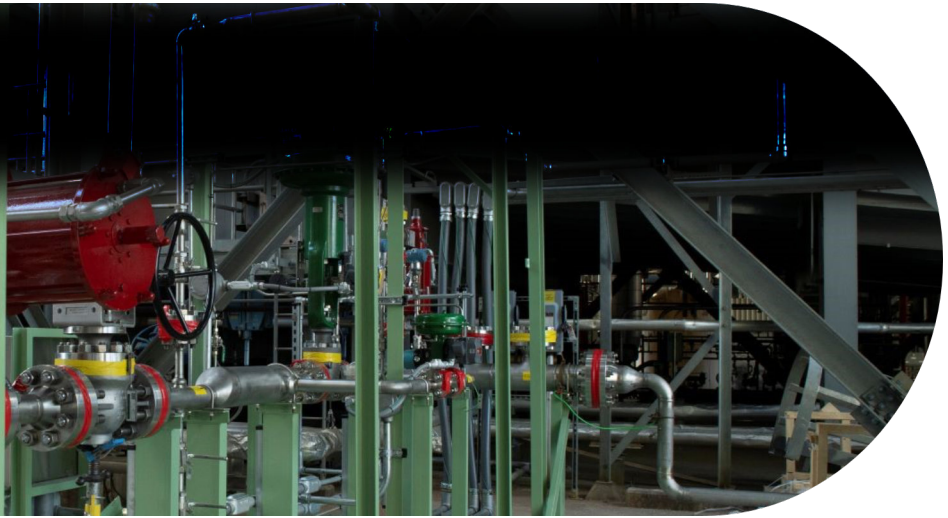




McHale
& ASSOCIATES, INC.

Hydrogen Fuel Skid - Photo Credit: Georgia Power



WHAT IS CHROMATOGRAPHY?

Gas chromatography (GC) is an analytical technique used to separate and detect the chemical components or a sample mixture to determine their presence or absence and/or quantities. Typical uses of GC include testing the purity of a particular substance, or separating the different components of a mixture.



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SERVICES SUMMARY

- On site fuel sampling by industry Best Practices (GPA 2166 "Obtaining Natural Gas Samples for Analysis by Gas Chromatography")
- On site dangerous goods shipping to fuel Laboratory
- On site fuel analysis by gas chromatography following ASTM D 1945

FUEL GAS SAMPLING & CHROMATOGRAPHY

Measurement Services

McHale provides on-site technician support for taking routine or test fuel gas sampling and dangerous good shipping for determining the composition and heating value of **natural gas and blended fuel gas for analysis**. Mchale performs sampling by industry best practices, such as GPA 2166 "Obtaining Natural Gas Samples for Analysis by Gas Chromatography", including sampling probe kits to fully comply with the sampling methodology.

McHale performs natural gas analysis by chromatography following the methodology of **ASTM D 1945**. This method is a relative comparison test methodology where the response of gas constituents in the unknown fuel samples are compared to the response of gas constituents in a known fuel gas sample. Mchale compares the unknown samples to a primary grade reference sample to provide the best comparative accuracy possible. Mchale QA/QC provides confidence beyond the base requirements of the test methodologies by performing both pre-analysis calibration runs and post-analysis calibration runs, along with running each sample multiple times until sample analysis repeatability is demonstrated. The analysis results from Mchale's laboratory and on site analysis are confirmed via inter-laboratory comparative studies to provide confidence and irrefutable analysis results.

PROJECT SAMPLE

In June of 2022, **McHale** supported a project with on-site fuel sampling and analysis of natural gas and up to 20% hydrogen fuel blend. The Mitsubishi Power, Georgia Power and Electric Power Research Institute (EPRI) project at the McDonough-Atkinson Power Plant was the first to validate 20% hydrogen fuel blending on an advanced class M501G gas turbine in North America. See the project profile at: [Mitsubishi Power Americas, Inc. | Mitsubishi Power, Georgia Power, EPRI Complete World's Largest Hydrogen Fuel Blending at Plant McDonough-Atkinson \(mhi.com\)](#)



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