

Peer Review of Brown and Caldwell Technical Memorandum 3

BACKGROUND

St. Johns RIVERKEEPER® is a non-profit advocacy organization that serves as an independent and trusted voice for the St. Johns River. Our mission is to work on behalf of the community for clean and healthy waters in the St. Johns River, its tributaries and its wetlands, through citizen-based advocacy. As a result, St. Johns RIVERKEEPER® opposes the construction of a pipeline by Georgia-Pacific (GP) to divert its wastewater from Rice Creek to the heart of the St. Johns River.

In 2009, Georgia-Pacific (GP) retained Brown and Caldwell (BC) to complete a “Wastewater Treatment Alternatives Evaluation” (Technical Memorandum 3) for its pulp and paper facility in Palatka, Florida. The objective of the evaluation was to determine the feasibility and capability of technical wastewater treatment alternatives that would allow GP to continue to discharge to Rice Creek. Brown and Caldwell’s Technical Memorandum 3 failed to identify any cost-effective treatment alternatives, instead suggesting that the pipeline to the river was the preferred option.

However, St. Johns RIVERKEEPER® believes that viable alternatives to the pipeline do exist that have not been fully evaluated by BC, Georgia-Pacific or the Florida Department of Environmental Protection (FDEP). As a result, St. Johns RIVERKEEPER® retained Greenovative Design and Engineering, LLC (GDE), an environmental engineering company, to perform a peer review of the Brown and Caldwell Technical Memorandum 3 that was published in July of 2010.

Greenovative Design and Engineering, LLC (GDE) conducted an objective technical and economic appraisal of the BC memorandum. All conclusions and/or suggestions by GDE are supported and substantiated by clear reference to, but not necessarily limited to: “the logic of each alternative’s section; the validity of the memorandum’s basic technical and economic parameters and elements; and the rationality of its individual; and overall conclusions.”

St. Johns RIVERKEEPER® reviewed the report and, with the help of the GDE team, developed this fact sheet. The entire GDE report can be found at www.cleanergp.com.

FINDINGS

1. The Brown and Caldwell (BC) report did not fully evaluate all available alternatives, and instead seems to focus on those technologies that are not particularly feasible.
2. BC did not conduct a full-spectrum qualitative physical chemical analysis of the effluent discharge, and therefore, any conclusions about treatment technologies should be considered incomplete and/or questionable.
3. Legacy solids in Georgia-Pacific's treatment ponds were extensively discussed in the Brown and Caldwell report, and the disposal of these materials was identified as a need. Yet, BC lists dredging of legacy solids last on the list of potential alternatives.
4. Given the significance of legacy solids in the GP treatment system, GDE believes the most cost-effective method available to GP is the dredging and conversion of legacy solids to a "viable cake"-highly dewatered solids that can be more easily disposed of.

RECOMMENDATIONS

1. Conduct a comprehensive, stoichiometric material balance analysis of the entire Georgia-Pacific (GP) facility. This is an absolute necessity.
2. Determine the volume of sludge that has accumulated in the anaerobic lagoon.
3. Restore treatment and anaerobic lagoon pond capacities by dredging and other applicable technologies.
4. Substitute coagulating polymers for alum and other inorganic coagulants.
5. Conduct a cost-benefit study using a detailed operational and capital cost comparison of GP's current operating costs vs. FTX/R process.
6. Conduct a detailed cost-benefit comparison of GP's current wastewater treatment and primary clarifier operating costs vs. a detailed cost estimate utilizing the cost-benefit of polymer vs. alum. capital costs.

CONCLUSION

According to Greenovative Design and Engineering, LLC, a final decision concerning Georgia-Pacific's wastewater treatment system should be put on hold immediately pending the conclusions of an independent 'qualified, competent' technical-economic analysis.

The results of such an analysis could produce a significant cost-benefit advantage for GP, and it is entirely possible the St. Johns River pipeline would be unnecessary. This is an opportunity for the often discussed, but rarely agreed upon, win-win situation.