

Canfor Pulp Limited Partnership

Green Transformation Projects - Phase 2



Background

The *Pulp and Paper Green Transformation Program* (PPGTP) of Natural Resources Canada (NRCan) seeks to improve the environmental performance of Canada's pulp and paper industry. Program funding was allocated to operations through credits assigned on the basis of black liquor processed beginning January 1, 2009. Canfor Pulp has been allocated credits of \$122.2 million. These credits may be used to finance approved capital projects with environmental benefits, such as investments in energy efficiency, or the production of renewable energy from biomass. All projects must be implemented by March 31, 2012 to benefit from the program.



Federally funded projects trigger a Screening Level Assessment in terms of the Canadian Environmental Assessment Act (1992, c. 37). In terms of the Act, NRCan will be the Responsible Authority for environmental assessments of PPGTP projects. The projects will not trigger review under the BC Environmental Assessment Act (SBC 2002, c. 43) and will be implemented within the constraints of existing environmental permits. Canfor Pulp & Paper has contracted Rescan Environmental Services Ltd to assist the company with preparation of the Environmental Impact Statements for its PPGTP projects.

Invitation to Comment

Canfor Pulp Limited Partnership is inviting Interested and Affected Parties to contribute to the scope of the Screening Level Assessments by reviewing the project information above and submitting comments or potential issues to the Environment Manager, Canfor Pulp & Paper by email (Glenda.Waddell@canforpulp.com) or by fax (250-561-3668) before **May 14, 2010**. These submissions and responses will be included in the Environmental Impact Statement prepared for each project.

The final Environmental Impact Statements will be available upon request. NRCan will be responsible for posting notifications on the CEAR website once the documents are submitted to the agency. The reports are expected to be available for comment in June/July 2010. All comments on the final Environmental Impact Statements must be directed to NRCan.

Proposed Projects

Canfor Pulp Limited Partnership (CPLP) is actively pursuing a number of projects that will improve the environmental performance and/or energy efficiency of its operations in Prince George. These projects will be submitted to Natural Resources Canada to be considered for funding under the Pulp & Paper Green Transformation Program (PPGTP).

The first two CPLP projects submitted to Natural Resources Canada (NRCan) under the PPGTP were the PG Pulp Mill Odor Reduction Project and Increased Biofuel Power Generation Projects. Environmental Impact Statements were prepared for both of these projects as a part of the submissions.

CPLP indicated in the November-2009 Information Brief that other PPGTP eligible projects were also under development and that further information on these projects would be made available once their design had progressed sufficiently. CPLP is now engineering the following capital projects. These projects had not received final corporate approval at the date of this Information Brief.



Northwood Pulp Mill Green Transformation Project

The Northwood #1 Recovery Boiler is the largest single point source of pulpmill odour in Prince George. The proposed Northwood Pulp Mill Green Transformation Project proposes upgrades to several systems associated with the #1 Recovery Boiler process to 'Best Achievable Technology'. A key environmental benefit of the project will be an estimated reduction of 'odourous' "Total Reduced Sulphur" (TRS) compounds by 70% from current levels.

This project will also have a number of other important environmental benefits, including reduction of particulate emissions from the #1 Recovery Boiler by 50% and reduced fossil fuel (natural gas) consumption. Dust collected from the precipitator and chemicals recovered in the #1 Recovery Boiler are recycled in the production process so no additional solid waste is expected to result from the upgrade.

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Although the project will result in several environmental improvements, the specific environmental concerns regarding formaldehyde in the local air shed, are also important to Canfor Pulp Limited Partnership and its employees. As a result of the local concerns regarding formaldehyde, the predicted formaldehyde emissions from the #1 Recovery Boiler Project were evaluated. The project is not expected to contribute any measureable formaldehyde to the Prince George air shed. The predicted formaldehyde in the stack is well below the accepted workplace exposure limits with 270% less than the long term workplace exposure limit and 740% less than the short-term workplace exposure based on the US OSHA standards. In addition, immediately after leaving the stack, ambient levels of formaldehyde that may result from these predicted stack emissions, will be reduced even further through natural dispersion.

This project represents a fundamental improvement to the efficiency and long-term viability of the Northwood Pulpmill.

The Northwood Pulp Green Transformation Project involves the following improvements:

- Upgrading of the #1 Recovery Boiler
- Installation of a new concentrator to reduce TRS emissions
- Installation of a new Electrostatic Precipitator to reduce particulate emissions



PGI Mills Green Transformation Project

The Prince George and Intercon (PGI) Mills Green Transformation Project involves the following upgrades:

#1 Power Boiler Precipitator

Steam production from the #1 Power Boiler at the PG Pulp Mill is currently constrained by particulate emission limits in the air permit. Installation of a new Electrostatic Precipitator (ESP) to process the flue gas from the boiler will reduce particulate emissions and thus enable the boiler to generate approximately 20 t/hr of additional steam from biomass. This steam will be used to generate approximately 4 MWh/h of additional biomass power from the PG Pulp Mill turbo generator.

The current average particulate emissions from the #1 Power Boiler are approximately 220 mg/m³ (23.8 kg/hr), representing the single largest source of particulate from pulp mill sources in the Prince George air shed. Particulate emissions from the #1 Power Boiler, after implementation of the ESP project, are expected to average 60 mg/m³ (7.9 kg/hr). The expected ESP performance on particulate reduction represents the typical performance from other recent power boiler ESP installations. The additional steam generation from the #1 Power Boiler will result in a 60% increase in fly ash to landfill from the #1 Power Boiler. This increase represents a 3.6% increase in the total volume sent to landfill from all PG and Intercon Mill sources.

Upgrade Boiler Feed Water Systems

Water is obtained from the Nechako River for steam production in the boilers. To prevent the accumulation of undesirable materials, a significant portion of the heated water is released as "blow down" resulting in heat and water losses. By improving water quality through a Boiler Feed Water System Upgrade, it is estimated that boiler blow down rates would be reduced to 1.5% from the current average of 8%. This represents an improved energy efficiency of approximately 650,000 GJ/year. The reduction in the blow down rate is also predicted to decrease the effluent outfall temperature by 0.5°C. Other possible benefits include reduced chemical treatment costs, and savings due to reduced turbine generator fouling at the PG and Intercon Pulp Mills. These benefits would be derived at all five boilers at the PG Pulp and Intercon sites.

The new facilities will be located within the plant footprint. The completion of these projects will involve:

- Building new raw water treatment and water demineralization facilities to process Nechako River water utilized for boiler feed water
- Installation of a new precipitator for the #1 Power Boiler at the PG Mill