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Direction générale,
Santé environnementale et
sécurité des consommateurs

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Safe Environments Directorate
Environmental Assessment Program
99 Metcalfe Street, Ottawa, ON K1A 0K9

September 7, 2012

Eli Nasogaluak
Environmental Assessment Coordinator
Environmental Impact Review Board

Sent by e-mail to eirb@jointsec.nt.ca

Subject: Health Canada's Submission for the Inuvik to Tuktoyaktuk Highway Project

Dear Mr. Nasogaluak:

This submission is provided for consideration by the Environmental Impact Review Board (EIRB) as per the notice *Technical Submissions and Presentations of the Parties for the Review of the Proposed Inuvik to Tuktoyaktuk Highway* (August 10, 2012).

Health Canada is providing in the attached table, a response to the *Developers Response to Information Requests Round 2- March 2012* to Health Canada's information requests numbers 127-129 (in *EIRB's Information Requests Round 2 – March 8, 2012*).

Thank you for providing Health Canada with the opportunity to provide a submission for this project. Should you have any questions concerning Health Canada's comments, or identify any other specific human health concerns with respect to this project, Health Canada would be pleased to provide expertise, upon request.

Please feel free to direct your questions or requests to the undersigned.

Sincerely,

Kathleen Hedley
Director, Environmental Health Bureau
Safe Environments Directorate, Health Canada

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c.c.: Luigi Lorusso, Acting Manager, Environmental Assessment Division, Health Canada
Gregory Kaminski, Senior Environmental Health Assessment Specialist, Health Canada
Rebecca Stranberg, Environmental Assessment Coordinator, Health Canada
Wendy Wilson, Environmental Assessment Officer, Health Canada
Bryan Haggarty, Regional Director, Health Canada

	IR #	Health Canada's IR (in EIRBs Information Requests Round 2 – March 8, 2012)	Developer's Response (March 30, 2012)	Health Canada's comment
Air Quality	127	<p>Preamble Health Canada appreciates the Developer's response (Comment 2) providing additional details about the project's dust emissions (PM25, PM10 and Total Suspended Particulates (TSP)) and the potential effects on health due to air quality.</p> <p>However, the draft EIS indicates that project emissions also include nitrogen oxides (NOx), sulphur oxides (SOx) and notes these contaminants may be associated with adverse health effects. However, the draft EIS or the Developer's response does not identify the potential health effects associated with the predicted levels of these contaminants.</p> <p>Request 1. Please include information regarding the potential health implications from the NOx and SOx emissions.</p>	<p><i>According to Health Canada (2006), the potential health implications resulting from elevated levels of nitrogen oxides (NOx) and sulphur dioxide (SO2, which belongs to the sulphur oxide gases (SOx)) are as follows.</i></p> <p><i>At elevated levels, NOx can impair lung function, irritate the respiratory system and, at very high levels, make breathing difficult, especially for people who already suffer from asthma or bronchitis. SO2 can cause breathing problems in people with asthma, but at relatively high levels of exposure.</i></p> <p><i>There is some evidence that exposure to elevated SO2 levels may increase hospital admissions and premature deaths.</i></p> <p><i>As discussed in Section 4.2.2 of the EIS, minimal temporary and intermittent increases of NOx and SO2 are anticipated to be generated by vehicles driving down the Highway. The anticipated levels of NOx and SO2 in the air are expected to be within the NWT and National Ambient Air Quality Objectives.</i></p> <p>Reference: Health Canada. May 2006. <i>Let's Talk About Health And Air Quality</i>. Retrieved March 13, 2012 from http://www.hc-sc.gc.ca/ewh-semt/air/out-ext/effe/talk-a_propos-eng.php#nitrogen</p>	<p>Health Canada acknowledges the information provided about the health effects of NOx and SOx.</p> <p>Health Canada has no further comments on this information request.</p>

	IR #	Health Canada's IR (in EIRBs Information Requests Round 2 – March 8, 2012)	Developer's Response (March 30, 2012)	Health Canada's comment
Air Quality	128	<p>Preamble</p> <p>Comment 2 of the Developer's Response responds to Health Canada's request for a discussion of potential human health effects resulting from air quality changes including PM2.5 and PM10 to support the statement in the EIS that "no residual effects in terms of substances are anticipated".</p> <p>In the Developer's response, the NAAQOs and NWT Ambient Air Quality Standards are mentioned and there indicates that <i>"No residual effects to humans are anticipatedOther emissions that may be generated during construction and operation of the Highway are anticipated to be minimal, with air quality parameters remaining within the accepted standards and guidelines, as discussed in the EIS."</i></p> <p>It is important to note that air quality criteria and standards for particulate matter should not be considered as thresholds below which human health effects do not occur⁴.</p> <p>Request</p> <p>1. Health Canada suggests rephrasing the statement that "no residual effects to humans are anticipated" as there are no thresholds for particulate matter below which human health effects do not occur⁵.</p> <p>4 World Health Organization (WHO). 2003. Health aspects of air pollution with particulate matter, ozone, and nitrogen dioxide. Report on a WHO Working Group. Bonn, Germany 13-15 January 2003. Copenhagen: World Health Organization. Retrieved December 1, 2011, from: http://www.euro.who.int/data/assets/pdf_file/0005/112199/E79097.pdf</p> <p>5 Ibid</p>	<p><i>As stated in the EIS (Section 4.2.2), the CCME acknowledges that there is no apparent lower threshold for the effects of particulate matter and ozone on human health and that there are additional benefits to reducing and maintaining ambient levels below the standards.</i></p> <p><i>However, it is important to note that air quality criteria and standards, such as the NWT Guideline for Ambient Air Quality Standards in the Northwest Territories, specify criteria for maximum concentrations deemed to be acceptable in ambient air.</i></p> <p><i>The Developer continues to assert that no residual effects to humans are anticipated primarily due to the very limited number of potential human receptors within 1,000 m of the Highway (two residential leases). Other factors that reduce the potential residual effects include:</i></p> <ul style="list-style-type: none"> <i>• the limited distance that particulate matter may be transported (100 m to 400 m depending on particulate size);</i> <i>• the intermittent, short-term and rapidly reversible nature of dust that will be generated, primarily by moving vehicles;</i> <i>• the relatively short snow-free and dry season when dust is most likely to be generated; and</i> <i>• the implementation of mitigation measures to suppress dust, primarily during the relatively short snow-free and dry season.</i> 	<p>Health Canada acknowledges the rationale provided for predicting low levels of PM emissions associated with project activities.</p> <p>However, HC maintains that the statement "that no residual effects to humans are anticipated" does not correctly characterize the risk to human health in relation to particulate matter given it is a no-threshold contaminant as previously stated.</p>

	IR #	Health Canada's IR (in EIRBs Information Requests Round 2 – March 8, 2012)	Developer's Response (March 30, 2012)	Health Canada's comment
Noise	129	<p>Preamble</p> <p>The Developer's response indicated that there are some (1 or 2) residential leases within 1 km of the proposed alignments and many (19 to 33) residential leases within 5 km of the proposed alignments.</p> <p>Request</p> <p>1. Depending on the potential for future human use of these residential leases, Health Canada suggests that a noise assessment may be appropriate for predicting the potential effects of noise on human health. If a noise assessment is completed, Health Canada suggests including the relevant information specified in the Noise Effects section of Useful Information for Environmental Assessment⁶.</p> <p>If a noise assessment is not completed, Health Canada suggests providing a rationale for its exclusion referring to the nature of human use (likelihood of use, type of use, duration, etc.) of the residential leases.</p> <p>⁶ http://www.hc-sc.gc.ca/ewh-semt/pubs/eval/envIRON_assess-eval/index-eng.php</p>	<p><i>As discussed in the Developer Response 115, the estimated zone of influence within which noise from operation of the Highway will exceed baseline ambient noise levels is likely within 400 m to 1,500 m from the proposed Inuvik to Tuktoyaktuk Highway.</i></p> <p><i>Due to the low volume of intermittent traffic anticipated and the limited number of human health receptors (two residential leases within 1 km from the proposed Highway), a noise assessment is not warranted.</i></p> <p><i>The two residential leases located within 1 km of the proposed Highway are most likely to be temporarily occupied through the fall and winter months for hunting and other traditional activities, as there is limited or no access to this area during the snow-free periods.</i></p> <p><i>As stated in Section 3.1.4.4 of the EIS, anthropogenic contributions are associated with annual winter traffic on the existing winter ice road, local off-road ATV and snowmachine traffic, helicopter and aircraft overflights, and associated hunting that occur seasonally in the area.</i></p> <p><i>According to Figure 4.3.8-1 of the EIS, the seasonally-used snowmobile trail that goes through the Husky Lakes passes by (within 1 km) a number of residential leases. No concerns regarding noise were discussed during the consultations for the Inuvik to Tuktoyaktuk Highway (Appendix B of the EIS).</i></p>	Health Canada has no further comments on this information request.