Bypass of 4.1 Billion Ltres of Cooling Water Flows
Sarnia Refinery, Ontario

PROJECT OVERVIEW
Operators from the Suncor Refinery located in Sarnia, Ontario noticed that sinkholes were forming directly above their main outfall sewer to the St. Clair River.

The potential failure of the 60” was cause for significant public and operational concern. This line needed to be fixed immediately. LiquiForce and its Project Management Team were contacted to coordinate and supply all labour, equipment and materials to complete this work.

The challenges on the project were:
- Bypass approx. 4 billion litres of cooling water on a 24-7 schedule for 39 days (16,000 to 20,000 usgpm)
- Maintain 100% uptime to plant
- Provide continuous effluent sampling for ministry reporting
- Report hourly flow readings
- Conform to environmental regulations
- Conform to all safety regulations
- Work with local unions & union reps

The bypass setup had enough capacity to move 83,000 usgpm. This is the equivalent of filling 5250 cars in 1 minute or filling an 18’ x 5 ft deep pool in 6.2 seconds. To carry out this bypass we set-up over 11,000 ft (2 miles) of 18” HDPE pipe, 10 x 12” pumps, 1 x 18” pump and 2 x 24” stacked axial units.

After significant coordination with a large list of stakeholders, this project was delivered successfully.

Client:
Suncor Energy Products Inc.

Construction Cost:
$4,000,000

Construction:
General Contractor

Construction Dates:
June 2017 - December 2017

Project Features:
- Coordination with other groups was integral to the success of this project. The project team included:
  - Suncor Energy
  - SNC Lavalin Engineering
  - Pollutech Envirotech
  - Ministry of Fisheries & Oceans
  - Ministry of the Environment
  - Friends of the St. Clair River
  - MISA
  - C&C Construction
  - Anderson WEBB
  - Curran Construction
  - AMEC Geotechnical
  - Local Plumbers and Steam Fitters Union
  - Sterling Crane
  - Bond Petroleum
  - Thompson Pump
  - TJ McCarthy

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