

Enclosure 2: Federal Authority Advice Record: Summary of Issues, and Potential Tailored Impact Statement Guidelines and Plans

Project: Hydrogen Ready Power Plant Project

Proponent: Eastern Power Inc.

CIAR No.: 83696

Response due by: **July 6, 2022**

All comments should be submitted via the **Submit a Comment** feature available on the Project's Canadian Impact Assessment Registry page (Reference 83696)¹. Letters and forms can be uploaded using this feature. If you have any difficulties submitting this way, please contact the Agency at Hydrogen-Hydrogene@iaac-aeic.gc.ca for assistance.

Department/Agency: Health Canada	
Date of Advice: July 6, 2022	
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1. Expertise

Please identify and describe the specialist or expert information or knowledge within your department or agency that is relevant to an assessment of the Project.

As a federal authority, Health Canada 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 a potential 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 conducting health impact assessment;
- Electromagnetic fields;

¹ <http://iaac-aeic.gc.ca/050/evaluations/proj/83696>

- Radiological emissions; and,
- Public health emergency management of toxic exposure events.

2. Key issues and solutions

Respond to the following **using Table 1 on page 3**

(a) From the perspective of the mandate and area(s) of expertise of your department or agency, what are the key issues that are material and relevant to decision-making and should be addressed? In identifying key issues, be mindful of the Project's context (size, scope, geography, policy) and the definitions of *effects*,² *sustainability*³ and *public interest*.⁴

(b) For each **key** issue:

- i. Identify the relevant valued component(s) within your mandate and describe the key pathway of effect, or describe the nature of the issue. This may consider⁵ positive and negative effects on components of the environment or on health, social and economic conditions.
- ii. Identify any clarifications or commitments the Proponent could make in its Detailed Project Description and Response to the Summary of Issues that would build confidence that issues can be addressed and managed without further impact assessment⁶, or that can help focus the Tailored Impact Statement Guidelines⁷, if an impact assessment is required.
- iii. Identify, at a very high-level, any information or studies that should be required of the Proponent in the Tailored Impact Statement Guidelines, if an impact assessment is required.⁸

(c) For each issue and solution discussed, provide a concise, plain-language summary that is appropriate for inclusion in the Summary of Issues.

3. Operational guidance and powers, duties and functions

(a) Within the mandate and area(s) of expertise of your department or agency, list specific operational policies or guidance documents that could help address issues and manage effects relevant to the project context.

² Note: effects, direct and incidental effects, and effects within federal jurisdiction are defined in section 2 of the *Impact Assessment Act*, which can be found at <https://www.canada.ca/en/impact-assessment-agency/corporate/acts-regulations/legislation-regulations.html>

³ Guidance: Considering the Extent to which a Project Contributes to Sustainability <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/guidance-considering.html>

⁴ Policy Context: Public Interest Determination under the *Impact Assessment Act* <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/public-interest-determination-under-impact-assessment-act.html>

⁵ Other considerations may include sources of high uncertainty that complicate predictions; the purpose and need for the Project and selected alternatives.

⁶ This could mean that mitigation measures that the proponent has committed to in the Detailed Project Description are referenced in the Tailored Impact Statement Guidelines.

⁷ For example, regulatory instruments, operational guidance or well-understood mitigation and monitoring measures of proven effectiveness.

⁸ Federal authorities are being asked what should be included in the Tailored Impact Statement Guidelines with specific rationale that is commensurate to the project context. Please also identify studies that are not necessary based on the information provided by the proponent and based on project context.

Relevant Health Canada guidance documents:

[Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality](#)

[Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise](#)

[Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water](#)

[Guidance for the environmental public health management of crude oil incidents : a guide intended for public health and emergency management practitioners](#)

(b) List the potential powers, duties, or functions, including federal funding, that your department or agency may be required to exercise or perform to enable the Project to proceed, in whole or in part. Validate whether the information in the Initial Project Description is accurate.

Not applicable

(c) For each power, duty or function:

- i. Explain any associated framework to address effects on valued components within your mandate.
- ii. Describe any Indigenous consultation activities that would occur, potential timelines for Indigenous participation, and how potential impacts to Indigenous communities are addressed by your department or agency.
- iii. Describe any public participation opportunities that would occur, and potential timelines for public participation.

Not applicable

(d) Has your department or agency already 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 as appropriate.

Not applicable

4. Is there any additional information related to the geographic context of the Project (e.g. potential effects to Indigenous protected and conserved areas, migratory bird sanctuaries, federal species at risk) for which your department or agency has information or authority?

No

Table 1: Key Issues and Solutions that are Material and Relevant to Decision-making

Comment ID	Document Reference	Valued Component	Description of Key Issue (Context and Rationale)	Solutions for the Proponent	Summary of Issues
<p>Please identify comments by organization and comment number.</p> <p>e.g.: IAAC-01</p>	<p>If the comment is related to a specific section of the Initial Project Description, please provide a reference.</p> <p>You may also choose to copy the relevant text here.</p>	<p>Identify the valued component(s)—within the mandate of your department or agency—to which the effect or issue applies.</p> <p>This may include components of the environment, health, social or economic conditions.</p>	<p>Provide context for the effect or issue. Describe, to the extent possible:</p> <ul style="list-style-type: none"> The positive or negative pathway of effect or nature of the issue Any powers, duties or functions that your department or agency has that may mitigate, manage, or set conditions related to the effect Operational guidance or standard and well-understood mitigation or monitoring measures that would address the effect Any established or emerging policies or directives that are relevant The potential for residual effects after mitigation has been applied 	<p>Where applicable and necessary,</p> <ul style="list-style-type: none"> provide instructions for how the Proponent would build confidence about the management of the potential effect, in the Detailed Project Description and Response to the Summary of Issues, and/or identify, at a high-level, required information or studies to assess the effects, should an impact assessment be required (or templated requirements that are not relevant to the Project). 	<p>For issues and effects to be included in the Summary of Issues, provide a concise, plain language synopsis.</p>
HC-01	<p>Hydrogen Ready Power Plant Project Initial Project Description (IPD) Pg. 34, 36, 69-70 PDF</p> <p>Appendix 7.2 Air Quality Impact Assessment Report Pg. 31-32, 58-60, 63-98 PDF</p> <p>Appendix 7.7 Environmental Impact Management Plan Pg. 4 PDF</p>	Health – Air	<p>a) According to the IPD, “...on the basis of all of the above findings [related to ambient air quality] and with mitigation measures in place, there will be no net negative impacts from the HRPP due to air pollutant emissions to the atmosphere”. Table 1 of Appendix 7.7 includes a brief description of mitigation measures to reduce air quality emissions, however, their predicted level of effectiveness is not provided. Furthermore, the Project’s predicted air pollutant levels without mitigation are not presented.</p> <p>b) In Appendix 7.2, it states that “[s]ource ID STK 2002 and ID STK 2003 emit the largest amounts of emissions with oxides of nitrogen, carbon monoxide, particulate matter (assumed to be 100% PM_{2.5}) being the most significant emissions. Therefore, only these significant contaminants were analyzed further...”. However, no rationale for the exclusion of other substances (Table 6a through 6c), such as Benzene and Polycyclic Aromatic Hydrocarbons, has been provided.</p> <p>c) Although Project-related emissions have been estimated for the 100% Natural Gas (NG), 80% NG/20% Hydrogen Gas (HG) and 35%NG/65%HG scenarios (Appendix 7.2), they have not been provided for the 100% HG scenario where NO₂ concentrations may be the highest. This is of particular importance as NO₂ levels appear to be increasing as the Project progresses towards higher HG scenarios, and as there are predicted exceedances of the Canadian Ambient Air Quality Standards (CAAQS) at multiple receptor locations. Consideration of additional mitigation measures may be warranted.</p> <p>d) Both NO₂ and PM_{2.5} are non-threshold contaminants for which there is no safe level of exposure. HC suggests that when assessing the potential health effects of these substances, there is acknowledgement that there is no level below which there is no adverse effects and, that their emissions should be kept as low as reasonably achievable (ALARA).</p>	<p>Health Canada (HC) recommends the Impact Assessment Agency of Canada (IAAC) request the following information from the Proponent:</p> <p>a) Provide additional information about the effectiveness of air quality mitigation measures, especially as there are predicted exceedances of 1-hr NO₂ and 24-hr PM_{2.5} at receptors locations. This could be achieved by comparing the Project’s predicted air quality concentrations for mitigated and non-mitigated scenarios.</p> <p>b) Provide rationale for the exclusion of air quality parameters in Table 6a through 6c, aside from NO₂, PM, and CO, in further effects assessment.</p> <p>c) Provide a list of anticipated Project-related emissions for the 100% HG scenario against their applicable guidelines, including the CAAQS where available. Include additional mitigation measures where warranted.</p> <p>d) Include a discussion on the non-threshold nature of NO₂ and PM_{2.5} with respect to potential health impacts and how the Project will seek to reduce the emissions of these non-threshold contaminants to ALARA.</p> <p>e) Include a discussion on potential cumulative effects to air quality and subsequent impacts on human health from the Project and other reasonable foreseeable projects in the area with</p>	<p>The lack of additional information on changes to air quality may underestimate potential risk to human health.</p>

			<p>e) There is the possibility of other major construction projects occurring in the Project area (e.g., Ontario Power Generation remediation noted in key comments and concerns by stakeholders in Table 6.2).</p> <p>f) Although figures 5 through 7 of Appendix 7.2 provide contour maps for some parameters, the receptors are not clearly defined and it is not possible to read the contours within which each receptor is located. Additionally, only a few averaging times and parameters have been included (i.e., 24-hr PM_{2.5}, 1-hr NO₂ and 0.5-hr CO). Finally, the figures only include the 35% NG/65% HG scenarios though NO₂ emissions appear to increase as the HG levels increase.</p>	<p>particular attention to non-threshold contaminants (i.e., NO₂ and PM_{2.5}).</p> <p>f) Provide legible maps showing the distance and predicted levels of all air quality emissions for all averaging periods at receptor locations, and at the maximum point of impingement. Include the worst case scenario for each contaminant.</p> <p>Please refer to HC's Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality.</p>	
HC-02	<p>Hydrogen Ready Power Plant Project IPD Pg. 36, 69-70 PDF</p> <p>Appendix 7.3 Noise Impact & Mitigation Study Entire Document</p>	Health - Noise	<p>a) Although a preliminary noise impact study has been prepared (Appendix 7.3), HC would recommend that the noise assessment be conducted in accordance with HC's guidance. For example, given that the construction noise is estimated to last 21 months, it should be assessed as operational noise in an evaluation of the change in percent highly annoyed (%HA). Additionally, natural sounds (i.e., those not produced by human activity) should not be included in determining baseline sound levels.</p> <p>b) As the Project is in an area where there are other proposed development projects that may contribute to noise levels, an assessment of cumulative noise effects would also be important. There is the possibility of other major construction projects occurring in the Project area (e.g., Ontario Power Generation remediation noted in key comments and concerns by stakeholders in Table 6.2).</p>	<p>HC recommends the IAAC request the following information from the Proponent:</p> <p>a) Assess operational and construction noise in accordance with HC's Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise.</p> <p>For example, include operational noise as well as construction noise lasting longer than one year in the evaluation of the %HA at each receptor. Additionally, consider potential impacts on sleep disturbance, in accordance with World Health Organization Guidance (1999, 2009) as suggested in HC Noise guidance.</p> <p>b) Include a discussion on potential cumulative effects to noise and subsequent impacts on human health from the Project and other reasonable foreseeable projects in the area.</p>	The lack of additional information on changes to noise may underestimate potential risk to human health.
HC-03	<p>Hydrogen Ready Power Plant Project IPD Pg. 10 PDF</p> <p>Appendix 7.1 Environmental Screening and Review Report Pg. 17 PDF</p>	Health - General	<p>a) The IPD contains limited information about the impacts of accidents and malfunctions with respect to human health. For instance, while the scenario of accidental spills is discussed as having a "[l]ow potential...", information about fires or explosions are not described.</p> <p>b) Additionally, storm runoff and discharges from Project components are planned to be collected and conveyed to the cooling tower basin, "[t]he main output transformers will each be equipped with a concrete spill containment structure so that the risk of environmental damage due to oil spills will be virtually eliminated". However, in the event of an accident or spill where contaminants (such as transformer oil) maybe spilled to the ground surface during, it would be useful to know the location</p>	<p>HC recommends the IAAC request the following information from the Proponent:</p> <p>a) Provide rationale for the exclusion of potential accidents and malfunctions (e.g., fire, explosion) that may result in impacts on human health. This detail could be included to inform spill responses.</p> <p>b) Confirm the distance between the Project site and any potable wells, water taking sites, or recreational water sources within the Project area. This detail could be included to inform spill responses.</p> <p>Please refer to:</p>	The lack of additional information on accidents and malfunctions, including potential impacts to drinking/recreational water quality and air quality, may underestimate potential risk to human health.

			and distance to potable wells, water taking sites, and recreational water bodies.	a) HC's Guidance for Evaluating Human Health Impacts in Environmental Assessment: Drinking and Recreational Water ; and, b) HC's Guidance for the environmental public health management of crude oil incidents : a guide intended for public health and emergency management practitioners .	
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