

# Vision Wide



## **Purpose:**

Eliminated operational bottleneck

**Purchase Date:** June 2013

**Cost:** \$1.1 million

## **Benefits:**

- Reduced machining time by 70% to 75%
- Reduced lead time from 16 to 3.5 days
- 20% to 40% shorter cycle time
- Improved productivity from three machines to one
- 2,500 square feet of production space now available for other uses

**Return on Investment:** IRR = 26%

# Vertical Machining Center



## **Purpose:**

Required for U.S. Navy project. Provides more efficient and better quality method for machining tube sheets and tube supports.

**Purchase Date:** February 2010

**Cost:** \$1.5 million (includes installation)

## **Benefits:**

- Better than Six Sigma quality control
- Tighter tolerances for positioning, repeatability and roundness
- Higher quality, reduced waste for tube sheets and supports
- Reduced lead time by 4.2 days
- Larger diameter tube sheets: 12 ft.
- Efficient, multi-process system: small sheets machined simultaneously
- Reduced maintenance costs

# Multipurpose Welding Machines



## Purpose:

- Collaborated on design with manufacturer to achieve goals
- Enables multiple welding processes, improving productivity:
  - Stick, TIG, MIG, FCAW, air carbon arc cutting and gouging
- Increased weld process efficiencies while consistently producing X-ray quality welds
- Expanded welding capacity

**Purchase Date:** 44 total machines purchased from 2009 to 2014

**Cost:** \$600,000 (total)

## Benefits:

Reduced cycle time and lead time

1. Decreased product travel, improved deposition, fewer starts/stops and less clean-up
2. Eliminated setup time
3. Weld procedure qualification is 2.8 times faster
4. Weld process inputs monitored and recorded

**Return on Investment:** Two-year payback per machine

# New Radiography Facility and Panoramic Digital X-Ray Equipment



## Purpose:

- Quality control process: state-of-the-art non-destructive weld examination (NDE) X-ray technology
- Increased NDE speed and capacity
- Advanced X-ray capabilities to include panoramic tube head and computer radiography. Newer technology improves efficiency, reduces need for subcontracted NDE and eliminates the need for film.

## Date:

- Facility built in 2014
- Equipment purchased October 2012

## Cost:

- Facility: \$1.5 million
- Equipment: \$300,000

## Benefits:

- Eliminated outsourcing costs: \$300,000 annual savings
- Eliminated approximately 1,300 miles of product travel per year
- Reduced X-ray time to 30 seconds from over 8 minutes
- Saved 1,500 labor hours annually
- Number of shots per weld reduced to 1 or 2 from 23
- Images now saved in digital format
- Leading the industry trend for radiography requirements in manufacturing applications

**Return on Investment:** IRR = 29%

# Weld Lab / Training Facility



## Purpose:

- Dedicated training facility to minimize the impact of training new employees in the production area
- Standardized approach to training and quality control
- Increased number of staff in training to six from three

**Cost:** \$50,000

## Benefits: “Employer of Choice” – Workforce Development & Retention

- Employees receive focused training without negatively impacting daily production requirements
- Increases output through education and process improvements
- Facilitates development of weld procedures for increasingly complex weld materials and products

## Return on Investment:

- Conservatively anticipating a 5% combined productivity/quality improvement the first round of training
- On-boarding time greatly reduced, resulting in an anticipated pay-back of less than one year

# High Bay Project: 14-87700 KRC



**Customer / End User:** Oil Sands Refiner

**Equipment Application:** Replacement bundle for a precondenser component of an originally supplied three-stage vacuum system in 1996.

**Estimated Ship Date:** October 2014

**Estimated Equipment Price:** \$1.4 million

**Equipment Lead Time:** 6 months

**Engineering Hours:** 300

**Production Hours:** 1,300

# High Bay Project: 13-85345 M



**Customer:** International Turbine OEM

**Equipment Application:** Surface condenser package for a North American petrochemical plant. Supports the operation of a propylene refrigerant compressor drive turbine.

**Estimated Ship Date:** December 2014

**Estimated Equipment Price:** \$1.0 million

**Equipment Lead Time:** 14 months

**Engineering Hours:** 800

**Production Hours:** 3,200

# High Bay Project: 13-86069 M



**Customer:** North American EPC

**Equipment Application:** Surface condenser package for a North American petrochemical plant. Supports operation of the propylene refrigerant compressor steam turbine.

**Estimated Ship Date:** November 2014

**Estimated Equipment Price:** \$1.8 million

**Equipment Lead Time:** 12 months

**Engineering Hours:** 800

**Production Hours:** 4,200