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Canfor Pulp Limited Partnership
(Prince George Pulp and Paper Division)
PO Box 6000
PRINCE GEORGE BC V2N 2K3

Attention: Glenda Waddell, Environmental Manager

Dear Glenda:

RE: SUPPORT FOR PRINCE GEORGE PULP MILL #1 POWER BOILER PRECIPITATOR AND BOILER FEED WATER SYSTEM PROJECTS

This letter is in response to Canfor Pulp Limited Partnership (CPLP)'s request for support of the Prince George Pulp Mill Power Boiler Precipitator and Upgrade of Boiler Feed Water System projects.

Prince George Pulp Mill Power Boiler Precipitator Project - #1 Power Boiler Precipitator

Air quality is a significant issue for Prince George residents. Particles less than 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$) are of particular concern, as exposure to these particles can lead to negative health effects. Recognizing that there is no identified safe threshold for particulate matter, the Province of British Columbia has adopted provincial objectives for $PM_{2.5}$ (daily average = 25 ug/m3; annual objective = 8 ug/m3) and a long term voluntary planning target to promote continuous improvement (annual objective = 6 ug/m3). The Province considers fine particulate matter the most important outdoor air pollutant from a public health perspective.

In previous years the Ministry of Environment (MOE) ambient air monitoring stations have routinely measured levels in excess of the provincial and federal air quality objectives. The ambient particulate matter concentrations in Prince George continue to be one of the highest in the province.[1] In 2009, seven days exceeded the provincial objective for the daily average of

[1] Ministry of Environment, Environmental Quality Section, "2008 Annual Air Quality Report for the Prince George Airshed".

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$PM_{2.5}$ of 25 ug/m3. The maximum concentration for $PM_{2.5}$ on a single day was 45 ug/m3. In 2009 at the downtown monitoring site in Prince George the annual average for $PM_{2.5}$ was 6.94 ug/m3 based on a TOEM continuous monitor, which has a tendency to underestimate levels during the winter season. This level exceeds the provincial planning target. Air Quality Advisories are issued by Northern Health and the MOE. They are a management tool to inform the public of degraded or deteriorating air quality. Air Quality Advisories were in effect for 15 days in 2009, and were related to high levels of particulate matter.

In the Prince George air shed there are approximately 40 industrial sources that emit fine particulate matter and numerous other commercial, mobile, residential and open burning sources. The #1 Power Boiler at Prince George Pulp and Paper Mill is one of the larger contributors of particulate from an individual industrial source in the Prince George air shed. The #1 Power Boiler is located within 4 km of the downtown core of Prince George, and is one of most visible sources from downtown. According to the existing waste management permit the #1 Power Boiler is authorized to discharge approximately 363 tonnes of particulate on an annual basis, although in 2009, the actual estimated quantity emitted was likely around 234 tonnes based on stack testing. In 2009 the maximum quarterly sample from #1 Power Boiler measured 37.6 kg/hr (Q1, 2009) compared to a permit limit of 41.4 kg/hr. Although in compliance with the current permit limits, the limits do not reflect the use of Best Achievable Technology (BAT) or the capture efficiency of the smaller particulates of concern. Electrostatic precipitators (ESPs) are significantly more efficient at removing $PM_{2.5}$ and PM_{10} than the existing cyclone technology. The desire to upgrade this source with an electrostatic precipitator to reduce particulate is consistent with current MOE policy. The existing permit limit for the #1 Power Boiler accounts for about 5% of all particulate matter from permitted industrial sources in Prince George. CPLP anticipates that with the installation of an ESP, the authorized discharge levels (which reflect potential capacity) may be reduced by approximately 80% compared to present permitted concentrations. This is equivalent to a reduction of potentially 293 tonnes per year.

Furthermore, recent modeling and research work conducted by PGAIR shows that the #1 Power Boiler has one of the largest particulate contributors to the downtown monitoring site compared to other point sources from permitted facilities. Reductions in particulate matter sources are critical and imperative to reduce the ambient particulate levels in Prince George to improve air quality within this air shed.

CPLP has taken the initiative to set up ambient monitors in the air shed to measure the effectiveness of the planned changes by measuring pre and post construction ambient levels. These stations along with the established ambient monitoring network in Prince George will assist in measuring the changes in ambient particulate matter levels. CPLP's approach to monitoring the effectiveness of the changes is welcomed by the MOE; the ambient air data is important to plan for future improvements.

Although there will be a significant reduction in the air emissions, CPLP has also identified that there will be an increase in ash volume from the power boiler. The ash is currently managed and regulated under their current waste management refuse authorization which allows landfilling.

Under the *Environmental Management Act*, the proposed changes to the air discharges from the power boiler require an amendment to the existing waste management permit to reflect the change in pollution control works and the improved emission limits. CPLP has submitted a permit amendment application, and it is expected that a decision on this amendment will follow shortly.

Upgrade of Boiler Feed Water System Project - Boiler Feed Water

The effluent treatment system for the Intercon and Prince George Pulp and Paper mills discharges to the Fraser River, approximately 2.6 km upstream from the convergence with the Nechako River.

Recent years have seen a steady rise in discharge temperatures where peak values are at the limit of the permitted values. In 2009, the maximum reported temperature of the discharge from the basin outlet was 38°C. In 2009 because of high temperatures from the final effluent, CPLP was granted, after consultation with Environment Canada, an increase in the maximum allowable discharge temperature from 38°C to 40°C for a temporary period only.

The upgrade of the boiler feed water system is expected to significantly reduce effluent temperature and reduce the risk of thermal damage to the environment.

No waste discharge permit amendments are required for the feed water project however the MOE recommends this project be approved for Green Transformation funding.

I wish you all the best with Green Transformation Project approval process and the implementation of ESP and feed water systems. Both projects are anticipated to have direct reductions in discharge limits, enhance environmental protection and set an example of continuous improvement through the utilization of BAT. The projects are given my full support.

If you require further information or wish to discuss this matter, please contact me or my staff at 250-565-6135.

Yours truly,

Dean Cherkas, P.Ag.
Regional Manager
Environmental Protection Division
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:msb