

## 55 seepex pumps for handling sludge in the largest high-rate clarification system.

Most older cities in North America have combined sewer systems and many, like Toledo, have their WWT plants located in an older part of the city, next to a lake or a river. Space in these locations, is always at a premium and it is difficult to find the land needed for any type of large expansion.

Toledo is an industrial town and the main assembly operations for Jeep vehicles has been there since WWII, so there is a lot of industrial contamination both in the sanitary sewers and in the storm sewers. Also being close to the Great Lakes, it is in the "snow belt", where road salt is used extensively in the winters.

### **The starting situation**

During peak weather events much of the combined system overflows (CSO) went directly into Lake Erie as the capacity was too great for the plant to handle. This included raw sewage, street contaminants, like motor oil and benzene, and industrial waste which may contain heavy metals.

The toll that CSO's play on the Great Lakes is significant, especially if you consider all the cities that discharge into them: Milwaukee, Chicago, Toledo, Detroit, Cleveland, Buffalo, Toronto, Montréal. These same cities use the lakes as a source for drinking water. The Great Lakes contain 22% of the world's fresh water. Tens of millions of people get their drinking water from the Great Lakes. The lakes are also an integral part of the agricultural economy in the area with a fishing industry worth over \$4 billion/year.

In 2002, the city of Toledo, Ohio, was required by the US Environmental Protection Agency (EPA) to increase the size of its wastewater treatment plant from 32,000 m<sup>3</sup>/hr to 63,000 m<sup>3</sup>/hr.



**55 seepex range BN 130-6L pumps installed for handling sludge created in the DensaDeg units in Toledo.**

### The solution

The solution for the City's problem was provided by Infilco Degremont of Richmond, VA. Degremont and seepex have a long history of working together. The manufacturing technologies used by seepex ensure Degremont of consistent performance and longevity.

There are a total of 55 seepex range BN 130-6L pumps installed for handling sludge in Toledo. All pumps have seepex TSE dry-run protection and long-lasting duktil coated tool steel rotors. The pumps include reliable pin-joint technology ensuring longevity.

The system recently constructed at the Bay View WWTP is the largest high-rate clarification system for combined system overflow treatment in North America. As one of the first CSO abatement plants in the Great Lakes area, the Toledo facility that Degremont built is a model for other cities in the area.

### The benefit

Based on the high-rate design of the process, large combined system overflow treatment capacity can be achieved in a relatively moderate site area (37,000 m<sup>3</sup>/hr within a 0,4 ha area), thereby providing municipalities with a compact solution for CSO treatment.

The pumps maximize polymer flocculent efficiency and metering. Their use reduces cost and increases efficiency in all applications.

Keith Helton at Toledo's Division of Reclamation said, "Since the startup of the Wet-Weather Treatment Facility in October 2006, we have had zero (0) plant bypasses."

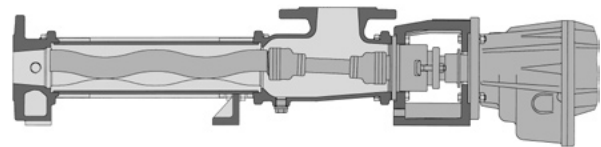
The abatement of combined system overflows is an integral part of the environmental protection and rehabilitation directives for the US and Canadian governments. seepex is proud to be an integral part of this solution which will significantly improve our environment.

### Key Facts

- All pumps manufactured in Enon, Ohio to ISO 9001/2000
- Reduction of pollution from storm water overflows
- Lower fresh water pollution
- Compact solution for CSO treatment
- Low shear technology

### Significant Cost Savings

- Expanded capacity in a moderate site area
- Less polymer flocculent
- Long-lasting 6L geometry



### Installed Pump Type

- Range BN

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