

Green Bay Packaging selects Head Engineering's BLiSS soap separation technology to improve mill performance by enhancing black liquor soap separation and CTO production at the Morrilton linerboard mill

March 12, 2021 - Green Bay Packaging has selected Head Engineering's BLiSS centrifugal soap separation system to be installed at their linerboard kraft mill located in Morrilton, Arkansas. BLiSS (Black Liquor Soap Separation) is a patented process technology by Head Engineering AB that maximizes the separation of soap from spent black liquor. Alfa Laval will supply the core equipment complete with instrumentation and controls. Head Engineering will provide start up, process and optimization support in tandem with Alfa Laval. This project is a collaboration of efforts between Green Bay Packaging, Head Engineering, Alfa Laval and Biorenewable Deployment Consortium. BDC assists the Forest Products Industry by facilitating the deployment of commercially viable biochemicals, biofuels and by-products technologies. This collaboration was initiated through the by-products platform at BDC.

William Cone, VP & General Manager of the GBP Morrilton mill, was interested in the potential to increase co-product revenues (soap and CTO) as well as improve mill performance, and quickly approved a trial at the Morrilton mill to evaluate performance of the BLiSS separator technology. The trial was conducted in Feb 2019 using equipment supplied by Alfa Laval. "The centrifugal separator successfully removed 98% of the undissolved soap across a wide range of feed flowrates and soap concentrations during the trial period. Soap removal efficiency and separator stability were important criteria for success. Increasing soap removal translates to more CTO revenue and reduces fouling in the evaporators, both important to the economics of our mill," said Cone.

The BLiSS system will operate in parallel to the mills' existing soap skimmer tank. "Adding centrifugal separation eliminates the need to install a new larger soap skimming tank in the future. The option exists to add more separators and potentially eliminate the need for tank-based soap skimming if it is more economical for the mill. This technology better positions the mill for future capacity expansions using a smaller footprint," Cone added.

As a result of removing all or most of the soap from the black liquor, the BLiSS system, which is being marketed exclusively in the United States by Arbor Chemicals, has the added benefit of debottlenecking recovery boiler limited mills, thereby increasing pulp production and adding to the competitive advantage of the mill. Start-up of the BLiSS system is anticipated in Q4 2021. Masood Akhtar, President and co-founder of BDC, commented "This project is a success story that benefits all participants. Increasing the production of pulp and the corresponding renewable chemicals, while reducing per ton costs, will always be good for improved sustainability for the Forest Products industry."

Green Bay Packaging is a pulp and paper company based in Green Bay, Wisconsin. GBP produces corrugated shipping containers, folding cartons, and coated label products.

Alfa Laval is an international company providing equipment and technology in the areas of heat transfer, separation and fluid handling.

Head Engineering provides technology and services to the Pulp & Paper, renewable fuels, fats and oils and biotech industries. Arbor Chemicals is the exclusive licensee of Head Engineering's patented BLiSS technology and is currently deploying the BLiSS system in pulp and paper mills across the United States.

Arbor Chemicals offers co-products solutions to pulp and paper mills, including funding and installing infrastructure projects at mills to enhance performance and sustainability.

Biorenewable Deployment Consortium is a Wisconsin-based organization with international membership dedicated to assisting the Forest Products Industry in utilizing leading-edge bioprocesses to achieve the highest value from their biomass streams.



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