CANADIAN Kraft Paper
PO Box 1590 • The Pas, Manitoba • R9A 1L4 Telephone (204) 623-7411

June 26, 2019 TM-9916
Code #07-CL-009

Director, Environmental Approvals Branch
Manitoba Sustainable Development
1007 Century Street
Winnipeg, Manitoba
R3H 0W4

Re: Proposed Bypass Line for the Effluent Clarifier at Canadian Kraft Paper

To Whom It May Concern:

This letter is to request approval for Canadian Kraft Paper Industries Ltd. (CKP) to install a permanent bypass line for the effluent clarifier. This bypass will be a fully engineering and certified project.

As shown in the attached drawing, the configuration of the CKP effluent treatment system is quite unique, in that there are two stages for the removal of suspended solids - the effluent clarifier and the settling basins. The effluent clarifier was designed to only treat the effluent from the pulp and paper mill sewers. The recausticizing and power group sewers are pumped directly to the ring of the clarifier (i.e. bypassing the clarifier).

The pulping group and machine room sewers are combined in the north side of the diversion chamber and can be pumped either into the clarifier or directly to the ring. The effluent clarifier is put into service in the winter months in order to avoid any potential freeze/thaw damage. For the remainder of the year, all of the mill effluent is generally directed to the ring of the clarifier. In addition, the empty clarifier is used as a back up spill pond during major maintenance shutdowns. While the clarifier has been out of service over the past few summers, patchwork on leaks has been done. When the effluent clarifier is out of service, all of the mill effluent is directed to the ring of the clarifier, so it not possible to fully bypass the clarifier structure. With the current set up, it is very difficult to repair the ring (launder) of the clarifier.

After the effluent leaves the clarifier, it is flows to in the settling basin and then to the aerated lagoon for further treatment. Only one settling basin is operated at any given time.

Since, the solids in the pulp and paper mill effluent is primarily fibre, the sludge removed was originally sent back to the mill and added into the paper. Sludge has not been returned to the mill since the early 90's, due to its detrimental impact on paper quality, as well as due to the slime issues it caused in the process. As such, even when the effluent clarifier is in service, any sludge that is settled out is pumped forward to the settling basin.

The effluent clarifier is in poor condition and needs major refurbishing. This refurbishing work was planned to begin in 2019, however, the scope and quote received from our contractor was substantially more than expected. As such, CKP would like to investigate other options for sludge removal. The effluent clarifier needs to be fully bypassed before this work can be done. It cannot remain in service without further leaks developing. In view of

how the clarifier is actually operated, bypassing the clarifier will actually change very little with the operation of the effluent treatment system.

CKP is investigating options into alternative beneficial uses for the effluent treatment system sludge. A pilot project is in process to evaluate the effectiveness of the sludge as a growing media. Another option that is being investigated is mixing the primary sludge with hog fuel and burning it in the power boiler. Both the primary sludge and the hog fuel are biomass fuels, which would partially replace the use of fossil fuel in the power boiler.

In order for the sludge to be used as a biomass fuel on site, it would likely need to be removed from the effluent system on a continuous basis, as opposed to once a year when the settling basin is cleaned out. Currently, the clarifier would be the best location for this to occur. It is very important that the clarifier retrofit be designed properly, so that sludge can be removed from the system at this point.

The first step in this process is to verify that it is feasible to mix the primary sludge with hog fuel and burn it in the power boiler. CKP submitted a letter requesting for approval to conduct a sludge burning feasibility trial on June 21, 2019. We are proposing to conduct this trial in mid-July.

Since the impact of bypassing the effluent clarifier will have minimal impact on the overall performance of the effluent treatment, CKP requests that an adequate amount of time be given to properly assess our options for sludge removal and disposal before proceeding with refurbishing the effluent clarifier. As such, we are requesting that the bypass line be approved as a permanent addition to the effluent treatment system. Having a permanent bypass line in place will facilitate future repairs to the clarifier structure. It is expected to take at least two years to complete the assessment and to design the new sludge removal system. A second Notification of Alteration will be submitted prior to making any changes to the effluent clarifier.

CKP would like to thank your Department for working with our company to address the challenges that we facing to ensure the long term viability of this operation. If you have any questions or require any further information, please do not hesitate to contact me at (204) 623-8587 or Tamsin Patience, Technical Manager at (204) 623-8619.

Sincerely,

Jayne Sheppard, P. Eng.
Environmental Superintendent

cc: Asit Dey, Manitoba Sustainable Development, Winnipeg
Eshetu Beshada, Manitoba Sustainable Development, Winnipeg
Cristal Huculak, Manitoba Sustainable Development, The Pas
Tamsin Patience
Andre Murphy
EC-13

Notice of Alteration Form

Manitoba
Sustainable Development

Client File No. : 3023.00	Environment Act Licence No. : 1339 RR

Legal name of the Licencee: Canadian Kraft Paper Industries Ltd.

Name of the development: Canadian Kraft Paper Industries Ltd.

Category and Type of development per Classes of Development Regulation:

Forestry — Pulp and paper mills

Licencee Contact Person: Jayne Sheppard, Environmental Superintendent
Mailing address of the Licencee: PO Box 1590
City: The Pas Province: MB Postal Code: R9A 1L4
Phone Number: (204) 623-8587 Fax: (204) 623-5995 Email: jayne.sheppard@ckpi.com

Name of proponent contact person for purposes of the environmental assessment (e.g. consultant):

Phone: Fax:	Mailing address:

Email address:

Short Description of Alteration *(max 90 characters):*

Install a bypass line for the effluent clarifier.

MANITOBA SUSTAINABLE DEVELOPMENT
ENVIRONMENTAL APPROVALS BRANCH
JUL 02 2019
RECEIVED

Alteration fee attached: Yes: ☐ No: ☑

If No, please explain: It is necessary to install the bypass line in order to repair the clarifier.

Date: 2019-06-26	Signature: Jayne Sheppard Printed name: Jayne Sheppard

A complete Notice of Alteration **(NoA)** consists of the following components:

- ☑ **Cover letter**
- ☑ **Notice of Alteration Form**
- ☑ **2 hard copies and 1 electronic copy of the NoA detailed report** (see "Information Bulletin - Alteration to Developments with Environment Act Licences")
- ☐ **$500 Application fee, if applicable** (Cheque, payable to the Minister of Finance)

Submit the complete NoA to:

Director
Environmental Approvals Branch
Manitoba Sustainable Development
1007 Century Street
Winnipeg, Manitoba R3H 0W4

For more information:

Phone: (204) 945-8321
Fax: (204) 945-5229
http://www.gov.mb.ca/sd/eal

Note: Per Section 14(3) of the Environment Act, Major Notices of Alteration must be filed through submission of an Environment Act Proposal Form (see "Information Bulletin – Environment Act Proposal Report Guidelines")

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Notification of Alteration Report – Effluent Clarifier Bypass Line

Project Overview:

It is proposed to install a bypass line for the effluent clarifier, so that the effluent clarifier can be taken out of service until it is either repaired or replaced. This project will be a fully engineered and certified project and is scheduled to be completed in the second half of 2019.

The effluent treatment system includes:

- A concrete clarifier
- Two settling basins (only one is in operation at a time).
- Aerated lagoon (also called an aeration stabilization basin)
- Emergency spill pond

As shown in the attached drawing, the configuration of the CKP effluent treatment system is quite unique, in that there are two stages for the removal of suspended solids - the effluent clarifier and the settling basins. The effluent clarifier was designed to only treat the effluent from the pulp and paper mill sewers. The recausticizing and power group sewers are pumped directly to the ring of the clarifier (i.e. bypassing the clarifier).

The pulping group and machine room sewers are combined in the north side of the diversion chamber and can be pumped either into the clarifier or directly to the ring. The effluent clarifier is put into service in the winter months in order to avoid any potential freeze/thaw damage. For the remainder of the year, all of the mill effluent is generally directed to the ring of the clarifier. In addition, the empty clarifier is used as a back up spill pond during major maintenance shutdowns. While the clarifier has been out of service over the past few summers, patchwork on leaks has been done. When the effluent clarifier is out of service, all of the mill effluent is directed to the ring of the clarifier, so it not possible to fully bypass the clarifier structure. With the current set up, it is very difficult to repair the ring (launder) of the clarifier.

After the effluent leaves the clarifier, it is flows to in the settling basin and then to the aerated lagoon for further treatment. Only one settling basin is operated at any given time.

Environmental Effects:

a) Air Emissions – The TRS (total reduced sulphur) emissions from the effluent treatment system are expected to slightly decrease due to the installation of the effluent clarifier bypass line, since one less basin will be in service.

b) Discharges to Water – The installation of a bypass line for the effluent clarifier is not expected to change the quality of the final effluent being discharged.

The recausticizing and power group sewers would continue to be pumped directly to the settling basin. For the times when the clarifier is in service, any of the sludge that is settled out in the clarifier is pumped forward to the settling basin, so there is no real change to current operation. There may be an

improvement in the performance of the settling basin because the solids will be sent to the settling basin at a continuous rate instead of in slugs from the clarifier.

c) Solid Waste – No significant change to the amount of solid waste produced by the effluent treatment system is expected with the installation of an effluent clarifier bypass line. Currently, any solids that settle out in the effluent clarifier are pumped forward to the settling basin. The sludge is then removed every one to two years from the settling basin.

   The clarifier settling stage would be skipped with the bypass line. All of the solids would settle out directly in the settling basin. The settling efficiency of the settling basin is expected to improve, since the solids would enter at more of a constant pace. When the sludge is pumped forward from the effluent clarifier, the increase in loading reduces the settling efficiency of the settling basin.

d) Hazardous Waste – This project will not result in the production of hazardous waste.

e) Ambient Noise – No change to the ambient noise level from the site is expected due to this project.

a) Energy – This project will not result in a significant change to the amount of energy used on site.

f) Water Usage - This project will not result in a change in water usage on site.

g) Chemical Usage - This project will not result in a change in process chemical usage on site.

h) Yield - This project will not result in a change in yield of pulp or paper.

i) Other Environmental Benefits – A permanent bypass line will help with the logistics of making repairs to the clarifier in the future.

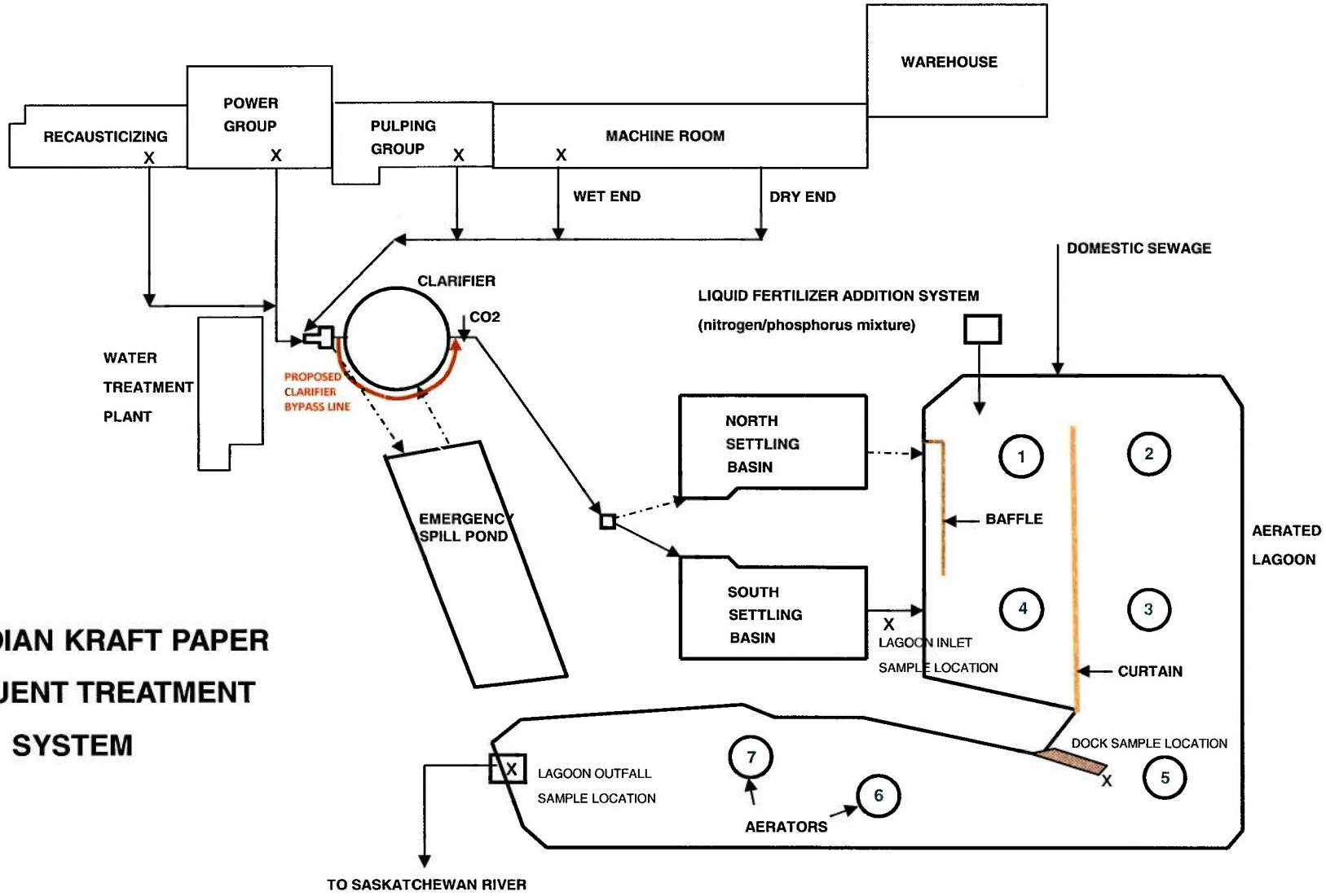
Summary:

In summary, the installation of a permanent bypass line for the effluent clarifier will not result in a significant change to the performance of the effluent treatment system.

Jayne Sheppard, P. Eng
Environmental Superintendent

June 26, 2019

CANADIAN KRAFT PAPER EFFLUENT TREATMENT SYSTEM



X - SAMPLE LOCATIONS

Beshada, Eshetu (SD)

From: Jayne Sheppard <jayne.sheppard@ckpi.com>
Sent: August-06-19 9:57 AM
To: Beshada, Eshetu (SD) <Eshetu.Beshada@gov.mb.ca>
Cc: Dey, Asit (SD) <Asit.Dey@gov.mb.ca>; Tamsin Patience <tamsin.patience@ckpi.com>; Andre Murphy <andre.murphy@ckpi.com>
Subject: RE: Request for Approval - Proposed Bypass Line for the Effluent Clarifier at Canadian Kraft Paper

Hi Eshetu

The settling basin sludge is primarily pulp fibre, so it is quite similar to the hog fuel. The sludge will be mixed in at a low rate and will only make up a small percentage of the biomass being burned. Therefore, no significant changes to the air emissions from the power boiler are expected due to burning the sludge with hog fuel vs. burning only the hog fuel.

The purpose of this feasibility trial is to assess whether or not the sludge will burn properly when mixed with hog fuel. It is a very short trial, as such, we do not plan on conducting any stack testing. If the initial trial is successful, then it would be included in the next round of stack testing, which is tentatively scheduled for the summer of 2020.

Please let me know if you have any further questions.

Regards,

Jayne

Jayne Sheppard, P. Eng
Environmental Superintendent
Phone: (204) 623-8587 Cell: (204) 617-0348
PO Box 1590 The Pas, MB Canada R9A 1L4
Email: jayne.sheppard@ckpi.com
Website: www.canadiankraftpaper.com

From: Beshada, Eshetu (SD) <Eshetu.Beshada@gov.mb.ca>
Sent: Friday, August 2, 2019 1:13 PM
To: Jayne Sheppard <jayne.sheppard@ckpi.com>
Cc: Dey, Asit (SD) <Asit.Dey@gov.mb.ca>; Tamsin Patience <tamsin.patience@ckpi.com>; Andre Murphy <andre.murphy@ckpi.com>
Subject: RE: Request for Approval - Proposed Bypass Line for the Effluent Clarifier at Canadian Kraft Paper

Hello Jayne,

I have reviewed the NoA submitted. The proposed alterations are

1. to by-pass the effluent clarifier and

2. to perform a pilot project to assess the feasibility of burning the sludge from the clarifier in the power boiler as a supplemental fuel mixed with hog fuel.

Can you provide me any anticipated potential impact to the air emission from the power boiler due to burning the sludge. Is Canadian Kraft Paper Industries plan to assess any air emission impacts from the sludge burning during the proposed pilot study?

Regards

Eshetu Beshada, PhD, PEng.
Environmental Engineer
Municipal and Industrial Section
Environmental Approvals Branch

Ph: (204) 945-7023