

Fabrication
Construction
Maintenance



Pressure Vessel Fabrication - Seattle, WA.

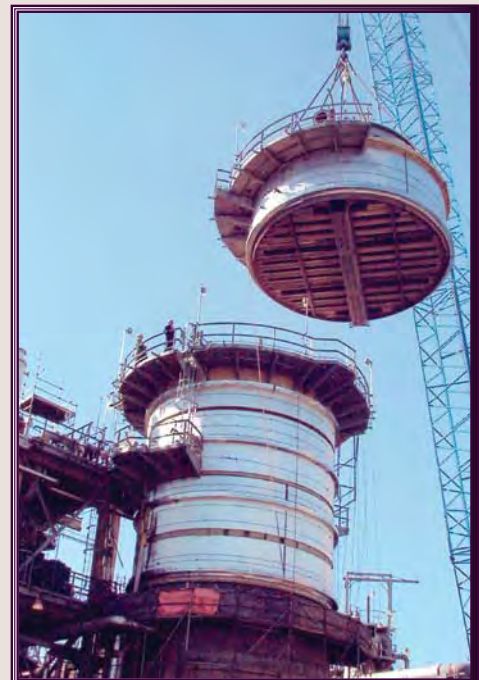
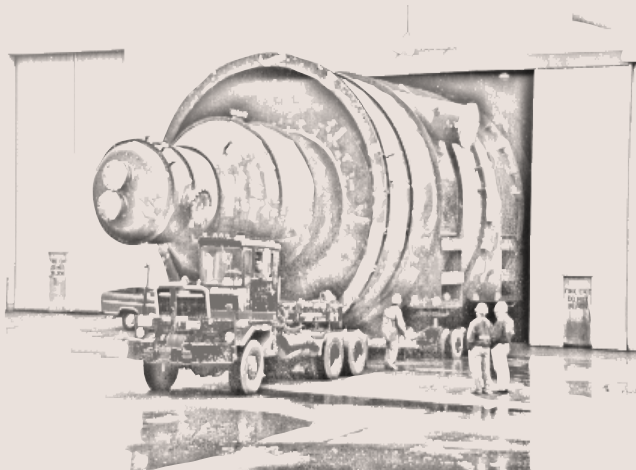
Fabrication

- ASME Vessel
- API Tankage

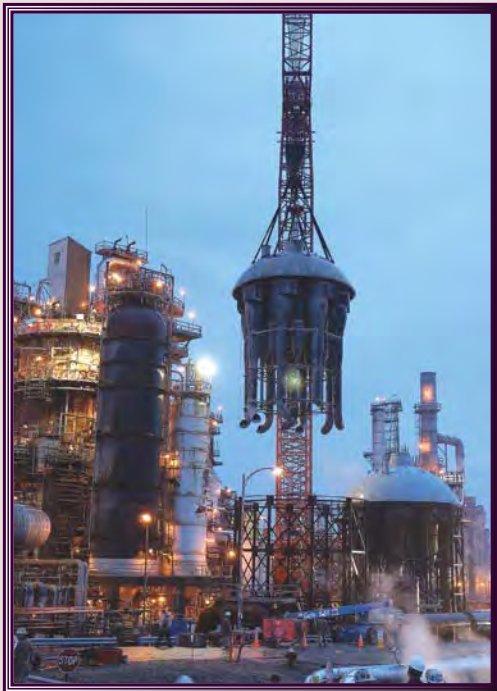
PSF Industries, Inc. has specialized in custom steel plate fabrication and erection since 1900, supporting the refineries in the Pacific Northwest from our main office and fabrication shop in Seattle, WA. We have fabricated many ASME Pressure Vessels for refineries in the region. Our engineers perform design calculations to the ASME Code along with mechanical and seismic calculations. Our fabrication crew builds vessels in carbon steel, stainless steels, duplex steels and clad steels. Vessels are shipped to customers by truck whenever possible. However, large vessels such as the two Vacuum Towers fabricated for the refineries near Blaine, WA were shipped by barge. In addition to ASME Code Vessels, our shop fabricates other process vessels, heat exchangers, spheres, stacks, towers, and API tanks. When our customers have emergencies, our shop crew works around the clock, twenty-four seven to repair their equipment or to furnish parts for our field crews repairing equipment in the field.

Priorities

1. Safety
2. Quality
3. Production



**Installing Vacuum Tower
Anacortes, WA.**



**FCCU Turn-a-round 2004
Anacortes, WA.**



Construction

- Erection
- Retrofits

When the large size or location of a customer's plant precludes shipment of a complete vessel, we use a "fabricate and erect" approach to ship large shop fabricated sub-assemblies to our field crews working at customer sites. These crews erect the sub-assemblies into complete vessels, saving substantial costs for customers over the more traditional "knocked down" approach. This approach maximizes work performed on or near the ground enhancing quality of workmanship and safety as it requires less time for crew members to be working in the air. We used this approach to fabricate the FCC Reactor for the Puget Sound Refinery at Anacortes, WA. Our shop crew fabricated the Reactor in four sub-assemblies: stripper section, bottom cone and knuckle with the bottom shell course, shell section, and the top hemi-head with the top shell course attached. The stripper section was shop fabricated complete. Whereas the other were shipped to the refinery and assembled into three sub-assemblies within crane radius of the Foundation. The top head was shipped to the field in two half pieces with the dollar plate out. It was assembled on a temporary support structure that allowed us to install the plenum and cyclones at ground elevation.

While fabrication was underway, our field crew erected the structural steel support. The stripper section was shipped to the site and immediately set in the support structure. Then the other sub-assemblies were set, fit-up and welded out. Then the transfer lines were installed and welded out prior to hydro-testing. The project was brought in on schedule through the planning and coordination of our combined shop and field management with buy-in from our boilermaker supervision.



Maintenance

- Planned Turn-a-rounds
- Emergency Shutdowns

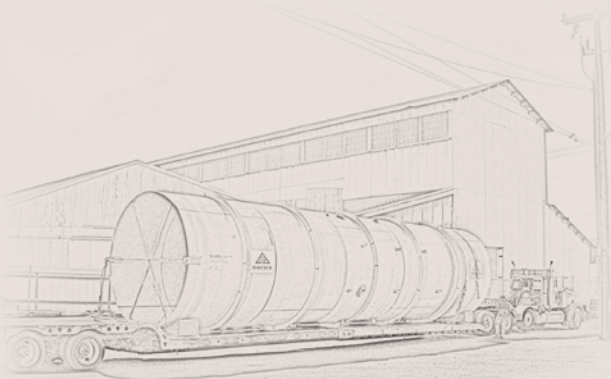
PSF has performed two FCC Turnarounds at the Puget Sound Refinery. The first, in February 1999, was to make the tie-ins to the new Reactor and modify the Regenerator by removing the existing top head and cyclones, installing new internals including Fluffing Air Ring, Air Distribution Rings and then installing a new top head and Cyclones. The second FCC Turnaround, in February 2004, included the replacement of the top head and newly designed cyclones. Other construction projects have included the erection of the Vacuum Tower at the Ferndale, WA Refinery, the replacement of a 48'-8" shell and top cone of the Vacuum Tower at the Anacortes, WA Refinery, and the replacement of the top head and shell section of the Amine Tower at the Anacortes, WA Refinery.

PSF has been successful in completing our projects on time, while delivering a quality product safely. Our success is due to the planning skills of our shop and field management staffs and level of competency of our boilermaker craftsmen. Through labor agreements with the boilermakers unions in the western states, we are able to carry a core group of boilermakers with us to various locations throughout the eleven western states. These people make up our field supervision, pushers and code welders. They are then supplemented by the Locals where we are working.



Shop Fabricated Field Erected Vacuum Tower

*FCCU
Turn-a-round
Anacortes, WA
1999*



*Craftsmen Serving Industry
Since 1900*



Locations

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