

Federal Authority Advice Record (FAAR)

The FAAR must be submitted to the Registry by January 28, 2024.

Marguerite Lake Compressed Air Energy Storage Project – Federation Group Inc.

Department/Agency	Environment and Climate Change Canada (ECCC)
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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.

ECCC does not expect that it will be required to exercise a power or perform a duty or function related to the Project to enable it to proceed. Once the scope of the Project and of the assessment are established by the Agency, this may change as additional activities or Project components could come into scope.

Please note the following requirements that may apply to the Project:

Species at Risk Act permits

For species listed in Schedule 1 of the *Species at Risk Act* (SARA) as Extirpated, Endangered or Threatened, a permit may be required from ECCC (section 73 of SARA) for activities that affect a listed terrestrial wildlife species, the residences of its individuals or any part of its critical habitats, where those prohibitions are in place. Such permits may only be issued: if all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted; all feasible measures will be taken to minimize the impact of the activity on the species, the residences of its individuals; and if the activity will not jeopardize the survival or recovery of the species.

SARA prohibitions are in place for individuals and residences on federal lands in a province, reserve or any other lands under the *Indian Act*, or lands under the authority of the Minister of the Environment, and for birds listed under the *Migratory Birds Convention Act, 1994* wherever they occur regardless of land tenure.

Furthermore, prohibitions may be in force on land other than federal land pursuant to other orders or regulations under SARA. It is possible that additional prohibitions may come into force in the future through orders in Council for individuals, residences and critical habitat on non-federal lands and / or

through ministerial order for critical habitat on federal lands. It is also possible that, over the course of the assessment or after the assessment, additional species could be listed under SARA; permits may be required for Project activities that affect these additional species. Proponents are advised to monitor for such developments on the SARA Registry <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>.

ECCC will require detailed information on the potential effects of the Project, including locations and/or occurrences of species at risk, their use of habitat and critical habitat within the Project area, and specific effects on federal land, before ECCC can determine whether a SARA permit is required.

Migratory Birds Convention Act permits

The *Migratory Birds Regulations, 2022* (MBR 2022) protect migratory birds, their eggs and their nests, by prohibiting activities that may harm them. Unless a person has a permit or the regulations authorize it, it is prohibited to engage in the following activities:

- Capturing, killing, taking, injuring or harassing a migratory bird or attempting to do so;
- Destroying, taking or disturbing an egg; and
- Damaging, destroying, removing or disturbing a nest, nest shelter, eider duck shelter or duck nesting box, unless the following exceptions apply:
 - The nest does not contain a live migratory bird or a viable egg; and,
 - The nest was not built by a species listed in Schedule 1 of MBR 2022.

Modernization of the MBCA in 2022 has additionally identified 18 species of birds whose nests are protected year-round (Schedule 1 of MBR 2022). The nests of species listed in Schedule 1 are protected at all times, unless the following conditions are met:

- Notification of the unoccupied nest has been submitted/received through the Registry for Abandoned Nests; and,
- The waiting time designated in the regulations has passed, during which time the nest has not been occupied by a migratory bird.

In some situations, it may be possible to obtain a permit to move or destroy an unoccupied nest of a Schedule 1 species. For more information, please visit: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html>

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.

ECCC does not expect to exercise any powers or perform a duty or function under any Act of Parliament in relation to the Project that will involve public and Indigenous Consultation.

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

Specify the specialist or expert information or knowledge.

ECCC has specialist or expert information that may be relevant to the impact assessment in the areas listed below. In each of these subject areas we have expertise related to establishing an adequate baseline, assessing potential effects to biophysical valued components, effectiveness of mitigation measures, methods for monitoring and follow-up, as well as information regarding federal policies, standards, and regulations that may be relevant to the assessment (Note: ECCC does not assess proposed Projects for regulatory compliance, but instead provides technical input to the Agency to inform the assessment). Once the scope of the Project and of the assessment are established by the Agency, this list may change.

Air quality: ambient air quality; sources of emissions; emissions estimation and measurement; atmospheric transport, transformation and dispersion modelling; and follow-up monitoring.

Greenhouse gas emissions and climate change: estimations of greenhouse gas (GHG) emissions (net and upstream); carbon sinks; GHG mitigation measures and determination of Best Available Technologies/Best Environmental practices (BAT/BEP); credible plans to achieve net-zero GHG emissions by 2050; climate change science to inform evaluation of potential changes to the environment and Project resilience to effects of climate change; climate change policies; and national GHG projections.

Water quality and quantity: surface water quality; contamination sources for surface water and groundwater, including effluent; wastewater; water quality predictions and modelling; seepage and runoff effects; management of contaminated soils or sediments; hydrology (streamflow rates data and modelling, flooding and extreme events management, drainage control, water levels, water balances); geochemistry; cumulative effects and follow-up and monitoring.

Wildlife, species at risk, and habitat: migratory birds, their nests, eggs, and habitat under authority of the Migratory Birds Convention Act 1994; species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC); species at risk under the Species at Risk Act 2002, individuals, their residences, habitat and critical habitat including recovery strategies, action plans and management plans under ECCC's mandate; ecological function of wetlands; and ecotoxicology.

Environmental emergencies: emergency management planning and guidance, including where the release of hazardous substances could affect species at risk and/or migratory birds; atmospheric transport and dispersion modelling of contaminants in air; fate and behaviour; and hydrologic trajectory modelling of contaminants in water.

Climate and meteorology: long-term climate patterns and norms

Open Science Data Platform (OSDP)

The Open Science Data Platform (OSDP) provides information relevant to cumulative effects and development activities across Canada, and is publicly available at the following website: <https://osdp-psdo.canada.ca/dp/en>. More specifically, the platform provides a single window to access data and scientific knowledge relevant to understanding cumulative effects from existing federal, provincial, and territorial on-line databases and registries, including publications from the federal government and its scientists. It provides an interactive geospatial mapping tool to enable mapping of multiple datasets from multiple sources. It offers various features, including keyword-based searching, interactive data visualization on maps, and educational resources covering key topics such as cumulative effects, water, air, climate, biodiversity, land, economy and industry, health, and society and culture.

OSDP information may be of value to persons preparing and reviewing projects assessments, including cumulative effects assessments. The following are some examples of ECCC information available on the OSDP.

Water – quality and quantity

- [National long-term water quality monitoring data](#)
- [Real-time hydrometric data](#)
- [Canadian Aquatic Biomonitoring Network \(CABIN\)](#)
- National Pollutant Release Inventory (NPRI)
 - [Facilities that reported releases to water](#)
- Find additional water-related resources (including publications, datasets and monitoring stations) from ECCC on the OSDP [here](#).

Biodiversity (e.g., birds, species at risk, wetlands)

- [Critical habitat for species at risk \(terrestrial\)](#)
- [Range map extents – Species at risk](#)

- [Canadian wetlands](#)
- [Canadian Protected and Conserved Areas Database \(CPCAD\)](#)
- [Canadian Breeding Bird Census plots](#)
- [Priority places for species at risk](#)
- Find additional biodiversity-related resources (including publications, datasets and monitoring stations) from ECCC on the OSDP [here](#).

Air Quality

- National Pollutant Release Inventory (NPRI), including:
 - [Facilities that reported release of criteria air contaminants](#)
- Canadian Environmental Sustainability Indicators (CESI), including
 - [Average ambient fine particulate matter concentrations](#)
 - [Peak ambient ozone concentrations](#)
 - [Ambient volatile organic compound concentrations](#)
 - [Average ambient sulphur dioxide concentrations](#)
 - [Peak ambient nitrogen dioxide concentrations](#)
- Find additional air-related resources (including publications, datasets and monitoring stations) from ECCC on the OSDP [here](#).

Climate, including climate change

- [Hourly and daily climate observations](#)
- [Monthly climate observation summaries](#)
- [Climate normals, averages and extremes 1981-2020](#)
- [Homogenized surface air temperature](#)
- [Adjusted precipitation](#)
- Find additional climate-related resources (including publications, datasets and monitoring stations) from ECCC on the OSDP [here](#).

The OSDP also contains resources on topics led by other departments and other levels of government (e.g., human health, economy and industry). The OSDP also provides access to regulatory registries that list government authorizations of other developments (e.g., Fisheries Act Registry), which can be useful in understanding the cumulative pressures on an area.

3. Has your department or agency 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?

Please specify if applicable.

ECCC has not considered, exercised a power or performed a duty, or taken any course of action as part of the Project.

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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: an enquiry about methodology, guidance, or data; introduction to the Project)?

Please provide an overview of the information or advice exchanged.

As indicated by the Proponent in the Initial Project Description, Section 3 and based on information readily available, ECCC has not had any direct involvement with the Proponent or other parties that would be relevant to the assessment of this Project. ECCC Prairie and Northern Region (PNR) has not been in contact with the Proponent regarding permitting or authorizations for the Project.

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5. Does your department or agency have additional information or knowledge about the Project not specified above, including information about its geographic, environmental, economic or social context (for example, location of protected or sensitive areas, history between local communities and Proponent or similar Projects, local or regional social or economic concerns)?

Please specify if applicable.

Based on information readily available, ECCC Prairie and Northern Region has not had any involvement with the Proponent or other parties that would be relevant to the assessment of this project.

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6. From the standpoint of your department's mandate and expertise, what are the main issues concerning the Project?

For each key issue, please:

- describe the effect or the nature of the issue, including any relevant context;
- provide the rationale and/or evidence for why it is a key issue;
- briefly provide solutions to the issue, including information or studies that, if applicable, should be requested to the Proponent in the Tailored Impact Statement Guidelines, potential mitigation measures, or regulatory requirements relevant to the issues;
- provide a concise, plain-language summary of the issue for inclusion in the Summary of Issues.

The information provided will be taken into consideration by the Agency to formulate an opinion on whether an impact assessment is required and, if applicable, will be taken into account in developing Project-specific Tailored Impact Statement Guidelines in the next steps of the impact assessment process.

Please use Table 1 to answer this question.

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7. If applicable, specify any additional information the Proponent could provide in the Detailed Project Description or in its response to the Summary of Issues that:

- would make it possible to verify whether certain minor issues could be addressed and managed by clear measures, existing guidelines, other regulatory processes or other existing tools;
- help the Agency to provide an opinion if an impact assessment is required, or
- would support the tailoring of the Impact Statement Guidelines if the Agency is of the opinion that an impact assessment is required.

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

Please use Table 2 to answer this question.

Environment and Climate Change Canada

Name of department or agency involved

John Olyslager

A/Regional Director,
Environmental Protection and Operations Directorate,
Prairie and Northern Region

Speaker title

26.01.2024

Date

Table 1: Key issues to inform the impact assessment process

The Agency asks that federal authorities guide expert advice on the Agency's approach to Project specific tailoring, if the Agency is in the opinion that an impact assessment is required. This approach aims to focus the assessment on the Project's key issues, with an emphasis on the prevention of adverse environmental effects in areas of federal jurisdiction. In determining key issues, federal authorities should be mindful of the Project's context (size, scope, location), Indigenous knowledge and perspectives, and public concerns.

Potential effects that are considered minor, or that can be mitigated through clear measures, existing guidance or other regulatory processes, may be subject to simplified information requests or be disregarded. Advice from federal authorities on key issues and solutions - and on the scope and detail of the studies and information requested - will enable the Agency to focus the analysis on those issues that are important for the impact assessment process.

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>Please present comments by organization and comment number e.g.: IAAC-01</p>	<p>If the comment relates to a specific section of the initial Project description, please provide the reference.</p>	<p>Identify valued component(s) or factor to consider—within the mandate of your department or agency—to which the potential effect or issue applies.</p>	<p>Please provide a brief description of the issue and rationale for being a key issue.</p> <p>Include, where relevant:</p> <ul style="list-style-type: none"> the sequence of potential effects; the relevant context that specifies why this is a key issue; key uncertainties that should be addressed in the impact assessment; Indigenous or public concerns or perspective; scientific data or traditional knowledge, including from previous Projects, that justifies the inclusion of the key issue in the Project assessment. 	<p>If applicable, please provide brief solutions/advice to address the issue or potential effect, including:</p> <ul style="list-style-type: none"> studies or information relevant to describing and characterizing the potential effect, including any guidance for data collection or analysis or existing data sources to inform the assessment; any powers your department or agency has that may mitigate, manage or set conditions related to the issue; advice or policies to frame and mitigate the potential effect; standardized mitigation or monitoring measures that could manage potential effects, including follow-up on monitoring activities; commitments the Proponent could make to respond to the issue. 	<p>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, if applicable.</p>
ECCC-01		Air Quality	<p>The construction, operation, and decommissioning of the Project can result in adverse effects on air quality. Project operations including the combustion of natural gas by the expanded train turbines, and activities associated with transportation can result in the</p>	<p>Burning of clearing debris to make the land accessible will generate a large portion of air emissions for this Project. While there are few residents in the Project vicinity, there is a public roadway nearby, and local First Nations make transient use of adjacent lands. ECCC recommends that burning of cleared debris be performed with consideration of wind direction and atmospheric stability in a manner similar to that of the requirements for the BC Open Burning and Smoke Control Regulations, including use of the Venting Index for planning burns.</p>	<p>Project activities may result in adverse effects on air quality, which may settle out in the surrounding environment. Such deposition may lead to adverse impacts</p>

			<p>emission of contaminants such as sulfur oxides (SO_x), nitrogen oxides (NO_x), volatile organic compounds (VOCs), and particulate matter (PM_{2.5}, PM₁₀ and PM).</p> <p>Activities which cause a physical disturbance to land, such as earth moving, land clearing, blasting, crushing, and transportation, can also introduce particulate matter (e.g., dust and soot) to the surrounding region. The emission of these air contaminants can result in local or regional degradation of ambient air quality, with potential impacts on sensitive ecosystem receptors. Furthermore, emissions of air contaminants as a result of this Project may add cumulatively to the emissions from other activities, contributing to degradation of air quality in the region.</p> <p>When contaminants settle out of the air in the surrounding environment, their deposition may result in adverse impacts to terrestrial and aquatic ecosystems. For example, metals and polycyclic aromatic compound (PAC) emissions from mining activities may result in elevated concentrations of these contaminants in water, soil, flora, and fauna. Emissions of NO_x and SO₂ may also lead to acidification and potential exceedance of ecosystems' critical loads. Air contaminant emissions can result in contamination of nearby land and</p>		<p>to terrestrial and aquatic ecosystems.</p> <p>Notably, the burning of clearing debris constitutes a large portion of air emissions for this Project. In addition to the potential impacts due to deposition discussed above, the use of adjacent lands by First Nations may also lead to adverse effects to air quality impacting the current use of lands and resources for traditional purposes.</p>
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			waterbodies (such as Osborne Creek and Marguerite Lake) and may lead to effects of aquatic receptors.		
ECCC-02		Air Quality	Projects which involve on-road vehicles and mobile off-road machines for construction, operation and decommissioning, or that lead to an increase in road traffic, have the potential to adversely affect air quality. More specifically, the combustion of fossil fuels can result in the emission of air contaminants such as sulfur oxides (SO _x), nitrogen oxides (NO _x), volatile organic compounds (VOCs), and fine particulate matter (PM _{2.5}). When some contaminants settle out of the air in the surrounding environment, their deposition may result in acidification and potential exceedance of ecosystems' critical loads for fish and fish habitat or other terrestrial ecosystems. The emission of these air pollutants can result in local or regional degradation of ambient air quality, with potential impacts on sensitive ecosystem receptors.	The use of equipment with engines that meet Tier 4 emission standards may assist in mitigating the air quality impacts of the Project. While there is a reference to Tier 4 in Table 24-3 'Emission Factors for Off-road Equipment', there is no commitment to employ such equipment. ECCC recommends that both on-road and off-road equipment be used, where available, that are equipped with engines meeting Tier 4 emission standards.	Vehicle traffic can adversely affect air quality, Airborne contaminants may settle out in the surrounding environment. Such deposition may lead to adverse impacts to terrestrial and aquatic ecosystems. ECCC recommends that construction equipment be used with the most modern and clean engines.
ECCC-03		Greenhouse gas emissions and climate change	The construction, operation, and decommissioning of the proposed Project may result in greenhouse gas (GHG) emissions, or impact to carbon sinks, and may hinder or contribute to the Government of Canada's ability to meet its commitments in respect of climate change. Furthermore, the Project has the potential to be affected by	The Strategic Assessment of Climate Change (SACC) (published in October 2020) provides guidance related to climate change throughout the impact assessment process. The SACC outlines information that the Proponent should provide during the impact assessment process on GHG emissions, impact of the Project on carbon sinks, impact of the Project on federal emissions reduction efforts and on global GHG emissions, GHG mitigation measures and climate change resilience; the circumstances in which an upstream GHG assessment would be required; and the circumstances in which a credible plan to achieve net-zero emissions by 2050 will be required.	The Project's GHG emissions and climate change impacts should be assessed following the SACC, to ensure that GHG emissions are mitigated, and that there is Project a plan in place to

			<p>future climate change, possibly resulting in impacts to the environment. Climate change may alter the likelihood or magnitude of sudden weather events such as extreme precipitation that can contribute to flooding, as well as contribute to longer-term changes such as sea level rise, permafrost thaw and changes to migration patterns.</p>	<p>More details are provided in the <u>draft <i>Technical Guide Related to the Strategic Assessment of Climate Change: Guidance on quantification of net GHG emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment</i></u> published in August 2021.</p>	<p>achieve net-zero emissions by 2050, as it is expected that the Project's lifetime extend to 2059.</p>
ECCC-04		Climate change resilience	<p>The Proponent indicates that the Project's lifespan is 30 years as it will be in operation until around 2059. Climate over the lifetime of the Project is projected to be different from past and current climate in the area. Given these projected changes in future climate, climate change considerations are relevant to the Project review. Climate changes in the Project area, such as possible changes in mean and extreme precipitation and temperature and related environmental conditions, may alter baseline conditions, with implications for climate sensitive aspects of Project design and associated effects on the environment.</p> <p>The Proponent should identify where there is potential for climate change to affect the Project which, in turn, may have impacts on the surrounding environment.</p>	<p>The Strategic Assessment of Climate Change (SACC) (published in 2020) provides guidance related to climate change throughout the impact assessment process. Should the Project be designated under the IAA, the SACC would apply. The SACC outlines information that the Proponent should provide during the impact assessment process related to climate change resilience.</p> <p>More details are provided in the "Draft technical guide related to the Strategic Assessment of Climate Change: Assessing climate change resilience" published in March 2022.</p> <p>Links:</p> <p>"Strategic Assessment of Climate Change" https://www.strategicassessmentclimatechange.ca/</p> <p>"Draft technical guide related to the Strategic Assessment of Climate Change: Assessing climate change resilience." https://www.strategicassessmentclimatechange.ca/28896/widgets/117114/documents/77106</p>	<p>The Project's resilience to future climate change should be described and, where relevant, considered in Project design.</p>

			<p>If the Proponent is required to conduct an Impact Statement, further information would be required through the Tailored Impact Statement Guidelines (TISG) on how the Project is resilient to and at risk from both the current and future impacts of a changing climate.</p>		
ECCC-05		Water Quality	<p>The activities linked to the construction, operation, and decommissioning of energy storage projects and their associated infrastructure can have adverse effects on the quality of groundwater and surface water, as well as on the hydrological regimes of watercourses and water bodies. Such adverse effects may negatively impact fish and fish habitat.</p> <p>Constructing watercourse crossings, conducting hydrostatic tests, constructing and maintaining access roads, excavating or reworking of soils, sediments or rocks, and drilling may result in the deposit of contaminants to watercourses and water bodies and result in adverse effects on water quality.</p> <p>Disturbing soils, rocks, and streambanks during construction activities (pipeline and transmission line) may cause erosion and result in deposition of soils and sediments to waterbodies. Soil and sediments</p>	<p>Environment and Climate Change Canada (ECCC) is responsible for the administration of subsection 36(3) to (6) of the Fisheries Act which prohibits the deposit of a deleterious substance in waters frequented by fish unless authorized by regulations.</p>	<p>The Project has the potential for impacts to water quality and subsequently fish and fish habitat from the following sources:</p> <p>Potential effects to surface water from:</p> <ul style="list-style-type: none"> • works in or near water, resulting in the deposit of contaminants to surface water; • erosion and sedimentation, resulting in deposition of sediments in surface water; • overall management of stormwater, groundwater, brine, fuels, chemicals, and other wastes; and • spills.

			<p>can also enter waterbodies through streambed disturbance. These suspended solids can have adverse effects on water quality.</p> <p>Development of salt caverns produces a brine that must be managed appropriately. Management and storage of brine at surface poses a potential risk to surface water quality.</p> <p>Contaminants may be introduced into waterbodies through stormwater discharge, cavern dewatering, groundwater resurgence, or spills (e.g. saline water, fuels, chemicals) resulting in adverse effects on water quality.</p> <p>The deposition of airborne particulate matter generated by the Project could also be a source of surface water contamination.</p> <p>Water impoundment or withdrawals (for example, for hydrostatic tests) and disturbances to the natural flow of surface water (for example, watercourse crossings) could have effects on the quantity, availability and hydrological regimes of watercourses and waterbodies.</p> <p>Adverse effects to water quality could, in turn, result in adverse effects to fish and fish habitat as well as other sensitive terrestrial ecosystem receptors.</p>	
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ECCC-06		Species at Risk and their habitat	Construction of the Project and associated infrastructure will contribute to land clearing activities, which leads to destruction, disturbance, degradation, and fragmentation of habitat for species at risk (e.g., foraging and breeding). In addition, species at risk could be affected by sensory disturbances during the construction, operation, and decommissioning of the Project. Some examples of potential sources of sensory disturbance include noise from various Project activities, lights, vibrations from excavation, and the operation of machinery, as well as the presence of workers. The amount, duration, frequency, and timing of noise are important to understand potential effects. Sensory disturbance may make adjacent habitats unsuitable for use by species at risk and cause avoidance effects in many species.	There is always the possibility that species assessed by COSEWIC may be added to Schedule 1 of SARA with potential critical habitat identified. As best practice it is recommended to also consider species assessed by COSEWIC to implement measures to lessen or avoid impacts and to monitor them.	<p>The proponent should identify all species at risk listed on Schedule 1 of the <i>Species at Risk Act</i> and any critical habitat that may interact with the Project and describe how they may be adversely affected by the Project. Describe what measures will be taken to avoid or lessen the effects of each project activity and stage, and how these effects will be monitored to ensure they are avoided or minimized.</p> <p>As best practice, the proponent should consider species assessed by COSEWIC.</p>
ECCC-07		Migratory birds, and their habitat	Construction of the Project and associated infrastructure will contribute to land clearing activities, which leads to destruction, disturbance, degradation, and fragmentation of habitat (e.g., foraging and nesting). In addition, migratory birds could be affected by sensory disturbances during the	<p>Required lighting and noise production during the construction, operation and decommissioning of the Project should be controlled and minimized to avoid sensory disturbance to migratory birds. The Proponent has proposed the following mitigations to minimize these potential effects:</p> <ul style="list-style-type: none"> • “Maintain equipment and the facility to minimize excessive noise (e.g., mufflers intact, greased properly)”. • Minimize light disturbance through “light shields, or directional lighting to lessen sky glow, and use of photocells or motion detectors to control light fixtures visited infrequently.” 	The proponent should describe sources of sensory disturbances (including lighting and noise) that might impact habitat use by migratory birds,

			<p>construction, operation, and decommissioning of the Project. Some examples of potential sources of sensory disturbance include noise from various Project activities, lights, vibrations from excavation, and the operation of machinery, as well as the presence of workers. The amount, duration, frequency, and timing of noise are important to understand potential effects. Sensory disturbance may make adjacent habitats unsuitable for use by migratory birds and cause avoidance effects in many species.</p>	<p>ECCC is in support of the above mitigations to reduce effects on migratory birds and their habitat.</p>	<p>and mitigations to be applied.</p>
ECCC-08		Migratory birds and their mortality risk	<p>1) Individual mortality and the destruction of nests and eggs or any other structure necessary for the reproduction and survival of migratory birds could occur during all Project phases. Construction of the Project and associated infrastructure will contribute to land clearing activities, which can lead to the inadvertent disturbance and destruction of individuals, nests and eggs of migratory birds. Construction may also create temporary artificial habitat suitable for some migratory birds, putting them at risk of mortality events. For example, certain migratory</p>	<p>1) The <i>Migratory Birds Convention Act, 1994</i> (MBCA) and the <i>Migratory Bird Regulations, 2022</i> (MBR 2022) protect migratory birds and prohibit the disturbance or destruction of migratory bird nests when they contain a viable egg or a migratory bird themselves (young or adult). Schedule 1 of MBR 2022 provides year-round nest protection for 18 species, though there is no suitable habitat identified for these in the disturbance area (Project footprint). The legislation and regulations apply to all lands and waters in Canada, regardless of ownership. The main sensitive period to consider is the breeding season. With respect to disturbance or harm to nesting birds, the principal risk factors are location and time of year. ECCC publishes a web site (https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html) to aid in the planning of activities in order to reduce the risk of detrimental effects to migratory birds, their nest and eggs, in accordance with the purpose of the MBCA.</p> <p>The Proponent has proposed to conduct vegetation and habitat clearing activities outside the migratory bird nesting season (Nesting Zone B5) to prevent destruction of migratory birds and their eggs and nests to be compliant with the MBCA. If any clearing or construction occurs during the nesting period, the Proponent proposes to do pre-construction nest surveys no more than 7 days prior to clearing. If a nest is discovered, a species-specific appropriate buffer will be established around the nest until the young have fledged or it's been cleared by a biologist.</p>	<p>1) It is the Proponent's responsibility to be aware of its obligations stemming from the MBCA and its regulations. The Proponent should also provide mitigation details and monitoring measures that will be completed for migratory birds that nest on human infrastructure or man-made features.</p>

			<p>birds (e.g. Bank Swallow, Common Nighthawk) may nest in large piles of soil and graveled areas left unattended/unvegetated during the most critical period of breeding season.</p> <p>2) Artificial lighting and disturbances from construction, operation and decommissioning activities may result in injury, and mortality of migratory birds. Attraction to lights at night or in poor visibility conditions may cause birds to collide with lit structures or their vertical support structures, resulting in injury or death. Birds can also be disoriented while circling an artificial light source and may deplete their energy reserves and either die of exhaustion or drop to the ground where they are at risk of predation.</p> <p>3) During operations, the stormwater pond may be attractive to breeding and staging migratory birds if the facility retains water during the spring, summer and fall period. Birds that land on and/or frequent wastewater (e.g., a storm water pond that may come into contact with contaminants found within runoff) have the potential to come into</p>	<p>ECCC is in support of these mitigations to reduce effects on migratory birds and their mortality risk. See Table 2 for additional clarification on nest searches.</p> <p>2) Lighting required for the construction, operation and decommissioning of the Project should be controlled and minimized to avoid adverse effects on migratory birds. The Proponent has proposed the following mitigations to minimize potential effects to migratory birds:</p> <ul style="list-style-type: none"> Minimize light disturbance through “light shields or directional lighting to lessen sky glow, and use of photocells or motion detectors to control light fixtures visited infrequently”. <p>ECCC is in support of this mitigation to reduce effects on migratory birds and their mortality risk.</p> <p>3) The Proponent has proposed the following mitigations to minimize potential effects to migratory birds:</p> <ul style="list-style-type: none"> “Project personnel will record wildlife sightings as dictated within the Environmental Protection Plan.” “Should migratory birds interact with the stormwater pond, Federation will consult with a professional biologist to determine additional mitigation measures (e.g., netting, bird deterrent floats, effigies) to reduce further impacts”. <p>ECCC is in support of these mitigations to reduce effects on migratory birds and their mortality risk.</p>	<p>2) The Proponent should describe sources of light that may attract migratory birds and increase their risk of mortality and provide mitigations to be applied.</p> <p>3) The Proponent should detail mitigations for impacts to migratory birds, which may arise from changes to water quality and quantity in the stormwater pond.</p>
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			<p>contact with toxic substances, which can result in on and off-site mortality. Depending on the nature of the release (e.g., toxicity, volume release, exposure pathways), effects to wildlife could be acute, chronic or both and can include effects such as bioaccumulation of contaminants or mortality.</p>		
ECCC-09		Species at Risk and their mortality risk	<p>1) The Project is within a biologically relevant distance of the known range of Western Tiger Salamander (SARA Special Concern). The Project will affect wetlands resulting in permanent loss of wetlands and their functions in the disturbance area. Loss of these wetlands could have the potential for a negative effect on Western Tiger Salamander since these wetlands may provide suitable habitat for this species at risk. The Proponent stated that no rare amphibians were identified during the field assessment. ECCC is unable to corroborate the Proponent's findings as it is unclear if the amphibian surveys conducted consisted of visual surveys as opposed to auditory surveys.</p>	<p>1) The Project is approximately 58 kms from the known Western Tiger Salamander range. The species at risk may occur in this area if suitable habitat is available. Although no amphibian species at risk were observed by the Proponent during field assessments and there are no historical records of Western Tiger Salamander in the Project area, the Proponent's proposed mitigations should reduce potential mortality risk. The Proponent proposes the following mitigations to reduce adverse impacts to amphibians, including species at risk:</p> <ul style="list-style-type: none"> • maintain a 100 m year-round buffer around amphibian breeding ponds. • If new activities cannot avoid the 100 m setback, a mitigation plan will be developed for any activities within the wetland setback and will include mitigation measure such as amphibian monitors, exclusion fencing, and amphibian salvage and relocation. <p>ECCC is in support of these mitigations and no additional surveys for Western Tiger Salamander would be required if these mitigations are followed by the Proponent.</p> <p>2) The Proponent has proposed the following mitigations to minimize potential effects of road mortality:</p> <ul style="list-style-type: none"> • "Implementing a reduced speed limit of 50 km/hr near the site to reduce the risk of wildlife and vehicle collisions." <p>ECCC recommends the Proponent also reduce their speed limits on site to reduce potential collision risk with nesting Common Nighthawks and their eggs.</p>	<p>1) The proponent should detail mitigations for impacts to amphibian species at risk, which may arise from the loss and indirect impacts to wetlands.</p> <p>2) The proponent should describe mitigations that include reducing vehicular speeds on site to reduce the risk of collision with wildlife.</p>

			<p>2) The Proponent has identified Common Nighthawk (SARA Special Concern) as occurring in the Project area. Common Nighthawks typically nest on bare/sparse ground but have been observed to nest on gravel substances as well. The Project requires new access roads on site to access the infrastructure. Common Nighthawks may be attracted to nesting on the gravel access roads, putting their eggs at risk of destruction.</p>		
ECCC-10		Wetlands	<p>The activities linked to the construction, operation, and decommissioning of the Project may have negative effects on wetlands and their ecological functions. Activities related to construction will result in the destruction and modification of wetlands which is likely to cause negative effects on or harm migratory birds and species at risk that use these areas for breeding and migration, as well as for foraging or resting areas. The Project is also more likely to create introduction and dispersal pathways for invasive species. The spread of invasive species may pose a threat to wetlands in the vicinity of the disturbance area, that may degrade</p>	<p>The Project is located in an industrial corridor with predominantly cultivated (tame pasture) and natural habitats. The impacted wetlands were assessed (ABWRET-A 2015) to be of low relative value on the landscape. The Proponent has proposed the following mitigations to minimize potential effects to wetlands:</p> <ul style="list-style-type: none"> • Per the Alberta Wetland Policy (GOA 2013) requirements, mitigate permanent wetland loss. The Proponent will pay wetland replacement fees per the Water Act Approval DAUT0008313. • The Alberta Wetland Policy (GOA 2013) requires mitigation of temporary or permanent wetland impacts. Wetland management is regulated through the Alberta Water Act. Key mitigations will include following all conditions of the Water Act Approval DAUT0008313. <p>Given the above mitigation measures, the impacts to wetlands are expected be of low risk to migratory birds and species at risk.</p>	<p>The proponent should detail mitigations for impacts (direct and indirect) to wetlands due to construction, operation and decommissioning of the Project, to mitigate potential impacts to migratory birds and species at risk.</p>

			the quality of habitat for migratory birds or species at risk over time.		
ECCC-11		Environmental Emergencies	<p>The proposed Project includes the construction, operation, and eventual decommissioning of a compressed air energy storage plant. Construction of the plant will involve solution mining (for creation of underground salt caverns), construction of a natural gas pipeline, wells (water supply and brine disposal), a stormwater pond, electrical transmission line, and associated buildings (including foundations) as well as installation of compressor / generator equipment. Operation involves the use of electric compressor trains and natural gas-fired expander trains (equipped with selective catalytic reduction using ammonia). A diesel-fueled emergency generator will be on site. There is potential for adverse environmental effects to air quality, water quality, migratory birds and species at risk from accidents and malfunctions, such as releases of natural gas, ammonia, diesel, or brine during construction and operation of the compressed air energy storage plant.</p>	<p>Spill prevention, preparedness and response measures and systems should be implemented during construction and operation of the compressed air energy storage plant, given the risk of release of hazardous substances to the environment, especially to nearby waterways and environmentally sensitive areas.</p> <p>Part 8 of the Canadian Environmental Protection Act 1999 (CEPA) on environmental emergencies (sections 193 to 205) addresses the prevention of, preparedness for, response to and recovery from environmental emergencies caused by uncontrolled, unplanned, or accidental releases. It also addressed the reduction of any foreseeable likelihood of releases of toxic or other hazardous substances listed in Schedule 1 of the <i>Environmental Emergency Regulations, 2019</i>. This Act may apply if Schedule 1 substances onsite meet or exceed the threshold to be regulated under CEPA. In the case of this Project this may include (but is not limited to) natural gas, ammonia, and diesel.</p>	<p>Accidents and malfunctions arising from construction and / or operation of the compressed air energy storage plant could result in releases of contaminants to the environment. The implementation of spill prevention, preparedness, and response measures and systems will be important to minimize this risk and should be thoroughly documented in plans.</p>

Please insert additional lines if necessary.

Table 2. Details or additional information the Proponent could include in the Detailed Project Description or in the response to Summary of Issues

Comment ID	Relevant section of the Initial Project Description	Description of the Issue, Concern or Uncertainty	Clarifications 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. AEIC-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 that the Proponent could include in its Detailed Project Description, which could be framed and managed by clear measures, existing guidelines, regulatory processes or other existing tools, and thus be the subject of a simplified information request in the guidelines, or simply be disregarded.</i></p>	<p><i>Specify what additional information the Proponent could provide in the 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 Project Description (e.g. components, activities, locations or alternatives);</i> <i>• Proposals on Project design changes that could avoid effects;</i> <i>• Evidence that could demonstrate that the effects will be negligible;</i> <i>• Evidence that standard mitigation measures will reduce or eliminate potential effects;</i> <i>• Commitments the Proponent could make to respond to the question/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 any questions or instructions for the Proponent, if applicable.</i></p>
ECCC-01	Section 23.1	<p>The Proponent has provided an emissions estimate of the construction phase of the Project, with the construction estimate provided in Section 23.1 (Construction Phase) and Table 23-1. This does not include the emissions from acquired energy, which the Proponent provides separately in Section 23.4.</p> <p>This approach creates confusion since Table 23-1 is titled Total Greenhouse Gas Emissions – Construction, which would indicate that net GHG emissions values are being presented.</p>	<p>Section 23.4 (Third Party (Indirect) Emissions) summarizes GHG emissions from electricity consumption for the Project’s construction and operations phases. This section should be removed, and the information on electricity consumption be included in Section 23.1 and Table 23-1. Acquired energy should be presented with the other sources to avoid confusion.</p>	<p>ECCC recommends the Proponent include the GHG emissions from acquired energy in Section 23.1 and Table 23-1 (the construction emissions).</p>
ECCC-02	Section 23.2	<p>The Proponent has provided a GHG emissions estimate of the operations phase of the Project in Section 23.2 (Operation Phase) and Table 23. This does not include the emissions from acquired energy, which the Proponent included in Section 23.4. This approach creates confusion since Table 23-2 is titled Total Greenhouse Gas Emissions – Operations, which would indicate that net GHG emissions values are being presented.</p>	<p>Section 23.4 (Third Party (Indirect) Emissions) summarizes GHG emissions from electricity consumption for the Project’s construction and operations phases. This section should be removed, and the information on electricity consumption be included in Section 23.2 and Table 23-2. Acquired energy should be presented with the other sources to avoid confusion.</p>	<p>ECCC recommends the Proponent include the GHG emissions from acquired energy in Section 23.2 and Table 23.2 (the operations emissions).</p>

ECCC-03	Section 23.0	<p>The Proponent has provided emissions estimate of land use change, however the Proponent has not provided information on the Project's impacts on carbon sinks.</p> <p>The Information and Management of Time Limits Regulations require Project Proponents to provide a description of the physical and biological environment of the Project's location.</p>	<p>As outlined in the Strategic Assessment of Climate Change (SACC), the Proponent should provide the following information to help ECCC understand the potential impacts on carbon sinks:</p> <ul style="list-style-type: none"> • A description of the activities that would result in an impact on carbon sinks; and • Land areas expected to be impacted by the Project, by ecosystem type (forests, cropland, grassland, wetlands, built-up land) over the course of the Project lifetime, including any areas of restored or reclaimed ecosystems. 	ECCC recommends the Proponent provides a carbon sink assessment according to guidance in Section 4.1.2 of the SACC.
ECCC-04	Section 23.3	Decommissioning emissions are discussed, however no GHG emission estimate is provided.	Consistent with other phases of the project, it is recommended that the Detailed Project Description (DPD) includes the breakdown by the sources for the decommissioning phase. ECCC recommends that the Proponent further consider the assumption that GHG emissions will not be emitted during the decommissioning phase, as this appears to be based solely on net zero commitments of some heavy equipment manufacturers. The Proponent can refer to section 3.3 of the SACC for more information on uncertainty assessments.	ECCC recommends including addition information related to assumptions and/or estimating the decommissioning emissions in the DPD.
ECCC-05	Section 12.2	The Initial Project Description mentions carbon capture as a path to net-zero in Section 12.2, however details are not provided. Section 23.6 states that the Project does not capture and store CO2.	It is recommended that the Proponent includes information on whether and how carbon capture or other GHG mitigation measures are being considered and its implications in the context of the Project's GHGs and the net-zero plan.	Carbon capture is mentioned but no details are provided. ECCC recommends that the Proponent provide further information in the DPD on whether and how carbon capture or other mitigation measures are being considered to reduce the Project's GHG emissions, including discussions on technical and economic feasibility.
ECCC-06	Section 23.7	The Initial Project Description states that "Overall, the GHG emissions associated with the Project are very low in magnitude compared to provincial and national emission totals". This comparison is not meaningful.	Conclusions about the Project's GHG emissions in comparison to the 2021 provincial and national totals is not a meaningful comparison as GHG emissions are cumulative in nature.	ECCC recommends that the Proponent should avoid comparing the Project's GHG emissions to those of provincial and national totals, as this is not a meaningful comparison, and

				GHG emissions are cumulative in nature.
ECCC-07	Section 23.7	Section 23.7 has the title: "Strategic Assessment of Climate Change and Net-Zero Plan", however minimal details of an actual net-zero plan are provided.	The Proponent is encouraged to provide more information on potential mitigation measures and alternatives in order to work towards a credible plan to achieve net-zero, as outlined in the SACC section 5.3.	The Proponent is encouraged to provide an overview of all measures being considered to ensure the Project has net-zero emissions by 2050, including relevant details.
ECCC-08	Table 14-1. Current and Historical Records of Species at Risk within the Project Area Region	Table 14-1 incorrectly lists Peregrine Falcon and Pileated Woodpecker as Species at Risk on Schedule 1 of SARA.	<p>The <i>pealei</i> subspecies of Peregrine Falcon found on the west coast of British Columbia is the only subspecies that is listed on Schedule 1 of SARA. Subspecies of Peregrine Falcon that occur in Alberta are not federally listed.</p> <p>Pileated Woodpecker is not a federally listed species on Schedule 1 of SARA. However, it is listed on Schedule 1 of the MBR, 2022, which provides a list of 18 species with year-round nest protection.</p>	The Proponent should update Table 14-1.
ECCC-09	Table 14-1. Current and Historical Records of Species at Risk within the Project Area Region	Table 14-1 incorrectly lists Common Nighthawk and Short-eared Owl as Threatened under Schedule 1 of SARA.	As of February 03, 2023, Common Nighthawk has been downlisted to Special Concern on Schedule 1 of SARA. Although Short-eared Owl has been recommended by COSEWIC to be uplisted to Threatened, the decision is still pending and the species is currently listed as Special Concern on Schedule 1 of SARA.	The Proponent should update Table 14-1.
ECCC-10	Appendix E Wildlife and Wildlife Habitat	It is stated that if clearing or construction occurs during the early nesting or migratory bird nesting period, a pre-construction nest and wildlife sweep should be completed no more than 7 days prior to construction activities. ECCC does not recommend the use of nest searches or pre-clearing surveys for active bird nests during the breeding season as a mitigation, given the difficulty associated with finding nests reliably and the high likelihood of disturbing nesting birds when searching.	<p>ECCC recommends that vegetation clearing activities not be conducted during the breeding bird season. The Proponent should provide details on how vegetation clearing related to site development will be conducted and the timing window that will be used for vegetation removal to minimize risk to migratory birds and species at risk.</p> <p>The Proponent can reference the Guidelines to avoid harm to migratory birds.</p>	It is the Proponent's responsibility to be aware of its obligations stemming from the <i>Migratory Birds Convention Act (MBCA)</i> and its regulations.

ECCC-11	Section 19.4 and Appendix E Wildlife and Wildlife Habitat	The Proponent plans to develop a “stormwater pond designed to capture and retain stormwater runoff for a period of time prior to release, allowing sediments to settle out and provide some treatment for pollutants”. The stormwater pond may be attractive to some migratory birds and species at risk, and the Proponent provides mitigation measures to reduce interactions with the infrastructure.	The Proponent should clarify the potential attractiveness of the stormwater pond to migratory birds and species at risk, such as describing whether the banks will be vegetated or not, and potential for toxicity levels to be at levels that are harmful to wildlife.	The Proponent should describe the potential risks of the stormwater pond to migratory birds.
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Please insert additional lines if necessary.