

Project Scope:

Great Northern Engineering demolished and removed a 40-year old tank farm and piping system. Determined extent of fuel contamination and developed remediation plan. Designed and constructed a new diesel fuel storage and distribution system for the entire facility heating systems and the Base vehicle fuel. The new tank farm consisted of eight 40,000 gallon state-of-the-art self-diked, above ground storage tanks. The storage system included fill and distribution piping system, mechanical and electronic over fill protection, and electronic level indication. A valve house and control room module provided the fuel management functions that controlled the tank filling access and pumping system distribution to the electrical power plant, the bulk fuel truck loading and dispensing rack. The tank farm was also the source for a pressurized fuel supply piping system heating systems in the complexes buildings. A new above ground piping distribution system delivered fuel to the sophisticated building heating system day tanks.

Project Detail:

The fuel system was designed and built to withstand the severe sub-freezing arctic conditions and hurricane force winds, and still be user and maintenance friendly. The space available for the new system was limited so a system was designed and constructed to occupy a very small footprint. The logistics of this design/build project offered many unique challenges. Access to the site is possible only by sea or air. The transportation by sea is limited to chartered barges in the summer. By air the nearest town with services is Nome, over 150 miles to the north. The control module was constructed in Bellingham, Washington and barged to the site along with all the rest of the construction materials. A careful and precise planning effort was made to identify all the materials needed for the project and be sure these materials were on the barge before it left for the job site.

