

CASE STUDY: COMPRESSION FACILITY DESIGN

Marcellus Shale



PROJECT OVERVIEW

Our client sought GCC's services with an objective to design and install a turn-key compression and dehydration service. The installation included (10) 1680HP Waukesha 7044GSI/Ariel JGK-4's as well as the surrounding support facilities for the plant. The initial plant was designed as a 140 MMscf/d facility. The permitting, design, engineering, procurement, construction, commissioning and startup were all managed by GCC.

ACTION

Challenges encountered on this project included the client replacing five (5) Waukesha 7044GSI's with 1980 vintage Waukesha 9390GSI's. This replacement resulted in multiple revisions: redesigned plot plans, additional power and backup requirements for the electric driven VFD coolers, structural design changes for the concrete foundation for the 9390, skid piping modifications to extend the coolers 15 ft beyond the skid design and building design changes. Further challenges included discarding the original plot plan and redesigning the site size several times in order to accommodate rock blasting on the mountain side. Reduction in the site space from a six acre site to a site of less than four acres (with an irregular shape) was also an issue.

GCC consistently managed all changes while developing BOM's and AFE's; and issued RFQ's for all equipment, piping and materials. The GCC management team was utilized to over-see equipment design and quality control for equipment suppliers and contractors.

We were awarded the contract in February 2013, with ground broken on the first station on May 1, 2013. The first station start-up was November 15, 2013, after delays to rebuild the roadway in order to handle the larger size and weight of the 9390 skids.

RESULT

GCC was on-hand during the start-up of the facility which encountered no delays. Upon finalizing the project, we supplied the client with all P&ID's, ISO's, as-builts, job books, daily operator form documents, as well as completed plant operation procedures for the facility and equipment.

Project at a Glance

Location	Morgantown, WV
Project Type	Turn-key compression and dehydration
Challenges Identified	<ul style="list-style-type: none">• Vintage equipment• Redesigned plot plans• Land restrictions• Reduction in site space
Results	No delays in startups due to any challenges.

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