

Federal Authority Advice Record (FAAR)

FAAR Response must be submitted by August 14, 2024

Black Bear Power Plant Project – Kiwetinohk Energy Corp.

Registry File: 88747

Department/Agency	Health Canada
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1. a) Is it probable that your department or agency may be required to exercise a power or perform a duty or function related to the project to enable it to proceed?

If yes, specify the Act of Parliament and that power, duty or function.

b) Please describe any Indigenous or public consultation that will be undertaken in relation to the exercise of that power, duty or function, including when it would take place.

Not Applicable (NA)

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2. Is your department or agency in possession of specialist or expert information or knowledge in its area of expertise that may be relevant to the conduct of an impact assessment of the project?

Specify the specialist or expert information or knowledge.

As a federal authority, Health Canada (HC) will provide specialist or expert information and knowledge in the Department's possession (expertise) to support the assessment of impacts on human health from projects considered individually or cumulatively under the Impact Assessment Act (IAA). It should also be noted that expertise related to assessing human health that is relevant to impact assessment (IA) may be held by other federal, provincial, and municipal partners, reflecting the shared jurisdiction for environmental and human health within Canada. For example, the Public Health Agency of Canada (PHAC) has expertise in the social determinants of health approach and health equity, and may provide that expertise through Health Canada, upon request from the reviewing body(ies). How the expertise provided by Health Canada and PHAC will be used in the IA process will ultimately be determined by the reviewing body(ies).

Health Canada can provide human health expertise in the following areas:

- Air quality;
 - Recreational and drinking water quality;
 - Country foods;
 - Noise;
 - Methodological expertise in human health risk assessment;
 - Methodological expertise in health impact assessment;
 - Electromagnetic fields;
 - Radiological emissions; and,
 - Public health emergency management of toxic exposure events.
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3. Has your department or agency considered the project; exercised a power or performed a duty or function under any Act of Parliament in relation to the project; or taken any course of action that would allow the project to proceed in whole or in part?

Specify.

Not applicable (N/A)

4. Has your department or agency had previous contact or involvement with the proponent or other party in relation to the project? (for example: an enquiry about methodology, guidance, or data; introduction to the project)

Provide an overview of the information or advice exchanged.

No

5. Does your department or agency have additional information or knowledge on the project not specified above, including information on the geographic, environmental, economic or social context of the project? (e.g. location of protected or sensitive areas, previous history between local communities and proponent or similar projects, local or regional social or economic concerns)?

Specify as appropriate.

No

6. Based on the mandate and area(s) of expertise of your department or agency, what are the key issues related to the project?

For each key issue:

- Describe the potential effect or the nature of the issue, including any relevant context;
- Provide the rationale and/or evidence for why it is a key issue;
- Provide advice on how to address the issue, including any information or studies that should be required in the Tailored Impact Statement Guidelines, potential mitigation measures, and/or regulatory requirements relevant to the issue;
- Provide a concise, plain-language summary of the issue for inclusion in the Summary of Issues.

The information provided will be considered by the Impact Assessment Agency of Canada (IAAC) and may be used to inform its decision on whether an impact assessment is required and, where appropriate, for next steps in the impact assessment process including to develop project-specific draft Tailored Impact Statement Guidelines.

Please use Table 1 to respond to this question.

7. Where possible, identify any additional information the proponent could include in the response to the Summary of Issues and, if IAAC requires it, in their Detailed Project Description, that would:

- Give confidence that minor issues or effects could be addressed and managed by clear measures, existing guidelines, other regulatory processes or other existing tools;
- Inform the decision as to whether an impact assessment is required; or
- Aid in tailoring the Tailored Impact Statement Guidelines, if IAAC decides an impact assessment is required.

These clarifications and additional information will be included as specific questions in the Summary of Issues provided to the proponent.

Please use Table 2 to respond to this question.

Health Canada

Name of Departmental / Agency
Responder

Ayesha Sohail
Regional Impact Assessment Specialist

Title of Responder

Aug 14, 2024

Date

Table 1: Key Issues to inform the impact assessment process

The IAAC asks that federal authorities align expert advice with IAAC’s approach to tailoring by project, which focuses on key project issues, clearly focused on the prevention of adverse effects within federal jurisdiction. In identifying key issues, federal authorities should be mindful of the project’s context (size, scope, location), Indigenous Knowledge and perspectives, and public concerns. Key issues that may be relevant to the decision include:

- adverse effects within federal jurisdiction and direct or incidental adverse effects that may be to some extent significant, based on federal experts’ knowledge and experience with past projects;
- potential impacts on Indigenous Peoples and their rights, based on Indigenous Knowledge and perspectives or experience with past projects;
- effects on key species or habitats (e.g. at risk, important to Indigenous communities, commercial importance, provide important ecosystem function);
- issues or effects that may result from novel project activities, components or technology;
- effects with large uncertainties, including in the effectiveness of mitigation measures;
- adverse effects within federal jurisdiction or direct or incidental adverse effects where mitigation measures are limited;
- positive effects, including where project may support other governmental priorities, including reconciliation with Indigenous Peoples; and
- key concerns raised by Indigenous groups or local communities.

Effects that are anticipated to be minor or which can be managed using well understood mitigation, existing guidance, and/or other regulatory processes may have simplified information requirements or may be removed entirely. Measured advice from federal authorities on key issues and solutions —and on the scope and detail of any required information and studies — will enable IAAC to focus assessments on issues that are important to participants and to decision-makers.

Comment ID	Relevant section of the Initial Project Description	Valued Component or Factor to Consider	Description of Key Issue (Context and Rationale)	Advice	Plain language summary for inclusion in Summary of Issues
<p><i>Please identify comments by organization and comment number.</i></p> <p><i>e.g.: IAAC-01</i></p>	<p><i>If the comment is related to a specific section of the Initial Project Description, please include that reference.</i></p>	<p><i>Identify valued component(s) or factor to consider—within the mandate of your department or agency—to which the potential effect or issue applies.</i></p>	<p><i>Provide a brief description of the issue and rationale for being a key issue.</i></p> <p><i>Include, where relevant,:</i></p> <ul style="list-style-type: none"> • <i>the pathway of effects;</i> • <i>relevant context on why it is a key issue;</i> • <i>key uncertainties that should be addressed in the impact assessment;</i> • <i>Indigenous or public concerns or perspective;</i> • <i>potential for differential effects among diverse subgroups;</i> • <i>scientific evidence or Indigenous Knowledge, including from past project experience, which supports inclusion as a key issue.</i> 	<p><i>Where applicable, briefly provide solutions on how to address the potential issue or effects including:</i></p> <ul style="list-style-type: none"> • <i>Information or studies required to describe and characterize the potential effect; including any guidance for data collection and/or analysis or existing data sources to inform the assessment;</i> • <i>Any means, including any powers, duties or functions, that your department or agency has that may mitigate, manage, or set conditions related to the issue or effect;</i> • <i>Guidance or policies for mitigating effects or any standard and well-understood mitigation measures that would address the effect, including follow-up monitoring activities; and/or</i> • <i>Commitments the proponent could make to respond to the issue.</i> <p><i>Where available, please refer to existing text in the Tailored Impact Statement Guidelines template.</i></p>	<p><i>For issues to be included in the Summary of Issues, provide a concise, plain language synopsis of the key issue and any questions or directions for the proponent.</i></p>
HC-01	<p>Section 9.1.5 Carbon Capture System Hub</p> <p>Section 21.2.6 Recreational Use</p> <p>21.2.7 Commercial Use of the Lands by Indigenous Communities</p>		<p>The iPD provides limited detail on land use and the Project’s contributions to cumulative health effects.</p> <p>Limited information regarding land use near the project is provided in the iPD. Section 13 of the iPD specifies that “the closest seasonal and/or permanent residence [is] located approximately 19 km north of BBPP lands”. Section 22.1 of the iPD states that there is “no ingestion or inhalation pathways that could trigger the need for a Human Health Risk Assessment” and that “the existing oil and gas activity and forestry harvesting in areas adjacent to the Project likely preclude Indigenous use of the site”. The iPD also mentions that no evidence of plant gathering was found at the site. However, during consultation, described in Appendix C three indigenous groups identified possible impacts from the project on collection of country foods and traditional land use (Kapawe’no First Nation, Sturgeon Lake Cree Nation, Swan River First Nation). More detail on land use by Indigenous peoples is</p>	<p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> 1) Provide further discussion on land use in the area including maps or relative distances between the Project area and approximate locations of known traditional land uses (e.g., cultural, hunting, trapping), and known locations of human receptors. 2) Provide information on the potential cumulative environmental, social, and economic effects of existing and future projects within the vicinity of the Project and their potential to collectively impact human health. 	<p>There is insufficient information regarding land use and the potential cumulative impacts of the current and future projects in the same area as the Project.</p>

			<p>recommended to accurately assess the Projects impacts to human health.</p> <p>As described in the iPD, the Project location is within an industrialized area dominated by oil and gas infrastructure (Section 21.2.6, 21.2.7, 22.1, 24.1.7, etc.) but does not consider the cumulative impacts of the different active and reasonably foreseeable future projects in the area on human health. For example, section 9.1.5 indicates that the Proponent is considering the development of a carbon capture system hub in the area. Discussion on the cumulative effects to the health and wellbeing of human receptors in the area from continued industrial operations, including impact to Indigenous groups who have indicated use of the land, is recommended to assess the Project's impacts on human health.</p>		
HC-02	<p>Section 14.6.1: Air Quality</p> <p>Appendix N: Air Quality Assessment</p> <p>Appendix O: Emissions Intensity Report</p>	Human Health – Air Quality	<p>The iPD provides insufficient rationale and assessment details for air quality contaminants of potential concern (COPCs).</p> <p>Section 14.6.1 of the iPD states, “Air emissions are expected to occur during construction, operation, and decommissioning phases of the Black Bear Power Plant Project (BBPPP); however, for the purposes of this report, only direct emissions during the operations phase are discussed.” In order to fully assess the potential health risks from the Project's expected changes to air quality, it is best practice for all stages and sources of emissions to be considered.</p> <p>In Section 14.16.1 of the iPD several COPCs are identified including carbon dioxide (CO₂), methane (CH₄), nitrogen oxides (NO_x) specifically nitrogen dioxide (NO₂), particulate matter less than 2.5 microns in diameter (PM_{2.5}), total suspended particulate matter (TSP), and ammonia (NH₃). Note: nitrogen dioxide was incorrectly represented by N₂O (nitrous oxide) on page 107 of the iPD. Rationale is not provided for the selection of these COPCs or the exclusion of other COPCs from the assessment of the air quality.</p> <p>A notable exclusion is the consideration of diesel exhaust (DE) emissions since the Project will involve the operation of heavy equipment and backup diesel generators during the construction and operation phases. DE is a complex mixture of gaseous and particulate compounds, including diesel particulate matter (DPM), polycyclic aromatic hydrocarbons (PAHs), and volatile organic carbons (VOCs), and considered a highly toxic air contaminant associated with cancer and adverse health problems such as respiratory illnesses and increased risk of heart disease.</p>	<p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> 1) Consider all sources of emissions from each project phase (construction, operation, and decommissioning), for each COPC, including Project-related processes, on-site vehicle usage, and fugitive emissions; and, 2) Provide a complete inventory of all potential COPCs including, but not limited to: NO_x, NH₃ sulphur dioxide (SO₂), CO, ozone (O₃), PM_{2.5}, coarse particulate matter (PM₁₀), PAHs, VOCs, DPM, and metals; or, 3) Provide additional evidence-based rationale to justify excluding any emissions and/or specific COPCs from further assessment. <p>For reference: Guidance for Evaluating Human Health Impacts in Impact Assessment: Air Quality</p>	The list of sources and inventory of potential air pollutants is incomplete and justification for exclusion is absent.
HC-03	<p>Section 14.6.1: Air Quality</p> <p>Appendix N: Air Quality Assessment</p> <p>Appendix O: Emissions Intensity Report</p>	Human Health – Air Quality	<p>The modelling used to determine the Project's potential impacts to air quality contains inconsistencies and insufficient details.</p> <p>There is an inconsistency between the air quality modelling presented in Appendix N (Air Quality Assessment) and Appendix O (Emissions Intensity Report) and the difference between these reports is unclear. Appendix N (Air Quality Assessment) describes the results of dispersion modelling for NO₂, CO, PM_{2.5}, TSP, and NH₃. Based on these results the iPD states the maximum ground-</p>	<p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> 1) Explain the different predictions for the Project's potential impact on air quality presented in Appendix N and Appendix O; 2) Compare all baseline and predicted air quality results, for all COPCs, to the most stringent and most up-to-date federal and provincial air quality criteria, including the CAAQS; and, 	Additional details regarding the predicted concentrations of potential air pollutants generated during the Project are recommended to assess the potential impacts to human health.

	<p>Section 13: Proposed Project Location Description</p> <p>Section 22.1: Health and Social Impacts on Indigenous Peoples</p>		<p>level concentrations of these five contaminants “associated with various operating conditions comply with the applicable [Alberta Ambient Air Quality Objectives]”. Appendix O (Emissions Intensity Report) also describes air quality modelling and uses the same Emissions sources (Table 5 in Appendix N and Table 6 in Appendix O) but only examines two pollutants (NO₂ and PM_{2.5}) and has very different predictions for predicted, baseline, and maximum ground-level concentration (MGLC).</p> <p>Only the results of Appendix O are compared to the Canadian Ambient Air Quality Standards (CAAQS) while the rest of the iPD relies on the Alberta Ambient Air Quality Objectives (AAAQO). The CAAQS were developed in consideration of both human health and the environment. Modelled 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. 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 recommended to maintain good air quality levels or to prevent an exceedance of the CAAQS. Note that when assessing the potential health effects from non-threshold air contaminants (such as PM_{2.5}, NO_x, and O₃) there is no level below which there is no adverse health effect.</p> <p>It is important to clearly describe the location and distance from the project site(s) of all potential human receptors (permanent, seasonal or temporary) taking into consideration the different types of land uses (e.g. residential, recreational, industrial, etc.). To identify the people who may be affected by project-induced air quality changes, it is useful to provide a map illustrating, through isopleths (contour lines showing constant concentration levels) or other means, the predicted pollutant concentrations for those air pollutants approaching or exceeding appropriate guidelines and/or standards overlaid with the receptor locations in the assessment area.</p>	<p>3) Map the results of the air dispersion modelling, such that concentrations of each COPC can be shown in the form of isopleths; overlay with the locations of permanent and temporary human receptors (e.g. residences, individual cabins, ceremonial/sacred sites, areas used to collect traditional country foods, etc.) to get a better understanding of the potential impacts of the Project on all nearby human receptors.</p> <p>For reference: Guidance for Evaluating Human Health Impacts in Impact Assessment: Air Quality</p>	
HC-04	<p>Section 9.1.3: Water Supply</p> <p>Section 14.7, Table 20. Valued Ecosystem Component Effects Table, Surface Runoff,</p> <p>Section 24.2.1: Stormwater Management</p>	Human Health - Water Quality	<p>The iPD provides insufficient information to assess the potential for project-related impacts on drinking water quality.</p> <p>Section 9.1.3 and 9.1.6 state that raw water may be sourced from the Freeman River. Impacts to the human receptors from water drawn from the river are not discussed. Section 24.2.1 states that surface runoff from the operational area will be collected by ditches, swales and grading and directed to an onsite stormwater pond. Section 14.7, Table 20 mentions that an industrial runoff plan has been designed for the power plant; however, the details of the plan are not presented.</p> <p>HC is unable to assess the potential impacts of the Project on human health from changes to drinking water quality based on the information in the iPD.</p>	<p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> 1) Characterize potential impacts to human health from water drawn from the Freeman river; and, 2) Provide the mentioned industrial runoff plan or any other mitigation measures meant to minimize potential project related impact to human health through water sources. 	Potential impacts to human health via changes to water quality and quantity are not fully characterized.
HC-05	<p>Section 21.2.1: Hunting</p> <p>Section 22.1: Physical and Cultural Heritage</p>	Noise	<p>Additional information is recommended to assess the potential for project-related impacts of noise on human health.</p>	<p>HC recommends that the Proponent:</p> <ol style="list-style-type: none"> 1) Develop a comprehensive communication plan that describes how human receptors in 	There is insufficient information on monitoring and follow-up plans to mitigate noise disturbance.

	Section 24.1.7 : Noise Appendix Q – Noise Impact Assessment		<p>Section 21.2.1 of the iPD notes that during construction and operations there will be heavy traffic and noise that may displace wildlife. Section 22.1 notes that boundary receptors were identified and assessed at a 1.5 km cumulative area boundary as no dwellings were identified within 1.5 km of the Project. Based on this, Section 22.1 states that the potential for low frequency noise complaints is low due to the Project's remote location. Section 21.2.1, however, notes that the Project is located in traditional use areas associated with hunting. The displacement of wildlife due to the project has the potential to impact traditional hunting practices of First Nations in the area. The iPD does not include a noise disturbance communication plan or a noise complaint resolution plan to mitigate these effects. As such, HC is unable to fully assess the impact of potential Project related noise to human health in the area.</p> <p>The iPD evaluates predicted noise levels against permissible sound levels established within Alberta's AUC Rule 012 for the nearest receptors. The noise impact assessment does not delimit assessment by the phases of the project or take into consideration seasonal use of the land by indigenous groups. Methodologies under AUC rule 012 differ from HC's guidance, which recommends the assessment of annoyance (e.g., percent highly annoyed [%HA]), sleep disturbance, etc. HC is unable to assess the potential noise impacts of the Project on human health based on the information in the iPD or the Noise Impact Assessment.</p>	<p>neighboring areas will be informed ahead of time of any Project-related activities that may lead to noise disturbances; and,</p> <p>2) Develop a complaint resolution procedure that describes how noise complaints will be received and addressed.</p> <p>For reference: Guidance for Evaluating Human Health Impacts in Impact Assessment: Noise</p>	
HC-06	Appendix Q - Noise Impact Assessment, Section 6.1.1	Noise	<p>Additional information is recommended to assess the adequacy of mitigation for project related impacts of noise on human health.</p> <p>Section 6.1.1 of the noise impact assessment mentions that the Heat Recovery Steam Generator (HRSG) stack will require silencing to a linear reduction of 20 dB in order to achieve compliance with the Permissible Sounds Levels (PSLs) at the boundary receptors, however this is not mentioned as a mitigation measure in the iPD. It is important to clearly describe the mitigation measures, how they will be implemented, and any remaining effects after these measures are in place, in order to effectively evaluate the project's impact on human health..</p> <p>Further information is recommended to clarify whether mitigation measures included in the noise impact assessment will be implemented.</p>	HC recommends clarifying which of the noise mitigation measures to reduce noise suggested in the noise impact assessment will be implemented.	Information is needed on mitigation measures to reduce noise from the HRDG stack.

Table 2. Clarifications or additional information the Proponent could include in the response to Summary of Issues

Comment ID	Relevant section of the Initial Project Description	Description of Issue, Concern or Uncertainty	Clarification or additional information	Plain language summary for inclusion in Summary of Issues
<p><i>Please identify comments by organization and comment number.</i></p> <p><i>e.g.: IAAC-01</i></p>	<p><i>If the comment is related to a specific section of the Initial Project Description, please provide a reference.</i></p> <p><i>You may also choose to copy the relevant text here.</i></p>	<p><i>Provide a description of the issue, concern or uncertainty the proponent could address in their response to Summary of Issues and, if IAAC requires it, in their Detailed Project Description that would give confidence that the issue will be addressed and managed, by clear measures, existing guidelines, regulatory processes or other existing tools, and thus be the subject of simplified information requests in the guidelines, or simply be removed.</i></p>	<p><i>Provide recommended clarification or additional information to be included in their response to the Summary of Issues and, if IAAC requires it, in their Detailed Project Description to address the issue, concern or uncertainty, for example:</i></p> <ul style="list-style-type: none"> <i>• Clarifications to elements of the project description (e.g. components, activities, locations or alternatives);</i> <i>• Proposed project design changes that could avoid effects;</i> <i>• Evidence that could be presented to demonstrate there is no effect, pathway of effect or that effects would be negligible;</i> <i>• Evidence that standard mitigations will address potential effects</i> <i>• Commitments the proponent could make to respond to the issue, including the implementation of federal operational policies or guidance documents.</i> 	<p><i>For issues to be included in the Summary of Issues, provide a concise, plain language synopsis of the issue and of the question or direction for the proponent.</i></p>

Please insert additional rows as necessary.