



Town of Olds Wastewater Treatment Plant Olds, AB Canada



Performance History and Discussion

Town of Olds selected biological dosing with goals to improve the biological treatment capacity at the wastewater treatment plant (WWTP) without capital expansion of the current facility. The Town of Olds, located in Mountain View County along the Highway 2 corridor, planned to upgrade the WWTP. Designed and constructed over 30 years ago, the Town investigated options to upgrade or replace several components to meet short and long term wastewater treatment needs; however, the biological treatment capacity of the plant has never been increased. The Olds WWTP receives an annual average flow of 1.0 MGD (3785 m³/day), but significant wet weather flow approximately six times the annual average has been experienced at the plant. The WWTP operating data indicates that the plant experiences trouble processing current loading and meeting the discharge limits. The plant contains six (6) Rotating Biological Contactor (RBC) units, to remove biodegradable organic matter in the wastewater. The plant was designed and constructed in 1976/77. With the exception of the RBCs, The Town has upgraded several components of the plant since it was originally built. As a result of the conditions of the units, an inability to consume dissolved organic compounds caused overloading, contributing to poor effluent quality and ongoing regulatory non-compliance. After 6 months of the technology in place the results revealed; a decrease of influent BOD load 14% and influent TSS load reduction of 20% while influent flow increased 3%. At the same time the plant decreased effluent TSS 61% from 30.7 mg/l to 11.8 mg/l and effluent CBOD 49% from 31.7 mg/l to 16 mg/l. Olds remained compliant even through September – mid October despite 40% plant failure and surface temperatures that hovered below -30°C throughout December 2008. A noteworthy change in the collection system had improved FOG control at two historical trouble spots. Reduced accumulation and remediation of old FOG deposits with bacterial dosing eliminated the need for an additional chemical treatment and removed floating masses on the water surface. In addition, the WWTP grease collection manhole servicing the Primary Digester only required hauling every four days compared to every other day.

Present Conditions

Biological dosing technology at time of this article has treated Olds Treatment Plant for 15 months. Scott Chant, Manager of Public Works and Utilities, reports the RBC units have improved dramatically, exhibiting a healthy reddish brown color. The Public Works Association of Alberta recently recognized the Town of Olds for their innovative way of dealing with wastewater. The town received the project of the year award in 2008 by the association for their success with this technology. In a statement to the Olds Albertan, Scott said “we’re going to a regional system and instead of trying to spend a lot of capital dollars upgrading the plant for additional capacity this is one way of dealing with the problem. We are seeing effects on the system in the first six months. It should just continually get better results as we go on.”

Project Profile

Summary at a Glance

Project Installed: May 2008

Plant Size: 1.0 MGD

Service Objectives:

- Reduce Influent Organic Load
- Improve Effluent Quality
- Control Hydrogen Sulfide (H₂S) Odor and Corrosion
- Reduce Fats, Oils, and Grease (FOG)

Performance Summary:

- 3% Increase Influent Flow
- 49% Reduction Effluent CBOD
- 61% Reduction Effluent TSS
- Relieved Pressure for Capital Expansion

Reference: Scott Chant Manager
Public Works and Utilities
403.556.8880

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Scott Chant
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