with CEMS and isokinetic sample trains. With full engineering, technical and compliance expertise we offer:

Compliance Testing	Stack Performance Testing
CEMS Certification & RATA	RICE Testing
Guarantee Testing	Process Testing
Engineering Testing and More	

Monitoring Solutions can supply a full range of emissions testing services using wet method testing techniques, Continuous Emission Monitoring Systems (CEMS), and Fourier Transform Infrared Spectroscopy (FTIR). Our procedures follow EPA test methods listed in 40 CFR Parts 51, 60, 63, and 75 and methods published by the American Society of Mechanical Engineers (ASME), National Council for Air and Stream Improvement (NCASI), and the California Air Resource Board (CARB).

Performance Engineering Testing – Engineering test data and results are used to improve the performance of a process or operating equipment or emissions control device.

Compliance Testing - Driven by operating permits or regulatory requirements.

Common Sampling Methodologies Performed:

Metho	Constituen	Metho	Constituent	Metho	Constituent	Metho	Constituent
1 & 2	Velocity	8	SO ₂ /SO ₃	16B	TRS	101A	Mercury
3	Molecular	9	Vis. Emiss.	17	Total	201A	PM _{2.5} & PM ₁₀
3A	O ₂ /CO	10	CO	23	PCDDs/PCDF'	202	Condensable PM
4	Moisture	11	H ₂ S	25A	THC	320	Organic/Inorganic
5	Total PM	12	Lead	26	HCl/Cl ₂	321	Hydrogen
6	SO ₂	13B	Fluorides	26A	HCl/Cl ₂	0011	Aldehydes
6C	SO ₂	15	H ₂ S/COS/CS	29	Multi-Metals	0030	VOC's
7E	NOx	16	TRS	30B	Vapor Mercury	417E	Ammonia

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