Health Canada Santé Canada

Health Canada
Safe Environments Programme
Ontario Region
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Toronto, Ontario
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February 24, 2009

[redacted]
Senior Environmental Officer
Public Works and Government Services Canada
Environmental Services and Greening Government Operations
4900 Yonge Street
Toronto, Ontario M2N 6A6

Subject: Health Canada Comments on FarmTech Ethanol Project, Oshawa, Ontario

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Dear [redacted]

Thank you for your email dated December 18, 2008 requesting Health Canada's comments concerning air quality on the proposed Farmtech Ethanol Facility.

As per your request, Health Canada has reviewed the following reports:

> *Farmtech Ethanol Facility Screening Level Environmental Assessment Report Volume I. J.L. Richards and Associates. August 5, 2008.*
>
> *Screening Level Air Quality Study. Proposed Farmtech Ethanol Facility Oshawa, Ontario. Final Report. Jacques Whitford. February 28, 2008.*
>
> *Certificate of Approval Application – Air and Noise. Proposed Farmtech Ethanol Facility Oshawa, Ontario. Jacques Whitford. August 1, 2008.*

As a Federal Authority providing assistance under subsection 12(3) of the *Canadian Environmental Assessment Act* to the Responsible Authority (RA), Health Canada provides the following information for your consideration.

Please note that Health Canada makes comments based upon dispersion modeling results for airborne chemicals of potential concern (COPC) from the proposed project and does not evaluate the modeling results themselves as submitted by the proponent. Health Canada assumes that all modeling inputs and methods are utilized appropriately and that modeling results accurately reflect emissions of COPC from this type of facility. If errors and/or gaps

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in the modeling are noted by other sources (e.g. Environment Canada), it is suggested that revisions be made to address modeling errors. If the revised results differ from the originally submitted results, it is advised that the report be resubmitted to HC.

Emission Sources

Page 6 of the *Screening-Level Air Quality Study* provides lists of emission sources that were considered "*significant*" for inclusion in the screening-level EA and those that were considered "*insignificant*" for the EA, but which may be considered further at a later stage of the project. Health Canada encourages the proponent to assess as many emission sources as practical for their contributions to overall emissions from the proposed facility. Health Canada also suggests that the proponent explains the screening criteria used to determine whether a particular source is considered "*insignificant*."

Particulate Matter (PM)

According to page 59 of the *Screening Level Environmental Assessment Report Volume I* the maximum predicted concentration of particulate matter <2.5 µm ($PM_{2.5}$)(24 hour averaging) reached 77.9% of the applicable regulatory level of 120 µg/m^3. However, the *Certificate of Approval Application – Air and Noise* (*COA*) indicates that the maximum predicted concentration of $PM_{2.5}$ (24 h averaging) due to the proposed project is predicted to be 20% of the applicable regulatory level of 120 µg/m^3. In the same manner, Table 7-2 in the *COA* indicates the expected rate of $PM_{2.5}$ emissions from the proposed facility will be 1.2 g/s, a value almost three times lower than the predicted value of 3.3 g/s in Table 6-1 of the *Screening Level Air Quality Study*. Such a large difference in $PM_{2.5}$ airborne concentrations and rates may inaccurately characterize the potential air quality and health implications of the project. Please validate the predicted concentrations and rates of $PM_{2.5}$ and make corrections to the COA and EA documentation as appropriate.

In addition, data from the National Air Pollution Surveillance (NAPS) monitor located in Oshawa indicates that for the years 2002-2004 (the most recent years for which data is available on NAPS) the average 98th percentile for $PM_{2.5}$ (24 hour averaging) is approximately 30 µg/m^3 [1], a level which corresponds to the Canada Wide Standard for $PM_{2.5}$[2]. Given that airborne levels of $PM_{2.5}$ in the Oshawa area are already elevated, Health Canada suggests that the proponent considers undertaking a further level of assessment (e.g. human health risk assessment (HHRA)) for air emissions from the proposed facility and employs the best available technologies and procedures to mitigate $PM_{2.5}$ emissions from the proposed facility to the greatest extent possible.

Acrolein

Table 7-2 in the *COA* indicates that the predicted maximum airborne concentrations of acrolein will reach approximately 80% of the applicable ½ hour criterion and 64% of the applicable 24 hour criterion. Health Canada suggests that this COPC be included in the further level of assessment (e.g. HHRA) and that the proponent attempt to mitigate acrolein emissions from the proposed project to the extent possible.

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Thermal oxidizer

According to Table 5-1 in the *COA,* the thermal oxidizer is identified as the major project-related source of several COPC, including particulate matter, sulphur dioxide, nitrogen oxides, formaldehyde and carbon monoxide. Therefore, Health Canada suggests that the proponent employs best available technologies and practices to minimize emissions from this component of the proposed project as a method of reducing overall project-related emissions.

Fugitive Emissions

The proponent has not discussed fugitive emissions in the screening EA. Health Canada suggests that the proponent becomes familiar with the types of system failures that may result in fugitive emissions and the COPC that may be released. Such information would aid in the development of an action plan to deal with any fugitive emissions from the proposed facility.

Sincerely,

[redacted]

Regional Environmental Assessment Coordinator
Health Canada, Ontario Region
[redacted]

cc: [redacted], Manager of Safe Environments Programme, ON Region, Health Canada,
[redacted], Regional Environmental Assessment Coordinator, ON Region, Health Canada
[redacted], Senior Environmental Health Assessment Advisor

[1] Environment Canada. National Air Pollutant Surveillance Network. Air Quality Stations. http://www.etc-cte.ec.gc.ca/napsstations/main.aspx. Accessed February 19, 2009.
[2] Canadian Council of Ministers of the Environment. Canada Wide Standard for Particulate Matter (PM) and Ozone. June 5-6, 2000. Quebec City. http://www.ccme.ca/assets/pdf/pmozone_standard_e.pdf. Accessed February 24, 2009.

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