



Division of McNish Corporation

INSTALLATION PROFILE

Spur Gear Drives in Continuous Operation Since 1969

Installed 1969

August 2016

Walker Process Spur Gear Drive Assemblies with Continuous Service since Installation for over 45 years.

Bellevue, Nebraska WTP **Metropolitan Utilities District**

The Platte South Water Production Facility draws raw water from shallow wells constructed in the Platte River alluvial aquifer to produce drinking water for the Omaha metropolitan area. It can produce a maximum of 60 million gallons of water per day. The plant includes lime softening, sand filtration, chlorination and chloramination. The plant consists of two (2) treatment trains, each treating 30 million gallons of water per day.

In 1966, Walker furnished six (6) pier-mounted collectors, Type HC-RSX, for the lime softening equipment. Each basin is 90' square with a 20' side wall height and a depth of 25' at the center. Each collector operates at a speed of 0.04 revolutions per minute at the drive cage. Each collector has two (2) internal recirculation mixers for contacting settled solids with the raw water. Several years ago, the mixer magnetic drive systems were replaced by variable frequency drive systems.

The collectors at Platte South have been in continuous duty service for approximately 50 years. Recent pictures of a view from the access bridge of one of the collectors and the spur gear

drive unit from that collector are in the images below.

Walker's spur gear drive units at Platte South are 80" pitch diameter, have cast iron (as opposed to steel) housings, cast iron spur gears, have a continuous duty service of 60,000 ft-lbs, and are designed in accordance with American Gear Manufacturers Association Standards. The drive units are manufactured at Walker's factory in Aurora, Illinois, and there are no third-party manufacturers involved except for the drive motors. The spur gear housings include replaceable heat-treated steel inserts and run in oil baths. 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. Only infrequently is it necessary to replace miscellaneous items such as roller chain sprockets and chain, etc.



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