Automotive Transmission Manufacturing Plant

Dynatec provides a complete WWTP on a design—build—own—operate and maintain basis.

The Problem

The automotive company was building a new plant and required treatment for wastewater for the new plant and needed to reduce their capital expenditures for the new facility. The plant produces wastewater containing oil, metals, and high COD. Further, there was interest in outsourcing the operation and maintenance of the plant.

Evaluation

The discharge requirements for the local POTW required biological treatment. Both chemical physical treatment and ultrafiltration were considered for the primary separation of oils and metals. Ultrafiltration was selected because it’s operating costs were lower and it produced consistently higher quality water without chemicals and with little labor. The desire was to limit chemical use and minimize sludge produced for disposal.

The system uses Ultrafiltration to first separate oil and metals followed by MBR for COD reduction. The MBR was evaluated with conventional biological treatment. The strength of the wastewater measured 20,000 mg/L COD prior to the first UF and it was determined that the MBR was the only reliable means for handling the high strength waste.

The Solution

Dynatec was selected to design and install the system. The UF permeate feeds a membrane bioreactor to remove COD. Dynatec was the most cost effective provider of the DBOOM and had the most experience providing the type system required for the treatment objectives. The tubular MBR UF permits operation with the MLSS at 20,000 mg/l and thereby reduced the space required for the aeration tank.

The plant has been in operation since 2008.