

Johnston, Paul and Jay Ritchlin. "Zero Discharge: Technological Progress Towards Eliminating Kraft Pulp Mill Liquid Effluent, Minimizing Remaining Waste Streams And Advancing Worker Safety." Prepared for Reach for Unbleached!, the Zero Toxics Alliance Pulp Caucus, and Greenpeace International; 1998. (Reviewed by Pamela Johnston)

In 1994, the EPA reported that pulp mill facilities produced the most polluting substances of any industry. Hundreds of thousands of pounds of toxics are reported every year, and many more pass, unrecorded, into waterways and public water systems. Because wood pulp is so necessary for transforming wood into consumer products, the authors argue that a zero-emission process needs to be implemented on a large scale that will minimize toxicity.

The concept of closed-loop pulp mills ideally means that discharge into aquatic environments would be eliminated, and the toxicity of air pollution and solid waste would be greatly reduced. The use of chlorine dioxide as a bleaching agent has especially emphasized the need for this closed loop to prevent dioxins and other related compounds from reaching living organisms. Oxygen-based bleaching agents have proven to be least toxic and most energy efficient.

Overall, the industry has seen great advances in the last decade towards closed-loop and minimal impact facilities. Totally Chlorine Free (TCF) and Elemental Chlorine Free (ECF) processes are both steps in the right direction, although TCF definitely has its advantages in feasibility with the closed-loop system. Air emissions, however, will still be an issue.

Critique

Although the authors acknowledge their lack of complete solution for this issue, it is nonetheless important to explore other alternatives to pulp waste and discharge. Raw materials other than wood may become available on the large-scale economic market, or bleaching may be eliminated entirely. A "zero discharge" system in the future may prove to be more effective by changing the process altogether, and not simply altering its course.

<http://www.rfu.org/ZeroDisg.htm>

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