

**Industry:** Sewage and Water Treatment

**End User:** City of Chicago, James W. Jardine Water Purification Plant, IL, U.S.A

**Application:** Flocculator Paddle Wheel Bearings

**Thordon Grade:** SXL

**Date of Original Installation:** November, 2001

### Challenge:

The Jardine Water Purification Plant in Chicago is the one of the world's largest water purification plants. In 2000, the plant engineer contacted Thordon to discuss a bearing problem in the flocculation system. He had formerly worked with the US Army Corps of Engineers and had previous experience with Thordon bearings. The flocculation system consists of large concrete tanks filled with water that is agitated by large paddle wheels that rotate very slowly (approx. 3 rpm). Alum, a very abrasive coagulant is added to the water. The abrasive environment was causing premature wear on the 2-4 phenolic laminate shaft bearings of the large paddle wheels that slowly mixed the water. There are over 500 paddle wheels at the Jardine Treatment Plant.



*Flocculator Paddle Wheel*

### Solution:

After Thordon reviewed the operating conditions and environment, Thordon SXL bearings were recommended for the paddle wheels. SXL bearings offer:

- Low friction suited to slow speed shaft operating conditions
- Excellent resistance to abrasion
- Superior performance in wet environments

### Results:

The City of Chicago did not tender the contracts until October 2001. After reviewing Thordon references from other installations, the City of Chicago awarded the contract to Thordon for SXL paddle wheel bearings.

Due to the impressive wear life, the City of Chicago re-ordered SXL Paddle Wheel bearings for replacement in 2014, providing a wear life of over 12 years.

