

CODEL

A Forbes Marshall Company

Case Study

40E Extractive Gas Analyzer

Eagle Valley Clean Energy

Commissioned August 2022



40E Extractive Gas Analyzer

12MW biomass-fired (waste wood) electricity generating facility

ISO 9001:2015

Quality Certification

ISO 14001:2015

Environmental Certification

Monitoring Solutions

SmartCem

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The Customer

Eagle Valley Clean Energy, LLC.

The Company generates electricity from combustion of waste wood. Eagle Valley Clean Energy serves customers in the State of Colorado.



The Challenge

Eagle Valley Clean Energy, LLC owns and operates a 12MW biomass power plant, generating electricity from combustion of waste wood.

The customer was using a cold dry extractive gas analyzer for NOx compliance monitoring which was reported to be old and unreliable due to lack of maintenance, which is a heavy requirement of this measurement technique. The customer was looking to replace this system but had reservations about investing in another extractive gas analyzer.

ESC Spectrum (formerly Monitoring Solutions) offered the CODEL In-Situ CCEM40 Series. However, the installation took place immediately after the ESP, and this caused vibration on the chimney stack which negatively affected the measurement.



The Solution

Eagle Valley moved to a better solution – CODEL's GCEM40E, a Hot Wet Extractive version of the gas analyzer, in order to eliminate vibration-related issues.

The CODEL GCEM40E analyzer was installed in August 2022 with a requirement to be in operation before the upcoming EPA test. In January 2023 CODEL assisted plant operators to check the 40E analyzer prior to the EPA source test.

During the test, CODEL 40E NOx was 5ppm lower on average compared to the reference method and the 40E NOx CEMS passed the test. This is within range of acceptable tolerance.

The Result

The CODEL 40E analyzer is now approaching 8 months of flawless operation offering low maintenance, high reliability, and very small span gas consumption in comparison to fully compliant CEMS.

Customer Feedback

Plant Manager - David Graham

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The CODEL GCEM 40E NOx analyzer zero spans every 24 hours per manufacturer recommendation, when CODEL conducted a High Span which hadn't been conducted in months the unit was within 0.5ppm, very impressive.

The unit has been reliable and consistent, requiring little maintenance and is accompanied with good customer support.

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