



CASE STUDY

AGL Resources Golden Triangle Storage Project

Situation:

AGL Resources' Pivotal Energy Development Group was challenged with a grass roots project on the Golden Triangle Storage facility in Beaumont, TX. This storage facility is located within an impermeable salt dome cavern that will be used to store natural gas. The salt dome cavern is approximately a half mile below ground and is considered to be the safest means of storing natural gas. The capacity is 12 billion cubic feet in two caverns, which is enough natural gas to power more than a quarter million homes per year.

The GTS facility will provide high deliverability storage, easy access to supply sources, and protect against supply disruptions.

Challenge:

The project consisted of designing pipelines to interconnect with intra and interstate natural gas pipelines to access gas supplies and deliver gas to customers via a 9 mile, dual 24" pipeline, and installation of 6 meter stations, a compressor station and the gas storage cavern.

AGL required that the project remain on budget, within schedule and compliant with safety and environmental requirements. Inclement Texas weather impacted the project creating issues that the project team and contractors had to work around such as work stoppage, material shortages, and resourcing.

Also, the quality and completion of the engineering package was one of the largest challenges for the project team, especially from a construction standpoint. This created some additional delays that lead to budget and scheduling impacts and concerns, which then had to be accounted for during construction.

Solution/Results:

AGL Resources commissioned Integrated Consulting to implement a project control system to develop and maintain schedules, generate cost forecasting and trending, and assist in change management.

Integrated Consulting implemented a project controls plan and support that consisted of key project management professionals, and proven project control methodologies. The plan was to integrate all contractor schedules and budgets with internal AGL schedules and budgets to manage the project systemically. This was completed by utilizing Primavera and AGL in-house cost forecasting tools for tracking and trending of cost and schedules. This methodology has been proven on other projects and gives the project management team (PMT) a true project critical path, cash flow, and the ability to track changes and understand their impacts.

“Having a project manager in the field, with highly specialized skills, helped to identify some of the engineering deficiencies and minimize impact on the project’s bottom line by enabling us to quickly respond to issues in a proactive manner.” says Tim Goodson, AGL’s Vice President of Midstream Services.

The overall master schedule allowed the PMT to quickly identify the overall project critical path. This enabled the project team to focus their energies and resources in the most critical areas, including monitoring the project milestones and delivery dates. The master schedule also provided a synergy between independent project portions, enabling seamless executions by keeping all project team members up to date and on the same page.

By progressing the schedule on a weekly basis, the management team was able to see impacts prior to them becoming issues and allowing the team to implement mitigation plans to ensure minimum impacts. Assigning project members to the construction site and establishing project rules of credit supported the change management process and ensured accurate project progress was being captured.

According to Tim, *“The master schedule allowed AGL to optimize the schedule and budgets and run parallel paths to maintain schedule and minimize the impact of engineering issues on construction.”*

Josh Medica, President of Integrated Consulting adds, *“Integrating the master schedule with multiple contractors is always a challenge, but with key management support, contractual language, and key personnel, the task was successful.”*

Aligning the budget with the schedule allowed the project cost spreads to assist in proper utilization of project funding, earned value analysis, and progress tracking. Developing key performance indicators (KPI’s) quickly showed trends, which assisted the cost engineers in properly forecasting the project.

“Clearly identifying and tracking progress seems to inherently have a large amount of subjectivity”, shares Josh, *“but by creating and utilizing project rules of credit, we removed a large amount of the subjectivity.”*

Resource loading the schedule and monitoring gave the team valuable insights on shift work and resource utilization along with productivity. These tools allowed the team to properly level and allocate resources to project hot spots.

Win Smock was the project engineer on the project. Says Win, *“Integrated Consulting would supply the information and forecasts to AGL Management, to assist AGL management in their decision making progress. This project was successfully completed under AGL Management. Integrated Consulting maintained and created methods such as answering engineering questions with AGL, This project was truly a team effort.”*

Adds Tim Goodson, “AGL’s decision to utilize *Integrated Consulting’s* services, from staffing to cost analysis and accounting was like adding the conductor to a great symphonic orchestra. “

Summary:

AGL Resources and Integrated Consulting created a synergy of talent and resources that enabled the GTS project to remain on schedule and budget. By using the master schedule, the project team members were able to proactively deal with project concerns before they became issues. This proved to be a key contributor to the project’s success.

About Integrated Consultants

Founded in 2005, Integrated Consulting is among Houston’s premier project management and controls organization that helps significantly enhance project success by providing unbiased project consulting and implementation, providing data for informed decision making and accurate forecasting and helping attain strategic goals. Involved with groups such as PMI, AACEi and Houston Pipeliners Association, Integrated Consulting trains and supports its clients on reducing risk, cost trending, monitoring schedules, project management, and implementing new systems and standards. For more information on our services, please visit www.icpcs.com, e-mail info@icpcs.com or call +1-281-536-3405.

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