

ADVANCED MATERIALS AND CHEMICALS PROGRAM HIGHLIGHTS

WEST FRASER MILLS LTD. – HINTON PULP LIGNIN RECOVERY PLANT AMC-14-001

The most innovative opportunity available to the pulp industry in Canada is expansion as a biorefinery, turning wood fibre into chemicals or energy products. West Fraser's Hinton Pulp mill has commissioned a new facility that produces lignin powder, a versatile chemical product that comes from trees. Lignin, a by-product of the pulping process, is currently burned as a fuel source for mills.

Alberta Innovates supported construction of the lignin recovery plant in Hinton with \$3 million from the Advanced Materials and Chemicals program under Project AMC-14-001. "Alberta Innovates has provided good support and great leadership," said Dave Pors, Energy Manager, Hinton Pulp, a division of West Fraser. "I think it is innovative to have us repay half our grant to add funding to the Alberta Innovates follow-on Lignin Challenge funding program that supports development of more opportunities for lignin." This has led to sixteen research projects funded under the Lignin Challenge program, which use samples of lignin from the Hinton plant to explore ways of creating new green products.

Commissioned in 2016, the \$30-million Hinton plant can produce up to 30 tonnes per day of lignin powder. More than 200 organizations in Edmonton, Europe, China, Japan and South America have received lignin samples to research ways to develop it as a binder in briquettes, soil stabilization formulations, polyols for polyurethane and foams, foam insulation, coatings, roofing products, dust suppression, sludge stabilization and dispersants.

Such interest is driving the first Pulp and Paper Technical Association of Canada International Lignin Conference at the Alberta Innovates Millwoods site from September 18 to 20, 2018.

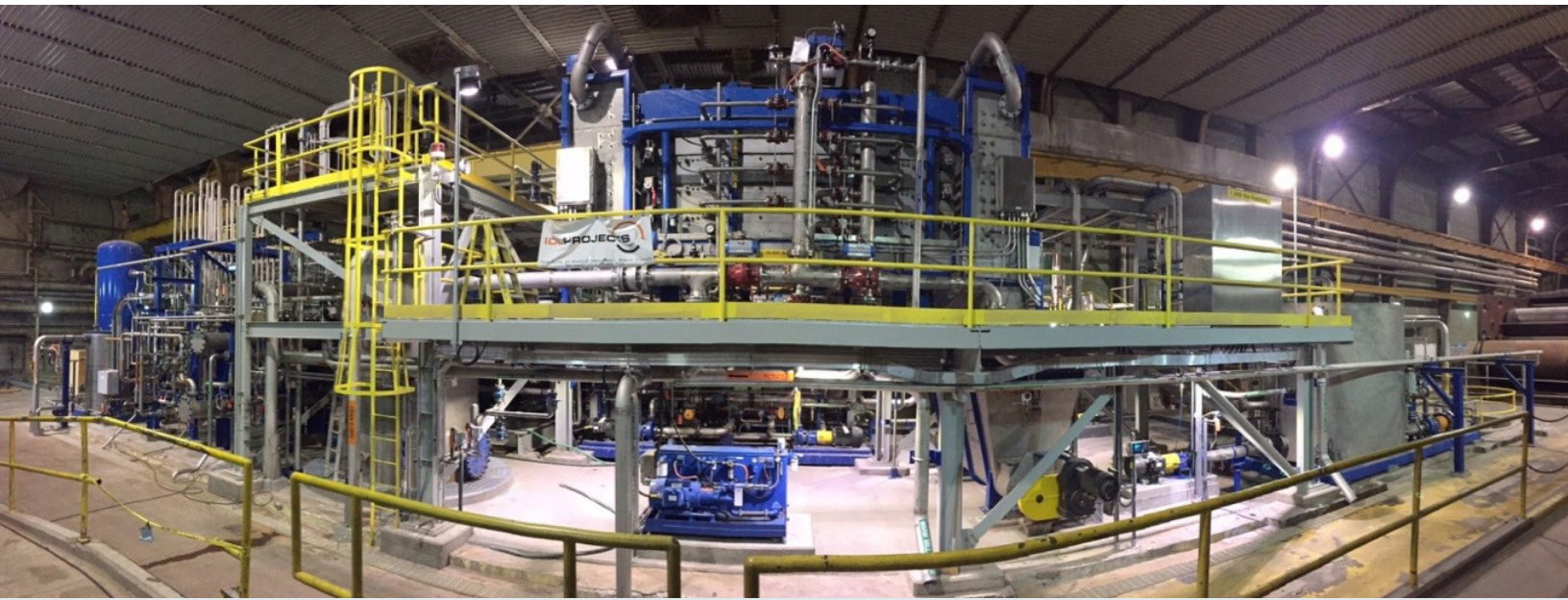


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The West Fraser Hinton Pulp Lignin Recovery Plant is Canada's first commercial-scale kraft lignin production facility and the only plant in the world using the LignoForce System™ technology to produce lignin powder with high purity and consistency.

Source: Hinton Pulp, a division of West Fraser

Most importantly for West Fraser, Hexion, a world leader in specialty chemicals and supplier of adhesive resins to the global panel board industry, is very close to commercializing lignin resin. Hexion is working very closely with the Hinton plant on new lignin resins as a replacement to conventional resin in engineered wood products such as plywood and oriented strand board. It has expanded its R&D lab in Edmonton and hired several chemistry scientists from the University of Alberta. Hexion has started planning for construction of a commercial manufacturing plant that, by fall of 2019, will need a much higher volume of lignin powder from the Hinton plant. West Fraser estimates that every tonne of lignin substituted in conventional phenol formaldehyde resins prevents one tonne of carbon dioxide emissions from entering the atmosphere.



Lignin powder.

Source: Hinton Pulp, a division of West Fraser

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