

Annex 2 – Advice to the Proponent

Table 2: Review of NexGen Responses to Additional guidance for NexGen Consideration

Comment ID	Reference to EIS	Result of Review of NexGen Oct 2023 Response	Justification / Rational / Additional Advice to Proponent
CNSC			
CNSC-01	Table 2.3-1	Accepted	
CNSC-02	Figure 2.1-1, Figure 2.4.1, 16.1.-1 and throughout the EIS document.	Accepted	
CNSC-03	Section 2. 2.7.1.1 (pg. 182-183)	Accepted	
CNSC-04	Appendix 2A-5 English River First Nation	Accepted	
CNSC-05	Appendix 2A and 2B	Accepted	
CNSC-06	Section 14	Accepted	
CNSC-07	Section 15	Accepted	
CNSC-08	Section 16 – Pg 3142 Section 2.4	Accepted	
CNSC-09	Section 16 and Mitigation measures and Perceived Risks	Accepted	
CNSC-10	Section 16	Accepted	
CNSC-11	Section 16.3.3.2.4 (Page 3176)	Accepted	
CNSC-12	Appendices - Baseline Data Reports	Accepted	
CNSC-13	Annex VII.1, page 66	Accepted	
CNSC-14	Annex VII.1, page 72	Accepted	

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CNSC-15	Section 13.5.2.3.2, RFD Case	Accepted	
CNSC-16	TSD XXI ERA	Accepted	
CNSC-17	Section 10.7.2	Accepted	
CNSC-18	Section 10.5.2	Accepted	
CNSC-19	TSD XXI-ERA, Appendix A 3.2.6- Model Validation	Accepted	
ECCC			
ECCC-01	Section 5.4.5.5	Accepted	
ECCC-02	Section 10.2.8.1.2	Accepted	
ECCC-03	Section 5.4.5.5 Section 10.4 Section 10.4.2	Accepted	
ECCC-04	TSD XVIII, Appendix H Section 6	Accepted	
ECCC-05	Appendix 23B	Accepted	
ECCC-06	Section 4	Accepted	
ECCC-07	Section 12 Table 13.4-1 Table 14.4-1 Table 23A-4 Table 23A-5	Accepted	
ECCC-08	Section 5.4.7.5 Appendix 7A3.2.10.2	Accepted	
ECCC-09	Section 7.4.5	Not Accepted	Context: The Proponent has provided additional information regarding emissions comparisons, and mitigation measures for disturbance of carbon sinks. ECCC accepts the proposed addition of the comparison of the

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			<p>Project’s greenhouse gas (GHG) emissions from the Construction, Operations, and Decommissioning and Reclamation (i.e., Closure) phases to Canada’s 2030 targets. It is ECCC’s understanding that this information will be added to Table 7.4-13 of revised EIS Section 7.4.5.1.2 (Project Emissions Intensity). However, additional clarity is needed regarding the new information that was provided on the mitigations for the removal of carbon sinks.</p> <p>Rationale: The new information provided on the mitigation of carbon sinks removal is unclear, specifically, it is recommended that more information is provided regarding the removal of merchantable trees and if they are going to be removed from the site, which will influence the carbon sinks discussion in Section 7.4.5 of the EIS.</p> <p>Advice: Clarify what is meant by the removal of merchantable trees and update the carbon sinks discussion in Section 7.4.5 of the EIS to include the impact to carbon sinks due to the removal of merchantable trees.</p>
MN-S			
MN-S-01 (1-008)	Section 1.2.2	Accepted	
MN-S-02 (1-012, 16-061)	Section 1.3.2	Accepted	
MN-S-03 (3-007, 3-008, 3-009)	Joint Working Groups Section 3.5.1	Accepted	
MN-S-04 (6-003)	Incorporation of Indigenous Knowledge Section 6.2	Accepted	
MN-S-05 (6-009)	Identification of Mitigation Section 6.7.2	Accepted	
MN-S-06 (16-011)	Residual Effects Analysis Section 16.5	Accepted	
MN-S-07 (22-017)	Risk Measurement and Evaluation, Section 22.6.1.2	Accepted	
MN-S-08 (22-010, 22-013, 22-015)	Incorporation of Indigenous Knowledge Section 22	Accepted	

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MN-S-09 (18-010, 18-011)	Existing Conditions Section 18.2.6	Accepted	
MN-S-10 (16-007)	Potential Effects and Proposed Mitigation Section 16.4	Accepted	
MN-S-11 (2-001)	Engagement Framework Section 2.3	Accepted	
MN-S-12 (16-025)	Cultural and heritage Resources Section 16.3.1	Accepted	

New Advice to the Proponent – February 12, 2024			
Comment ID	Reference to EIS	Context and Rationale	Advice to Proponent / Comment
ECCC			
ECCC-10 Link: IR 50	Section 5.4.7.5 Appendix 7A3.2.10.2	<p>Context: Additional clarification is needed for item three from the previous IR response. The Proponent has clarified that the air modelling assessment in the draft EIS considered the use of lower-tier engines as a conservative approach to analysis, demonstrating that a worst-case scenario for vehicle emissions of the Project remains in compliance with air quality standards. The Proponent indicated that they intend to utilize Tier 4 engines for the Project if available.</p> <p>Rationale: Should the Proponent choose to use different vehicles than those listed in the draft EIS, updated vehicle information should be provided so that ECCC can understand whether or not the Proponent will be using Tier 4 engines and how to assess potential impacts to air quality resulting from the fleet composition.</p> <p>Since Tier 4 is currently the most stringent emission standard to which engines can comply, ECCC recommends the use of Tier 4 engines as the best available technology to reduce air pollutant emissions compared to lower-tier engines. As such, if the Proponent uses any engines that are lower-tier than Tier 4, ECCC suggests that the Proponent provides justification (e.g., older model years, alternative standards, etc.) as to why the Proponent is not using the best available technology (BAT). Knowing the fleet composition and engine tiers that will be used will allow a more accurate estimate potential air quality impacts resulting from the Project, and knowing the Proponent’s justification for not using BAT will help to understand why the selection was necessary.</p>	<p>Advice: ECCC recommends the use of Tier 4 engines, and the Proponent should provide an explanation for the use of any engines that are certified to a lower tier than Tier 4.</p>
ECCC-11 Link: IR 68	Appendix 7A3.1	<p>Context: NexGen acknowledged that the comparison of temperature as listed in Table 7A-88 in Section 7A3.1.3.2 of Draft EIS Appendix 7A (Air Dispersion Modelling Report) was made for 2016 only because this is the only year of overlap between the AERMET dataset and on-site monitoring data.</p>	<p>Advice: ECCC recommends that the title to Table 7A-88 be corrected to read ‘AERMET Derived Temperature Summary (2016)’, to accurately reflect NexGen’s</p>

		<p>Rationale: Table 7A-88 continues to be titled 'AERMET Derived Temperature Summary (2012 to 2016) despite the assertion that the comparison was made for 2016 only. An inaccurately labelled table could result in misinterpretation of the data contained within.</p>	<p>clarification that the temperature comparison was made for 2016 only.</p>
<p>ECCC-12 Link: IR 80</p>	<p>Section 10.2.8.2.1 Section 10.3.1.2 Section 10.5.1.1.3, Section 10.5.1.1.1</p>	<p>Context: The Project will increase expected inputs of both sulphate and mercury to receiving waters. Increased sulphate availability in the receiving aquatic environment can lead to increased methylation rates of mercury to methylmercury in sediment and surface water.</p> <p>Rationale: Methylmercury is a toxin that can bioaccumulate within the food chain and negatively impact aquatic biota. Considering the current proposed mercury effluent concentrations of 0.19 ug/L from Table 7 Appendix H TSD XVIII, a biological study on the mercury concentrations in fish tissue will be necessary as a part of follow-up monitoring.</p>	<p>Advice: To monitor for the potential for bioaccumulation of methylmercury in aquatic biota, ECCC advises that the Proponent consider additional sampling for methylmercury within the follow-up monitoring program.</p>
<p>ECCC-13 Link: IR 126</p>	<p>Section 14.4.2 Table 14.4-1 Table 23A-1 Table 23A-5</p>	<p>Context: The Proponent stated that vegetation will be cleared during the construction phase to widen the access road and prepare the mine site. They have committed to developing an Environmental Protection Program (EPP) that will describe the supporting processes with details regarding scheduling vegetation clearing to comply with activity restrictions to minimize negative effects to migratory birds and species at risk.</p> <p>Rationale: In the absence of reviewing an EPP prior to a decision on their application, Table 14.4-1 requires revision to provide more detail to ensure the project will avoid harm to migratory birds consistent with ECCC's Guidelines to avoid harm to migratory birds – Canada.ca.</p> <p>ECCC does not recommend the use of nest searches or pre-clearing surveys for active bird nests during the breeding season as a mitigation measure, given the difficulty associated with finding nests reliably and the high likelihood of disturbing nesting birds when searching. Instead, ECCC recommends that clearing and grubbing activities not be conducted during the breeding bird season (late April - mid-August). Pileated Woodpecker and other MBCA Schedule 1 migratory birds have year-round nest protection. The abandoned nest registry with the associated monitoring of abandoned Pileated Woodpecker nests must be utilized prior to the removal of any nest of a MBCA Schedule 1 listed species.</p>	<p>Advice: ECCC recommends that the Proponent revise Table 14.4-1 so that entries [i.e., Pathway ID's' W-01, (habitat loss), W-02 (habitat alteration), W-04 (Fibre optic line), W-07 (edge habitat)], and any other applicable pathways, include avoidance of the breeding bird window (late April – mid-August) as a mitigation measure similar to that of W-03. Table 14.4-1 should also be updated to include the mitigation measures listed in the text. Provide details that describe the supporting processes with details regarding scheduling vegetation clearing to comply with activity restrictions to minimize negative effects to migratory birds and species at risk. Table 14.4-1 should also be revised to reflect potential requirements related to Pileated Woodpeckers (and other MBCA Schedule 1 listed species) and avoidance of nest searches or pre-clearing surveys for active bird nests during the breeding season.</p>
<p>ECCC-14 Link: IR 205</p>	<p>Section 22.7 TSD XXII</p>	<p>Context: In their response to IR 205, the Proponent indicates that, "The climate adaptation framework is a proposed approach for developing a living document focused on climate resilience, which would be updated as a part of NexGen's continual improvement process."</p> <p>The Proponent also indicates that, "The continual improvement processes and climate adaptation framework are anticipated to be completed as part of the Operations Phase for the Project. Sufficient information is not available to make firm commitments during the current design stage of the Project."</p> <p>Rationale: The climate adaptation framework will be receiving updates as a part of NexGen's continual improvement process. While firm commitments cannot be made during the design stage of the Project, ECCC suggests that certain sources are included as a part of the continual improvement process to increase Project resilience against the potential risks associated with natural hazards and future climate change.</p>	<p>Advice: To advance the development of the climate adaptation framework, ECCC recommends that the proponent consult the following resources: Cannon, A. J., Jeong, D. I., Zhang, X., & Zwiers, F. W. (2020). Climate-resilient buildings and core public infrastructure 2020 : assessment of the impact of climate change on climatic design data in Canada. Gatineau: Environment and Climate Change Canada. CSA Group. (2019). Technical guide: Development, interpretation and use of rainfall intensity-duration-frequency (IDF) information: Guideline for Canadian water resources practitioners. CSA PLUS 4013:19.</p>

			Government of Canada. (2022). Draft technical guide related to the Strategic Assessment of Climate Change: Assessing climate change resilience . Gatineau: Environment and Climate Change Canada.
ECCC-15 Link: IR 84	TSD XXI ERA Section 4.2.4 Baseline Annex V.I Aquatic Baseline Section 9.2.1.3, Section 9.2.1.4, Section 9.3.2.2 Baseline Annex V.I Aquatic Baseline Appendix C Table 49 and Table 51	<p>Context: In Section 4.2.4 of the ERA, the Proponent indicated that they conducted an assessment of selenium concentrations in fish tissue. The United States Environmental Protection Agency (US EPA) guideline for selenium in fish muscle tissue of 11.3 mg/kg dry weight was used for large-bodied fish included in this assessment, as opposed to the ECCC Federal Environmental Quality Guidelines (FEQG) for selenium in fish tissue, as the FEQGs were only available in draft format at the time of the draft EIS submission. The US EPA fish muscle tissue guideline of 11.3 mg/kg dry weight was converted to fresh weight, and therefore the fish muscle tissue guideline of 2.83 mg/kg fresh weight was used. Predicted fish tissue concentrations of selenium in northern pike and lake whitefish over the Project phases for both the Application Case and Upper Bound sensitivity scenario were provided in Figure 4-4, along with a comparison against the US EPA selenium fish muscle tissue guideline of 2.83 mg/kg fresh weight. However, details were not provided on the bioaccumulation model used to predict the fish tissue concentrations for different Project scenarios and phases. Baseline concentrations of fish tissue selenium concentration can be found in the Baseline Annex V.I: Aquatic Baseline report, but the bioaccumulation modelling methodology for predicting selenium fish tissue concentrations was not provided for review.</p> <p>The ECCC FEQG selenium fish tissue concentration guidelines have now been finalized and ECCC recommends that the selenium fish tissue assessment be updated to use these guidelines as they are more stringent than the US EPA guidelines. The baseline fish tissue muscle samples that the Proponent has collected can be used in the ECCC FEQG by converting to egg/ovary concentrations using species-specific conversion factors from US EPA values, or muscle tissue concentrations could be compared to the FEQG whole body tissue guideline. In general, muscle tissue selenium concentrations must be collected during spawning and are a less reliable indicator of toxicity compared to fish egg/ovary tissue samples, which are considered the most reliable indicator of toxicity.</p> <p>Rationale: The EIS and supporting documents do not contain enough information to validate the predicted fish tissue selenium bioaccumulation effects to fish and fish habitat caused by increased selenium in the aquatic environment from Project effluent. To verify predictions of fish tissue selenium concentrations and effects to fish over the Project phases for both the Application Case and Upper Bound sensitivity scenario, details on the bioaccumulation modelling methodology should be included in the ERA.</p> <p>The ECCC FEQG is the Canadian standard and is more stringent than the US EPA guidelines. Use of the ECCC FEQG during the ERA selenium fish tissue concentration assessment would allow for improved comparability of baseline data and ERA predictions with future follow-up monitoring. As the ECCC FEQG does not currently provide a guideline for fish muscle tissue concentrations of selenium, the ideal method is measuring egg/ovary concentrations. Alternately, converting muscle tissue concentrations to egg/ovary concentrations using species specific conversion factors or comparing muscle tissue concentrations to whole body guidelines are two less accurate methods that may also be used for comparison to the FEQG.</p>	<p>Advice: ECCC recommends that the Proponent consider the following actions:</p> <ol style="list-style-type: none"> 1. That in the ERA, the assessment of selenium concentrations in fish tissue be updated to include the methodology used for bioaccumulation when determining predicted fish tissue concentrations of selenium in northern pike and lake whitefish. This is recommended to be done over all Project phases for both the Application Case and Upper Bound sensitivity scenario for verification of effect predictions to fish populations. 2. Confirm if fish muscle tissue samples were collected during spawning periods for both fish species. 3. That in the ERA, the assessment of selenium concentrations in fish tissue be updated to include a comparison of selenium fish tissue concentrations to ECCC FEQG guidelines for either fish whole body tissue (6.7 ug/g dry weight) or fish egg/ovary tissue (14.7 ug/g dry weight).
HC			
HC-01 Link: IR-69	Draft EIS TSD XXI (ERA), Section 4.3.3.3.1	Inappropriate use of an outdated standard in assessing health and environmental effect(s) from short-term exposure to nitrogen dioxide (NO₂).	<p>Advice: The CAAQS were developed in consideration of both human health and the environment. Modelled</p>

		<p>The Draft EIS technical supporting document (TSD XXI (ERA)) appears to misinterpret Health Canada’s 2016 Human Health Risk Assessment for Ambient Nitrogen Dioxide in setting its screening criteria and evaluating the health impacts from exposure to Nitrogen Dioxide. The document states:</p> <p style="text-align: center;"><i>Health Canada published a national one-hour maximum acceptable level of 400 µg/m³ for NO₂ in ambient air using a risk assessment approach (Health Canada, 2016b). This value considers sensitive human populations and is used here to determine if nitrogen dioxide requires further assessment in the ERA.</i></p> <p>Health Canada does not support this inaccurate statement.</p> <p>As indicated in Health Canada’s 2016 Human Health Risk Assessment for Ambient Nitrogen Dioxide, this value (400 µg/m³) corresponds to the National Ambient Air Quality Objective (NAAQO) for NO₂, which was developed in the 1970s. The CAAQS were later developed to replace existing Canada-wide standards, including the NAAQOs, and should be used as the most up-to-date standards.</p> <p>Health Canada’s 2016 Human Health Risk Assessment for Ambient Nitrogen Dioxide examined the full range of scientific literature including controlled human exposure, epidemiological and animal toxicology studies, and indicated that <i>“In short-term controlled studies of asthmatic adults, exposure to near-ambient levels of NO₂ elicited a range of adverse respiratory effects, including decreased lung function, increased AHR, and airway inflammation.”</i></p> <p>Furthermore, <i>“In most of the studies that examined the shape of the concentration-response relationship for short-term NO₂-related mortality or medical visits, there was an approximately linear relationship, with no clear evidence of a threshold. Overall, the current evidence indicates that if a general population threshold exists for the health effects of NO₂, it is likely to be near the lower limit of ambient NO₂ concentrations. Consequently, the available evidence indicates that any increment in concentrations of ambient NO₂ presents an increased risk for serious health effects, up to and including mortality.”</i></p>	<p>predictions within an air quality assessment’s study area should be compared to the most stringent air quality standards, guidelines or objectives applicable to the given region that may be affected by project activities.</p> <p>In many cases such as this one, CAAQS will be the most stringent levels. CAAQS are national air quality standards and are not restricted to applications only within the context of the Air Quality Management System (AQMS). An evaluation using CAAQS may be considered in determining the nature and severity of the project’s impact on air quality levels and the resulting mitigation measures that may be required to maintain good air quality levels or to prevent an exceedance of the CAAQS.</p> <p>As health effects can occur even at levels of exposure below the CAAQS, they should not be viewed as “pollute-up-to” levels. The Proponent should strive for continuous improvement with the objective of keeping clean areas clean and take preventive actions to reduce emissions to the extent practicable to protect against significant air quality deterioration.</p> <p>This advice is also relevant to IR-69 and may be of use in responding to that request for a comparison of predicted concentrations to the most protective applicable air quality standards available (i.e., CAAQS).</p>
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