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Plain English Summary of the Summary of Issues Response

Marguerite Lake Compressed Air Energy
Storage Project

Prepared for:

Federation Group Inc.

Prepared by:

Vertex Professional Services Ltd.

Date:

January 2025

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English Summary

Federation Group Inc. is pleased to submit a plain English summary of the response to the Summary of Issues (SOI) prepared by the Impact Assessment Agency of Canada (IAAC) for the Marguerite Lake Compressed Air Energy Storage facility and pipeline (the "Project"). The SOI response contains information from the Initial Project Description (IPD), with additional details to proactively address the issues raised and to demonstrate the Project's commitment to sustainability and innovation. The responses include additional information and clarification on Fish and Wildlife; Climate Change and Greenhouse Gas Emissions; Indigenous Concerns and Engagement; Acoustics; Surface Water and Groundwater; Wetlands; Soils; Cumulative Effects; Project Need, Alternatives and Description; Accidents and Malfunctions; and Wastes and Emissions. The objective of the responses is to facilitate understanding about the Project by assessment participants, including Indigenous groups, the public, federal authorities, provincial ministries and municipalities.

Pipeline and Impacts to Fish and Fish Habitat

A fuel gas pipeline is required to supply natural gas to the Project. The pipeline is a small diameter line and will be installed for the sole benefit of the Project within an existing right-of-way, reducing the need for new land disturbance. Construction from the roadbed will reduce impacts to watercourses as temporary crossings and alterations to culverts will be avoided, where practical. Federation has implemented mitigation measures that exceed standard practices to ensure the protection of fish and fish habitat. Additional facility-related potential effects to surface water and related effects to fish and fish habitat were considered in more detail in the SOI response. A stormwater management system is planned to capture and manage runoff. A stormwater pond will hold water long enough for sediment to settle and pollutants (if present due to an onsite release or other emergency event) to be addressed, ensuring that any discharge meets provincial water quality criteria and that surface water and fish habitat are not affected.

Species at Risk and Wildlife

Federation has outlined strong mitigation measures to address potential impacts on migratory birds and species at risk in the Project area. This included mitigation for human infrastructure, noise, visual disturbances, the stormwater pond, wetlands, on-site vehicle collisions, and cumulative effects. Federation provided a list of all species at risk and important habitat that may interact with the facility and pipeline to assist with developing avoidance, mitigation and monitoring measures. Federation is fully committed to complying with the *Migratory Birds Convention Act*, the *Species at Risk Act* and associated regulations.

Climate Resilience and Emissions

The Project supports Canada's 2050 net-zero emissions goal by minimizing greenhouse gas emissions and by enabling energy storage. The Project is designed with the future capability to operate its turbines using hydrogen, which would result in zero emissions during electricity generation. The Project will comply with all existing and future regulations related to air emissions. Also, the Project is focused on supporting the transition to a low-carbon energy future by facilitating the storage of renewable energy and by providing a reliable, transmittable source of electricity with low emissions during peak demand when renewables are not available. The Project also protects natural carbon sinks, such as forests and wetlands, by minimizing land disturbance and using an area that has already been cleared.

Surface equipment and facilities have been designed to operate efficiently under a wide range of temperatures. This ensures the Project remains reliable and resilient as climate conditions change over time.

Indigenous Participation

Federation recognizes the importance of direct and continuous engagement with Indigenous groups with an interest in the Project. Federation has engaged, and will continue to engage, in partnerships and consultations with Indigenous groups as directed by the Government of Alberta Aboriginal Consultation Office and with Indigenous groups that made comments to the IAAC and asserted Traditional territory in the Project area. Federation has carefully considered the Project's potential effects on wildlife, vegetation, traditional food sources, and food security for Indigenous groups and communities. From the Project's start, Federation has focused on minimizing disturbances and protecting cultural heritage. The Project has been designed to occupy a small disturbance area on an active grazing lease adjacent to existing linear infrastructure which substantially reduces the need for new land development, extensive clearing, or additional access roads.

Federation will maintain a 'hire-locally first' policy and will provide equitable opportunities for Indigenous communities. This includes encouraging participation from individuals of various educational and cultural backgrounds, as well as genders, and ensuring the recruitment process is inclusive and fair. Indigenous communities will be informed of upcoming training, employment, and contracting opportunities to ensure they can fully access the economic benefits associated with the Project. The 'hire-locally first' policy will also support non-Indigenous community employment. Local residents will benefit from job creation and economic growth as local businesses and suppliers will be used whenever possible. When the Project comes to the end of its lifespan, Federation will attempt to transition operational personnel to other roles within the company, ensuring they have access to new employment opportunities.

Noise

Federation conducted an ambient noise survey and noise impact assessment in compliance with Alberta Utility Commission (AUC) requirements, and the cumulative noise effects of the existing Marguerite Lake substation, well sites, and other nearby industrial activities were considered. The Project area, surrounded by grazing lands and oil and gas operations, is adjacent to a highway and other industrial developments. Federation has developed mitigation measures for noise, and the predicted sound levels from the Project will meet AUC Rule 012 daytime and nighttime standards.

Groundwater

Federation conducted a review of drinking water resources and waterbodies used for recreational purposes in the Project area. Potential effects to groundwater include a reduction in water levels for water well users withdrawing from the same aquifer as the proposed source wells at the site. Federation will install source wells in different aquifers to minimize drawdown at the existing water wells and will adjust groundwater removal rates if an impact could occur. The Project is located over 2 km from recreational waterbodies and effects to water levels or quality from site operations (e.g., dewatering activities, runoff) are not expected. Impacts to groundwater quality from storage activities and brine disposal are also not expected, as Federation will follow all Alberta Energy Regulator (AER) Directives. Groundwater will be safeguarded by ensuring that the surface casing for both proposed disposal wells is cemented a minimum of 15 m below the base of groundwater protection. With respect to protection of the water table, Federation will not be using brine ponds for storage but rather, de-sanding centrifuges will be used to separate

high levels of solids prior to direct disposal of brine into the disposal wells. A detailed stormwater management plan will be developed prior to construction.

Soils

Federation has taken steps to assess and mitigate potential impacts to soils associated with the Project. In the SOI response, Federation provided additional details on baseline soil in the Project area. Baseline soil and landscape information assessed and kept by Federation will assist in reclamation efforts. Reclamation and revegetation will depend on the desired end land use of the government and local stakeholders.

Cumulative Effects

Indigenous groups identified cumulative effects as a concern during the consultation process. Concerns raised included the displacement of Indigenous peoples from preferred traditional use areas due to noise, increased personnel activity, traffic, and associated safety risks. Additional concerns included vibration, potential safety risks related to storage (such as geophysical instability, air release, and interactions between leaked air and existing oil wells), as well as the long-term impacts of the Project during decommissioning and reclamation phases. Federation continues to address these concerns through ongoing communication and, where appropriate, the implementation of mitigation measures.

Spill Response and Spill Mitigation

The Project will incorporate a range of measures to prevent and mitigate potential accidents or equipment breakdowns that could lead to the release of contaminants into the environment. Mitigation measures include containment and prevention, fire and leak detection systems, and an emergency preparedness plan. These preventative and responsive measures will reduce the likelihood of environmental impacts from accidents during the Project's operation. The Project occurs in an area that has largely been cleared so only minimal land clearing activities are required. Federation is committed to complying with all relevant regulations concerning waste segregation, labeling and disposal requirements.

Additional Information

Additional Project details on related activities (e.g., natural gas supply line, telecommunications, electrical transmission line) including routing, potential effects and mitigation measures were presented in the SOI response. The Project footprint for these activities will be designed to occur within approved rights-of-way and disturbance areas to minimize environmental impacts. Mitigation measures, such as using existing rights-of-way and following regulatory guidelines, will be implemented to address any potential effects on the surrounding environment and community.

The Project will comply with or exceed all existing guidelines and regulatory standards while prioritizing local employment and contracting opportunities, generating significant economic and social benefits for Indigenous groups and nearby communities. By integrating robust mitigation measures, environmental best practices, and a commitment to ongoing engagement with Indigenous communities and other stakeholders, the Project achieves a balance between energy reliability and sustainability, ensuring the protection of local ecosystems and support for traditional land uses.