

Provide facilities necessary to allow a Pacific Northwest Refinery to reliably produce Tier III quality gasoline. This is an EPA compliance-driven project that reduces the amount of sulfur in gasoline production to less than 10 ppm.

## SCOPE HIGHLIGHTS

- Demolish an out-of-service refinery unit, which included removing 31 tons of asbestos containing material, 230 tons of steel, 1,500 tons of concrete, 2,800 tons of contaminated soil.
- Install 23 piping tie-ins to disconnect the demolished unit from the operating refinery.
- Construct a 14,000 bpd hydrotreater capable of processing light straight run gasoline, jet, or naphtha feed in the battery limits of the demolished unit.

## ANVIL SERVICES

Provide engineering, design, and procurement services from FEL 2 through Detailed Design and Construction Support.

### FEL 2

- Evaluate and select alternatives
- Optimize the concept
- Develop a Project Plan
- Develop the FEL2 TIC Estimate for funding

### FEL 3

- Expand simulation for selected option
- Update PFD and Heat and Material Balances
- Develop IFD P&IDs and Line Summary
- Develop utilities and emissions summaries
- Develop Procurement Plan
- Develop Level 3 Schedule for the overall project
- Develop the FEL3 TIC Estimate for expenditure approval

### Detailed Design

- Complete all Detailed Design engineering activities and deliverables.
- Design included 15,000 lineal feet of pipe and over 150 tons of structural steel.
- Specify and procure 60 pieces of mechanical equipment, including the reactor, vessels, columns, shell-and-tube heat exchangers, air-cooled heat exchangers, pumps and a fired heater.

## PROJECT COST

- Engineering: \$11,500,000
- TIC: \$59,000,000

## PROJECT HIGHLIGHTS

- Project was completed safely with zero incidents.
- Project was completed on schedule and within budget.
- This project won the **NWCCC 2018 Distinguished Project Award for Best Private Project Over \$10MM** and the **Patrick K. Lyneis Memorial Safety Award**.

