

Rapid Fabrication of Eyebolts

Expedited Nova Machine Products

**CURTISS -
WRIGHT**

Nuclear Power Products and Services



About

In 2019, a BWR in the Midwest identified an urgent need for two eyebolts to perform maintenance and repair operations.

Challenge

The eyebolt order required a quick turnaround for use during an upcoming outage.

Solution

Curtiss-Wright's engineering team and machine shop were able to provide build-to-sketch plans back to the plant in about two weeks. After receiving customer approval, fabrication and delivery were completed within an additional two weeks.

Results

The plant's order was fulfilled within the outage, and they were able to use the eyebolts to support maintenance operations without the risk of pushing their go-live date back to the grid. Since the original order years ago, this BWR in the Midwest region has placed recurring orders for this part, most recently for their fall 2024 outage.

Background

Eyebolts are used for a variety of lifting applications. Due to their unique structure, they can be screwed into a threaded hole on one end and connected to a crane on the other by inserting a clevis through the hole that hooks to a shackle. In the nuclear industry, more substantial eyebolts are commonly used to lift large structures at the power plant, allowing plant personnel to perform maintenance during outage season.

Because of the substantial size of these eyebolts, their specialized use, and the stringent quality requirements in the nuclear industry, producing them can be challenging. Consequently, there are few suppliers in the United States.

Curtiss-Wright manufactures eyebolts with a robust, corrosion-resistant alloy steel coated with phosphate for enhanced durability, following rigorous quality control in accordance with ASME Section III throughout the entire process. Prior to fabrication, chemical analysis of all materials, impact testing, mechanical testing, heat-treating, and verification are conducted to meet the requirements of the 1986 ASME Code Case. These essential processes ensure that our manufactured eyebolts will perform their intended functions reliably at nuclear power plants.

Achievements

The Midwest BWR experienced a number of benefits by selecting Curtiss-Wright as their supplier for eyebolts. A reduced lead time on the original order represents a primary achievement for both Curtiss-Wright and the plant. Manufacturing these massive parts with respect to strict qualification standards is no easy task. However, Curtiss-Wright was able to meet the plant's expectations regarding turnaround time, fulfilling the order requirements in one-third of the average completion time. To satisfy the plant's requirements for the eyebolts, Curtiss-Wright's talented engineering team worked diligently to produce new drawings for the complex parts based on sketches and directions provided by the plant. Following the successful completion of this order in 2019, the Midwest BWR has ordered 36 more eyebolts from Curtiss-Wright, reflecting their ongoing trust in our ability to deliver high-quality products in a timely and efficient manner.