



Environmental Health Program (EHP)
Regulatory Operations and Enforcement Branch, Health Canada
9700 Jasper Avenue, 9th floor
Edmonton, AB
T5J 4G3

February 16, 2021

Chelsea Fedrau
Project Manager, Prairie and Northern Region
Impact Assessment Agency of Canada
Prairie and Northern Region
9700 Jasper Ave, 11th Floor
Edmonton, AB
T5J 4C3

Subject: Health Canada's Response to the Determination of Impact Assessment Requirement for the ATCO Salt Cavern Storage Expansion Project

Dear Chelsea Fedrau,

Thank you for your letter dated January 25, 2021 requesting Health Canada's comments on the Initial Project Description provided by ATCO Energy Solutions Ltd. for the ATCO Salt Cavern Storage Expansion Project.

Health Canada participates in the impact assessment process as a federal authority under the *Impact Assessment Act* (IAA). Health Canada makes available specialist or expert information or knowledge in its possession, at the request of the Impact Assessment Agency of Canada (the Agency).

The objective and scope of Health Canada's review of the initial Project Description is to verify that the potential health impacts of projects are properly identified for the purpose of determining whether a federal impact assessment is required. Health Canada has reviewed the initial Project Description and provided input, where appropriate, in the attached Federal Authority Advice Record. Should the Agency determine that an impact assessment is required for the Project, Health Canada can provide expertise on issues that are addressed within its departmental mandate and federal jurisdiction.

Should you have any questions concerning Health Canada's response, please contact Michael Rybansky (michael.rybansky@canada.ca).

Sincerely,

<Original signed by>

Brenda Woo
Regional Manager, EHP Alberta Region
Regulatory Operations and Enforcement Branch
Health Canada
Phone #: 780-288-3541

cc: Kathleen Buset, Manager, Healthy Environments and Consumer Safety Branch (HECSB), Health Canada
Michael Rybansky, Environmental Assessment Specialist, EHP Alberta Region, Health Canada
Melissa Gorman, Environmental Assessment Specialist, EHP Alberta Region, Health Canada
Ninon Lyrette, Senior Environment Assessment Specialist, HECSB, Health Canada

Attachment:
Federal Authority Advice Record

February 16, 2021

ATTACHMENT: Federal Authority Advice Record

Re Response due by February 16, 2021

ATCO Salt Cavern Storage Expansion Project – ATCO Energy Solutions Ltd.

Agency File: 005789

Registry Number: 81297

Department/Agency	Health Canada
Lead IA Contact	Brenda Woo
Full Address	9700 Jasper Ave, 9th floor Edmonton, Alberta T5J 4G3
Email	hc.ia-ei.sc@canada.ca
Telephone	780-288-3541
Alternate Departmental Contact	Michael Rybansky (michael.rybansky@canada.ca)

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1. 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?

Not Applicable.

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

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

Specify as appropriate.

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 potential impacts on human health from projects considered individually and cumulatively under the Impact Assessment Act (IAA). The Department provides expertise in the areas described below; it does not play a regulatory role. How the expertise provided by Health Canada will be used in the impact assessment process will ultimately be determined by the reviewing body(ies). It should also be noted that expertise related to assessing human health that are relevant to Impact Assessments (IAs) 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).

To support the implementation of the IAA, Health Canada can provide expertise in the following areas:

- Air quality
- Recreational and drinking water quality
- Traditional foods (country foods)
- Noise
- Methodological expertise in conducting human health risk assessment (HHRA)

- Methodological expertise in conducting health impact assessment
- Electromagnetic fields
- Radiological emissions
- Public health emergency management of toxic exposure events

Available Health Canada guidance:

Health Canada has published the following guidance documents for evaluating human health impacts:

Guidance for Evaluating Human Health Impacts in Environmental Assessment:

- Human Health Risk Assessment
- Air Quality
- Water Quality
- Country Foods
- Noise
- Radiological Impacts

<https://www.canada.ca/en/services/health/publications/healthy-living.html#a2.5>

Guidance prepared by Health Canada on management of crude oil incidents titled “*Guidance for the environmental public health management of crude oil incidents: a guide intended for public health and emergency management practitioners*” is available as a PDF and in html format through the following link:

<http://publications.gc.ca/site/eng/9.849592/publication.html>

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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 as appropriate.

No.

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

Provide an overview of the information or advice exchanged.

No.

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5. Does your department or agency have additional information or knowledge not specified, above?

Specify as appropriate.

No.

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6. From the perspective of the mandate and area(s) of expertise of your department or agency, what are the issues that should be addressed in the impact assessment of the Project, should the Agency determine that an impact assessment is required?

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

For a project to pose a potential risk to human health through exposure to chemical substances, three criteria must be present: the potential for emissions or the release of contaminants of potential concern (COPCs), potential human receptor(s), and existing pathway(s) for human exposure to COPCs. Human health may also be affected by noise emissions that reach nearby human receptors.

Based on the limited information provided in the initial Project Description (iPD), Health Canada (HC) has identified the following key issues and information requirements that are likely to be relevant to the ATCO Salt Cavern Storage Expansion Project (the Project). This however, is not to be construed as an exhaustive list of issues pertaining to human health for this project.

Human Health Risk Assessment

Section 15 of the iPD states that no impacts to human health are predicted as a result of the proposed Project. However, HC is of the opinion that further information is required to evaluate impacts to human health. In order to assess potential risks to human health, it is necessary to identify locations of all potential human receptors in the local and regional study area including residences and sensitive human receptor locations (e.g. schools, hospitals, retirement complexes or assisted care homes) through maps and diagrams. The distances between human receptor locations and the key components of the Project that may impact these receptors should be identified. Therefore, a HHRA that contains all relevant COPCs, receptors, and potential exposure pathways is recommended.

Air Quality

In Section 20 of the iPD, it states that, "The proposed Project is not expected to result in any changes to air quality inside or outside of Alberta". However, the primary air quality contaminants identified by the iPD were limited to project-associated greenhouse gas (GHG) emissions such as carbon dioxide, methane, and nitrous oxide (Section 24). HC is of the opinion that the proposed Project, and associated activities, may release additional contaminants into the air during all project phases.

Given the anticipated use of numerous types of diesel-fuelled heavy-duty equipment (Section 3.1 and 3.2) during the construction (2021-2024) and operation phases (2024-2049) of the project, HC recommends a more comprehensive analysis of COPCs in accordance with HC's guidance. This includes, but is not limited to, volatile organic compounds (VOCs), sulphur oxides (SO_x), nitrogen oxides (NO_x), carbon monoxide (CO), hydrogen sulphide (H₂S), coarse and fine particulate matter (PM₁₀ and PM_{2.5}), polycyclic aromatic hydrocarbons (PAHs) and metals. Furthermore, given the Proponent's intended use of diesel fuels during all Project phases, health effects of diesel particulate matter (DPM) should be considered and include the carcinogenic and non-carcinogenic effects of DPM (separate from PM_{2.5}).

HC is of the opinion that the health effects of relevant air pollutants, based on predicted concentrations, should be assessed against federal (Canadian Ambient Air Quality Standards) and provincial standards (Alberta Ambient Air Quality Objectives), whichever is the more conservative of the two. Furthermore, the assessment should consider all project phases including abnormal operating scenarios. HC therefore recommends an assessment of existing (baseline) and predicted future (project, project + baseline) air quality for the Project.

Lastly, given that the Project has a planned lifespan of 25 years and is expected to be in operation from 2024 to 2049, a detailed analysis of cumulative air quality impacts should also be included.

Noise

Ambient noise levels may increase due to machinery use, construction activities (including excavation and drilling), and increased traffic especially during the construction phase of the Project. Section 24 of the iPD states that a noise impact assessment for the Project will be completed to ensure noise from facility operation is below allowable limits (as described in the Alberta Energy Regulator Directive 038: Noise Control). HC recommends that the proposed noise impact assessment also be in accordance with HC's guidance and include a comparison between existing (baseline), Project-sourced noise, and Project plus baseline noise levels. This is especially important given that drilling will occur on a continuous (24 hours per day, seven days a week) basis during the construction phase (Section 24).

Water Quality

Surface water may be impacted by spills of fuels, hydrocarbons, chemicals, and waste products used for the Project during construction and/or operation of the facility. This has the potential to impact recreational water quality given the size of the proposed brine holding ponds and proximity to local surface water features such as ponds, wetlands, creeks, and the North Saskatchewan River. With respect to drinking water, little information is provided regarding the location of domestic drinking water wells and their potential to be impacted by Project activities (such as spills, leaks, malfunctions, and accidents). HC therefore recommends that the detailed project description identify the location of local and regional drinking water sources as well as drinking water treatment facilities, their proximity to the Project site, and the potential for the project to impact these drinking water sources. This should also include a discussion on the potential for impacts to groundwater and surface water following an unintentional release from the proposed brine ponds.

Country Foods

Although the iPD states that the Project is located within an industrial area and that the potential for traditional land use is low, country food impacts may still be identified at a later stage. HC notes that there is potential for Project-related deposition of pollutants on terrestrial vegetation or surface water as a result of surface disturbance and

emissions from construction activities and operation. These exposure pathways should be assessed in the recommended HHRA.

Brenda Woo

Name of Departmental / Agency Responder

Regional Manager,
Environmental Health Program Alberta Region
Regulatory Operations and Enforcement Branch

Title of Responder

February 16, 2021

Date