



Rotating Equipment Specialists

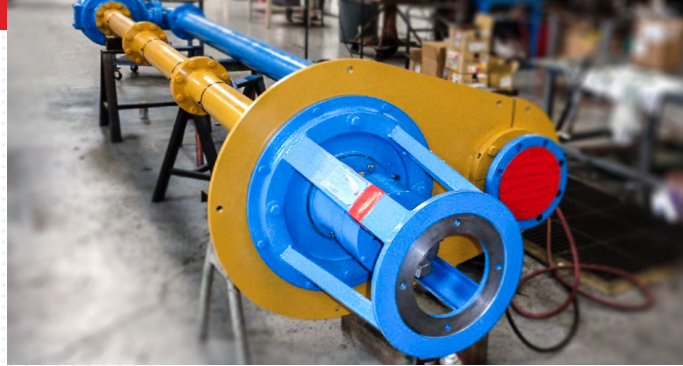
AN OVATION HOLDINGS COMPANY

CASE STUDY

Industry: Water Treatment

Golden State Warriors: Conhagen Strikes Gold in Pumping Perfection

Eight new water treatment vertical sump pumps failed during the commissioning of a sewage treatment system that had to startup in eight days. Conhagen was tasked with redesigning the points of failure, installing the corrected pumps, and having them operable on a strict deadline.



Objective

Remove, repair, and install failed pumps in order to allow the San Francisco Chase Center, home of the Golden State Warriors, to open for their grand opening featuring a Metallica concert in just eight days.

Solution

Conhagen field crew removed and transported the pumps to our shop, where they were disassembled, cleaned, and all parts were inspected. Our inspection included identifying any measurements that were out of tolerance and performing PMI on all components to confirm their metallurgy. We also evaluated the design of any components that we deemed were related to the failure.

After our inspections, engineering determined that the bearing housings were inadequate for the application and redesigned them.

As a result of the failure, the following services were necessary and performed on each of the 8 pumps:

- Manufactured new shafts for all pumps
- Manufactured new upgraded/redesigned bearing housings from scratch
- Redesigned thrust bearing setups completely, including upgraded bearings
- Manufactured new spider bushings
- Machined fits on pump casings and pump covers
- Manufactured and installed new impeller wear rings
- Balanced impellers to 4W/N @3600 rpm
- Completely assembled pumps

Conhagen redesigned and fabricated eight new bearing housings. All affected pump components were cleaned and repaired. The pumps were then reassembled, tested, and installed at a rate of one pump per day. After all of the pumps were in place, we supported the testing of the entire system. We then took it up a notch by customizing the pumps with a paint job of royal blue and California golden yellow to match the Golden State Warriors' colors.

Results

Conhagen successfully replaced, tested, and started up all pumps in time for the grand opening Metallica concert at the San Francisco Chase Center. Our fast and reliable services ensured the project's completion within the eight-day deadline, enabling the smooth operation of the water treatment system.

