

Project Summary:

Site / Location:

USA

Scope of Work:

Replacement Hot Legs
Sourcing, Fabrication and Cladding
ASME III Class 1
NPT Stamped

Basic Equipment Details:

Diameter- 36"
Thickness- 3"
Cladding thickness- 0.375"
Material- ASME SA106 Gr B
Design Pressure- 2500 psig
Design Temperature- 650°F

Replacement Hot Legs for a Pressurized Water Reactor

Complete replacement hot legs including fabrication, material, and cladding.



The hot leg serves a critical function with the primary cycle of a Pressurized Water Reactor. Light water is heated in the reactor and flows to the steam generator, via the hot legs, to transfer the heat to the secondary coolant. The hot legs transfer high-temperature and high-pressure radioactive fluid.

A North American nuclear plant needed to replace their hot legs due to general age-related degradation. Energy steel was selected to supply the complete replacement hot legs including material sourcing, fabrication, cladding and associated code related data packages.

The hot legs are designed according to ASME Section III, Class 1, Subsection NB 1998 Edition through 2000 Addenda and were "NPT" stamped through Energy's Steel ASME certification.

Each hot leg consisted of a 36" diameter straight section, a 36" 180° radius elbow and two 1" vent connections. The piping was supplied in SA106 GR C. Each of the components were welded together by our ASME Section IX qualified welders and subject to a variety of Non-Destructive Testing (NDT) including Ultrasonic Testing and Radiographic Testing. The interior of the hot legs required a 0.375" stainless steel strip cladding that was welded to the inside diameter of the pipes.

