



NOV 29 2024

Ms. Honey Nampak
Technical Services Superintendent
Harmac Pacific Pulp Operation
Nanaimo Forest Products Ltd.
1000 Wave Place
Nanaimo BC V9X 1J2

Dear Ms. Nampak:

This letter is in response to the Notice of Objection and request for the establishment of a board of review that you filed on behalf of Harmac Pacific Pulp Operation regarding the proposed Order Adding a Toxic Substance (crude tall oil or CTO) to Schedule 1 to the *Canadian Environmental Protection Act, 1999* (CEPA). The proposed Order was published in the *Canada Gazette*, Part I, on February 18, 2023.

Subsection 332(2) of CEPA states that any person may file a notice of objection requesting that a board of review be established. As set out in subsection 333(1) of CEPA, the mandate of a board of review in this instance would be to inquire into the nature and extent of the danger posed by crude tall oil.

I have carefully considered the issues set out in your Notice of Objection, including your request to consider comments National Council for Air and Stream Improvement, Inc. (NCASI) provided to Environment and Climate Change Canada on February 8, 2023. As the information provided in your Notice did not raise sufficient uncertainty or doubt about the considerations underlying the proposed Order to warrant the establishment of a board of review, I deny your request and will not establish such a board. The considerations underlying the proposed Order relate to the ability of crude tall oil to have an immediate or long-term harmful effect on the environment or its biological diversity, as set out in section 64 of CEPA.

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In your Notice of Objection, you provided comments and data and suggested that the evidence presented on the potential sites of production or estimation of release or environmental occurrence of CTO at Canadian kraft mills in the final screening assessment was in error.

The CTO release estimates in the final screening assessment focus on CTO components in kraft mill effluents originating from intentional co-production of this substance at certain Canadian kraft mills and not inadvertent production by all kraft mills. These estimates were based on sound scientific evidence, including evidence from site visits to CTO production operations in Canada. The approach was both realistic and protective: it reflects the current CTO production in Canada and is not being applied to all kraft mills in this country in the final screening assessment as incorrectly stated in your Notice of Objection. The specific comments in the NCASI memorandum referred to in your Notice of Objection were also considered in this response, and responses to those comments are provided in the Annex to this letter. No new information was provided in your Notice that would raise sufficient uncertainty or doubt in the considerations underlying the proposed Order.

You also commented that significant updates were made in the finalization of the screening assessment without adequate stakeholder consultation on these changes and that the decision made by the regulatory authority was not supported by an evidence-based process.

The updates to which you refer clarified certain assumptions in the CTO co-production scenario presented in the draft screening assessment. These changes were guided by information and data received during the 60-day public comment period, by additional evidence gathered by Environment and Climate Change Canada's 2019 site visits to CTO production operations, and by information found in the scientific literature since the publication of the draft screening assessment. No new CTO release scenarios were included in the final screening assessment, and the scope of mills considered (i.e. those that co-produce CTO) remained unchanged. Finally, the conclusion of the screening assessment remained unchanged. Overall, the changes made to the final screening assessment did not represent a significant update to the ecological risk assessment methodology applied in the draft screening assessment, unlike you suggested in the Notice of Objection and therefore did not require further consultation.

The comments you submitted in your Notice of Objection were also considered in the context of the risk management instrument that will be developed for CTO, and Environment and Climate Change Canada will consult with stakeholders in the development of this instrument.

I appreciate your bringing your concerns to my attention. Please accept my best regards.

Sincerely,

A handwritten signature in blue ink, appearing to read "Steven Guilbeault". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

The Honourable Steven Guilbeault, P.C., M.P. (il/lui/he/him)

Encl.

Annex

The following provides responses to additional technical points highlighted in your Notice of Objection that were supported by NCASI memorandum dated February 8, 2023.

1. Comment: It is not appropriate to extrapolate a CTO concentration in condensates from suspected CTO component concentrations (i.e. resin acids) and to use that concentration to develop an emission factor to wastewater treatment for CTO.

Response: The extrapolation from resin acids to CTO is based on the scientific principle of mass conservation. The principle has been practiced in numerous fields, including risk assessment. By this principle, the quantity (e.g., concentration) of a whole substance can be calculated from the quantity of one of its components based on the proportion of that component. Resin acids are one of the three important CTO fingerprinting subclasses. The other two subclasses are fatty acids and neutrals (mainly sterols). Since the concentrations of the other two subclasses in condensates were not available the concentration of resin acids was, used to estimate the concentration of CTO according to a known proportion of resin acids relative to CTO.

2. Comment: The predicted environmental concentration (PEC) estimates should be revised to zero given the absence of data supporting direct, routine losses of CTO to wastewater treatment.

Response: Data is available that supports CTO losses to wastewater treatment. Spent acid from CTO plants is sent to evaporators for disposal and the resulting foul condensates from evaporators are sent to wastewater treatment (ECCC 2019 site visits). The CTO lost to spent acid is significant and typically 1-5% of the weight of spent acid. The presence of CTO in foul condensates is further supported by the presence of its compositional fingerprint (resin acids, fatty acids and neutrals or mainly sterols). The above information indicates that routine losses of CTO to wastewater treatment via spent acid and foul condensates are occurring.

3. Comment: Appropriate characterization of the potential risk to the environment must rely on representative emission factor estimates in the absence of accurate direct measurements in final effluents while the absence of measured data reflects the lack of analytical methods for testing aqueous samples for CTO.

Response: As CTO is an unknown or variable composition, complex reaction products or biological materials (UVCB) made up of potentially thousands of constituents, measurements of CTO in the environment would not be possible. A well-established approach to the assessment of a UVCB substance is to use its representative components to characterize the fate and adverse effects of the substance (Backhaus and Faust 2012). With this approach, seven representative components are used to represent CTO in the final screening assessment. These components are not only major CTO constituents in terms of mass fractions but also important sources of toxicity. In the absence of direct CTO measurements, the estimates for CTO releases in the final screening assessment reflected consideration of all reliable and relevant data available, including information from ECCC's 2019 site visits, Canadian CTO production data from FPAC/NCASI, and scientific data in published literature.