

# INSTALLATION PROFILE

## Spur Gear Drives in Continuous Operation Since 1955

Installed 1955

August 2016

**Walker Process Spur Gear Drive Assemblies with proven successful and uninterrupted service for over 60 years.**

### **OMAHA, NEBRASKA METROPOLITAN UTILITIES DISTRICT FLORENCE WTP**

The Florence Water Treatment Plant draws water from the Missouri River to produce drinking water for the Omaha metropolitan area. It can produce an average of about 160 million gallons of water per day. The plant includes presedimentation basins, where sand and larger silt particles settle out, followed by lime softening, sand filtration, and chlorination.

In 1955, Walker Process furnished three (3) pier-mounted collectors, Type RS, for the presedimentation basins. Each basin is 200' in diameter with a 20' side wall height and a depth of 30' at the center. Each collector has a 10 horsepower drive motor and operates at a speed of 0.04 revolutions per minute at the drive cage.

**The collectors at Florence have been in continuous duty service for over 60 years.** A recent picture of one of the spur gear drive units is in the image below.

Each spur gear drive unit at Florence is 120" pitch diameter, has two (2) cast iron worm gear units to drive the internal spur gear pinions, a cast iron turntable for the spur gear and mechanism support, and a cast iron spur gear. Each spur gear drive unit has a continuous duty service of 400,000 ft-lbs, and is designed in accordance with American Gear Manufacturers Association Standards. Each turntable and spur gear includes replaceable heat-treated steel inserts and bearing balls. Shell advanced synthetic industrial gear oils are used for the worm and spur gear units. Proper attention by plant staff to debris and condensation control, which may contaminate the oil baths and increases the oil levels, is necessary but is not asking too much of plant staff.

The plant staff is pleased with the operation of the Walker collectors and the collectors require only routine maintenance.

