

December 8, 2010

Domtar Corrective Action Update

Issue:

Visual fiber masses (paper fiber and filamentous bacteria) flowing through the Mill's outfall discharge pipes to the St. Clair River

Origin:

Filamentous bacteria growth in effluent paths is a common and vexing concern among paper mills. These bacteria are present in the Mill's discharge from the clarifier to the lower outfall discharge point at the river. Biologists believe that paper fiber strands entangle in the bacteria growth giving the resulting mass the appearance of pieces of paper when changing water discharge velocities tear them away from either piping, the effluent well, or outfalls. These light fiber masses follow the river currents, wrapping onto fishing lines and swirling in eddies at retaining walls downriver.

Paths Forward

1. Reduce filamentous growth
2. Reduce fiber released to the river from clarifiers

Options to reduce filamentous growth in effluent path

1. Clean the effluent well and outfalls during the Mill's Thanksgiving Shut-Down
2. Install the capability to add oxidizer to the pipeline.
3. Evaluate need to eliminate the lower outfall chamber via hard piping through the lower outfall and manifold into the four discharge pipes.

Options to reduce fiber discharge in effluent to the river.

1. Install basic weir screens in upper outfall
2. Evaluate the need to add additional equipment to increase treatment dwell time
3. Evaluate the need to add additional screenings of effluent in WWTP

Steps Taken

Week of September 27th -

- Samples of material sent to 4 independent labs for analysis
- Black and Veatch – Original engineers on the pipeline to St. Clair River have been retained to develop new manifold system and design a by-pass line at outfall to allow for frequent cleaning.
- Siemens Water Technology Corp. – Operations support engineer on site performing initial assessment of entire wastewater treatment system and develop recommendations.
- Solberg, Knowles & Associates – Engineer on site to review situation and develop recommendations.
- Two industrial cleaning companies in to review Thanksgiving Day cleaning options at the WWTP.

Week of October 4th –

- The second St. Clair River sampling event completed as required by our NPDES permit
- Commercial Diving on site to review plans for Thanksgiving and possible camera in the St. Clair River
- Mailed notification to MDNRE that we are planning to audit the effluent pipe via video in November.
- Screening trial at upper chamber completed.

Week of October 11th –

- Ashland/Hercules on site to review microbiological growth and present chemical treatment path forward
- Black and Veatch on site to continue engineer assessment of outfall modifications
- Met with City of Port Huron to discuss installation of temporary structure at river

Week of October 18th –

- Siemens Water Technology Corp. – Operations support engineer on site to perform 3 day evaluation/troubleshooting of WWTP.
- Met with MDNRE to review corrective actions
- Met with mill employees to discuss path forward
- Status Update Conference call with BPAC – US chair and vice chair and 2 other representatives
- Met with Rawlins street neighbors to review temporary structure at river
- Provided update to Blue Water Sportfishing Association

Week of October 25th -

- Began installation of temporary structure at river.
- Eka Chemicals on site to review microbiological growth and present chlorine dioxide technology

Week of November 1st -

- Install video feed of discharge pipes
- Eka Chemicals on site to continue review of growth and develop trial plans.
- Submitted water additive request to MDNRE for replacement of sodium hypochlorite with chlorine dioxide
- Submitted request to MDNRE permit section to review option to discharge process water to Black River

Week of November 15th -

- Installed basic dual weir screens at upper outfall. Screening 24/7

Week of November 22nd –

- Inspect and clean recycle and effluent well at the WWTP, upper outfall, lower outfall, the 24” gravity pipe and the four 12” discharge pipes
- Measure lower outfall piping such that new piping/manifold can be fabricated and installed at later date if necessary

- Installed a redesigned pig launcher
- Installed piping and new flowmeter for effluent
- Installed new level meter and weir for recycle well

Steps planned

Week of December 6th–

- Begin treatment of mile-long line with Chlorine Dioxide and Determine effectiveness

Week of December 13th–

- Conference call scheduled with Siemens to discuss further mechanical options at WWTP

Post Thanksgiving Day Shutdown Path

- Determine plan for treatment of clarifiers with Chlorine Dioxide
- Determine need for treatment of effluent well
- Evaluate need to install new piping/manifold to eliminate lower outfall
- Evaluate need and scope of additional clarification to reduce fiber loss to effluent.
- Evaluate need and scope of additional screening of effluent at WWTP