

# Anchorage Locomotive Fueling Facility

## Project Scope

The Alaska Railroad (ARRC) is replacing an existing 1970s-era locomotive fuel delivery and control system in the Anchorage Yard. The need for this upgrade was identified in the 1999 *Woodside Plan*, a fundamental planning document for the Anchorage Yard. A subsequent 2009 *Annual Performance Audit* also recommended the system be replaced.

The new facility is located in the area east of the existing Diesel Shop. It provides fueling, sand loading, inspection and minor maintenance of locomotives. A project goal was to service up to six locomotives without re-spotting. Periodic inspection activities occur in the Diesel Shop. Locomotives hold about 3,000 gallons of fuel.

This project includes preliminary design and replacement of the existing fueling facility. In the future, the railroad may build upon this effort by adding features to enable more extension locomotive servicing and inspection functions.

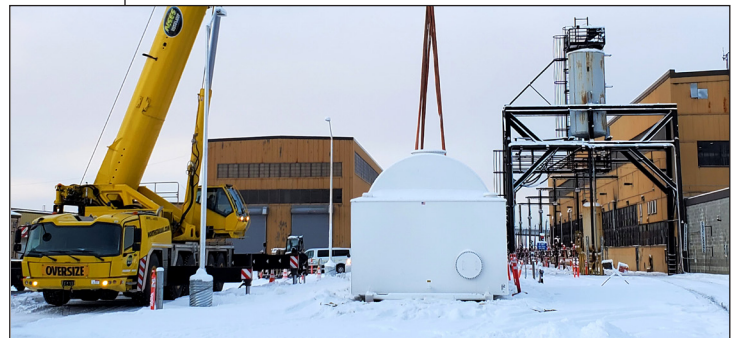
## Benefits

A new fueling system significantly upgrades yard operations, with features such as:

- Improved pumping systems that are simplified for easier use and maintenance.
- Improved fuel containment (spill prevention) systems.
- Enhanced safety features for employees.
- Replaced aging 70,000-gallon fuel storage tank and underground fuel lines, with two modern 30,000-gallon tanks and above-ground piping, allowing for easier leak monitoring.



*Fueling stations installed along the Diesel Shop.*



*Modern 30,000-gallon fuel tanks are transported by rail and then lifted into place in January 2020*

- Potential for computerized fuel metering systems for more accurate accounting.
- Potential to add inspection and servicing functions.

## Status

In 2002, ARRC began conceptual layout, identification of regulatory requirements, analysis of potential locations, and project cost estimates.

In 2003, Enterprise Engineering, Inc. (EEI) delivered a preliminary design for review.

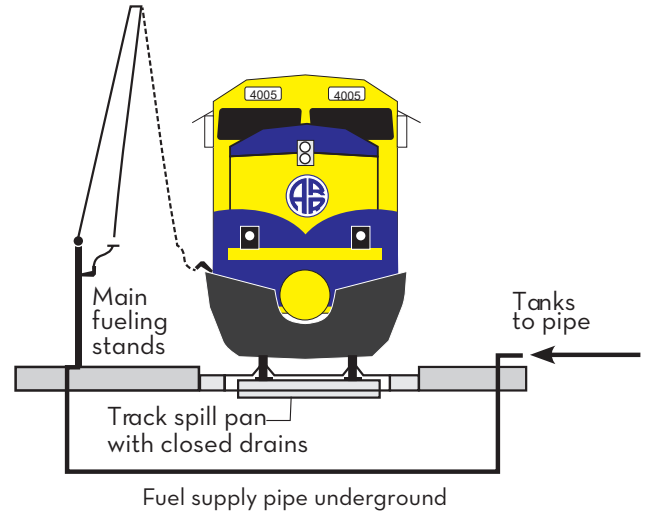
The railroad refocused on this project in 2011. Final design efforts included a cost-benefit analysis of the following fueling operations elements:

- a new stationary fueling facility
- the useful life of the old facility
- wet hosing service, which involves remote fueling via a fueling truck that travels to the locomotive or equipment location to fuel on-site. In late 2011, ARRC conducted an operational test period for the remote fueling option.

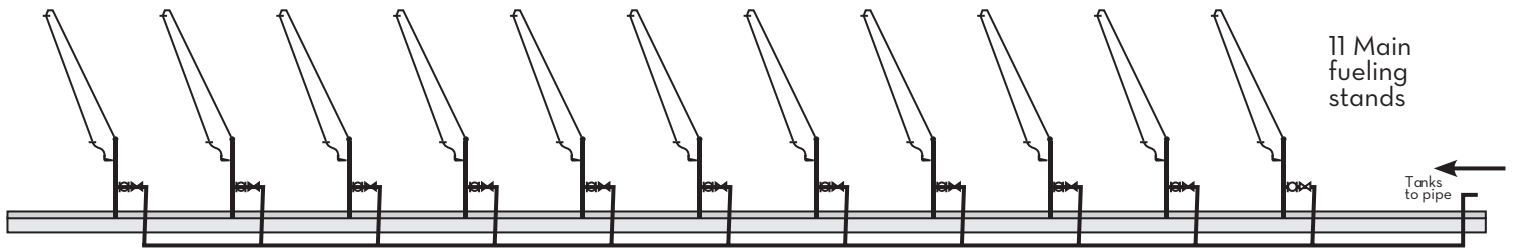
In 2019, ARRC identified funding to pursue the project. The ARRC Engineering Department optimized the design, and construction began in October 2019. The new above-ground fuel tanks were placed on-site in late January 2020. The project was completed in May 2020.

## Cost and Funding

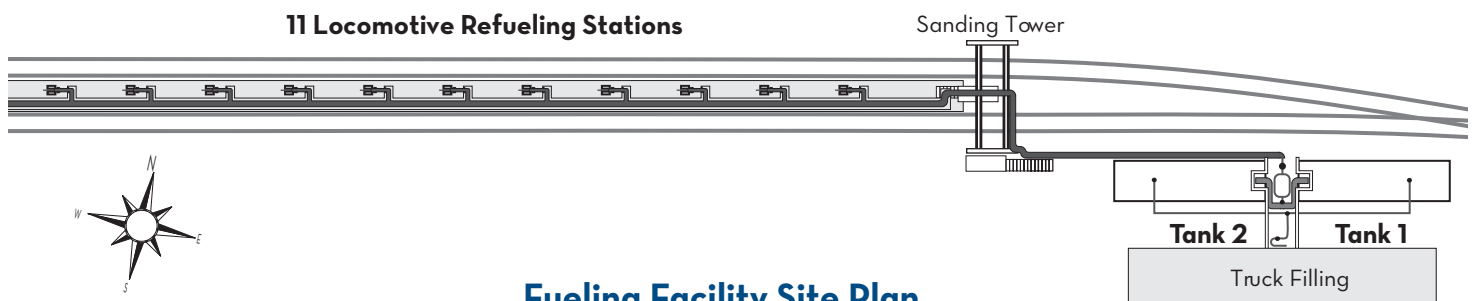
- Preliminary design cost of \$200,000 funded in 2003.
- Final design and engineering cost funded \$100,000 in 2010 and \$150,000 in 2011.
- Design modification and construction cost of \$2 million funded \$1 million in 2019 and \$1 million in 2020.
- Funding 100% by the Alaska Railroad.



**Fueling Facility Front View**



**Fueling Facility Side View**



**Fueling Facility Site Plan**



## Fueling Facility Pump House - May 2020

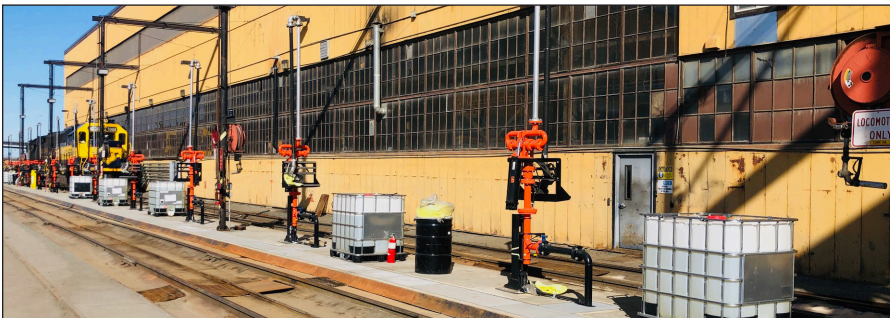


*Storage tanks placed in January 2020 are hooked up to a pump house and above-ground piping.*

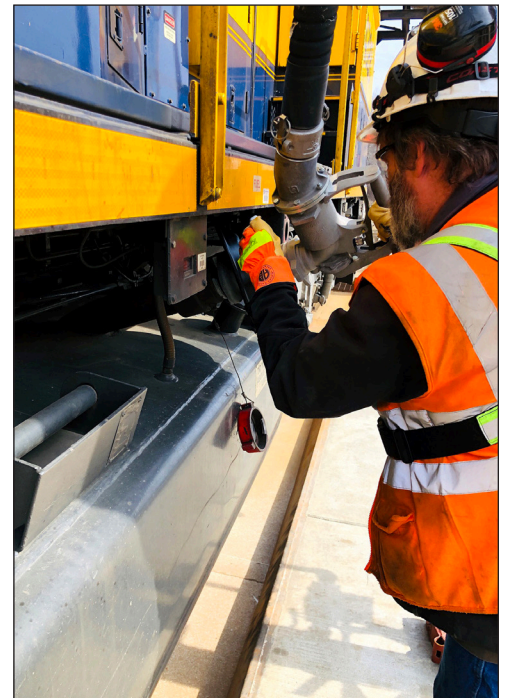
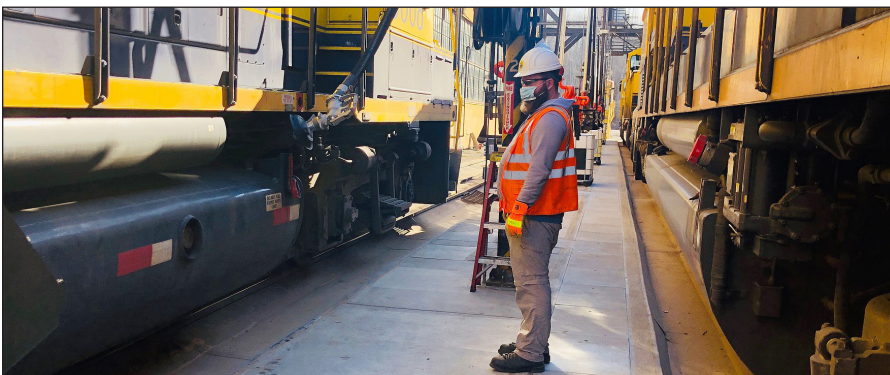


*As needed, fuel supplier Crowley delivers fuel to fill the storage tanks at the pump house. (Photos taken May 2020 by Dennis Bouwens)*

## Fueling Rack Stations - June 2020



*With 11 stations, the new fueling rack makes it easier to fit more locomotives in to be serviced and easier for TMS to reach the locomotives with station hoses.*



*A TMS crew member fuels a locomotive at the new fueling rack. (Photos taken early June by Dennis Bouwens)*