

# Costs of Green House Gas compliance cut by half with Emerson measurement solutions

## BENEFITS

- Assured EPA compliance
- Saved 50% on equipment cost
- Reduced reporting costs by half using AMS Suite
- Improved safety
- Reduced process interruptions and staffing



## APPLICATION

A major US HFC refrigerant producer required a cost-effective way to comply with the EPA 40 CFR part 98 regulation.

## CHALLENGE

A major US HFC refrigerant producer faced major capital investment and recurring costs to comply with EPA 40 CFR part 98. Original EPA accuracy requirements for the HFC refrigerant producer had been 0.2% for daily mass balance, which was difficult to attain with most measurement devices. Another challenge they faced was complying with mandatory annual wet-calibrations, which were expensive and caused process disruptions.

For the HFC refrigerant producer to meet the original EPA requirements, new flow measurement technology and Gas Chromatographs would have been required. The capital cost was estimated at \$300,000 with an additional recurring cost of \$300,000 per year.

## SOLUTION

Emerson played a large role in negotiating with the EPA during the Industry Comment and Implementation phase as the regulation was developed. EPA mass balance accuracy requirements were relaxed to 1% and the manufacturer's recommended schedule for calibrations were accepted (rather than mandatory annual calibrations).

Emerson provided an integrated equipment and software solution for measurement through documentation. Micro Motion Coriolis meters with Smart Meter Verification, Smart Wireless THUM and Gateway were installed. Smart Meter Verification technology allowed the



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Micro Motion Model 3700 transmitter/controller installed with Smart Wireless THUM technology.



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customer to perform an in-situ check, eliminating the need for expensive and inconvenient wet-calibrations. Smart Wireless THUM and Gateway technology provided easy access to the meters from the Instrument & Electrical shop, allowing the HFC refrigerant producer to generate the calibration documents required for EPA reporting. Emerson's AMS Suite software was used to enable the Smart Meter Verification audit trail, which assured reliable documentation for EPA.

Full cost savings will not be realized until reporting begins (fall 2011); however measurement costs were cut in half. Safety was improved because lines did not require breaking for calibration. Additionally, process interruptions were reduced, the need for redundant metering was eliminated, equipment health was boosted, and staffing requirements were greatly reduced.



Micro Motion ELITE (CMF200) with MVD and Smart Meter Verification technology.

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