



**SIEMENS**

*Ingenuity for life*

Analytical Products and Solutions

## Emission Monitoring in the Hydrocarbon and Chemical Industry

Continuous Measurement, Reliable Quantification

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There are a wide variety of federal and state environmental regulations to quantify and consequently reduce emission. Many are focused towards the hydrocarbon and chemical as well as power industries. Among others they target emissions from boilers and furnaces, flares, cooling towers and leak detection. The challenge and objectives are to select and operate measurement systems for reliable and repeatable data generation with high uptime.

There are a wide variety of analytical technologies that can be integrated into a measurement system that may satisfy the

requirements of the targeted regulations. However, reliability and repeatability over long periods of time as well as simple and quick maintainability to support uptime must be the objective.

Siemens measurement systems provide required data continuously and with documented performance specification as part of an integrated measurement solution. Its track record of functionality over long periods of time ensure you can document and report accurate data.

## Environmental Regulations

The Hydrocarbon and Chemical processing as well as the Power Generation industries are subject to numerous environmental regulations. Examples of targeting emission of specific components or group of components are

40 CFR60 "J"	Flare H <sub>2</sub> S in Fuel Gas
40 CFR60 "Ja"	Flare Total Sulfur
40 CFR63.670	Flare Combustion Efficiency
Chapter 115	TCEQ Title 30TAC-Flare
Chapter 115	TCEQ Title 30TAC-Cooling Tower
Rule 1118	SCAQMD Flare Total Sulfur
40 CFR60&75	Continuous Emission Monitoring on Boiler and Furnaces, Ammonia Slip

Depending on the regulatory authority the rules are applicable for the nation, a specific state or a specific geographical area. Furthermore, they are mostly industry or application specific, such as for refineries, or just for flares, or just applicable to coal fired power plants.

## Analytical Technologies

The keys to performing measurement systems are selecting and applying the best technology as well as adapting the sample condition unadulterated to the measurement systems needs. Siemens applies proven technologies for continuous on-line measurement and quantification such as:

NDIR	CO, CO <sub>2</sub>
ParaMagnetic	O <sub>2</sub>
FID	Total Hydrocarbons
CLD	NO <sub>x</sub>
Process GC	Inerts, Hydrocarbons and Chemical Constituents
TDL	CO and Ammonia

Proven technologies means having those analytical technologies in operation for specific applications and measurements since many years and have demonstrated exceeding regulatory requirements. Especially concerning repeatability over long periods of time, linearity over the targeted concentration range and maintainability to satisfy on-line availability.

### For more information, please contact:

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Siemens on-line Analyzer Technologies and Solutions

## Proven Turn-key Measurement Solutions

A turn-key measurement system consists of the analyzer and the sample system in an enclosure suitable for your plant site.

Together with the sample transport and data system, it represents a proven and tested measurement system from a single source with single responsibility. This is only possible by being knowledgeable about the specific regulation, the letters as well as the intent, and by applying comprehensive front-end engineering to the site-specific details. A further key to long term performance is the technical support by a team of subject matter experts, whether it is from remote, on-site, by quick repair turn-around or by continuous training to ensure proper performance and maintainability.

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