Seneca Companies

The Complete Solution

General Contracting & Aviation Fueling Experience

Fuel Farm Upgrade at Quad Cities International Airport

Moline, Illinois

Contract Value	Client & Contact Information	Period of Performance
$4.5 Million	Prime Engineering Todd Eldridge, (404)425-7100	Spring 2011—Fall 2011

The Rock Island County Metropolitan Airport Authority had an aging fuel farm for JET-A storage at the Quad-City International Airport. This system, which dated back to the 1960's, contained nine (9) small 20,000 gallon tanks, provided fueling services for commercial carriers.

In November 2010, Seneca was hired to update the facility; installing three (3) 50,000-gallon fuel tanks made of carbon steel with epoxy lining and three (3) new 8,000-gallon Glycol tanks for aircraft de-icing fluid. All fuel or glycol piping for the new facility was made with new welded stainless steel. The project was built in phases in order to avoid a fuel system shut down and also to allow the airport to continue fueling operations while the new system was built in the exact same location as the outdated existing system.

In keeping with the phasing plan, the fuel system had to be half way decommissioned, cleaned, cut and removed in order for the foundations of the new fuel tanks to be installed.

ABOVE: QCIA new fuel farm site overview.

ABOVE: Delivery and setting of new 50,000 gallon Jet-A tank.

One side of the new fuel system was installed and then commissioned and made ready for the Airport Authority to put it into service. The process included the required in-depth fuel inspections and also plenty of equipment run time, for adjustments and system refinement.

The second half of the existing system was then removed and the accompanying half to the new system was built and tied into the now running first phase system. The scope of work for the project included the excavation of all contaminated soil and removal of the hazardous waste fuel tank and associated piping and appearances.

Seneca provided new tank foundations, as well as modifications to the storm drain lift station and exit piping. Two new pumping and filtration skids were added. These skids provide the capability for offloading transport trucks and aircraft refueler trucks.

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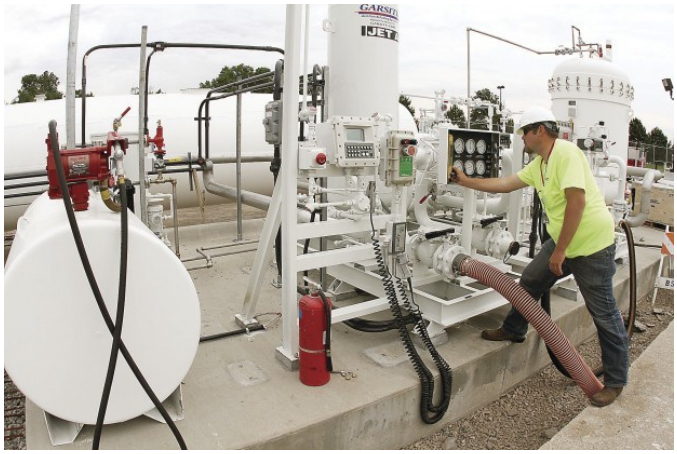

ABOVE: Seneca Project Manager conducting commissioning.

The new skids track, manage, and report back fueling parameters to the Airport Fueling Manager through a wireless connection. A new fueling personnel and driver's shelter was also installed. This little shelter is actually the brains, as well as the eyes, of the entire system, as it houses all of the tank monitors and emergency monitors that will alarm if any fueling problem is suspected.

The fueling system now has the capability for personnel to hit multiple E-Stop buttons which will shut down the entire system, and also automatically send a signal to the QCIA Fire Department which can arrive within minutes of an Emergency Notification.

The driver's shelter houses vital communication equipment that allows the system to be monitored remotely by the Airport Fueling Manager. Additionally, a new clay-treatment vessel was installed. This new clay treatment vessel "treats" the fuel by capturing surfactants using the surface area of clay, and by using polar attraction of contaminants to the clay to treat the fuel. A 10,000 gallon oil/water separator was also installed. This separator picks up contamination running from the containment area and will capture any spills that may occur in the new loading area, or in the containment dike, before they have a chance to enter the water runoff system on site. The dated brick building and roof were kept due to the historical significance to the airport. It was renovated along with the electrical switchgear and distribution, which now feed the new fuel system.

Also installed within the newly renovated building were new mechanical and plumbing systems and additional instrumentation and control systems. A new fuel testing lab was designed and installed inside of the renovated brick building complete with all the necessary gear to accommodate the airport, and let fuel testing be taken indoors, especially during the harsh winter months, and the humid summers.

The lab has all Nema 4 rated, hazardous location, and explosion proof equipment which includes fans, heaters, and a large exhaust system to extract any hazardous vapors out of the lab room.

ABOVE: Installation of Phase I new Jet-A fueling skid.