



# **Final Summary Report**

## **Twin Rivers Pulp Ltd.**

### **Edmundston, NB**

**June 2023**

**Prepared by:**

**Authorizations Branch**

**Department of Environment and Local Government**

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## **Introduction**

The *Public Participation Regulation – Clean Air Act* requires the Minister of the Department of Environment and Local Government to make public, at the end of the public comment period and at least 30 days before the Minister proposes to make an Approval effective, a “Final Summary Report” containing a summary of the air quality issues raised with respect to the Approval application and the Minister’s responses to those issues. In addition to the Final Summary Report, an “Intended Approval”, containing the Terms and Conditions proposed by the Minister, is also prepared and made available following the public comment period. The Final Summary Report and the Intended Approval for the Twin Rivers Pulp Ltd. pulp mill are now available on the Department’s Internet Site or through any of the Department’s Regional Environment Offices.

Where applicable, the responses in the Final Summary Report refer to the Terms and Conditions in the Intended Approval. In this way, the public has the opportunity to view the Department’s recommended action by the Approval holder to address various concerns through the Approval itself. Other responses would outline how issues are, or can be addressed through other means, including administratively, by improving operating practices, or by using pollution prevention or pollution control techniques.

## **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 Pulp Ltd. 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 Pulp Ltd. 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 Pulp Ltd. now operates 3 paper mills located in New York.

Today, Twin Rivers 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 Pulp Ltd. 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 and 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 and Local Government to issue an Approval for a specified period, not to exceed five years.

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

### **General Information About the Interim Summary Report**

This Final Summary Report includes all comments received during the second phase of the public comment period which began on March 9, 2023 and ended on May 26, 2023.

It is important to note that while the Final 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 Pulp Ltd. 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 submitted the Annual Air Quality Report for 2022. Summarizing:

- (1) Annual SO<sub>2</sub> 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 1<sup>st</sup>.
- (4) The 98<sup>th</sup> percentile 24-hour average PM<sub>2.5</sub> reading at the Cormier station was 22.5 µg/m<sup>3</sup> with a 98<sup>th</sup> percentile at 37 µg/m<sup>3</sup>.

## **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: Edmundston Air Quality**

**What is in the smoke and what is being done to improve the welfare of the community? Are the air monitoring stations sites strategically placed to capture the true emissions of the mill? How much does Twin Rivers operation contribute to NOx? What are some actions they can take to reduce their emissions?**

Response 1: 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 have emission limits for sulphur dioxide, nitrogen oxides, chlorine, and chlorine dioxide.

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 SO<sub>2</sub> and particulate matter emissions smaller than 2.5 microns (PM<sub>2.5</sub>).

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

The Department has requested an action plan for the reduction of emissions from their operations with the objective of meeting the Canadian Ambient Air Quality Standards (CAAQS) for SO<sub>2</sub> in the Intended Air Approval to Operate. In addition, Twin Rivers must ensure that the ambient air quality monitoring stations are operated and maintained in compliance with the New Brunswick Guidance Manual for Industry-Operated Ambient Air Quality Monitoring Networks. The existing monitoring stations are also undergoing an assessment to demonstrate that they are adequate to measure the impacts of the facility on surrounding air quality.

In their most recent statement, Twin Rivers has reported 61 kg/hr of NO<sub>x</sub> at the No. 8 Co-Gen Boiler which is below the allowable limit of less than 160 kg/hour when firing bark or combination fuels, or less than 140 kg/hour when firing oil.

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. Twin Rivers has reduced Greenhouse Gas Emissions (GHGs) by 86% and Sulfur Dioxide (SO<sub>2</sub>) emissions by 66% since 1990, derived 82% of their energy used from renewable sources (2019), and continue to sustain a 98% beneficial reuse rate for solid waste 45% of their electricity comes from self-generated steam.

## **Issue 2: Ozone**

**Where is the ozone coming from? What are the plans to reduce it year over year? Should the Department consider WHO guidelines?**

Response 2: Ozone is not emitted, but rather forms in the air as a result of a complex series of chemical reactions between other pollutants. As it takes time for these reactions to take place, much of the ozone experienced in NB communities is the result of long-distance movement of ozone rich air from other regions. This is why we typically see similar ozone levels across the NB monitoring network.

More information about air pollutants, including ground level ozone, is available in the following GNB publication: [IntroductionAirQuality.pdf \(gnb.ca\)](#)

Ozone formation is primarily driven by the emission of ozone precursors (NO<sub>x</sub> and VOCs). As mentioned above, much of NB's ozone is carried here from other regions. As such there is little that NB can do, directly, to reduce those precursor emissions. However, New Brunswick is addressing its own precursor emissions by targeting combustion emissions sources. This is reflected in NB's climate change action plan: [climate-change-action-plan.pdf \(gnb.ca\)](#)

Also, by adopting such plans, and continuing to abide by national and international agreements on pollution emissions (e.g., the Canada-US Air Quality Agreement (1991), and the Canada-Wide Acid Rain Strategy for Post 2000 (1998)), New Brunswick is encouraging our neighbouring jurisdictions to similarly curtail emissions, which reduces the transboundary movement of ozone into NB.

New Brunswick's air quality objectives are described in Regulation 97-133 under the *Clean Air Act*. Should government decide to revise the objectives, consideration would be given to expert opinion, such as those of the WHO.

## **Issue 3: Mill odour**

**Residences are affected by nuisance odours surrounding the mill, how is the facility alleviating this issue? How can we include olfactory notions in the approval process?**

Response 3: 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 SO<sub>2</sub> 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 H<sub>2</sub>S) 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. Corrective actions were implemented to the faulty installation of the oxygen probe.

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 work on improvements and if deemed necessary implement an odour mitigation plan as a condition in the Intended Air Approval to Operate.

#### **Issue 4: Noise and light pollution**

**Does the facility have plans to reduce excess lighting and noise?**

Response 4: In the event impacts are suspected by the Department to be adversely affecting any off-site receptor, Twin Rivers may be required to develop, submit, and implement a Prevention and Control Plan in accordance with a timetable established by the Department.

#### **Issue 5: Green House Gas Emissions**

**The trucks are noisy and give off diesel exhaust, are there plans to reduce these emissions by electrifying this fleet or other means?**

Response 5: Twin Rivers Pulp Ltd. has green house gas (GHG) reporting obligations to the Greenhouse Gas Reporting Program (GHGRP) at Environment and Climate Change Canada (ECCC). In addition, Twin Rivers is required to submit an Annual Greenhouse Gas Progress Report to the Department by July 1st of each year in accordance with the Guidelines for Greenhouse Gas Management for Industrial Emitters in New Brunswick.

The province released its 2022-27 Climate Change Action Plan (CCAP), Our Pathway Towards Decarbonization and Climate Resilience. Actions in the plan includes the continued regulation of greenhouse gas emissions from large emitters under the Output-Based Pricing System. Other related actions include, preparing an in-depth government GHG reduction plan by 2024 that will detail how it will achieve emissions reductions in the range of 20-40 percent in its buildings and fleet by 2030. It also calls for local governments to prepare greenhouse gas plans and report on their development and implementation progress. In addition, the plan includes EV light duty vehicle (LDV) 2025 and 2030 sales targets in line with the federal governments’ targets.

### **Issue 6: Air Quality Standards**

**How are air quality standards set and how often are they reviewed? Can we ask for a revision of certain standards? If yes, how? If not, why? Does the number of air quality complaints received in recent years have an effect on the renewal of the air quality operating approval? If not why?**

Response 6: The ambient air quality standards are stipulated in the *Air Quality Regulation – Clean Air Act*. The release of carbon monoxide, hydrogen sulphide, nitrogen dioxide, total suspended particulates, and sulphur dioxide are restricted so that ground level concentrations as prescribed in the Regulation are not exceeded.

During the Public Participation Process, the public is welcomed to submit comments regarding any revision to the air quality standards and impacts from the facility. Approval Holders are required to address complaints and provide updates to the Department. During the renewal process, active complaints are reviewed to determine if there are on-going issues that need to be addressed through implementing new requirements in the Approval to Operate.

### **Issue 7: American Air Quality Standards**

**Does the United States have to meet the same standards? Are pollutants that cross the border assessed?**

Response 7: The *Clean Air Act* applies to all businesses, industries, and individuals in New Brunswick only. The United States falls outside of the Department's jurisdiction, any emissions crossing the border would be handled by regional authorities at their discretion.

### **Issue 8: Public Participation Process**

**What communication process was followed by the department to make the process known to the public? The publications were made in which places (newspapers, radios, social media, etc.). Has the participation rate during the question period been calculated?**

Response 8: All documents related to the public participation process are published on the Department's website. To initiate the public process for renewal of the Approval for Twin Rivers, announcements were published in two provincial newspapers, the Telegraph Journal and l'Acadie Nouvelle, and a news release went out to the public: [Public participation process begins for renewal of air quality approval for Twin Rivers Paper Company \(gnb.ca\)](#).

The public comment period began on January 26 and concluded on May 26, 2023. An Interim Summary Report was published on the Department's website on March 23, 2023, and the Final Summary was published on June 29, 2023. During the 180-days public participation process, the Department received 18 submissions from the public.

For more information on the public participation process please visit our website: [Current Public Review Processes \(gnb.ca\)](#)

**Contact Information**

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