



Interim Summary Report

Twin Rivers Paper Company Inc.

Edmundston, NB

March 2023
Prepared by:
Authorizations Branch
Department of Environment and Local Government

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Introduction

Section 5(1) of the *Public Participation Regulation - Clean Air Act* (PPR) requires the Minister of Environment and Local Government to make public, at least 60 days before the end of the public comment period, an “Interim Summary Report of Issues and Responses”. This document marks the mid-way point of the public comment period and is now available on the Department’s Internet Site or through any Regional Environment and Local Government Office.

The Department's Authorization Branch is responsible for summarizing the comments made and questions asked by the public to date and for providing responses to those comments and questions. The public continues to have the opportunity to identify new issues, as well as to comment on this Interim Summary Report and the Draft Approval, until the end of the public comment period on May 26, 2023.

The Department encourages anyone who wishes to make comments to provide them in writing so that there is a definitive record of the inquiries and issues being submitted under the PPR process. While staff will endeavor to respond to telephone calls, or other forms of inquiry, written comments are encouraged, so as to avoid the omission or misinterpretation of the information that the public wishes to submit.

Facility Information

Pulping operations began in Edmundston in 1917, when the Fraser family constructed a small ammonia-based sulphite mill at the confluence of the Saint John and Madawaska Rivers. Due to increasing demand for paper, and with its own reliable source of pulp, Fraser constructed a two-machine paper mill in Madawaska, Maine, in 1925. Although the Edmundston sulphite mill and the Madawaska paper mill have been expanded and upgraded several times, the two mills have continued to operate in this integrated manner for over 100 years.

In March 2023, as part of a divestiture, Twin Rivers Papers Company Inc. restructured the company’s core specialty papermaking assets, that being the Edmundston pulpmill and the Madawaska papermill into a new company named Twin Rivers Pulp Ltd.

Over the years, Twin Rivers Paper has become a leading manufacturer of lightweight and ultra-lightweight specialty publishing, packaging, label and converting papers, and currently operates the sulphite and groundwood mills in Edmundston, as well as 4 paper machines and an offline coater in Madawaska, Maine. Twin Rivers Paper acquired the paper manufacturing assets of Burrows Paper Corporation in 2016, strengthening its position as a market leader in the lightweight packaging, publishing and label markets. Twin Rivers Paper now operates 3 paper mills located in New York.

Today, Twin Rivers Paper’s Edmundston operation produces approximately 100 tonnes per day of groundwood pulp and 700 tonnes per day of magnesium-based sulphite pulp, both of which are pumped to the Madawaska finishing mill for conversion into printing and writing papers.

Twin Rivers Paper’s activities in New Brunswick include the operation of a woodyard, a groundwood pulpmill, a bleached sulphite pulpmill, a chemical recovery facility, a steam and power plant, and a remotely located effluent treatment lagoon in Saint-Basile.

The Twin Rivers Paper mill is considered to be a source under the *Air Quality Regulation – Clean Air Act*, and therefore, must apply for and receive an Air Quality Approval to Operate from the New Brunswick Department of Environment and Local Government. The pulpmill facility is then required to conduct its operations according to the Terms & Conditions outlined in the Approval. The Approval specifies the conditions felt necessary to prevent unfavorable air quality. The conditions are generally wide-ranging and may include such requirements as:

- limitations on operational parameters;
- requirements for testing and monitoring emissions from specific unit operations;
- requirements for testing and monitoring the ambient air quality surrounding the facility;
- requirements to operate air pollution control equipment;
- limits on the emissions that are approved to be released to the atmosphere;
- provisions for equipment upgrade and/or maintenance;
- requirements for environmental emergency and/or compliance reporting; and,
- other conditions aimed at minimizing the facilities impact on the environment.

The Air Quality Regulation authorizes the Minister of Environment & Local Government to issue an Approval for a specified period, not to exceed five years.

For more detailed information on the Twin Rivers Paper pulpmill facility, please refer to the Facility Profile, available on the Department's Public Information Access Internet Site or through any Environment & Local Government Office of the Department. Information is also available by contacting Twin Rivers Paper directly. The contact information and Internet site address are given at the end of this Interim Summary Report.

General Information About the Interim Summary Report

This Interim Summary Report includes comments received up to March 9, 2023 to allow sufficient time for the Department to consider the issues raised, to formulate responses, as well as to publish the information in both official languages. Comments received after this date will be included in the "Final Summary Report of Issues and Responses" which will be available following the public comment period which ends on May 26, 2023.

It is important to note that while the Interim Summary Report reflects all relevant public comment received by the Department, the names of specific individuals or groups who commented are not identified.

Activities Occurring since the Facility Profile was made public:

Since the Facility Profile was made public in January 2023, as part of a divestiture, Twin Rivers Papers Company Inc. restructured the company's core specialty papermaking assets, that being the Edmundston pulpmill and the Madawaska papermill into a new company named Twin Rivers Pulp Ltd. As well, Twin Rivers Paper submitted the Annual Air Quality Report for 2022. Summarizing:

- (1) Annual SO₂ emissions were 1212 tonnes versus the Approval limit of 2000 tonnes.
- (2) Annual PM emissions were 86.4 tonnes versus the Approval limit of 200 tonnes.
- (3) Greenhouse gas emissions will be submitted by June 1st.
- (4) The 98th percentile 24-hour average PM_{2.5} reading at the Cormier station was 22.5 µg/m³ with a 98th percentile at 37 µg/m³.

Summary of Comments Received from the Public and Responses Provided:

Summarized below are the issues raised that were related to air quality and their corresponding responses.

Issue 1: Soot fallout

Soot residual found on vehicles, how is the facility mitigating these events?

Response 1: Occasionally, the No. 8 Co-Gen biomass boiler experiences minor upset conditions, which may result in the dispersion of soot particles getting entrained in the stack plume. Soot is comprised of fine wood ash particles generated from wood/bark combustion in the No. 8 Co-Gen biomass boiler, that are usually captured by the boiler electrostatic precipitator (ESP).

The Co-Gen boiler stack is equipped with a continuous opacity monitor, any exceedances in the opacity meter are recorded in minutes and reported to Department in accordance with the Air Approval reporting requirements. In the event of a reportable incident, Twin Rivers Papers investigates the occurrence and mitigates the cause. By implementing corrective actions, Twin Rivers has reduced the number of soot events and reportable minutes by 90% since 2018. In 2022, Twin Rivers has reported a total of 71 reportable minutes (less than 0.014% of the time) in excess of opacity limits.

The Department will require Twin Rivers to search for improvements and develop a plan to prevent upset conditions that trigger any soot releases in the next draft Air Approval to Operate.

Issue 2: Mill odour

Residences affected by nuisance odours surrounding the mill, how is the facility alleviating this issue?

Response 2: Mill odours caused by the pulping process are often associated with upset conditions and can be from various sources. When complaints are received, Twin Rivers follows up with the complainant to obtain additional information as part of their investigation process.

Twin Rivers acknowledges the odours complaints and is actively working on short- and longer-term solutions to improve air quality in the area. A diluted non-condensable gas (DNCG) system was installed in July 2014 which captures 3 sources that contributed to 85% of the odour perceived at ground level at the mill. To reduce mill odours, the facility is required to operate a tank vent collection system, a scrubber that reduces SO₂ and an absorption tower that capture chlorinated gases.

In 2019, Twin Rivers made process changes in the Recovery Boiler and eliminated the use of recycled evaporator condensates in the Recovery Boiler scrubber. The scrubber now uses clean water, with the odorous evaporator condensates being discharged directly to the wastewater treatment system. In 2021, Twin Rivers received complaints regarding “rotten egg” odours from residents. Twin Rivers discovered that the Recovery Boiler had been operating at insufficient oxygen levels, and as a result was producing sulphur hydroxide (hydrogen sulfide or H₂S) under these conditions. Hydrogen sulfide is a gas which causes the “rotten egg” odour, the root cause for this problem was a false elevated boiler oxygen reading due to ambient air entrainment along the oxygen probe. This was caused by faulty installation of

the oxygen probe. Corrective actions were implemented, and the odor and complaints stopped immediately after.

Despite Twin Rivers efforts, the facility recognizes odours persist and will continue to seek process improvements to reduce mill odours. The Department will ensure Twin Rivers continues to search for improvements by implementing an odour mitigation plan if odours persist in the next draft Air Approval to Operate.

Issue 3: Edmundston Air Quality

Residences are concerned with the air quality in the city, what is being done to improve the welfare in the community?

Response 3: The mill's major sources of emissions are from the boilers and the chlorine dioxide generator stacks. As required in the Approval to Operate, these sources are equipped with continuous monitoring systems and emission limits for sulphur dioxide, nitrogen oxides, chlorine, and chlorine dioxide.

Since 2016, process improvements have been implemented to decrease reportable events for both chlorine dioxide and sulphur dioxide emissions. By improving the efficiency of the chlorine dioxide absorption tower and introducing production limiting controls to prevent exceedances, the hourly average for chlorine emission has been reduced from seventeen to one since 2017.

SO₂ exceedances prior to 2016 were mostly created during planned shutdowns and start-ups, where the recovery scrubber was stopped prior to treating all the digester off gases. Since then, the scrubber is kept in operation until all off gases are treated, reducing the amount of exceedance to zero for a 3-year span (2017-2019) vs fifteen from 2010 and 2016.

Ambient Air Quality

Ambient air quality is monitored at three locations within the City of Edmundston (two mill operated stations and one provincially owned station). Due to nature of the pulping process, Twin Rivers is required to monitor SO₂ and particulate matter emissions smaller than 2.5 microns (PM_{2.5}).

The Department installed an air quality monitoring station in November of 2017. This is a multi-parameter station, reporting all Air Quality Health Index (AQHI) parameters plus sulphur dioxide. For the entirety of the station's operation, up to and including the 2021 monitoring year, this monitoring station demonstrated zero exceedances recorded with respect to New Brunswick's provincially regulated air quality objective(s) for sulphur dioxide.

Data collected is automatically uploaded onto the Department's website and may be viewed directly by the general public at the following links:

https://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/air_quality/air_quality_monitoring.html

https://weather.gc.ca/airquality/pages/nbaq-006_e.html

In addition to the provincial objectives, two Canadian Ambient Air Quality Standards (CAAQS) for sulphur dioxide have been in place since 2020. The CAAQS were adopted by the Canadian Council of Ministers of the Environment (CCME) and provides a non-binding, common benchmark for air quality in all Canadian jurisdictions. For both 2020 and 2021, the calculated metrics for one of the standards (daily maximum 1-hour average concentration) at the Edmundston station were in exceedance. The values for the other metric (annual average concentration) were in achievement for both years.

Contact Information

For further information on the operation of Twin Rivers Paper Company Inc., please contact:

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