

REVIEW OF CN RESPONSES TO
INFORMATION REQUESTS 6 - 8

APRIL 2019

Halton Municipalities' Sufficiency Brief

Regional Municipality of Halton
Corporation of the City of Burlington
Corporation of the Town of Halton Hills
Corporation of the Town of Milton
Corporation of the Town of Oakville

**CEAA Panel Review of the
CN Milton Logistics Hub Project
CEAA Registry No. 80100**

Regional Municipality of Halton

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CAO: Jane MacCaskill

Corporation of the City of Burlington

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City Manager: Tim Commisso

Corporation of the Town of Halton Hills

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HALTON REGION – COMMENTS REGARDING SUFFICIENCY OF RESPONSES TO PANEL IR-6

IR 6.1 APPLICABILITY OF REGULATIONS AND VOLUNTARY COMPLIANCE

- Panel Request**
- a) Identify which targets or standards set by provincial or municipal regulations, if any, CN commits to voluntarily meet with respect to construction and operation of the Project.
 - b) Describe whether CN believes By-law 32-17 is applicable to the Project and, if not, whether CN commits, as per part a) of this information request, to voluntarily meet its requirements with respect to construction and operation of the Project.
 - c) Describe whether and how CN considered the Regional Municipality of Halton's Access Management Guidelines (2015) or By-law 32-17 in development of the EIS and responses to the Review Panel's information requests.
 - d) Identify what consultation CN has undertaken with regional or municipal authorities regarding Project access to regional roads, if any.

Valued Components All VCs are applicable regarding IRR 6.1(a).
IRR 6.1(b)-(d) is applicable to: G.2 Human Safety Conditions, G. 4 Urban Settings

Rationale The submitted information is not sufficient as follows:

- a) The submitted information does not identify which targets or standards set by provincial or municipal regulators, if any, CN commits to voluntarily meet. The response that CN "took into account certain standards and targets identified in provincial or municipal laws and guidance documents" is vague. A more specific response is required to address the Panel's inquiry.
- b) CN states that it is of the view that it is not obliged to follow By-law 32-17, but it hopes to work collaboratively with the Region to implement the required access points. CN outlines prior meetings it has had with the Region in its response to IR 6.1(d). However, CN does not convey how it will achieve this collaboration in the future.
- c) CN states that it considered the 1999 Transportation Association of Canada ("TAC") Geometric Design Guide for Canada Roads and the Ontario Ministry of Transport ("MTO") Traffic Manuals, on which the intersection design elements of the Region's Access Management Guideline are based. However, it does not specifically state whether the Region's Access Management Guidelines was considered and whether elements unique to that Regional Guideline informed CN. Further, TAC issued a new Geometric Design Guide in 2017, which has replaced the 1999 version and which has not been considered by CN. The most recent version should be considered.

Further Information Request

1. Clarify the targets or standards set by provincial or municipal regulators that CN commits to voluntarily meet.
2. Clearly explain how CN will achieve collaboration with the Region in respect of By-law 32-17 going forward.
3. Describe whether CN considered those portions of the Region's Access Management Guidelines that are unique and differ from the TAC Geometric Design Guide for Canada Roads and the MTO Traffic Manuals.
4. Explain whether CN has considered the 2017 TAC Geometric Design Guide. If so, state whether CN commits to voluntarily meet its requirements with respect to construction and operation of the Project.

IR 6.3 CORE ACTIVITIES AND PROVINCIAL COMPLIANCE APPROVALS

- Panel Request**
- a) Provide examples from other CN facilities, and in particular other intermodal container terminals, where certifications or approvals were sought from provincial authorities. Identify the specific discharges or other aspects of those projects that were certified or approved by provincial authorities, describe at what stage of the project development approvals were identified as necessary, and provide a

rationale for why compliance was required in those cases.

b) As CN has concluded that all predicted discharges from the Project are anticipated to emanate from its core activities, describe why CN would consider applying for provincial environmental compliance approval, given the context of exclusive federal authority over all works and undertakings that are integrated in the operation of the interprovincial railway.

c) Identify whether federal standards exist for the [sic] each type of discharge typically considered in an Ontario Environmental Compliance Approval, or whether CN proposes to voluntarily meet the equivalent of the provincial discharge standard. In the case of such a commitment, state clearly each discharge and standard CN voluntarily commits to meet.

If applicable, in developing the response to part c) of this information request, consider responses to other information requests, in particular information request 6.1 (Voluntary regulatory compliance)

**Valued
Components**

All VCs are applicable regarding IRR 6.3(a) and (b).

IRR 6.3(c) is applicable to: B.1 Groundwater Quantity and Quality, B.4 Surface Water Quality, C.1 Ambient Air Quality, G.1 Human Health

Rationale

The submitted information is not sufficient as follows:

a) The submitted information is not sufficient to respond to the Panel's question in IR 6.3(a). The Panel asked CN to "provide examples from other CN facilities, and in particular other intermodal container terminals, where certifications or approvals were sought from provincial authorities". The submitted information acknowledges that some of CN's facilities have provincial approvals in place, but it provides no specific examples. Nor, does the submitted information identify the specific discharges or other aspects of those projects that were certified or approved by provincial authorities. Further, no rationale is provided for why compliance has been required for other CN facilities.

b) The submitted information lists provincial standards it considered, but it is unclear whether CN proposes to voluntarily meet the equivalent provincial discharge standard.

**Further
Information
Request**

1. Please elaborate on the response to IRR 6.3(a), by providing specific examples from other CN facilities, and in particular other intermodal container terminals, where certifications or approvals were sought from provincial authorities. Identify the specific discharges or other aspects of those projects that were certified or approved by provincial authorities, describe at what stage of the project development approvals were identified as necessary, and provide a rationale for why compliance was required in those cases.

2. Please elaborate on the response to IRR 6.3(c), by stating clearly each provincial standard CN voluntarily commits to meet in respect of discharges.

HALTON REGION – COMMENTS REGARDING SUFFICIENCY OF RESPONSES TO PANEL IR-7

IR 7.2 PROJECT SITE AMBIENT AIR QUALITY MONITORING RESULTS

Panel Request a) Clarify how CN determined that the 90th percentile ozone measurements from the onsite ambient air monitoring program (1-hour and 8 hour), as reported in Table 4.1 of Attachment 3.1-1 and the response to information request #3.9, are greater than the reported maximum ozone values presented in Table 3.1 of Attachment IR3.1-1.
b) In light of the comments provided by Environment and Climate Change Canada, identify and address any other inconsistencies that exist with the ozone concentrations presented in Tables 3.1 and 4.1.

Valued Components **C.1 Ambient Air Quality**

Rationale The submitted IRR is not sufficient as follows:
The Project will cause an alteration on airborne ozone levels which should be accounted for to ensure there are no adverse effects. It is irrelevant if the atmospheric chemistry of ozone is via indirect formation or alteration.

Further Information Request 1) An assessment of the Project’s impacts on ozone air quality levels.

IR 7.5 STORMWATER MANAGEMENT PONDS INFLUENT AND EFFLUENT CONCENTRATIONS AND LOADS

Panel Request a) Provide the estimated discharge flow volumes used to calculate the contaminant loads presented in Table IR3.37-1.
b) Explain how literature values were selected and used to estimate the range of influent concentrations and loads for the contaminants of concern reported in Table IR3.37-1, including any assumptions associated with those predictions.

Valued Components **B.3 Surface Water Bodies; B.4 Surface Water Quality**

Rationale The submitted IRR is not sufficient as follows:
Although the submitted information provided estimated discharge flow volumes, it did not indicate whether base flows were accounted for in those figures. This information is needed to understand the data provided, as concentrations for contaminants of concern will differ widely between volumes attained in wet or dry weather conditions.

As well, in respect of the contaminant loads provided, only singular references were provided. A broader range of considered concentrations would much better inform estimates of loading for each contaminant.

Further Information Request 1) Confirmation that the estimated discharge flow volumes provided did not consider base flows.
2) Review of predicted concentrations and loadings for each contaminant, and the source of these predictions.

IR 7.9 MAINTENANCE OF CULTURAL HERITAGE PROPERTIES

Panel Request a) Describe any plans or responsibilities CN has to maintain the integrity of the cultural heritage properties located on its land during the operation phase.

Valued Components **I.1 Physical and Cultural Heritage**

Rationale The submitted IRR is not sufficient as follows:
The submitted information did not provide the information requested. The submitted information does not address the requested confirmation that heritage integrity will be maintained. Measures that merit consideration include:

- 1) Ongoing maintenance of moth-balled structures to ensure that they do not deteriorate over time. (Demolition by Neglect)
- 2) Ongoing maintenance of properties so that they do not become unkempt or overgrown.
- 3) The use of fencing.
- 4) Security lighting – this may include solar powered motion lighting.
- 5) Appropriateness of heating vacant structures.

Further, the submitted information is not sufficient to assess plans for the adaptive reuse or restoration of the heritage properties

The submitted information is not sufficient to assess the source of all applicable Statements of Cultural Heritage Value or Interest (“SCHVI”) for properties listed on the Milton heritage register. In particular, the submitted information is not sufficient to identify those SCHVI authored by the Town, as compared to those drafted by the heritage consultant. This should be stated. The assessment should give priority to any SCHVI by the Town, where it exists.

- Further Information Request**
- 1) Summarize for all properties on Milton’s heritage register, the Statements of Cultural Heritage Value or Interest (“SCHVI”) and the source of the SCHVI (e.g., Town, CN, other), giving priority to any Town SCHVI for a property.
 - 2) Provide details on the Project’s plans or responsibilities for maintaining the integrity of the cultural heritage properties located on its lands during the operations phase, including details to ensure that at the property’s CHVI is conserved, and that demolition by neglect will not occur.
 - 3) Clarify the process that would be followed for a relocation plan request. Identify who is responsible to make such a request or would be involved in the response, including the role of CN.
 - 4) Describe the technical and economic feasibility of relocating the storm water management pond to avoid the shed, or the possibility of relocating the shed elsewhere on the Project site.

IR 7.10 POPULATION GROWTH IN MILTON AND HALTON REGION

Panel Request a) Provide additional information on the population growth of the Town of Milton and Halton Region from 1990 to 2001. Present this information in a consolidated summary with the population data and projections previously provided for the 2001 to 2041 time period.
b) If available, provide maps or aerial images to depict the growth or urban development in the Town of Milton between 1990 and the present, delineating the main residential areas.

Valued Components **G.4 Urban Settings; G.6 Urban Industrial, Commercial and Institutional Land Use**

Rationale The submitted IRR is not sufficient as follows:

- a) *The submitted information is inconsistent in its use of the Census Population versus Total Population numbers to illustrate growth in the Town and Region.*

In Table IR7.10-1, the submitted information provides Milton population data up to 2016. This information is based on Census Population counts. 1991 to 2006 are correct. However, there are unexplained discrepancies regarding (a) the 2011 number (which appears to be off by about 800 persons) and (b) the 2016 number (which appears to be below the published Statistics Canada figure by about 9,000; the correct figure is 110,128 instead of the 101,175 shown by CN).

The Milton forecasts for 2021 and 2026 are appropriately sourced and stated in Census Population. However, with the same table, the submitted information contains an unexplained discrepancy regarding the references to the 2031 and 2041 forecasts. These forecasts shift from Census Population to Total Population. Total Population is about 3% higher than Census Population.

The Regional historical data to 2016 is all in Census Population. All figures are correct except for 2011, which contains an unexplained discrepancy: the table shows 495,400 instead of the correct Statistics Canada figure of 501,674.

The forecasts for Halton have the same unexplained discrepancy as the Milton forecasts. The submitted table switches from Census Population to Total Population part way through the table). The submitted information also introduces a new source from the Ontario Ministry of Finance. While it is a published government source, it is not appropriate for this purpose. For 2021, 2026 and 2031, the same source should have been used as for the Milton data in the first column, as they are comparable. For post-2031, the Provincial Growth Plan provides binding guidance on population forecasts in its Schedule 3. The submitted information should use these numbers to comply with Provincial Growth Plan conformity requirements.

It may be noted that the unexplained use of numbers from the Ministry of Finance results in the submitted information undercounting of about 10% or 100,000 people.

- b) *The maps in Attachments IR7.10-1 to IR7.10-4 inaccurately represent urban development.*

All maps show a built-up area in a pale pink colour. As expected, the developed urban area is shown as built-up. However, there are also large blocks of land in the rural area, also shown as built-up. These appear to include agricultural uses, electric utility uses, the landfill site and some golf courses. This is misleading for current purposes as these rural area facilities are shown in the same tone as dense urban development.

The employment area north of Highway 401 also appears to mix rural areas and urban development in the maps in Attachments IR7.10-1 to IR7.10-3.

In addition, all maps show a group of buildings in the southeast corner of the Town (along 8th Line, between Lower Base Line Road and Britannia Road) as a residential area, which expands over time. This is not a development area; the building footprints reflected in the maps are largely greenhouses.

There are similar areas in Attachments IR7.10-2 to IR7.10-4, west of urban Milton and north of Derry Road, which are scattered rural development. They are not concentrated urban residential development, as incorrectly implied by the mapping.

- c) *The 1991 map, at Attachment IR7.10-1, is incorrect.* No urban development occurred in the Milton expansion area south of Derry Road or East of Thompson Road until 2001.
- d) *The 2001 map, at Attachment IR7.10-2, is incorrect.* No urban development occurred in the Milton expansion area south of Derry Road or East of Thompson Road until 2001. Depending on the time or year, or if the map reflects building permits of completed units, it would not be incorrect to show *some* new urban development in the area; however, the scale of

development depicted in the map is far greater than what would have been in place at this time.

- e) *The 2011 map, at Attachment IR7.10-3, is incorrect.* It overstates the amount of urban residential development in 2011. The expansion areas in the west and southwest of Milton were under development, but by no means completed, as shown.

Given the number of discrepancies in the submitted information, the submitted information should be corrected and updated to provide sufficient information for assessment.

Further Information Request

- 1) Provide a revised population data table for Milton and Halton by year, from 1991-2041, that provides comparable values and addresses the errors outlined above.
- 2) Provide revised future development maps for years 1991, 2001, and 2011 that are representative of the actual development for the year shown, and which address the errors outlined above.

IR 7.11

POSSIBLE CONNECTION TO MUNICIPAL WATER AND SANITARY SERVICES

Panel Request

- a) Provide an update on whether the water and sanitary systems scheduled for installation in December 2015 have been put in place along Britannia Road between Tremaine Road and Regional Road 25, or provide an updated timeline of when these services may extend to the project area.
- b) If these services became available prior to Project construction, describe whether CN's preferred alternative for potable water supply and wastewater management would remain as proposed in the EIS, or whether it would prefer to connect to the municipal services.
- c) If CN's preferred alternative would be to connect to municipal services, describe any changes to the Project design that would be required, the environmental effects that could occur as a result of such connection, and whether this activity could result in constraints on the capacity of those municipal systems or services.

If applicable, to respond to this information request, coordinate with the Halton Municipalities, and as appropriate, refer to responses to other Review Panel's Package 2 information requests, namely information requests #2.21 (Alternatives for non-potable water during operations), #2.38 (General maintenance of water storage structures) and #2.40 (Project water budget).

Valued Components

G.4 Urban Settings

Rationale

The submitted IRR is not sufficient as follows:

The submitted information proposes to truck water and sewage to and from the Project site. However, the Region's Urban Services Guidelines requires development within the urban boundary to connect to urban services. The proposed office structure is an urban use that requires connection to urban services. The use of private storage facilities therefore does not meet the regional standard for development.

Development that relies on trucking for water and waste-water, increases the event of spills, lack of sufficient water for fire protection, and additional truck traffic. The submitted information is not sufficient to assess the basis for non-compliance with this Regional standard.

Further Information Request

- 1) Provide the rationale for Project non-compliance with this Regional standard.

IR 7.12 USE AND VALUE OF THE AREA CYCLING ROUTES

Panel Request a) Provide available information regarding how many cyclists use the five routes identified in Figure 10 of Appendix E.12 of the EIS, as well as any other cycling routes in the area near the proposed Project.

b) Describe the relative importance of these cycling routes in the regional context.

If appropriate, coordinate with Halton Municipalities and the Government of Ontario to provide information in response to this information request.

Valued Components **G.4 Urban Settings**
G.2 Human Safety

Rationale The submitted IRR is not sufficient as follows:
CN was unable to find any available information on cyclist use of the routes identified in Figure 10 of Appendix E.12 of the EIS, nor did CN do a specific count on any of the 5 routes identified. This information is required in order to properly assess the magnitude of cycling in the area and the effects of the Project on active transportation, especially given the Project’s proximity to Milton’s world-class velodrome and the Project’s proposal to add 1,800 daily truck trips to the road.
The materials made available to them contain specific projections of bicycle volumes on the roads in the immediate vicinity of the proposed development (the LLA). Without bicycle volume information, it will be difficult to predict risk, as risk is a function of exposure, measured in terms of: the density of the motor vehicle traffic, the number of cyclists and the type of facility provided to protect the cyclists. And, although it was not specifically asked, some limited insight could have been obtained by reviewing the recent history of cycling collisions on these roads (CIMA+?)

Further Information Request 1) Provide cyclist counts for Figure 10 of Appendix E.12 of the EIS, as well as any other cycling routes in the area near the proposed Project.
2) Please provide the magnitude of cycling of the five routes identified in Figure 10 of Appendix E.12 of the EIS as well as other cycling routes in the area near the proposed Project.

IR 7.13 LOWER BASE LINE ROAD GRADE SEPARATION

Panel Request a) Provide an update on the status of any discussions between the Town of Milton and CN concerning the proposed grade separation at Lower Base Line and whether any updated information on the design of the grade separation is available.

Valued Components **G.4 Urban Settings**

Rationale The grade separation for Lower Base Line in Milton is part of proposed mitigation to reduce the effects of the proposed operation of the Project. Because it involves a Town road, Milton has advised CN that it (the Town) must complete an environment assessment under Ontario’s municipal class environmental assessment process. This EA will evaluate the outcome both with the grade separation and without the grade separation in order to properly understand the effects. The Town has not commenced this EA and has requested CN confirmation that CN will pay for the cost of this EA.

Further Information Request 1) Confirmation that CN will pay the cost of the required municipal class environmental assessment of the grade separation. Following completion of this EA, the Town accepts that CN may carry out any required construction subject to compliance with Town standards.

HALTON REGION – COMMENTS REGARDING SUFFICIENCY OF RESPONSES TO PANEL IR-8

IR 8.1 BOYNE SURVEY SECONDARY PLAN AND RELEVANT SUB-PLANS

- Panel Request**
- a) Describe to what degree, if any, the Project could affect the ability of the Town of Milton and Conservation Halton to achieve planned enhancements to the Tributary A and Indian Creek systems, as described in the Boyne Survey Secondary Plan and its relevant sub-plans.
 - b) Provide the Review Panel with relevant information from the Boyne Survey Secondary Plan, including updated watercourse rankings, planned or ongoing upstream enhancements to Tributary A upstream of the project development area, stormwater management strategies, conceptual fisheries compensation plans and monitoring strategies and restoration frameworks. As appropriate, provide information contained in sub-plans such as the Functional Stormwater and Environmental Management Strategy, Conceptual Fisheries Compensation Plan, and Restoration Framework, including details on specialized habitat features.

Valued Components **B.3 Surface Water Bodies; B.4 Surface Water Quality; D.3 Fish habitat**

Rationale

The submitted IRR is not sufficient as follows:

- a) The submitted information concludes that relevant information from the studies covering the Bronte Survey Secondary Plan (BSSP) has been adequately considered in the design of Tributary A and the Indian Creek systems. However, CN’s information was dated and an updated analysis needs to be provided.

The recommendation for managing the watercourses on the Project site (Tributary A and Tributary D) is not sufficient as it lacks integration with other activities, particularly the recommended hydraulic structure and grading advanced for the Detailed Design of Britannia road, and the recommended watercourse corridors advanced in the Boyne Survey Block 1 Subwatershed Impact Study (TMIG, June 2013; revised December 2018). At present, the submitted information is not sufficient to demonstrate that the proposed crossing location, hydraulic structures, and watercourse corridor avoids or mitigates adverse effects on the hydraulic conditions (i.e. water surface elevations, freeboard, clearance, conveyance capacity, velocities) of the proposed hydraulic structures along Britannia Road. Nor is it sufficient to demonstrate that the enhancements along Watercourses I-NE-1B would be compatible with the NHS and recommendation advanced in the December 2018 Subwatershed Impact Study for the Block 1 Area.

- b) The submitted information provides that the *Fisheries Act* would not apply to Tributary A, but since fish are present in Tributary A, the basis for this conclusion is not clear.
- c) In response to this IR, CN advised that it had used the relevant technical studies prepared for Milton for the BSSP.

Two deficiencies are as follows: First, the submitted information for Project site plans should also reference and integrate the findings and recommendations from the Boyne Survey Block 1 Subwatershed Impact Study (TMIG, June 2013; revised December 2018). Second, the submitted information refers to the 2013 draft Functional Stormwater and Environmental Management Strategy (FSEMS). However, the FSEMS was finalized in November 2015, and thus should be referenced, not the earlier draft.

In addition, the submitted information advises that the information provided in Appendix I of the FSEMS has been used to establish the corridor for tributary A. However, the submitted information is not sufficient to assess this point. In particular, recognizing that the size of the contributing drainage area to the watercourses would increase by more than 100%, it is unclear how the corridor dimensions advanced in the FSEMS for the water courses north of Louis St. Laurent Avenue are considered appropriate and applicable to the watercourses south of Louis St. Laurent Avenue. As it is typical to require site specific

studies, the submitted information is not sufficient to explain why site-specific studies are not required here.

Furthermore, the submitted information suggests that the information provided in the FSEMS has provided a constraint ranking for Tributary A through the PDA. However, the subject FSEMS provides watercourse constraint rankings for features north of Britannia Road (i.e. within the Boyne Secondary Plan Area). As the FSEMS does not address lands or watercourses south of Britannia Road, the submitted information is not sufficient to assess the basis for applying the FSEMS constraint rankings for the watercourses south of Britannia Road and through the Project site. (RS)

Further Information Request

1. From fisheries perspective, further information is needed regarding the realignment of Indian Creek.
2. Explain why the *Fisheries Act* would not apply to Tributary A, even though fish are present.
3. Revise submitted information to address the latest information, particularly the Boyne Survey Block 1 Subwatershed Impact Study, as revised in December 2018. (RS)
4. Revise submitted information to address more recent information from the Boyne Survey Block 1 Subwatershed Impact Study (revised December 2018) and the final Functional Stormwater and Environmental Management Strategy (RS)

IR 8.2 PROJECT SITE AMBIENT AIR QUALITY MONITORING RESULTS

Panel Request

- a) Discuss the potential health effects associated with non-threshold substances such as PM₁₀ and PM_{2.5}.
- b) Provide an updated assessment, including cumulative effects, using the 2020 Canadian Ambient Air Quality Standards for 1-hour NO₂ and annual NO₂. Identify whether there would be exceedances and discuss the implications of the new standards.
- c) Clarify the discrepancies between Table 1 and 2 of Attachment IR4.29 and Tables IR3.16-2 and IR3.16-3 for the cumulative effect scenarios.

Valued Components

C.1 Ambient Air Quality

Rationale

The submitted IRR is not sufficient as follows:

- 1) The mitigation suggested in the submitted information should be quantified as to effectiveness. The effect of non-threshold compounds should be quantitatively assessed and resultant airborne levels should be assessed as to health impacts on the surrounding community.
- 2) The submitted information states that Figure IR8.2-1 shows a decreasing trend in NO₂ levels at the Milton monitoring station. However, the submitted information does not provide statistical evidence that the (presumed) regression lines are statistically significant and, in addition, that the downward slopes have statistical significance.
- 3) The submitted information states that “accelerated future reduction [is] expected with the newly announced reduced target” but provides no reference or supporting information for this statement.
- 4) The submitted information states that “[g]iven the anticipated changes in land use around the Project (based on the Town of Milton’s Official Plan, which does not anticipate development to the east or south of the Terminal by 2031), background NO₂ levels in the study area would not be expected to reach the levels currently measured in Milton (with developed areas surrounding the existing monitoring station), but the Milton data would provide a conservative upper limit for future background levels.”

However, given that the lands mentioned are generally downwind of the proposed terminal, the submitted information is not sufficient to demonstrate that the Milton data is conservative. Further, the submitted information assigns upper and lower limits to background concentrations. However, this approach departs from usual practice. Usual practice dictates that conservative

values be used in the face of unknowns (IAIA AQ Guide). Additional information is required to demonstrate that the lower limit is a “correct” value to use.

5) The submitted information states that previous emissions scenarios for NO₂ were “overly conservative” and has now refined emissions estimates by adjusting equipment operating times and loads to more “typical” values. However, the submitted information is not sufficient to assess what is meant by “typical”.

Further Information Request

- 1) An assessment of health impacts in the surrounding community resulting from alterations to levels of the non-threshold compounds with, and without, the proposed mitigation (with mitigation effectiveness addressed on a quantitative basis).
- 2) Regarding compliance with the upcoming Canadian Ambient Air Quality Standards (CAAQS) for nitrogen dioxide (NO₂), provide refined background levels of NO₂ to show compliance including the following additional information:
 - a. In relation to the submitted information statement that Figure IR8.2-1 shows a decreasing trend in NO₂ levels at the Milton monitoring station, please provide information on whether the regression lines are statistically significant and that the downward slopes have statistical significance.
 - b. A reference or supporting information for the statement that there will be an “accelerated future reduction expected with the newly announced reduced target”.
 - c. Supporting information for the statement that the lower limit for background concentrations is a “correct” value to use.
 - d. Sufficient information to assess what is meant by more “typical” values and how this change in approach reflects current practice.

IR 8.4 TRANSPORTATION IMPACT STUDIES

Panel Request

- a) Explain why CN did not double heavy truck volumes for the analysis of the entire roadway system beyond the facility entrance, as it had in the Terminal Road Access Study.
- b) Identify what mitigation measures could be implemented in the event that truck queue lengths for left turns from Britannia Road into the terminal were to extend beyond existing storage lane capacity.
- c) Explain why the intersection designs shown Figure 4 of Attachment IR2.33-4 of CN's response to information request #2.33 with Figure 7 of Attachment IR2.33-1 are different and indicate which one of the intersection designs is the one being proposed. In the response, indicate how the intersection design will accommodate cyclist traffic.
- d) Provide the value CN used for truck equivalency of 4.0 Passenger Car Units in its region-wide traffic capacity calculations in EIS Appendix E.17.
- e) Provide a traffic model to predict how traffic on local and regional roads between the Project site and 400-series highways would be affected by Project-generated truck movement in 2031.

Valued Components

G.2 Human Safety Concerns; G.4 Urban Settings

Rationale

The submitted IRR is not sufficient as follows:

Re a) The submitted information uses two different calculations to produce a Passenger Car Units (“PCU”) factor of 4.0 for trucks using the site. There is sufficient information to assess the calculation used for traffic at the site access (a manual doubling of truck volumes). However, there is not sufficient information to assess discrepancies in the weighted average calculation. Based on the example provided in the response to IR 8.4 a) in Table IR8.4-1 on page 7, there is a discrepancy in the result for auto traffic in the Total scenario, compared to the Background scenario. The discrepancy understates estimates by about 3 cars (and 3 PCUs) or about 2% for each time period. This discrepancy may flow through all safety and capacity calculations presented by CN, and all affected computations should be reconsidered.

Re b) The submitted information proposes mitigation of truck queue lengths for left turns from Britannia Road into the terminal. To mitigate the impact of truck queues extending beyond existing storage lane capacity, the submitted information proposes adjusting the signal phasing and timing to benefit the westbound left-turn truck movements. However, the submitted information includes no analysis to demonstrate that the solution would work without impacting adjacent traffic signals or delaying other traffic at this intersection

Re c) The submitted information recognizes in its response to IR 8.4 that multi-use paths are to be provided on Britannia Road. The submitted information also provides that the final design will be determined at the detailed design stage. As a result, the submitted information is not sufficient to illustrate the design of the future crossing.

Re e) The analysis provided in Table IR8.4-2 is not consistent with the Region's model in the following ways:

- The submitted information is not sufficient to assess the relationship of future road improvements to the commencement of Project operations. Many of the area transportation links are scheduled for improvements post-2021, after CN's target date for beginning operations. For example, the James Snow Parkway is scheduled to be widened to six lanes in 2023, Tremaine Road is scheduled to be widened to six lanes in 2025, Tremaine Road south of Britannia Road is scheduled to be widened to four lanes in 2025, and Regional Road 25 is scheduled to be widened to six lanes in 2027. As a result, the submitted information proposes to introduce Project traffic before the expanded capacity is in place. This creates discrepancies in the submitted analysis and reporting of acceptable volume-to-capacity ratios for the 2021 through movements. This discrepancy may also affect proposed predictions regarding changes in the signal timing for the westbound left-turn movement, and effects on the other movements at this intersection.
- The submitted information uses link capacities higher than the link capacities in the Region's model. This discrepancy is not explained. However, this discrepancy understates the volume-to-capacity ratios presented in Table IR8.4-2.
- The Region uses Best Planning Estimates (BPE) to forecast traffic in 2031 for the traffic zone receiving Project traffic. However, because the Project was not part of Region plans, the BPEs include no jobs or population. As these BPEs are the basis for the Region's travel demand model, the Region's traffic demand model does not account for the Project. Therefore, the use of the Region's 2031 travel demand forecasts in the submitted information does not include the Project or address if planned capacity is sufficient to accommodate the Project.

Further Information Request

Re a) Confirm the weighted average calculation used for the routes throughout the Project. Where there is an error, provide revised calculations of PCUs for the entire Regional road system or at least key congested intersections. Please reconsider all affected safety and capacity calculations and provide the correct calculations.

Re b) Provide a traffic signal analysis for the entrance to the proposed terminal and provide the movement level-of-service and movement volume-to-capacity ratios, as well as the overall intersection level-of-service. Explain what mitigation measures CN could implement in the event that truck queue lengths for left turns from Britannia Road into the terminal were to extend beyond existing storage lane capacity.

Re c) Provide a proposed intersection design that includes interaction with multi-use paths, such as that on Britannia Road. Examples include use of a crossride detailed in Figures 4.101 and 4.102 of Ontario Traffic Manual Book 18, or Figures 6 and 8 in Ontario Traffic Manual Book 12A.

Re e) Provide a revised traffic model analysis with link capacities consistent with network assumptions in the Region's travel demand model.

IR 8.5 TRAFFIC SAFETY STUDIES

- Panel Request**
- a) Provide a safety analysis for the Tremaine employee and service entrance, including how it will impact the safety of the roadway segment of Tremaine Road between Britannia Road and Lower Base Line.
 - b) Explain how the effect of converting the main entrance intersection from three legs to four could reduce accident risks.
 - c) Provide an analysis of the accident potential along Britannia road adjacent to the main entrance and identify any required mitigation to address identified impacts.
 - d) Provide a revised risk analysis that addresses accident severity.
 - e) Provide a revised roundabout risk assessment that accounts for the expected frequency of truck collisions expected at roundabouts, based on projected Halton/Milton truck volumes on the various corridors in the risk calculation.
 - f) Submit a road safety analysis that calculates the predicted collision outcomes for each intersection and road segment that the trucks would travel on to reach 400-series highways.
 - g) Provide a quantitative accident rate estimate for the year 2031, including project generated truck and staff traffic, and accounting for traffic increases due to the projected 2031 population.

Valued Components

G.2 Human Safety Concerns

Rationale The submitted information is not sufficient due to traffic modeling issues raised above in the sufficiency of information responding to IR 8.4.

Further Information Request 1) Use revised traffic modelling to redo safety and risk analysis.

IR 8.6 PREDICTIVE LIGHT EFFECTS MODELLING

- Panel Request**
- a) Provide a quantitative assessment of the predicted future glare resulting from Project lighting. Compare the results against baseline conditions and relevant guidelines.
 - b) Describe the additive effects of light trespass and glare arising from multiple potential emitters, including fixtures that will be part of the Project and other sources, such as roadway lighting and other developments.

Valued Components

C.3 Ambient night-time levels

Rationale The submitted IRR is not sufficient as follows:

- a) Applying the CIE (International Commission on Illumination) approach, the assessed glare from a single fixture will be far less than that viewed by a human observer. The submitted information is not sufficient to assess the effects of a bank of many fixtures (i.e. the 10 located on each high mast tower). Further, the submitted information does not include the summed candlepower (glare) from clusters of fixtures that are close together (i.e. all of the fixtures located on each tower) as if they were a single fixture. Further, the submitted information has not included assessment of the brightness of each individual fixture visible from each receptor point. The submitted information is also not sufficient to assess the conclusion that, for the receptor points on the South side near Tremaine Rd. located nearer to the roadway lighting within the new terminal and farther from the high mast lighting, the nearest luminaire will be the brightest. Nor is the submitted information sufficient to account for the sum of the high-mast clusters of 10 as described above.
- b) The submitted information is not sufficient to support the statement that glare can be fixed by increasing pollution levels everywhere so there is reduced contrast between the offending polluting source and the surrounding (less polluted) areas. The submitted information has not considered additive effects of all Project lighting on glare – continuing to ignore glare contributions

from all but the single (closest) luminaire. Instead, the submitted information considers only the glare effects of a single (closest) luminaire when considering future roadway lighting. As well, the submitted information does not compare the additive effects to the baseline condition.

- Further Information Request**
- 1) Provide a quantitative assessment of the predicted future glare resulting from Project lighting and compare the results against baseline and relevant guidelines.
 - 2) Describe the additive effects of light trespass and glare arising from multiple potential emitters, including fixtures that will be part of the Project and other sources, such as roadway lighting and other developments.

IR 8.7 LIGHT FROM VEHICULAR TRAFFIC

Panel Request a) Provide a quantitative assessment of the off-site effects from on-site vehicular headlights. Compare the results against baseline conditions and relevant guidelines where appropriate.

Valued Components **C.3 Ambient night-time levels**

Rationale The submitted information is not sufficient as follows:

Re a): The submitted information on data and references for headlight luminous output is not sufficient as this information is outdated. There is more current information than 2015 vehicles and a 2004 article by Schoettle et al. The luminous output listed for the H 11 bulbs (1200 lm) appears unlikely as modern products are listed with 7000 lm. The submitted information is not sufficient to explain why it uses such a specific and low figure. The submitted information is also not sufficient to assess the statement that the assessment provides a "worst case" assessment, particularly since it does not analyze high beams and modern high intensity head lighting technologies. If the use of low beams is to be assumed, then there must be some discussion of the requirement to use low beams, and a way of enforcing this requirement. As well, the submitted information focuses exclusively on "trespass" and provides is no consideration of glare.

- Further Information Request**
- 1) Provide quantitative assessment of the off-site effects from on-site vehicular headlights and compare the results against baseline conditions and relevant guidelines where appropriate.

IR 8.8 APPLICABILITY OF THE AMBIENT NOISE MEASUREMENTS AT THE POINTS OF RECEPTION

Panel Request a) Conduct noise modelling to validate that the measured baseline noise measurements are representative of baseline conditions. Confirm whether the noise modeling results would change the findings of the noise assessment in Appendix E.10. If the validation exercise demonstrates that the baseline noise measures are not representative of baseline conditions, provide revised baseline ambient noise levels either through measurement under appropriate meteorological conditions, or through modelling. Whichever method is selected, explain how the revised baseline ambient noise levels were determined.

Valued Components **C.2 Ambient noise levels on residences**

Rationale The submitted information is not sufficient as follows:

- 1) It does not provide key model inputs (road traffic levels, speeds, truck percentage breakdowns, rail traffic volumes, train consists, posted speeds, ground absorption, meteorological conditions, etc.). This means that modelling results cannot be validated. There is also not sufficient information to assess the basis for the modelled baseline sound levels. The submitted information indicates that these are measurably higher than the measured levels, and would understate Project effects.
- 2) The submitted information does not assess the proposed intermodal facility as a "stationary source facility". It is therefore not sufficient to address the Railway Noise Measurement and

Reporting Methodology (Canadian Transportation Agency 2011) and its requirement to use hourly sound exposures (Leq (1-hr) values, in dBA) when assessing noise from “Stationary Sources” (pg. 25 of CTA document).

3) The submitted information is not sufficient to address the Guidelines for New Development in Proximity to Railway Operations (Railway Association of Canada and Federation of Canadian Municipalities 2013) and the recommended hourly Leq (1-hr) sound limits. These limits were adopted from the Ontario Ministry of Environment, Conservation and Parks (MECP) Publication NPC-300.

Further Information Request

- 1) Provide the input data and CADNA noise model used to predict baseline sound levels from road traffic.
- 2) Provide model minimum hourly sound levels during the daytime, evening and night-time, excluding railway traffic, in accordance with MECP Publication NPC-300 requirements for Stationary Noise Source Assessments.

IR 8.11 DETAILED DESCRIPTION OF THE NOISE SOURCES

Panel Request

- a) Provide updated operational noise modelling. The noise modelling should:
- Use a conservative noise emission value for locomotives consistent with values provided by CTA, for instance 107 dBA sound power level for a single idling locomotive;
 - Adjust the model to include the appropriate number of idling locomotives;
 - Include an assessment of noise from heated/cooled containers (“reefers”) as they sit onsite in the facility, and not just as they are trucked out;
 - Include impulsive noise from the coupling and uncoupling and stretching of trains (knuckle thumps);
 - Include wheel squeal as a noise source (including the appropriate penalty to account for the tonality of such source), where CN confirms that track turning radii are less than 410ft; and
 - Include train whistles and back up alarms used during the operations phase. If required, address additional mitigation measures. Refer to Appendix HI of Health Canada's *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*, Healthy Environments and Consumer Safety Branch, 2017 for suggestions on additional mitigation measures and alternatives.

Valued Components

C.2 Ambient noise levels on residences

Rationale

See comments on IRR 8.8, above.

Further Information Request

- 1) Provide an assessment of noise impacts versus the applicable “stationary noise source” criteria of MECP Publication NPC-300 and the Guidelines for New Development in Proximity to Railway Operations.

IR 8.13 CONSTRUCTION NOISE SOURCES

Panel Request

- a) Conduct additional modelling based on construction noise sources originating at specific locations, including construction activities at the grade separations at Lower Base Line and the on-site overpass over the CN mainline, activities at facility buildings, and activities for pipeline relocation and horizontal directional drilling. Once the model has been revised, confirm if the results would change the findings of the noise assessment in Appendix E.10.

Valued Components **C.2 Ambient noise levels on residences**

Rationale The submitted information is not sufficient. The submitted information excludes from its noise assessments a number of residences on CN-owned land. As these residences may remain occupied during construction and operation of the facility, the submitted information should address this exclusion. Some residences appear likely to experience much higher construction noise levels than the points of reception included in the analysis: see, for example, the two existing homes located between G1-POR011 and G1-POR018, which are close to the proposed Lower Base Line overpass.

Further Information Request 1) Assessment of construction noise at noise sensitive residences on CN-owned lands that may remain occupied, as well as the receptors used in the EIS

IR 8.14 SELF-SCREENING FROM BUILDINGS

Panel Request a) Apply the appropriate adjustments to account for the self-screening from receptor buildings and update the noise assessment as appropriate.

Valued Components **C.2 Ambient noise levels on residences**

Rationale The submitted information is not sufficient. The submitted information states: “However, the adjustments presented in Table IR8.14-1 also show that other PORs would in fact require a self-screening adjustment of an increase to the representative baseline noise level, which may in fact minimize and/or eliminate the need for some of the noise mitigation proposed in the Noise Effects TDR (EIS Appendix E.10).”

The submitted information is not sufficient as it does not explain this statement. An unscreened location experiences noise from several different noise sources from all directions. This is the maximum sound that can be experienced. Self-screening means that noise from one or more of the noise sources is screened by the building itself (for example, if a noise source is located on the other side of a house). Noise from those sources are reduced, but noise from other sources in other directions would be unchanged – this means that the total self-screened noise level must be lower than the unscreened level.

Further Information Request 1) Recalculate the self-screening effects as self-screening cannot result in increases in baseline sound levels.

IR 8.15 CONTRIBUTION OF NOISE SOURCES AT POINTS OF RECEPTION

Panel Request a) Provide the information requested in IR4.76 in the table format generated by CadnaA to allow evaluation of the specific noise contribution of the individual noise sources for each point of reception.

Valued Components **C.2 Ambient noise levels on residences**

Rationale See comments on IRR 8.8, above.

Further Information Request 1) Please provide the tables for an assessment based on hourly sound levels, as required under the applicable guidelines.

IR 8.16 EXISTING AND FUTURE RECEPTORS

Panel Request a) Revise the noise analysis to include additional receptors within the Boyne Secondary Plan Area and to address existing sensitive receptors within 1 km of the property line of the facility using the appropriate receptor heights as noted by Halton Municipalities in its submission to the Review Panel on the sufficiency of CN's Package 4 responses. Depending on the outcome of information request 8.8 (Follow up to IR4.65: Applicability of the ambient noise measurements at the points of reception), and if the baseline conditions are found to be lower than the World Health Organization criteria, re-evaluate sleep disturbance in accordance to the procedures outlined in Health Canada's *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*, 2017.

Valued Components C.2 Ambient noise levels on residences

Rationale The submitted information is not sufficient as follows:

1. The Boyne Secondary Plan area extends as far south as Britannia Road, as far east as Tremaine Road, and as far west as R.R. 25. The submitted information response to this IR addresses the far north end of the Plan area only and is not sufficient to explain this focus.
2. The Boyne Secondary Plan includes proposed "Major Node" areas along Britannia Road, immediately adjacent to the Intermodal Facility. Based on the Town's urban use guidelines, these areas will have the highest densities within the community. These densities will be accommodated in taller, mixed-use buildings with retail at-grade and residential/office uses above. The submitted information is not sufficient to assess residential noise receptors resulting from this Town guidance.
3. The submitted information locates all modelled receptors for the Boyne Secondary Plan area in the area adjacent to the existing main rail line. Thus, the submitted information provides an assessment where sound levels are dominated by main-line traffic. As a result, the submitted information appears to minimize any change in noise levels resulting from the addition of the Intermodal Facility. For residences which are further removed east and west from the rail line, the contribution of rail line noise will decrease substantially, due to increasing distance, but the contribution of main intermodal facility will not, as the distance to the main facility will be relatively unchanged. Thus, the submitted information is not sufficient to assess potential noise effects of the Intermodal in locations that are removed from the main line track.
4. The submitted information is not sufficient to assess noise effects under applicable guidance that would exclude noise from the main-line in evaluating baseline ambient sound levels and applicable guideline limits: see the Guidelines for New Development in Proximity to Railway Operations (Railway Association of Canada and Federation of Canadian Municipalities 2013) also provide recommended hourly Leq (1-hr) sound limits, which the CN EIS does not address. These limits were adopted from both MECP NPC-300 and Guidelines for New Development in Proximity to Railway Operations.

Further Information Request 1) Revise the noise analysis to include additional receptors within the Boyne Secondary Plan Area and to address existing sensitive receptors within 1 km of the property line of the facility using the appropriate receptor heights.



Questions or comments?

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