

US EPA ARCHIVE DOCUMENT

EPA Project XL: Georgia-Pacific Black Liquor Gasification System

WHAT IS PROJECT XL?

Project XL, which stands for eXcellence and Leadership, is a national initiative that tests innovative ways of achieving better and more cost-effective public health and environmental protection. The information and lessons learned from Project XL are being used to assist the U.S. Environmental Protection Agency (EPA) in redesigning its current regulatory and policy-setting approaches. Project XL encourages testing of cleaner, cheaper, and smarter ways to attain environmental results superior to those achieved under current regulations and policies, in conjunction with greater accountability to stakeholders. It is vital that each project tests new ideas with the potential for wide application and broad environmental benefits. As of May 2000, twenty-five pilot experiments are being implemented and approximately thirty additional projects are in various stages of development.

SUMMARY OF THE GEORGIA PACIFIC PROJECT

Georgia-Pacific Corporation's pulp and paper mill in Big Island, Virginia, will test the effectiveness of a new gasification technology under their signed agreement with EPA. Georgia-Pacific owns and operates the mill that produces the components of cardboard and emits pollutants during the manufacturing process. In April 1998, EPA proposed a Maximum Achievable Control Technology (MACT II) standard which, if promulgated, would regulate hazardous air pollutant (HAP) emissions from combustion sources specifically associated with the recovery of pulping chemicals from spent pulping liquor (aka black liquor). Presently, Georgia-Pacific combusts concentrated black liquor in two high temperature recovery smelters. To meet the standard proposed for pulp and paper mills in the MACT II regulation, Georgia-Pacific proposes to replace the aging smelters with a black liquor gasification system. This would be the first commercial application of the innovative gasification technology in the United States. Georgia Pacific's project, EPA's 25 Final Project Agreement, was signed on May 31, 2000.

SUPERIOR ENVIRONMENTAL PERFORMANCE

This new gasification technology has the potential to produce much lower air emissions compared to traditional technology, eliminate smelt-water explosion hazards, greatly improve energy conversion, and reduce operation and maintenance costs. The emissions expected to be reduced include: particulates, Sulfur Dioxide, Total Reduced Sulfur, Nitrogen Oxides, Volatile Organic Compounds, Carbon Monoxide, HAPS, and greenhouse gases, specifically Carbon Dioxide. Successful demonstration of the technology at Georgia-Pacific's Big Island mill would pave the way for widespread use in the nation's pulp mills, thereby multiplying many times over the environmental, energy, and cost benefits.

FLEXIBILITY

This XL Project requires regulatory flexibility for the smelters in the mill's existing chemical recovery system. Because black liquor gasification is a new technology not yet commercially demonstrated, there is some risk that the technology will not be successful or will not work as well as anticipated. Under these scenarios, Georgia-Pacific's existing smelters must continue to operate and may have hazardous air pollutant emissions in excess of the EPA MACT II performance standard. Under Project XL, Georgia-Pacific seeks allowance for such emissions for a set period of time (until either the new system is working properly or, in the event of gasification system failure, a conventional recovery system can be built to replace the smelters).

Page 1

STAKEHOLDER INVOLVEMENT

To encourage stakeholder involvement, public meetings were held in Bedford, Lynchburg, and Big Island. Information about the project was distributed to local newspapers, radio, and TV stations. A series of eight stakeholder meetings were held to discuss the Final Project Agreement. The first two meetings included tours of the Big Island facility and detailed briefing and discussions of the Mill's operations, manufacturing process, the proposed gasification system process and the anticipated air quality improvements associated with the proposed new agreement.

APPROACHES TO BE TESTED

- " Will Georgia-Pacific's installation of a black liquor gasification system provide greater energy conversion efficiency and operation cost savings, while improving safety and environmental performance.
- " Can EPA successfully promote new, environmentally beneficial technology through regulatory flexibility?

CONTACTS

EPA Region 3:	Steven J. Donohue	215-814-3215
EPA Headquarters:	David Beck	919-541-5421
state Contact:	Tom Berkeley	804-852-5120
Project Sponsor:	Pat Moore	804-299-5911 ext. 286

FOR ELECTRONIC INFORMATION

More information about Project XL is available on the Internet at: <http://www.epa.gov/projectxl>
or via Project XL's Information Line at 202-260-5745