

As a concerned citizen, and also as a professional engineer in the province of Ontario, I'd like to provide my comments on the following document:

*MILTON LOGISTICS HUB - CN's Environmental Impact Statement (Appendix E.9),
December 7, 2015*

In the CN's Environmental Impact Statement Section 9.4.2, it states the following

“Results of acoustic modeling predict that noise from construction and operation activities are acceptable at the off-site receptors.”

After carefully reading the Technical Data Reports (Baseline Noise Study, Noise Effects Assessment, and Vibration Effects Assessment), I am deeply concerned about this broad conclusion.

My rationale is that their establishment of the baseline ambient sound levels was flawed in that the measurements were severely affected by the seasonal noise sources (e.g. birds, insects, trees, grasses, dogs, lawn mowers, and farming related activities, etc.) and inclement weather conditions (wind, rain, showers, and thunderstorms, etc.). As a result, the measured baseline sound levels in this rural and quiet suburban neighbourhood are comparable and even higher than those in **very noisy urban residential communities**. I find this is very hard to believe as I am familiar with the area and did a few personal site visits. From my experience, I know this is a quiet neighbourhood and the acoustical environment is in a Class 2 (suburban) or 3 (rural) areas as outlined in MOECC NPC-300 guideline. As per the NPC-300 guidelines, the exclusionary ambient background sound levels would be in the range of 40-50 dBA, depending on the time of day.

Therefore, the baseline ambient noise study results should not be used as a benchmark for comparing the noise exceedance from the construction and operation of the CN Milton Logistics Hub Project.

The proponent must reassess the ambient background sound levels by strictly following the NPC-300 guidelines and other applicable guidelines (e.g. Health Canada's Guidance). Noise contributions from any non-background sources must be excluded from the measurements and calculations.

As I suggested in my other submissions, the assessment of noise effects must strictly follow the Ontario MOECC Publication NPC-300 and other applicable Canadian guidelines (e.g. Health Canada Guide on sleep disturbance and CN's Noise and Vibration Criteria).

By following the NPC-300 guidelines, the noise impact must be assessed against the "Predictable Worst Case" scenario. The predictable worst case scenario means that the noise impact have the greatest impact at receptors, relative to the applicable limit. The greatest noise impact means the difference between the impact and the limit is the highest.

If their companion Air Quality Report is adopting the Ontario O. Reg. 419/05 and Ontario AAQC criteria, there is no reason for the noise and vibration studies not to follow the similar Ontario noise guidelines.

In addition, the CN's Noise Report failed to address all the criteria as outlined in the Health Canada guidance. Specifically, the noise impact on **Sleep Disturbance** was not addressed at all. The Health Canada's criteria on sleep disturbance at the plane of window are 45 dBA (Ln) and 60 dBA (LA max) for external continuous noise and intermittent noise with no more than 10-15 events per night, respectively. These guideline limits are very similar to the exclusionary guideline limits as outlined in Ontario MOECC Publication NPC-300 for Class 2 and 3 areas.

In addition, a memorandum released by CN titled "CN's Noise and Vibration Criteria" in 1997, states that the noise criteria for residential areas along the railway corridor are 35 – 55 dBA (day, 16 hours) and 35 – 50 dBA (night, 8 hours). Again, these guideline limits are more or less consistent with the Ontario NPC-300 and Health Canada guidance on sleep disturbance.

Therefore, even CN's consultant refused to adopt the Ontario MOECC NPC-300 guideline (**which I believe they really should NOT**), they must address the noise impact on sleep disturbance as per the Health Canada guidance, and also meet the noise criteria as outlined in CN's own memorandum in 1997.

Only when the consultant properly establishes the **TRUE baseline ambient sound levels** and **model the "Predictable Worst Case" noise impact** by following the NPC-300, Health Canada guidance, and CN's memorandum in noise and vibration criteria, it would then make sense to determine the adverse noise and vibration effects to the environment and local residents.

Once the true noise and vibration impacts have been determined by following the above guidelines, CN and its consultant can determine the level of exceedance and then design appropriate noise and vibration mitigation measures.

Therefore, based on my above explanations and previous comments, I am deeply concerned about the broad conclusion made in the EIS with regards to the noise and vibration impacts.

I am more deeply concerned that if the Project is approved based on CN's poorly prepared reports, it would cause significant adverse effects (e.g. air, noise, vibration, dust, water, etc.) to the local environment and people of Milton, Ontario.

Due to fact that my field of practice is limited to acoustics and vibration, I can not comment on the other Technical Data Reports such as Air Quality Study, Human Health Risk, and water and truck traffic studies, etc. However, having noticed significant deficiencies in their noise and vibration reports, I am very concerned about the quality and accuracy of the other Technical Data Reports.

Therefore, I sincerely hope the review panel would carefully and critically review all CN's technical reports for accuracy and completeness. If required, peer review or technical advice from professionals should be sought to ensure all CN reports fully and properly evaluate sources of emissions to the environment, and provide detailed and sufficient mitigation measures.