

May 7, 2021

Via Email Only: iaac.BaseMine-MineBase.aeic@canada.ca

Impact Assessment Agency of Canada
22nd Floor, Place Bell
160 Elgin Street
Ottawa, ON K1A 0H3

Re: Suncor Comments on Draft Tailored Impact Statement Guidelines

Suncor Energy Inc (Suncor) has reviewed the draft Tailored Impact Statement Guidelines (Draft TISG) for the Base Mine Extension Project¹ (Project) developed by the Impact Assessment Agency of Canada (IAAC) and released for public comment on February 26, 2021.

Suncor's comments on the Draft TISG consist of this letter, outlining key ways in which Suncor believes the Draft TISG should be improved, and technical comments that are in the attached Appendix. Suncor appreciates the opportunity to provide these comments and to better understand input from communities and government agencies on the Draft TISG.

Summary:

Key ways in which Suncor believes the Draft TISG should be improved fall into five areas: (i) proportional engagement (ii) impact statement validation (iii) alternatives assessment (iv) valued components (v) human health and social conditions.

Proportional Engagement

Suncor will consult with all Indigenous groups identified in the Draft Indigenous Engagement and Partnership Plan². However, the Draft TISG do not adequately recognize that some Indigenous groups will be impacted more than others and as a result will require more engagement.

Specifically, requirements in the Draft TISG for engagement with Indigenous groups are rooted in the Crown's duty to consult and, if appropriate, accommodate Indigenous groups. The content of this duty varies with the circumstances and is proportionate to the seriousness of the potential impacts to an Indigenous community.³ In the Draft TISG, it could be interpreted that Suncor has the same engagement obligations for each of the more than 30 Indigenous groups identified to be consulted. Requiring equal engagement can reasonably be expected to (i) negatively impact the level and quality of engagement with Indigenous groups who are located closest to the Project (and may be most impacted) and (ii) effectively reduce the weight given to their input during the preparation of the Impact Statement.

¹ Online: <https://iaac-aeic.gc.ca/050/documents/p80521/138104E.pdf>.

² The Draft Indigenous Engagement and Partnership Plan for the Project lists more than 30 Indigenous groups for consultation: <https://iaac-aeic.gc.ca/050/evaluations/document/138268#toc004>.

³ *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 at paras 39, 68. This variance in the content of the duty to consult and if appropriate accommodate is acknowledged in the Draft Indigenous Engagement and Partnership Plan for the Project: <https://iaac-aeic.gc.ca/050/evaluations/document/138268#toc004>.

If equal engagement is intended, it is inconsistent with the approach of other regulators. For example, the Commission of the Canada Energy Regulator (Commission) expects project proponents to design and implement their engagement activities with Indigenous groups with regard to the nature and magnitude of a project's potential impacts. Where there is a greater potential impact on an Indigenous community, the Commission has proportionally greater expectation in terms of a proponent's engagement with that community. Additionally, the Commission identifies where there is a remote possibility of an impact on an Indigenous community, or where the impacts are minor in nature; the Commission does not generally expect the proponent's engagement to be as extensive.⁴ The engagement requirements in the Draft TISG should follow a similar approach.

It is also important that the Draft TISG do not require a level of engagement and information gathering that is greater than the extent to which an Indigenous group wants to participate and the amount of information that the group may want to provide. Comments and suggested revisions to this effect are included in the Appendix.

Impact Statement Validation

Suncor believes that further clarification is required in terms of the meaning of "validation" in the Draft TISG. This term appears in the following two sentences:

- "Engagement with Indigenous groups must involve ongoing information sharing and collaboration between the proponent and Indigenous groups to contribute to validation of conclusions and assessment findings."⁵
- "The baseline conditions should be validated by Indigenous peoples."⁶

Although Suncor seeks to obtain alignment with Indigenous groups on conclusions and findings as well as baseline conditions, the term "validation" may be interpreted as requiring approval of these items, which may not be possible in all cases and is not a requirement during engagement activities.⁷ Rather, Suncor's understanding is that this term is meant to require Suncor to confirm the accuracy of any information collected about or from an Indigenous group. This understanding needs to be confirmed, and the underlying uncertainty should be addressed in the Draft TISG.

Alternatives Assessment

While Suncor agrees with the need to assess alternatives to the Project and alternative means of carrying out the Project, these assessments must be performed with due consideration that this is a mine replacement project that requires the use of existing, previously approved infrastructure at Suncor's Base Plant. Accordingly, Suncor believes it is reasonable to scope

⁴ See, for example, CER Report, NOVA Gas Transmission Ltd., GH-003-2018 (Filing ID [A7D5G0](#)) (February 2020), p 136.

⁵ Draft TISG for the Project, p 12.

⁶ Draft TISG for the Project, p 78.

⁷ See, for example, *Ktunaxa Nation v British Columbia (Forests, Lands and Natural Resource Operations)*, 2017 SCC 54 at para 83; *Coldwater First Nation v Canada (Attorney General)*, 2020 FCA 34 at para 194.

these as assessments of the best alternatives within these development constraints (i.e., using existing, previously approved infrastructure at Suncor's Base Plant). In the Appendix, Suncor proposes a list of viable alternatives within these development constraints that might be considered as part of such reasonably scoped alternatives assessments.

Valued Components

Suncor believes that the wording in the Draft TISG around valued components may be confusing to Indigenous groups and other stakeholders. During Suncor's ongoing engagement with Indigenous groups, Suncor has received concerns that the list of valued components will be finalized in the Draft TISG. However, Suncor's understanding is that the list provided in the Draft TISG will be a starting point for engagement and that additional items may be considered or selected items be revised in the Impact Statement. Suncor believes it would be of value to confirm this understanding, and the underlying uncertainty should be addressed in the Draft TISG. Suncor believes that the final list should be developed in consultation with Indigenous communities.

Human Health and Social Conditions

While Suncor is committed to assessing the potential health and social impacts of the Project, the level of detailed information that is included in the Draft TISG will be difficult to obtain from a logistical or confidentiality perspective. The information that would be required includes information that is not typically available in the public domain, or at least not at the level of detail that the Draft TISG would require. Access to much of the health and social conditions information will also depend on the willingness of communities to provide this information and their capacity. Furthermore, due to the small size of many of the communities in question, confidentiality of information may be impossible even with disaggregated data, as unique groups could be identified more easily than would be the case with broader data sets.

Additionally, the Draft TISG would require the Impact Statement to take into account tolerance thresholds identified by each Indigenous community, which will vary across communities and may change over time. These variances could make the assessment of health and social effects for the large number of Indigenous groups identified (taking into account these varying tolerance thresholds) very challenging. Other suggested improvements regarding tolerance thresholds are discussed in the Appendix.

Given the logistical and confidentiality issues outlined above, Suncor believes that the required assessments of human health and social conditions should focus on the communities more likely to be impacted by the Project, as identified through a standard screening process, (discussed further in the Appendix), rather than each of the many Indigenous groups identified (some of which may be affected little or not at all). Suncor is committed to developing a thorough and comprehensive Impact Statement that meaningfully incorporates input from Indigenous groups and other stakeholders. As such, Suncor would like to focus its engagement and assessment efforts where the largest impacts are expected.

A more tailored assessment of human health and social conditions (as suggested above) is also more proportional to the scope of the likely effects of the Project. As noted above, this is a mine replacement project. It is an extension of current operations, rather than a new project requiring construction of all new infrastructure and for which the likely effects would be less certain.



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Conclusion

Suncor appreciates the opportunity to provide comments on the Draft TISG and believes this feedback will provide valuable insight to IAAC's development of the final TISG. Suncor looks forward to the release of the final TISG and to working with Indigenous groups and other stakeholders throughout the Project application process.

If you have any questions or concerns, please contact the undersigned.

Sincerely,

<Original signed by>

Jason Heisler
Regulatory Specialist – Suncor Energy

<contact information removed>



SUNCOR ENERGY INC.

**RESPONSES TO DRAFT
TAILORED IMPACT STATEMENT GUIDELINES
(TISG)**

BASE MINE EXTENSION

Appendix

*Submitted to:
Impact Assessment Agency of Canada (IAAC)*

May 7, 2021



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Section 3: Project Description

Section 3.5 – Workforce Requirements

[Excerpt] The Impact Statement must describe the anticipated labour requirements, employee programs and policies, and workforce development opportunities for the project, including:

- *opportunities for employment outlining the anticipated number of full-time and part-time positions to be created and how this can change during the project, including identification of continued employment for employees of the existing Base Plant post-closure;*
- *anticipated workforce region of origin (i.e. local, regional, out-of-province or international employees);*
- *the skill and education levels required for the positions;*
- *investment in training opportunities;*
- *expected workforce requirements based on the National Occupational Classification system and timelines for employment opportunities;*
- *working conditions and anticipated work scheduling for construction and operation (e.g. hours of work, rotational schedules, workers' modes of travel to work sites, fly-in/fly-out);*
- *anticipated hiring policies, including hiring programs;*
- *workplace policies and programs for Indigenous employment, workforce diversity and employment of women and other underrepresented groups;*
- *employee assistance programs and benefits programs; and*
- *workplace policies and programs, including codes of conduct, workplace safety programs and cultural training programs.*

Response

The Base Mine Extension Project (the Project) is designed to replace an existing mining operation that is currently being depleted. The plan is for the operations workforce from the existing operation to shift to the Project. Some net new jobs may be created during the construction phase. The benefit of the Project will primarily be continued employment for individuals who are employees of the existing operation. Given the nature of the Project, it may not be possible to provide detailed information for each of the items listed in this section of the draft TISG. No specific revisions to this section are suggested; rather, Suncor is clarifying the level of detail of information that may be available for inclusion in the Impact Statement.

Section 4: Project Purpose, Need and Alternatives Considered

Section 4.4 – Alternative Means of Carrying Out the Project

[Excerpt] The Impact Statement must identify and consider the potential environmental, health, social and economic effects and the impacts on the rights of Indigenous peoples of alternative means of carrying out the project that are technically and economically feasible.

Response

Suncor suggests that the assessment of alternative means of carrying out the Project should be limited to a few specific alternatives given that the Project:

- is an extension of the existing operation on the closest lands for which Suncor holds the oil sands rights;
- will involve the transfer of equipment, materials (such as tailings pipelines) and workforce from the Millennium and North Steepbank mines;
- will use an existing crossing of Highway 63 as part of the site access, as well as existing disturbed areas for routing of pipelines to and from the existing secondary extraction facility;
- will use the existing secondary extraction facility;
- will use components of the approved existing operation, including power production, steam production, water supply, waste management facilities (including hazardous waste management and non-hazardous waste disposal), and the emergency response department;
- will use existing camp facilities for workers required during construction, as well as for workers required during scheduled maintenance activities; and
- will use the current workforce as much as possible to supply personnel for operations and for the completion of activities associated with operational planning and management, including short and long-range mine planning, tailings management, reclamation closure planning and completion, environmental monitoring, and regulatory reporting.

In light of the above considerations, Suncor believes that the viable alternative means of carrying out the Project worth considering are:

- technology for bitumen extraction and the primary extraction facility;
- use of a terrestrial closure plan for the dedicated disposal areas included in the tailings management plan rather than the aquatic closure plan; and
- alternative ways of managing the treatment of wastewater upon closure of the Project.

Section 4.4 – Alternative Means of Carrying Out the Project

[Excerpt] The Impact Statement must then describe:

- *preferred alternative means of carrying out the project based on consideration of environmental, health, social and economic effects, the impacts on the rights and interests of Indigenous peoples, technical and economic feasibility, and the use of best available technologies*

Response

Suncor suggests that the wording “preferred alternative” should be clarified to indicate that the preferred alternative is the application case for the Project (i.e., the Project as described in the Detailed Project Description submitted in July 2020).

Section 4.4 – Alternative Means of Carrying Out the Project

[Excerpt] Should potential impacts to critical habitat be predicted, potential risks to critical habitat must be considered for each alternative, including a description of how avoidance of effects was considered and how it may be achieved through alternate means of carrying out the project or alternatives to the project.

Response

Suncor suggests that the assessment of critical habitats should only apply to alternate means of carrying out the Project and that reference to “alternatives to the project” in the last sentence should be removed. Alternatives to the Project include importing bitumen from existing production operations that have already been approved. Suncor believes that a critical habitat assessment should not be required for facilities that have already been approved and that the wording in this section should be amended, accordingly.

Section 6: Description of Engagement with Indigenous Groups

Section 6 – Preamble

[Excerpt] Engagement with Indigenous groups must involve ongoing information sharing and collaboration between the proponent and Indigenous groups to contribute to validation of conclusions and assessment findings. The results of any engagement with each Indigenous group must be presented in the Impact Statement, and, as best as possible, convey the perspective of the Indigenous peoples.

Response

Suncor suggests that the wording in this section should be changed to the following: “Engagement with Indigenous groups must involve ongoing information sharing and collaboration between the proponent and Indigenous groups. Information received from an Indigenous group that is used in the Impact Statement must be validated by that group.” Suncor recognizes the need to collaborate with Indigenous groups and believes that the term “validation” is meant to require Suncor to confirm the accuracy of any information collected about or from an Indigenous group. This understanding could be confirmed, and the underlying uncertainty should be addressed, in the TISG.

Section 6.3 – Analysis and Response to Questions, Comments and Issues Raised

[Excerpt] The Impact Statement must:

- *describe the potential effects and impacts to environmental, health, social, cultural and economic conditions of each Indigenous group, informed by the Indigenous group(s) involved in the assessment and must include both adverse and positive effects;*

Response

Suncor suggests that the wording of this requirement should be changed from “describe the potential effects and impacts to environmental, health, social, cultural and economic conditions of each Indigenous group” to “describe the potential effects and impacts to environmental, health, social, cultural and economic conditions of participating Indigenous groups.” Use of the word “participating” would ensure that Suncor is not required to collaborate with an Indigenous group that does not want to participate, and that the desire of an Indigenous group not to participate is respected. Additionally, it may be advisable to collaborate with several Indigenous communities as a group where similar concerns, objectives or impacts exist in order to determine common solutions. This would be facilitated through the removal of the word “each” from this section, which has been done in Suncor’s suggested wording.

Section 7: Assessment Methodology

Section 7.2 – Selection of Valued Components

[Excerpt] Impact Statement must provide the rationale for selecting specific VCs and for excluding others.

Response

Suncor has been provided the list of required VCs in the draft TISG and is not in a position to comment on the specific rationale for why these were included. Suncor believes that the final list of VCs should be developed in consultation with Indigenous groups and other stakeholders and, at that point, a rationale could be provided for which indicators were included or excluded. This appears to be contemplated by the wording in other parts of Section 7. Suncor suggests that the wording in Section 7 should be revised to clarify that the list of VCs provided is a “proposed” list and that rationale for the inclusion or exclusion of a VC is to be provided in the Impact Statement.

Section 7.3.1 – Temporal Boundaries

[Excerpt] In defining the assessment scenarios, the Impact Statement must:

- *define temporal boundaries for baseline conditions by taking into account past conditions. Past conditions will help establish a historical context and reveal temporal patterns or trends for VCs within the adequate spatial boundaries. Information on past conditions will also inform whether present-day conditions are representative, and how the project may affect them. This should be considered in the proposed pre-development scenario and baseline case and how they relate to other scenarios;*

Response

Suncor wishes to clarify that the Pre-Development Scenario will only be completed for a subset of the technical components in the Impact Statement. The components for which Pre-Development conditions will be considered are landscape-based where aspects can be considered prior to the introduction of development or other anthropogenic disturbance.

Suncor suggests that the technical components for which a Pre-Development Scenario could be completed, along with any additional clarification information, are:

- Air Quality – accomplished through removal of industry sources from the baseline case;
- Hydrogeology – completed through model simulation;
- Hydrology – completed through model simulation;
- Water Quality – completed through model simulation;
- Fish and Fish Habitat;
- Terrain and Soil;
- Vegetation;
- Wildlife; and
- Traditional land use.

Section 7.4 – Effects Assessment Methodology

[Excerpt] The Impact Statement must:

- *take into account the tolerance thresholds regarding the potential negative effects that Indigenous peoples have identified;*

Response

Suncor emphasizes the importance of using a common set of objective thresholds for the Impact Statement to arrive at consistent and defensible findings. The use of community-based tolerance thresholds may be subjective, vary from community to community and change over time. Additionally, the tolerance threshold for a particular impact for a community may be zero, which would not allow for realistic assessment and mitigation of the impact. Suncor suggests that the wording in this section should be changed to the following: “take into account existing established tolerance thresholds”. This revised wording would allow for the use of thresholds developed by Indigenous communities, such as the Fort McKay permissible air quality levels, without requiring communities to create thresholds for this project.

Section 8: Biophysical Environment

Section 8.4.1.1 – Atmospheric Environment / Baseline Conditions

[Excerpt] The Impact Statement must:

- *provide an assessment of the ambient air quality in the project, local and regional study areas and identify existing emissions and contaminant sources;*
- *provide dispersion modelling of a base case for existing pollutant sources and to determine the spatial distribution of pollutants in all study areas;*
- *describe past and existing flaring activities, including number of hours of flaring per year associated with Base Mine operations; and*

Response

Ambient air quality in the Athabasca Oil Sands Area is monitored through the actions of the Wood Buffalo Environmental Association (WBEA), which is “a dynamic collaboration of communities, environmental groups, industry, government and Aboriginal stakeholders that operates the most extensive ambient air network in Alberta with 25 air monitoring stations and 23 passive monitoring stations” (<https://wbea.org/about/about-our-organization/>). The 25 continuous monitoring stations each measure between 2 and 10 air quality parameters, including:

- Carbon Monoxide (CO);
- Hydrogen Sulphide (H₂S);
- Total Reduced Sulfur (TRS);
- Ammonia (NH₃);
- Nitric Oxide (NO);
- Nitrogen Dioxide (NO₂);
- Nitrogen Oxides (NO_x);
- Ozone (O₃);
- Particulate Matter (PM_{2.5});
- Sulfur Dioxide (SO₂);
- Total Hydrocarbons (THC); and
- Methane/Non-Methane Hydrocarbons (CH₄/NMHC).

WBEA also uses integrated sampling methods, including canisters, for measurement of volatile organic compounds (VOCs) and reduced sulphur compounds (RSCs); PUF/XAD2 sandwich cartridges for 23 species of polycyclic aromatic hydrocarbons (PAH); Federal Referenced Method (FRM) for PM_{2.5} and PM₁₀; and MIC collectors for precipitation chemistry. WBEA is currently using VOC and PAH standard operating protocols established by Environment Canada and the U.S. Environmental Protection Agency.

Specialized instruments and analyzers are also in operation. Trace (sub parts per billion) NO_x and NH₃ analyzers improve the understanding of photochemical reactions and aerosol formation. Dicot samplers co-measure fine and course particulate matter (PM_{2.5} and PM_{10-2.5}). Dichot filters are then analyzed by XRF and/or ICP-MS for determination of PM chemical speciation. An ambient ion monitor determines concentrations of NH₃, HNO₂,

HNO₃, SO₂ and anions and cations of PM_{2.5} in ambient air (<https://wbea.org/air/time-integrated-monitoring/>).

Suncor suggests that the baseline condition definition requirement for ambient air should be to provide the results of ambient air quality surveys as conducted by the WBEA, with discussions on all contaminants monitored by the WBEA.

The information available from existing pollutant sources includes details on pollutants for which there are monitoring and reporting requirements in the Alberta *Environmental Protection and Enhancement Act* (EPEA) Approvals issued for the operations.

Suncor suggests the wording in the second bullet of this section of the draft TISG should be changed to the following: “provide dispersion modelling of a base case for existing pollutant sources with information provided on contaminants that are monitored and reported on in accordance with the Alberta *Environmental Protection and Enhancement Act* (EPEA) Approvals for the operations.”

There will be no flaring associated with the Project. There is also no flaring associated with the operation of the mines at Base Plant, although there is flaring associated with the approved Upgrading operations at Base Plant. As a result, Suncor does not believe the assessment of flaring should be a requirement in the TISG.

Section 8.4.1.2 – Atmospheric Environment / Changes to the Atmospheric Environment

[Excerpt] The Impact Statement must:

- *provide details of the occurrence of flaring and associated assumptions. Describe the gas composition under both normal and upset flaring conditions;*
- *predict ground-level pollutant concentrations, and plot predicted concentrations using appropriately scaled contour maps;*
- *provide maps of isopleths illustrating the predicted emissions for the modelling scenarios, using an appropriate scale to visualize the extent of dispersion and sensitive receptors;*
- *determine whether the formation of secondary pollutants resulting from the project has the potential to raise concentrations above baseline levels – if so, identify and characterize these pollutants;*
- *conduct a source contribution analysis to assess the relative contributions of project and non-project emission sources on pollutant concentrations at key receptors. The source contribution analysis should be conducted for all pollutants that exceed 10% of the relevant guidance or standard value. Emission sources should be grouped into appropriate categories, such as mine fleet, mine face, haul roads, material handling, tailings storage areas, etc.*

Response

There will be no flaring associated with the Project. There is also no flaring associated with the operation of the mines at Base Plant, although there is flaring associated with the approved Upgrading operations at Base Plant. As a result, Suncor does not believe the assessment of flaring should be a requirement in the TISG.

Suncor believes the requirement to “predict ground-level pollutant concentrations, and plot predicted concentrations using appropriately scaled contour maps” is the same (or would yield the same results) as the requirement to “provide maps of isopleths illustrating the predicted emissions for the modelling scenarios, using an appropriate scale to visualize the extent of dispersion and sensitive receptors.” Suncor therefore suggests that the latter should be removed. Suncor also suggests that the former requirement should be revised to only require the prediction of ground-level concentrations of pollutants for which there are existing regulatory standards.

The preliminary assessment work that Suncor has completed on the Project includes consideration of the fact that the Project is the development of a mine and extraction operation that will replace the approved mine and extraction operations at the Base Plant. It should also be recognized that the planned production from the Project is lower than that of the existing approved Base Plant mine operations; therefore, the emissions associated with the operation of the Project will be lower than what is currently approved. Suncor therefore expects that the formation of secondary pollutants associated with the Project will not raise concentrations above baseline levels.

Suncor believes the source contribution requirement in this section of the draft TISG should be worded as follows: “conduct a source contribution analysis for long-term (i.e., annual) averaging periods to assess the relative contributions of project and non-project emission sources on pollutant concentrations at key receptors (limited to five key receptor locations). Non-project emissions are to be grouped as a whole, not distinguished by individual projects. The source contribution analysis should be conducted for direct emissions (i.e., no atmospheric chemical transformation) of criteria air contaminants (oxides of nitrogen [NO_x], sulphur dioxide [SO₂], carbon monoxide [CO], fine particulate matter [PM_{2.5}], total suspended particulate [TSP], total reduced sulphur [TRS]/hydrogen sulphide [H₂S]) that exceed 10% of the relevant guidance or standard value at key receptors. Emission sources should be grouped into appropriate categories, such as mine fleet, mine face, haul roads, material handling, tailings storage areas, etc.”

8.4.1.2 – Atmospheric Environment / Secondary Organic Compounds

[Excerpt] The Impact Statement must quantify secondary organic compounds as a result of the project...

Response

Suncor believes the completion of the quantification of secondary organic compounds should only be required if it is determined that the formation of secondary pollutants resulting from the Project has the potential to raise concentrations above baseline levels (which is discussed in Suncor’s comment immediately above).

Section 8.4.1.2 – Atmospheric Environment / Acid Deposition

[Excerpt] The Impact Statement must assess the potential for the project’s emissions of acidifying pollutants to contribute to acid deposition at the regional scale...

Response

Suncor believes that completion of this assessment should only be required if it is determined that Project emissions of acidifying pollutants have the potential to raise emissions above baseline levels.

8.4.1.3 – Changes to the Atmospheric Environment / Mitigation and Enhancement Measures

[Excerpt] The Impact Statement must:

- *provide a description of all the methods and practices to be deployed to reduce and control emissions, including options to reduce flaring (e.g. control equipment, heat or gas recovery system). If the best available technologies are not selected in the project design, the proponent must provide a rationale to justify the technologies selected;*
- *provide a description of existing and planned measures to reduce odours and dust, including a description of improvements to existing infrastructure as applicable;*

Response

There will be no flaring associated with the Project. There is also no flaring associated with the operation of the mines at Base Plant although there is flaring associated with the approved Upgrading operations at Base Plant. As a result, Suncor does not believe any assessment associated with flaring should be a requirement in the TISG.

Suncor is not planning any improvements to existing infrastructure as a component of the Project. Suncor will describe its existing measures for control and reduction of odours and dust at the Base Plant. Suncor will also describe the planned measures for control of odours and dust at the Project.

Section 8.4.2.2 – Changes to the Acoustic Environment

[Excerpt] The Impact Statement must:

- *describe changes in ambient vibration and sound levels resulting from the project;*

Response

Vibration assessments are sometimes conducted for metal mines where blasting is frequent (e.g., blasting occurs on a daily basis). Suncor highlights that the assessment of ambient vibrations from oil sands projects has not been conducted before and may be difficult to quantify due to the infrequent nature of blasting activities. Suncor expects that project operations will not require more than 20 blasting days per year and the minimum distance between blast sites and the nearest population centre (i.e., Fort McMurray) will be more than 4 km. Given the infrequency of project blasting and large separation from sensitive receptors, Suncor submits that a vibration assessment is not required for the project.

Section 8.5.1 – Groundwater and Surface Water / Baseline Conditions

[Excerpt] The Impact Statement must:

- *describe and illustrate on one or more topographic maps, at appropriate scales, the drainage basins in relation to key project components. On the map(s), identify all waterbodies and watercourses, including intermittent streams, wetlands, watershed and sub-watershed boundaries, and indicate the intended locations of crossings of water bodies or watercourses, if applicable, and any watercourse diversions;*

- *provide baseline data for physiochemical parameters (temperature, pH, electrical conductivity, dissolved oxygen, turbidity, total suspended solids, total hardness, total dissolved solids) and relevant chemical constituents (major and minor ions, trace metals (total and dissolved), radionuclides, total mercury, methylmercury, naphthenic acids, PACs (including PAHs, alkylated-PAHs, PAH transformation products, including nitro and oxy-PAHs and dibenzothiophenes (DBTs)), nutrients, organic and inorganic compounds, including those of potential concern). Water sample collection and analysis should use appropriately sensitive detection limits. Include additional data, as appropriate, to illustrate the seasonal and inter-annual variability in baseline surface water quality with sufficient years of baseline data to fully characterize natural variability, including possible changes due to groundwater–surface water interactions;*

Response

Suncor suggests that the intended location of crossings of waterbodies or watercourses, if applicable, and any watercourse diversions, should not be part of the description of baseline conditions. This should be part of the impact assessment.

Polycyclic aromatic hydrocarbon (PAH) transformation products, including nitro and oxy-PAHs, and dibenzothiophenes (DBTs), are not included in routine water quality testing. The Oil Sands Monitoring Program, which is led by Environment and Climate Change Canada (ECCC), does not include the collection and analysis of such information. Additionally, Suncor has not observed any evidence of radioactivity in association with its Base Plant froth treatment tailings porewater; therefore, it is not warranted to provide this information as part of the baseline conditions.

Section 8.5 – Groundwater and Surface Water / Changes to Groundwater and Surface Water

[Excerpt] The Impact Statement must:

- *present an integrated chemical mass balance model incorporating surface and groundwater chemical loads to or from all major project components, for all project phases; this should include:*
 - *a clear description and rationale for all input parameters and assumptions, and*
 - *base case estimate (i.e. most likely scenario), worst case scenario, best case scenario, plus applicable sensitivity scenarios;*
- *provide an assessment for off-site migration pathways for impacted groundwater, and an analysis of contaminant attenuation capacities within the hydrogeological units of the project study area;*

Response

Suncor suggests that rather than best case estimates, worst case scenario, best case scenario, plus applicable sensitivity scenarios, the requirement should be to define the median and 99.9 percentile statistics.

Suncor suggests that rather than providing an analysis of contaminant attenuation capacities within the hydrogeological units of the Project study area, a conservative approach should be taken when the quality of the water in the hydrogeological units is assessed, without consideration of any attenuation.

Section 8.6.3 – Vegetation and Riparian, Wetland and Terrestrial Environments / Mitigation and Enhancement Measures

[Excerpt] The Impact Statement must describe the mitigation measures for the potential effects of the project on riparian, wetland and terrestrial environments, including:

- *describe and justify the construction methods used to cross wetlands and other sensitive terrestrial habitats, and the criteria for determination of techniques proposed for each crossing, including the locations where trenchless crossing methods will be employed;*
- *describe and justify the biosafety measures that will be employed to identify biological risks and eliminate their propagation, such as diseases in the soil or the roots.*

Response

The Project will involve removal of wetlands in the development area but does not involve the crossing of wetlands and other sensitive terrestrial habitats. As a result, Suncor suggests that the bullet that requests information about construction methods be removed.

In Suncor's view, the justification of biosafety measures is an excessive requirement for the proposed development. As a result, Suncor suggests that the bullet that requests information about biosafety measures be removed. Mitigations taken in the collection of baseline data, such as ensuring equipment arrives clean and that unhealthy vegetation is identified for sampling, will be part of our baseline methodology.

Section 8.7.1 – Fish and Fish Habitat / Baseline Conditions

[Excerpt] The Impact Statement must:

- *provide a list of all waterbodies and watercourses (permanent and intermittent) that may be directly or indirectly affected by the project. Group water bodies and watercourses by sub-watershed using the following criteria:*
 - *the type of watercourse (e.g. lotic or lentic system, lake, river, pond, temporary or permanent stream);*
 - *the size of the water bodies and watercourses, the width at the ordinary high water mark (OHWM) based on the following classes: large stream (over 20 m in width), medium stream (between 5 and 20 m in width), small permanent and intermittent streams less than 5 m in width);*
 - *the sensitivity of fish habitat; and*
 - *for crossings, the anticipated or selected method of crossing (trenched or trenchless);*

Response

Suncor suggests that the information on planned crossings and the method of crossing should not be part of the description of baseline conditions. This should be part of the impact assessment.

Section 8.7.2 – Fish and Fish Habitat / Effects to Fish and Fish Habitat

[Excerpt] For each waterbody and watercourse potentially affected by the project, the following must be documented and considered in the determination of effects:

- *potential fish mortality associated with noise caused by project activities in or near the aquatic environment, or by entrapment or entrainment at fish intakes during water pumping or withdrawal activities (e.g. hydrostatic testing) (see also section 3.5.2 of Annex I);*
- *potential changes in light and noise levels that could result in increased stress, and chronic or acute effects to fish health (see also section 3.5.1; Annex I);*

Response

Potential fish mortality associated with entrapment or entrainment at fish intakes during water pumping or withdrawal activities will be assessed as part of the Impact Statement. However, Suncor suggests removing the requirements to assess potential fish mortality associated with noise and potential changes in light and noise levels that could result in increased stress, and chronic or acute effects to fish health. This type of assessment has not previously been completed for oil sands environmental impact assessments and Suncor does not currently have a methodology to complete a thorough assessment of these impacts.

Section 8.7.3 – Fish and Fish Habitat / Mitigation and Enhancement Measures

[Excerpt] The Impact Statement must describe the proposed mitigation measures for fish, fish habitat and aquatic resources applicable for each phase of the project (design, construction, and operations) (see also section 3.5.2 of Annex I), including:

- *measures to mitigate sensory disturbance and functional fish habitat loss that may result from project components and activities;*

Response

See above response

Section 8.8.2 – Birds, Migratory Birds and Their Habitat / Effects to Birds, Migratory Birds, and Their Habitat

[Excerpt] The Impact Statement must:

- *describe predicted direct, incidental and cumulative effects to migratory and non-migratory birds and their habitat, including species at risk, and their eggs and nests, including population level effects, that could be caused by all project activities, including but not limited to:*
 - *site preparation/vegetation removal, particularly of habitats important for nesting, foraging, staging, overwintering, and movement corridors between habitat;*
 - *deposit of harmful substances in waters that are frequented by migratory birds;*
 - *construction and operation of tailings disposal facilities (i.e. tailings ponds), wastewater ponds, or other ponds containing process liquids or substances harmful to birds;*
 - *construction and operation of aerial structures, including transmission and distribution lines;*

- *changes to the aquatic flow regime and sediment load;*
- *changes to the atmospheric, acoustic, and visual environment (noise, vibration, lighting, air emissions and dust);*
- *flaring of gas;*
- *site reclamation; and*
- *any project activities that may occur during critical periods and/or restricted activity periods for migratory and non-migratory bird species, including species at risk;*
- *analyze the predicted effects of the project to identified migratory and non-migratory birds, plus each species at risk and priority BCR species;*

Response

Suncor suggests removing the flaring reference as there is no flaring of gas associated with the Project. See the above responses for more detail.

Suncor highlights that there are 102 priority bird species for the Boreal Taiga Plains – BCR6. Suncor does not believe that this requirement means that each of the 102 species must be assessed individually. As a result, Suncor suggests that the wording in the last bullet should be changed to the following: “analyze the predicted effects of the project to priority BCR species found in the Project Area.”

Section 8.8.3 – Birds, Migratory Birds and Their Habitat / Mitigation and Enhancement Measures

[Excerpt] The Impact Statement must:

- *provide a waterfowl protection plan which addresses how bird use of the project area will be monitored consistently across the project area and during project activities, including a description of how monitoring thresholds and how exceedances of these thresholds will be managed.*

Response

Suncor suggests that this requirement should be modified to: “provide the proposed Bird Protection Plan that Suncor will develop for the Project in compliance with the expected requirements of the Alberta *Environmental Protection and Enhancement Act* (EPEA) Approval for the Project.”

Section 8.9.1 – Wildlife and Its Habitat / Baseline Conditions

[Excerpt] The Impact Statement must:

- *take into account the species identified as being of importance or sensitive from an ecological, economic or human point of view, which may include, among others, insects and arthropods (e.g. the reference conditions of certain insect larvae in aquatic environments can serve as relevant indicators for the subsequent development of a biodiversity monitoring program);*

Response

Suncor believes this is a level of detail that is much greater than what should be expected of information used in the assessment of impacts to wildlife in association with a proposed project. This information would more appropriately be considered in a separate research project. Suncor suggests that including

general information about species such as insects and arthropods within discussions on trophic connections/food web concepts is an appropriate level of detail for the impact analysis.

Section 8.9.2 – Wildlife and Its Habitat / Effects to Wildlife and Its Habitat

[Excerpt] The Impact Statement must:

- *take into account the tolerance thresholds for potential adverse effects that Indigenous peoples have identified;*

Response

As stated in an earlier comment, Suncor emphasizes the importance of using a common set of objective thresholds for the Impact Statement to arrive at consistent and defensible findings. The use of community-based tolerance thresholds may be subjective, vary from community to community and change over time. Additionally, the tolerance threshold for a particular impact for a community may be zero, which would not allow for realistic assessment and mitigation of the impact. Suncor suggests that the wording in this section should be changed to the following: “take into account existing established tolerance thresholds”. This revised wording would allow for the use of thresholds developed by Indigenous communities, such as the Fort McKay permissible air quality levels, without requiring communities to create thresholds for this project.

Section 9: Human Health Conditions

Section 9.1 – Baseline Conditions

To understand the context and to develop the baseline health profiles of local and Indigenous communities, the proponent must:

- *develop community health profiles that reflect the overall health of each community, including birth rates, death rates, sexually transmitted infections, injuries, chronic disease rates, mental health status and other community-relevant health information.*
- *describe baseline health conditions and existing health inequalities using disaggregated data include information on health VCs corresponding to health behaviours and human biology*

Response

Human biology data is difficult to collect. Alberta's Interactive Health Data Application is a website that offers regional statistics; however, recent correspondence with Alberta Health has indicated that they are no longer able to share that information unless permission is obtained from Indigenous groups themselves. Alberta Health are honouring OCAP (ownership, control, access, and possession) principles – the information belongs to communities and is not for Alberta Health to share with the public. Suncor will try to get this information by obtaining permission from the communities. However, if the request is declined, Suncor will not be able to access that level of detail, and this aspect of baseline conditions will have to be examined through a broader lens. Suncor will document the process undertaken to request this information.

Section 9.1 – Baseline Conditions

To understand the context and to develop the baseline health profiles of local and Indigenous communities, the proponent must:

- *provide baseline concentrations of contaminants in ambient air, drinking water and tissues of traditional foods consumed by Indigenous peoples and local communities. For game, the proponent should work with local Indigenous peoples to collect tissue samples where appropriate*

Response

Conducting these food quality studies can require a great deal of effort and may not be practical as a stand-alone study for this project. However, food quality data have been collected in the Oil Sands through a variety of programs over the last 10 years. For example, some relevant regional data may have been collected through the federal First Nations Environmental Contaminants Program and some communities likely will have received funding for this. Suncor plans to approach the Indigenous communities to determine if they have participated through this program and, if so, if they would be willing to share relevant information for the purposes of the human health assessment.

In addition, there is the ongoing joint oil sands monitoring program that ECCC is involved with. Some of the data are publicly available through the joint oil sands monitoring program website. However, some of the detailed data have been challenging to retrieve in the past. Suncor plans to approach ECCC and the Government of Alberta for this information. The JOSM and FNECP data, as examples, are applicable to the baseline health assessment and can be used as input for the human health risk assessment exposure model. Suncor may seek help from IAAC in requesting this information.

Section 9.2 – Effects to Human Health

The Impact Statement must:

- a. present data separately for each Indigenous group, and should be broken down by community;*
- b. describe any potential project-related effects on the community health profile (e.g. changes in existing community activities) and the availability of health-related resources; and*
- c. indicate the potential health effects, short-term or long-term, resulting from changes on biophysical and social determinants of health during the construction phase, and determine whether those effects would change again during the operation phase, at closure and during reclamation.*

Response

The large scope of these requirements is not practical or relevant based on the number of Indigenous communities and their locations in relation to the Project. Due to the small size of many of these communities, disaggregated data can inadvertently breach confidentiality as unique groups are distinguished more easily from the broader data set. A screening (selection) process to identify relevant communities will be completed, which is standard procedure for health impact assessments. The focus should be on the communities that are most likely to be affected. The screening process will evaluate where there is overlap between the air, water, and terrestrial study areas, and the locations where people could be impacted, which include their communities, traditional territories, and areas of active or seasonal traditional land use. Whenever possible, the health impact assessment will describe impacts for each individual Indigenous group that is identified and included through the screening process.

Section 9.2.1 – Human Health Conditions / 9.2.1 – Biophysical Determinants of Health

With regard to the biophysical determinants of health, the Impact Statement must:

- identify all the potential routes of exposure to contaminants, taking into account, among other things, potential infiltration of carbon monoxide into inhabited areas during blasting activities;*
- conduct a Human Health Risk Assessment (HHRA) using best practices (see Health Canada, 2019. Guidance for Assessing Human Health Impacts in Environmental Assessments: Human Health Risk Assessment). Include consideration of synergistic and additive effects of various COPCs, and all exposure pathways for COPC to adequately characterize potential biophysical risks to human health. A multimedia HHRA may need to be considered and conducted for any COPC with an identified risk and multiple pathways;*
- describe and quantify, if possible, specific thresholds used for the health effects assessment and indicate if different thresholds have been considered for vulnerable populations, including thresholds based on sex and age. Provide a justification if any applicable threshold was not used;*

Response

Suncor highlights that it is not technically feasible to demonstrate the potential infiltration of carbon monoxide into inhabited areas during blasting activities.

Some of the requirements are inconsistent with the federal guidance on conducting HHRAs. For example, Health Canada's guidance for conducting human health risk assessments is that only additive effects are considered. This was recently reinforced in Health Canada's 2021 Guidance on Human Health Preliminary Quantitative Risk Assessment, Version 3.0.

There are often no established thresholds for the determinants of health required by the Health Impact Assessment scope applicable to all communities, or broken down by subgroup (e.g., vulnerable populations). Community-specific health thresholds may be possible, but to identify them would be a significant undertaking that is outside the responsibility of a project proponent, but, in Suncor's view, should be the responsibility of government. In assessing health, Suncor plans to follow Health Canada's guidance for completing Human Health Risk Assessments and for completing Health Impact Assessments of designated projects in Canada.

Section 10: Social Conditions

Section 10.4.1 – Community Well-Being / Baseline Conditions

To understand the community context, the Impact Statement must describe:

- *influences on community well-being; (e.g. disposable income, cost of living, lifestyle; language; rates of alcohol and substance abuse, and of illegal activities and violence; rates of sexually transmitted infections and ethnicity- and gender-based violence; etc.), including indicators proposed by Indigenous groups;*
- *access, ownership and use of resources (e.g. land tenure, food, water, social infrastructure);*
- *food security, access to country foods (traditional foods) and baseline perceived quality;*
- *community cohesion, including factors such as community or neighbourhood engagement, support, and social networks and other social activities;*
- *the psychosocial environment and its influence on community well-being;*
- *factors supporting mental health and community well-being (including perceived stress, feelings of isolation, of remoteness, of concern for future generations, and other factors that have been identified in the wake of youth suicide in rural and remote communities);*
- *the socio-cultural environment, identifying Indigenous peoples and predominant cultural communities;*
- *demographic characteristics and major socio-cultural concerns of the population;*
- *safety of Indigenous and non-Indigenous women and girls, identified LGBTQ and two-spirited people;*
- *relevant historical community background; and*
- *community leadership and governance structure.*

Response

Suncor suggests that the introduction to the bulleted list be changed to: “To understand the context for potentially impacted communities, the Impact Statement should take consideration of the following:”.

Suncor suggests that the sixth bullet should be changed to the following: “factors supporting mental health and community well-being (this could include perceived stress, feelings of isolation, of remoteness, of concern for future generations).”

Suncor highlights that some of the requested information is not publicly available at the community level. Access to much of this information will depend on the communities themselves. Due to the small size of many of these communities, disaggregated data can inadvertently breach confidentiality as unique groups can be identified more easily than in broader data sets. Otherwise the work in this section will bias towards the communities that have excess capacity and may diminish the viewpoints of those who may be most directly impacted.

Suncor would also like to note that the level of detail – and for which communities this baseline data will be collected – will also depend on the screening phase of the assessment process. Specifically, baseline

data will relate to the anticipated effect pathways of relevance to the assessment and will only be collected if it is of relevance to the assessment.

Section 10.4.2 – Community Well-Being / Effects on Community Well-Being

[Excerpt] The proponent must apply GBA+ within the information related to community well-being and document how potential effects are different across diverse subgroups, including among Indigenous peoples and other relevant subgroups (e.g. women, youth, elders). Ethical guidelines and relevant cultural protocols governing research, data collection and confidentiality must be adhered to. This is particularly important in the case of information gathered and studies conducted with vulnerable subgroups (e.g. analysis of gender-based violence).

Response

See comments above about the granularity of the assessment and the difficulty of collecting data at this level of detail. For example, Statistics Canada does not disclose data (e.g., Aboriginal Population Profile data) for sub-groups in some of the smaller Indigenous communities in the region. Due to the small size of many of these communities, disaggregated data can inadvertently breach confidentiality as unique groups are distinguished more easily from the broader data set. These parameters should be at the discretion of the community and, due to privacy issues, should be the subject of a direct community-to-government dialogue.

Section 12: Indigenous Peoples

Section 12 Preamble

[Excerpt] The proponent is also encouraged to work with Indigenous groups who demonstrate an interest in drafting sections of the Impact Statement that concern them, including sections describing Indigenous knowledge, on the subject of current use of lands and resources for traditional purposes, on potential impacts to the rights and interests of Indigenous peoples, and for the identification of mitigation or enhancement measures. Where applicable, sections of the Impact Statement prepared by Indigenous peoples must be clearly identified.

Response

Suncor will work with Indigenous groups to include their information in the environmental baseline, assessment, and Impact Statement. Suncor understands the intent of this section but believes the wording should be clarified. Suncor suggests that the wording around “drafting sections of the Impact Statement that concern them” should be revised to “drafting sections of the Impact Statement that relate to areas of Traditional Land and Resource Use, Culture, and Rights and Interests, where appropriate relative to the potential for a group to experience impacts related to the Project”. This revised wording reflects a more precise definition of the sections of the Impact Statement that Suncor will work with Indigenous groups in drafting.

Section 12.2.1 – Current Use of Lands and Resources for Traditional Purposes / Baseline Conditions

[Excerpt] The Impact Statement must identify and describe:

- *all uses of banks, waterways and water bodies navigable by Indigenous peoples, such as for travel and recreation (e.g. canoe route and portage trails);*

Response

Suncor highlights that it would be highly dependent on information received through working with Indigenous groups in order to meet the requirements in this section. As such, Suncor suggests that the wording “The Impact Statement must identify and describe” should be revised to “The Impact Statement must identify and describe the following information if provided and validated by Indigenous groups”.

Suncor also suggests that the wording “all uses of banks, waterways and water bodies” should be revised to “traditional uses of banks, waterways and water bodies” as that is the focus of this section of the Impact Statement.

Section 12.3.1 – Health, Social and Economic Conditions of Indigenous Peoples / Baseline Conditions

[Excerpt] The baseline conditions established for Indigenous peoples must take into account Indigenous governance regimes and Indigenous laws associated with health and socio-economic conditions. The baseline conditions should provide community-specific social and economic conditions on a disaggregated basis (without identifying individuals).

Response

Suncor believes that the role of evaluating Indigenous governance regimes or Indigenous laws on socio-economic conditions are outside of the scope of a project Impact Statement. The interpretations and execution of these regimes and laws are at the sole discretion the Indigenous groups.

Suncor also highlights that data may not be publicly available at the level of detail requested and that due to the small size of many of these communities, disaggregated data can inadvertently breach confidentiality as unique groups can be identified more easily than in broader data sets. Access to much of this information will also depend on the willingness of communities to share it with Suncor.

Accordingly, Suncor suggests that the final sentence in this excerpt should be revised to state “The baseline conditions should provide community-specific social and economic conditions on a disaggregated basis (without identifying individuals), where appropriate and as provided by Indigenous groups”.

Section 12.3.2 – Health, Social and Economic Conditions of Indigenous Peoples / Effects on Indigenous Health, Social and Economic Conditions

The Impact Statement must:

- *describe the health, social and economic effects that the project may have on Indigenous peoples;*
- *consideration of how economic boom and bust cycles in remote communities impact social and cultural wellbeing;*
- *describe and quantify potential effects to mental and social well-being of Indigenous peoples (e.g. stress, depression, anxiety, sense of safety);*
- *describe and quantify specific thresholds and document if different thresholds were considered for vulnerable Indigenous peoples, including by sex and age; provide rationale and justification if specific thresholds are not used;*
- *apply GBA+ across all health, social and economic effects and document how potential effects or changes to health, social or economic conditions could be different for diverse subgroups, including community relevant subgroups (e.g. women, youth, elders);*

Response

The economic fluctuations in the Regional Municipality of Wood Buffalo will be examined through socio-economic baseline studies, and the context of the current economic climate will be considered in the Project’s economic impact assessment. However, boom and bust cycles are cumulative outcomes as a result of many factors (including those of global influence) that impact multiple operators and associated industries. Suncor suggests that undertaking this work could be better managed as a separate government research project, rather than as a component of the assessment of the effects of this individual project.

Mental health and social well-being are best addressed through community-led and qualitative discourse. Suncor suggests that the quantification of potential effects and evaluation against specific thresholds regarding impacts to the mental and social well-being of Indigenous Peoples is also more

appropriately addressed by government, and potentially through a separate government-managed research project.

Section 12.4.1 – Rights of Indigenous Peoples / Baseline Conditions

The Impact Statement must:

- a. identify and describe the Treaty and Aboriginal rights of Indigenous peoples potentially affected by the project, including historic, regional, and community context. The description should include maps, when available, to illustrate the location of treaties, traditional territories and Metis harvesting zones;*
- b. document the nature and extent of the exercise of these rights by the Indigenous groups who are potentially impacted by the project, as identified by the Indigenous group(s). Indigenous groups may also provide their perspective through consultations with the Agency or directly to the review panel. Indigenous groups should be involved in the choice for the scoping and assessment of the nature and extent of the exercise of rights of Indigenous peoples; and*
- c. consider how the information requirements related to physical and cultural heritage, current use, Indigenous health, social, and economic conditions are applicable to the nature and extent of the exercise of rights.*

Response

Suncor highlights that it would be highly dependent on information received through working with Indigenous groups in order to meet the requirements in this section. As such, Suncor suggests that the wording “The Impact Statement must” should be revised to “The Impact Statement must identify and describe the following information if provided and validated by Indigenous groups.”

Section 12.4.1 – Rights of Indigenous Peoples / Baseline Conditions

[Excerpt] Further information related to rights may include:

- landscape conditions that support the Indigenous group’s exercise of rights (e.g. large, intact and diverse landscapes; areas of solitude; connection to landscape);*

Response

Suncor suggests that this section should refer to both historical and current landscape conditions as it important to distinguish how uses have changed over time.

Section 14: Residual Effects

[Excerpt] After considering the consequences of technically and economically feasible mitigation measures, the Impact Statement must describe any residual environmental, health, social or economic effects. The Impact Statement must:

- *characterize the residual effects, even if deemed small or negligible, using criteria and language most appropriate for the effect. If an Indigenous group identifies that there are residual effects to rights or interests, those effects should be carried through for residual effects analysis;*

Response

Predicted residual effects that are negligible have typically not been carried forward for impact classification in previous assessments completed by Suncor. Residual effects from negligible impacts may be difficult to quantify due to low magnitude and/or duration of the impact. Suncor suggests removing the term “negligible” from this section of the TISG.

Section 15: Cumulative Effects Assessment

Section 15 – Cumulative Effects Assessment Preamble

[Excerpt] The proponent must consider the following cumulative effects raised during the Planning phase in the cumulative effects assessment, or justify their exclusion, where appropriate:

- *effects at other project sites due to habitat loss or disturbance in the project area (e.g. changes in the level of risk for birds and other wildlife species interacting with tailings ponds outside the project area);*

Response

The cumulative effects assessment approach that is proposed by Suncor considers the effects to habitat loss or disturbance from existing and approved projects in addition to the Project on a regional basis. Consideration will be given to whether effects from the Project will modify the risks for wildlife in relation to other project sites; however, the focus will be assessing effects at a regional perspective instead of on a project-by-project basis.

Section 21: Appendix 2 - Additional Guidance

Section 21.1 – List of Project Activities

[Excerpt] The list of project activities, as required in section 3.4 Project components and activities, should focus on activities with the greatest potential to have environmental, health, social and economic effects, or impacts on Indigenous peoples and their rights, as determined by Indigenous groups.

Response

Seismic activities are listed in this section but are not included in planned activities for the Project. Suncor suggests removing seismic activities from the list in this section.

Section 21.4 – Application of GBA+

[Excerpt] The application of GBA+ should not be limited to simple descriptions of differences but should include an explanation of the underlying causes of these inequalities. Quantitative information, including gender sensitive data, should also be complemented by qualitative insights from studies or consultations, and other sources. Characterizing effects should be based largely on the level of concern expressed through engaging with the affected Indigenous groups and community members.

Response

Providing a well balanced and comprehensive assessment involves Suncor considering both the concerns expressed by Indigenous groups, as well as evaluating the data collected. Suncor suggests that the last sentence should be reworded to “Characterization of effects should be based on both on data collected and the level of concern expressed through engaging with the affected Indigenous groups and community members.”

Section 21.12 – Additional Guidance for Biophysical Components / Atmospheric environment

[Excerpt] The following guidance should be consulted in conjunction with section 8.4.1 Atmospheric environment:

- For flaring: provide details of the occurrence of flaring and associated assumptions. Describe the gas composition under both normal and upset flaring conditions;
- photochemical modelling may be necessary to model long range transport, as well as transformation processes that are beyond the capabilities of standard models, particularly for SOA and acid deposition;

Response

There are no flaring activities directly associated with the Project. Also, Suncor believes the completion of additional modelling of secondary organic compounds and acidifying emissions should only be required if it is determined that the formation of secondary pollutants and acidifying emissions resulting from the Project have the potential to raise concentrations above baseline levels.

Section 21.12 – Additional Guidance for Biophysical Components / Birds and their habitat

[Excerpt] The following guidance should be consulted in conjunction with section 8.8 Birds, migratory birds and their habitat.

Response

Suncor suggests that the qualifier “For surveys conducted after March 1, 2021,” should be added to the start of this section. Many surveys have been completed prior to the issuance of the draft TISG. These surveys followed Alberta guidance on completing surveys that was in place at the time the surveys were conducted.

Section 21.12 – Species at Risk

[Excerpt] The preliminary list of species at risk that may use the project study area and local study area is as follows:

- *Bank Swallow (Riparia riparia);*
- *Barn Swallow (Hirundo rustica);*
- *Canada Warbler (Cardellina canadensis);*
- *Common Nighthawk (Chordeiles minor);*
- *Evening Grosbeak (Coccothraustes vespertinus);*
- *Horned Grebe (Podiceps auritus);*
- *Olive-sided Flycatcher (Contopus cooperi);*
- *Peregrine Falcon (Falco peregrinus);*
- *Rusty Blackbird (Euphagus carolinus);*
- *Short-eared Owl (Asio flammeus);*
- *Western Grebe (Aechmophorus occidentalis);*
- *Whooping Crane (Grus americana);*
- *Yellow Rail (Coturnicops noveboracensis);*
- *Western Toad (Anaxyrus boreas);*
- *Little Brown Myotis (Myotis lucifugus);*
- *Northern Myotis (Myotis septentrionalis);*
- *Caribou (Rangifer tarandus; including West Side Athabasca range);*
- *Grizzly Bear (Ursus arctos); and*
- *Wolverine (Gulo gulo);*

Response

Suncor requests that three of the listed species be removed from the list of species for the reasons presented below.

Western Grebe (*Aechmophorus occidentalis*)

The western grebe is a colonial nesting species with current and historical breeding locations documented throughout the Province of Alberta (Wollis and Stratmoen 2010). The known breeding locations in the province all occur more than 200 km south and west of the Project Regional Study Area (RSA). A query of the provincial Fisheries and Wildlife Management information System (FWMIS) dataset for the townships and ranges that overlap with the Project RSA indicated that a total of three incidental observations of this species have been made in the RSA in the past. Each observation was of a single individual with

observations occurring in 2008, 2018 and 2019 (FWMIS 2020). All observations appeared to be made as part of waterbird monitoring efforts at existing oil sands operations.

The latest information on the status of western grebe in Alberta (AESRD and ACA 2013) includes information which indicates that the Project study area and local study area are not in the breeding resident distribution for western grebes. Additionally, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 2014) status report for the species includes information which indicates that that the Project study area and local study area are not in defined breeding areas for western grebes.

The western grebe is a diving piscivorous bird that occupies deep, medium to large freshwater lakes and waterbodies in Alberta during the breeding season (COSEWIC 2014; Wollis and Stratmoen 2010). Based on the limited historical observations of western grebe in the RSA and the lack of overlap between the RSA and the known breeding range for the species in the province, western grebe should be removed from the final list of Species at Risk that must be considered in the Impact Statement.

Grizzly bear (*Ursus arctos*)

The range of the grizzly bear in Alberta primarily extends along the western border with British Columbia with an additional management unit occurring south of Lesser Slave Lake in the central portion of the province (ASRD and ACA 2010). The Status of the Grizzly Bear in Alberta report (ASRD and ACA 2010) includes information which indicates that the Project study area and local study area are not in either of the core or secondary grizzly bear areas. Grizzly bear core and secondary habitat occurs approximately 200 km southwest of the Project RSA. Additionally, the COSEWIC (2012) status report includes information which indicates that that the Project study area and local study area are not in areas frequented by grizzly bears.

While grizzly bears are considered wide-ranging species that maintain large home ranges, the species is not expected to be present in the RSA apart from the potential very rare migrant individual that has strayed from the species' typical range in the province.

A review of the provincial FWMIS dataset for the townships and ranges that overlap with the Project RSA indicated that two historical observations of grizzly bear have been recorded within the RSA (FWMIS 2020). Both observations were made in 2005 (potentially a single individual) and occurred at least 30 km from the proposed Project Area. Due to the lack of overlap between known grizzly bear range in the province and the Project RSA, and the limited number of historical observations of the species made in the RSA, grizzly bear should be removed from the final list of Species at Risk that must be considered in the Project Impact Statement.

Peregrine falcon (*Falco peregrinus [anatum/tundrius]*)

According to the COSEWIC status report for peregrine falcons (COSEWIC 2017), the Project RSA overlaps with the *anatum/tundrius* subspecies range of peregrine falcons in Canada. This subspecies was previously classified as 'Special Concern'; however, following a status re-assessment completed in 2017, this subspecies is now classified as 'Not at Risk' (COSEWIC 2017). The subspecies remains under Schedule 1 of the *Species at Risk Act* pending further consideration of status change (Government of Canada 2021).

Populations of peregrine falcons in Alberta are separated into two sub-groups: the South/Central Population that is comprised of nesting pairs that occur south of 56°N latitude, and the Northern Population which occurs north of Lake Athabasca and west into Wood Buffalo National Park (AEP 2019). The ranges for each sub-group do not overlap. The City of Fort McMurray is at approximately 56.7°N latitude, just north of the northernmost extent of the South/Central Population range described by AEP

(2019). The southern extreme of the RSA, which represents a 50 km buffer around the Project and includes Fort McMurray, overlaps the northernmost extent of the South/Central Population range. Historical nesting areas for the species in the Province of Alberta occurred primarily in the central portion of the province, near the cities of Edmonton and Calgary, as well in the far northeast portion of the province, near the town of Fort Chipewyan (AEP 2019).

There has been a single historical observation of a pair of peregrine falcons made within the RSA during the breeding season, south and west of Fort McMurray along the Athabasca River (FWMIS 2020). Observations associated with this pair were made in 2001 and occurred more than 35 km from the proposed Project Area. Average home ranges for peregrine falcons in Colorado during the breeding season measured between 358 and 1,508 km², and hunting flights for the species typically do not extend beyond 5 km from their nesting locations (White et al. 2020). The COSEWIC status report for peregrine falcon states that the average home range size ranges from 100 to 500 km² (COSEWIC 2017). The maximum home range size (1,508 km²) described in White et al. (2020) would amount to a home range with a straight-line radius of approximately 22 km extending outwards from the nesting site.

The Master Schedule of Standards and Conditions (MSSC) (AEP 2021) provides recommended setback distances from human disturbance for a variety of Species at Risk in Alberta. The recommended setback distances are established based on the anticipated response of wildlife species to anthropogenic disturbance and can be used to define estimated “zones of influence” around anthropogenic disturbance of varying levels of intensity. The recommended setback distance for peregrine falcon nesting sites in Alberta is 1,000 m according to the MSSC (AEP 2021). Based on this guidance and the information on home range size for this species summarized above, any nesting pairs associated with the South/Central Population in the province are expected to maintain home ranges that would not overlap with the LSA and would fall well outside of the anticipated zone of influence associated with the Project Area.

Individuals belonging to the Northern Population have the potential to pass through the RSA during their spring and fall migrations (White et al. 2020). However, incidental observations of the species have historically been rare in the RSA. Two records are available (2014 and 2016) and both occurred at least 30 km to the north and northeast of the terrestrial LSA (FWMIS 2020).

The potential effects pathways for the Project and this species are limited because the species’ breeding range does not occur in proximity to the LSA. Given that breeding pairs will forage in relative proximity to their nesting sites (i.e., within approximately 5 km: White et al. 2020), it is extremely unlikely that any pairs that are part of the South/Central Population would be using the LSA for hunting during the breeding season. The species also typically hunts bats and birds (White et al. 2020), so it would be unlikely to interact with process-affected water during its migration (i.e., the species very rarely hunts for fish). Habitat loss associated with the proposed Project could result in a decline in prey species available to peregrine falcons during migration in this region but other suitable habitat is abundant nearby. Given the considerable flexibility that this species demonstrates in its nesting habitat and foraging preferences, habitat change is not considered an immediate threat for the species (AEP 2019).

For the brief period of time that individuals from the Northern Population may come in proximity to the LSA, they will be migrating through and are unlikely to spend more than two days in the area per year. While peregrine falcons will spend time roosting and hunting along their migratory routes (White et al. 2020), the scarcity of historical observations made in the RSA (FWMIS 2020) suggests that peregrine falcons are more likely to be passing through the area surrounding the LSA over short periods of time (i.e., over one day), rather than lingering in the study area to hunt. Due to the low probability of this species

using the Project study area and local study area, peregrine falcon should be removed from the final list of Species at Risk that must be considered in the Project Impact Statement.

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