



# Partnering for Performance: Medallion Midstream maintains 98%+ Runtime with support from INNIO Waukesha Gas Engines

275GL+ engines upgraded with ESM2 controls provide residue  
compression to cryogenic plant in Texas' Permian Basin



## Specifications

<b>Power bhp (kWb)</b>	3,750 (2,796)
<b>NOx g/bhp-hr (mg/Nm<sup>3</sup> @ 5% O<sub>2</sub>)</b>	0.3 (121) – 0.5 (202)
<b>Piston displacement</b>	13,048 cu. in. (214 L)
<b>Compression ratio</b>	8:1
<b>Bore &amp; stroke</b>	10.83" x 11.81" (275 x 300 mm)
<b>Jacket water system capacity</b>	100 gal. (379 L)
<b>Lube oil capacity</b>	220 gal. (883 L)
<b>Fuel pressure range</b>	50 – 60 psi (3.4–4.1 bar)
<b>Starting system</b>	150 psi (10.3 bar)

In the harsh conditions of Texas' Permian Basin, equipment reliability and durability are critical to a healthy and productive plant. Medallion Midstream's operations in the Delaware Basin, connects multiple top-tier producer customers to takeaway pipelines and coastal refineries. Medallion's interconnected assets in the region are dependent on the reliability of their equipment.

In the first quarter of 2018, Medallion added three new 12V275GL+ engines to their 150 mmscf cryogenic plant in Pecos, Texas. The Pecos River plant offers a wide range of NGL recovery options and access to several NGL takeaway pipelines. In 2020, in partnership with Waukesha Gas Engines' product development team, Medallion

agreed to pilot implementation of Waukesha's latest ESM2 control technology. Field testing procedures were established to provide robust operational data to the Waukesha's engineering team while maintaining reliable operations at the Medallion plant. After running the ESM2 engine for less than one month, Medallion confirmed the uptime and reliability had exceeded expectations and the operators wanted to run ESM2 permanently. The upgrade afforded Medallion peace of mind and optimal reliability by operating smoothly through swings in fuel qualities.

## Challenges

Medallion's Pecos River Plant serves over 75 miles of natural gas pipelines and provides 150 mmscf/d of natural gas processing capability to various midstream producers from the core of the Delaware Basin. Due to the criticality of these operations, Medallion focused on performance and reliability when selecting equipment. The engine needed to be able to react to various disturbances in load and fuel quality without shutting down. Partnering with Waukesha to upgrade the 275GL+ with ESM2 significantly improved engine stability, virtually eliminating engine backfires and ignition faults.

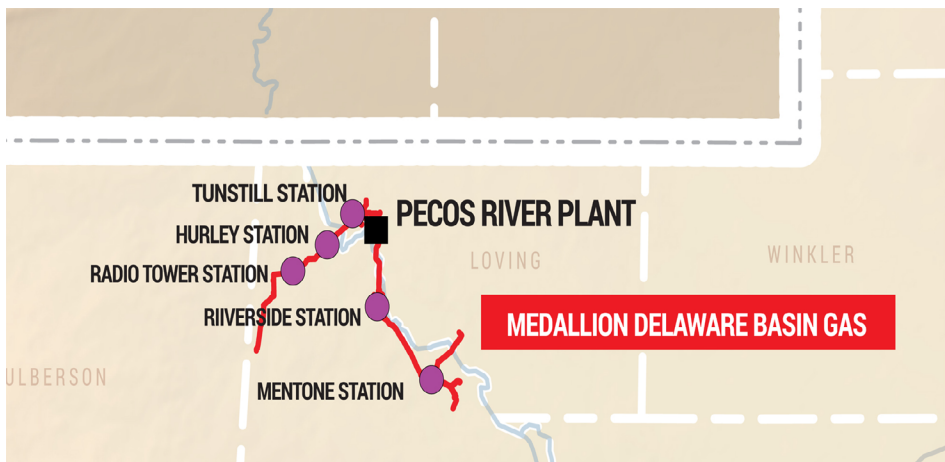
## Results

Medallion improved their speed and load control by installing the next-generation ESM2 controls. ESM2 allows for a single control box and integrates engine alarms with maintenance guides, providing operators the data and instructions needed to solve multiple engine issues without using a laptop or hard-backed maintenance manuals. Based on the performance and reliability improvements of the ESM2 unit, Medallion Midstream accelerated the retrofit of their remaining 12V275GL+ engines to Waukesha's latest control technology. Medallion also installed Waukesha's myPlant remote monitoring solution to provide predictive analytics and assist with operational monitoring and service planning to ensure optimal uptime and reliability for their customers.

## Takeaways

Terry Green, a Waukesha field engineer with 20+ years experience, was dispatched to site for installation and support of the ESM2 pilot install and site validation. "My main objective was to ensure the Medallion units ran well. For four months, I diagnosed and relayed analysis back to the Waukesha engineering and product team, then helped implement improvement as needed to optimize performance." This approach allowed Medallion and the service provider a single point of contact and responsive site validation to develop great confidence in the 275GL+. The Waukesha fleet is their top performer, regularly seeing 98%+ runtime, outpacing their other OEMs by 5%."

## MEDALLION'S DELAWARE BASIN OPERATIONS



Medallion's Delaware Basin operations include natural gas gathering and transportation systems with over 75 miles of natural gas pipelines, as well as 150mmscf/d of natural gas processing capacity. Their natural gas midstream operations include a gas gathering, treating and processing system located in the core of the Delaware Basin along the Pecos River corridor in Loving and Reeves counties in West Texas.

### Quick Facts

Natural Gas Pipelines	Natural Gas Processing Capacity
<b>~75 miles</b>	<b>150 mmscf/d</b>

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