

Case Study: Supporting On-Site Emergency Power Supply

Project Summary:

Site / Location:

USA

Scope of Work:

Crane Deming Vertical Turbine Pump

Safety Related Emergency Diesel Generator Fuel Oil Transfer Pump

Fabrication and Code Compliance

ASME Section III Class 3 Seismic Class 1

Basic Equipment Details:

Pump Capacity: 30GPM

Pump Head: 38.5ft

Pumped Fluid: Diesel

Pump Stages: 2 Speed:

3500rpm Major

Materials:

- **Suction Bowl: 316SS**
- **Discharge Bowl: 316SS**
- **Stuffing Box: 316SS**
- **Impeller: Bronze**

Pump Column Length: 147"

Column Diameter: 2 1/2"

Utilizing Teaming Partner Relationship to help mitigate obsolescence issues in a Safety Related System



The on site emergency power supply at a nuclear power plant is of the utmost importance to ensure uninterrupted power during a design basis event. This system must offer redundancy and be independent from the main supply. Most plants use an Emergency Diesel Generator as the on-site emergency power supply. Fuel supply to the generator is a critical part of this system and Energy Steel offers Emergency Diesel Oil Transfer Pumps for this application.

A North American nuclear power plant needed to replace their existing pumps due to the age and condition of the original equipment. The original manufacturer (Crane Deming) no longer offers a nuclear qualified pump. Energy Steel works with the original OEM to continue to supply this Safety Related pump, using their quality program, to avoid plant obsolescence issues. Energy Steel worked diligently with their teaming partners to offer a like for like replacement for the original equipment that was supplied in 1992.

The pump was designed to ASME Section III, Subsection NC, Class 3 complying with the original design report and certified as like-for-like. Due to the pump being safety related it required a safety related pump test to prove it could match the required hydraulic performance of the originals. Energy Steel utilized their sister company, Hayward Tyler, to perform the safety-related testing at their nuclear qualified facility.