



Quebec, March 27, 2020

BY EMAIL

Ms. Gail Amyot
Galaxy Lithium (Canada) Inc.
2000 Peel Street, Suite 720
Montreal, QC H3A 2W5

SUBJECT: James Bay Lithium Mine Project – Second Information Request (first part)

Dear Mrs. Amyot:

On 18 February 2020, the Joint Assessment Committee established by the Impact Assessment Agency of Canada and the Cree Nation Government (the Committee) received all the answers to the first information request the Committee sent you on June 27, 2019. The answers are included in the following documents:

- WSP, 2019. *James Bay Lithium Mine Project. Answers to the Canadian Environmental Assessment Agency as part of the environmental review of the project.* Report produced for Galaxy Lithium (Canada) Inc. 223 pages, maps and appendices.
- WSP, 2019. *James Bay Lithium Mine Project. Answers to precision request on answers to questions (1st series) received from the Canadian Environmental Assessment Agency as part of the environmental review of the project.* Report produced for Galaxy Lithium (Canada) Inc. 82 pages, maps and appendices.
- WSP, 2020. *James Bay Lithium Mine Project. Answers to the request for additional information dated January 8, 2020, received from the Canadian Environmental Assessment Agency as part of the environmental review of the project.* Report produced for Galaxy Lithium (Canada) Inc. 35 pages and appendices.

Following a review of these documents, the Committee, in collaboration with experts from the Federal Environmental Assessment Committee, prepared a second information request to obtain the information and clarifications needed to continue the review of the Environmental Impact Statement of the project.

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The information requested is based on the requirements of the *Guidelines for the Preparation of an Environmental Impact Statement* (February 2018) and takes into account the other documents you have produced in relation to the Environmental Impact Statement:

- Galaxy Lithium (Canada) Inc., WSP Canada Inc., October 2018. James Bay Lithium Mine Project, Environmental Impact Statement, Volumes 1 to 3 and specialized studies.
- Galaxy Lithium (Canada) Inc., WSP Canada Inc., February 2019. James Bay Lithium Mine Project, Additional Information on the Environmental Impact Statement.

This second information request is divided into two parts. The first, which is attached, deals with the following topics: other means of carrying out the project, hydrogeology, hydrology, wetlands, species at risk, air quality, human health (toxicological risk assessment, noise effects, air quality), Indigenous issues concerning the effects of the project on Cree communities and their concerns, and accidents and malfunctions.

The second part of this second information request will be sent to you at a later date. It will deal with the subject of water quality and may also include other questions.

Other comments:

Further investigation by the Federal Environmental Assessment Committee regarding the hydrology has raised additional questions that have been added to this second information request (first part). The answers to those questions will help the Joint Assessment Committee and the experts to continue with their analysis of the effects of the Project.

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If you need further information, please contact Véronique Lalande by email at veronique.lalande@canada.ca or by phone at 418-455-4116.

Yours truly,

Benoît Dubreuil
Co-Chair, Joint Assessment Committee
Impact Assessment Agency of Canada

John Paul Murdoch
Co-Chair, Joint Assessment Committee
Cree Nation Government

Attached: Second Information Request (1st part)

cc [by email]: Brian Craik, Cree Nation Government
Véronique Lalande, Impact Assessment Agency of Canada
Isabelle Vézina, Health Canada
Camille Ouellet-Dallaire, Natural Resources Canada
Annaïg Kervella, Fisheries and Oceans Canada
Sylvain Martin, Environment and Climate Change Canada
Catherine Gaudette, Transport Canada

Information Request No. 2 (Part 1)

Environmental Assessment of the James Bay Lithium Mine Project

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Important considerations for responding to the Information Request

Justification for missing information

The Proponent must answer all questions so that the Joint Assessment Committee (JAC) can continue its analysis. Referencing the sector studies is insufficient. The sector studies support the impact assessment. The Proponent must clearly indicate how it took those studies into account in its environmental assessment and its decisions.

If the Proponent chooses to provide the same answer to more than one question, it must clearly identify which questions the answer applies to.

The Proponent must provide an explanation if no information is given for one or more of the elements requested in this Information Request.

Revision of the environmental assessment

For any questions that require a revision of the project's environmental assessment, the Proponent must also update the following:

- description of the potential environmental effects,
- mitigation measures,
- description and assessment of the significance of the residual environmental effects,
- cumulative effects assessment, and
- monitoring and follow-up program.

Mitigation measures

In its answers to the questions in this Information Request, the Proponent must describe the practices, policies and commitments that constitute mitigation measures, i.e., technically and economically feasible measures for the elimination, reduction or control of the project's environmental effects. In its analysis of the significance of the effects, the JAC considers whether the mitigation measures proposed by the Proponent mitigate the anticipated effects on the various valued components of the environment. In the absence of adequate mitigation measure proposals from the Proponent, the JAC may conclude that there are significant adverse environmental effects and present its conclusions in the Environmental Assessment Report submitted to the Minister.

Purpose of the project

Requests for information to the Proponent

CCE 1 Purpose of the project in the James Bay area and economic context for lithium

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 2.1 (Purpose of the project) and 5 (Consultation with Indigenous Nations and Concerns Raised).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volume 1. Report prepared for Galaxy Lithium (Canada) Inc. Pages 2-2 and 2-5.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nations of Eastmain, Waskaganish and Nemaska (October and December 2019, January 2020).

Background

In its Environmental Impact Assessment (EIA), the Proponent describes the project's purpose in section 2.3, noting in particular that *"the manufacture of lithium-ion batteries is the largest market for lithium. Hybrid and electric vehicles, portable electronic devices and renewable energy storage systems for homes and businesses are all applications that have grown significantly in recent years. [...] Considering the growing interest worldwide in adopting vehicles powered by new energies (electric and hybrid) and the implementation of mass energy storage systems made up of lithium batteries, demand for this metal is expected to grow strongly in years to come. [...] More specifically, the global demand for automobile batteries for electric vehicles will experience sustained growth until 2025, especially in China (Figure 2-1). Meanwhile, the energy storage market could double up to 12 times between now and 2030 (Figure 2-2)."*

During the JAC's consultations on the EIA in October 2019, December 2019 and January 2020, the Cree communities of Eastmain, Waskaganish and Nemaska expressed concern about the proposal to carry out additional lithium mining projects in the James Bay area, since the only other lithium mining project currently under way is experiencing serious difficulties, as reported in the media.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Expand on the information provided concerning the rationale for another lithium mining project in the region. The Proponent is encouraged to include information regarding the economic context for lithium that explains the project's current economic feasibility in the projected time frames.

Alternative means of carrying out the project

Comments and advice for the Proponent

Comment 1 Variants – Location of waste rock and tailings stockpiles

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 2 (Project Justification and Alternatives Considered).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Pages 3-4 and 7-21.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-8.

Comments and advice

The analysis of the options for the location of the waste rock and tailings stockpiles (Environmental Impact Assessment [EIA], p. 3-4) led to the selection of option 2. This selection was based in part on the preference of members of the Eastmain Cree community who attach traditional significance to creek CE5. However, option 1 would allow the huge retention capacity of the dewatered pit to be put to good use at the end of operations. The runoff water from the stockpile captured by the retention pond could then be channelled to the pit. A good portion of the percolating water under the stockpile would be drawn to the pit by the steep convergent hydraulic gradient. Since most of the leachable metal species in the stockpile should be mobilized in the first few decades after operation, the contact water most altered would be contained in the pit instead of being discharged directly into a stream. Since the pit filling time is estimated at 120 to 170 years (EIA, p. 7-21), the contact water would have a very long residence time before eventual decantation of the pit to the neighbouring streams. During that time, natural attenuation processes, such as the development of stratification in the pit water, could also reduce the impact of its eventual release into the environment.

The Proponent is encouraged to re-examine the selection of the stockpile site, consider the positive environmental points detailed for option 1, and discuss the matter with the Cree community of Eastmain.

Hydrogeology

Requests for information to the Proponent

CCEE 1 Transient groundwater flow model – Post-operational period

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.1.5 (Groundwater and surface water) and 6.2.2 (Changes to groundwater and surface water).

WSP (August 2018). James Bay Lithium Mine. *Specialized Study on Hydrogeology*. Report prepared for Galaxy Lithium (Canada) Inc. Page 87.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-23.

Background

In Question CEAA-23, the Proponent was asked to develop a transient groundwater flow model to study the restoration of the hydrogeological regime at the end of dewatering and its final steady state.

On page 87 of the *Specialized Study on Hydrogeology*, the Proponent indicates that the steady-state digital simulations were completed to show the fully excavated mine after 16 years. Yet, in its answer to Question CEAA-23, the Proponent states that it modelled the transient groundwater flow for the post-operational period.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Submit the modelling of the transient groundwater flow for the post-operational period, describing the model and the results.

CCE 2 Water balance of the groundwater flow model

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.1.5 (Groundwater and surface water) and 6.2.2 (Changes to groundwater and surface water).

WSP (August 2018). James Bay Lithium Mine. *Specialized Study on Hydrogeology*. Report prepared for Galaxy Lithium (Canada) Inc. Table 30, page 77.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-24.

Background

In Table 30 of the *Specialized Study on Hydrogeology* (WSP, August 2018), the Proponent presented a water balance for the calibrated steady-state groundwater flow model. The components of the water balance include inflow from storage and outflow to storage. However, by definition, in a steady-state flow, there is no change in storage. This error in the water balance may be due to a digital convergence problem. Hence, the calibrated groundwater flow model in section 7 of the *Specialized Study on Hydrogeology* is potentially erroneous.

In Question CEAA-24, the Proponent was asked to explain the presence of storage terms in the water balance, but it did not provide the requested explanation. The use of storage terms must be explained for the mine site's hydrogeological context. If the water balance for the groundwater flow model is wrong because of the storage values, the Proponent must provide a revised groundwater modelling study, including a revised calibration and revised predictions for the environmental impacts due to pit dewatering.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Identify and correct the digital convergence problem associated with the added storage values in the water balance for the calibrated steady-state groundwater flow model, and adjust the results in sections 7 and 8 of the *Specialized Study on Hydrogeology* accordingly.

CCE 3 Water management – Infrastructure

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.1.5 (Groundwater and surface water) and 6.2.2 (Changes to groundwater and surface water).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-27.

Background

In its answer to Question CEAA-27, the Proponent described the project's estimated water requirements based on the water balance with average precipitation.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Demonstrate, using an extreme dry scenario (drought with very little precipitation), that the project's water requirements would still be met, and that it would not be necessary to take water from neighbouring streams in the event of a drought.
- B) State whether a reserve water supply is planned in case of emergency or extremely dry conditions.

Hydrology

Requests for information to the Proponent

CCE 4 Flow estimates and effects of climate change on flows at the end of the project

References

- CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.1.6 (Project setting and baseline conditions – Fish and fish habitat) and 6.3.1 (Predicted effects on valued components – Fish and fish habitat).
- JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).
- Ministère des Transports du Québec (2014). *Manuel de conception des ponceaux*.
- WSP (August 2018). James Bay Lithium Mine. *Specialized Study on Hydrogeology*. Report prepared for Galaxy Lithium (Canada) Inc. 37 pages+ appendices.
- WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc.

Background

The method of estimating the project's effects on the hydrological regime is based on changes in watersheds and the mine's contributions at various stages of the mining cycle.

The method used to estimate flood flows is the rational method, described in the *Manuel de conception des ponceaux* (Ministère des Transports du Québec, 2014). This method requires the computation of variables such as the run-off coefficient and the watershed's time of concentration, which are not in the *Specialized Study on Hydrogeology* (WSP, August 2018). Consequently, it is impossible to determine whether the rational method was properly applied in this case. The flow results yielded by the rational method depend on the precipitation rate used in the calculations. The precipitation rate is in turn contingent on the watershed's time of concentration. To assess the flow calculations, the JAC needs more details about the methodology as well as the values of the run-off coefficient and the time of concentration of the watersheds affected by this project (watercourses CE2 to CE5).

Since this mining project has a life cycle of 16 to 21 years according to the Environmental Impact Assessment (WSP, October 2018), the Proponent should take the effects of climate change into consideration. In Table 7-9 of the EIA, the Proponent provides climate change projections for the project area in 2050 but fails to show how the projected changes are taken into account in the estimates of the project's effects on water flows. As the climate change projections indicate significant increases in total precipitation and in precipitation during extreme events, the Proponent must provide information about the method used to take the climate change projections into account in the flood flow estimates for the end of the project.

The flood flow estimates are important for the sizing of the dikes and berms, the dewatering capacity of the main pit, and the design of the bridge between the main pit and the various stockpiles. The flood flow estimates are also used in assessing the project's effects on water quality and the habitats of fish and other aquatic species.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Provide details of the method used to estimate the flood flows of the watersheds affected by this project (watercourses CE2 to CE5).
- B) Provide the values of the run-off coefficient and the time of concentration used in the rational method for the watersheds affected by this project (watercourses CE2 to CE5).
- C) Explain how the method used took the climate change projections into account in the flood flow estimates.

Wetlands

Requests for information to the Proponent

CCE 5 Effects of wetland loss on migratory birds

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.1.4 (Riparian, wetland and terrestrial environments) and 6.2.3 (Changes to riparian, wetland and terrestrial environments).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Sections 6.3.1 (Vegetation), 6.3.5 (Avifauna), 7.3.1 (Vegetation and Wetlands) and 7.3.5 (Avifauna).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-70.

Background

In its answer to Question CEAA-70, the Proponent indicates that 302 hectares of wetland will be destroyed by the project. A comprehensive, representative, detailed picture of the avian fauna using the wetlands would help document the effects and significance of the loss of wetlands for the habitat function for migratory birds.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Determine, for each migratory bird species likely to use the wetlands (including bird species at risk), the number of nesting pairs (average and maximum) per hectare that will be affected by the loss of each of the major types of wetlands and the surface area lost for each type.

CCE 6 Deforestation prohibition period

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.3.2 (Predicted effects on valued components – Migratory birds).

WSP (February 2019). James Bay Lithium Mine. *Supplement to the Environmental Impact Assessment – Response to Questions and Comments by the Canadian Environmental Assessment Agency (Concordance Phase)*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-39 and CEAA-83, Appendix 2.

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 7.3.5 (Avifauna), pp. 7-57 to 7-59.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-80.

Background

In its answer to Question CEAA-80, the Proponent states that deforestation will be prohibited from May 1 to August 15. According to Appendix A-22 (WSP, September 2019), which shows the work schedule, deforestation activities will be prohibited from June 1 to July 31. To properly document the impact of deforestation on avian fauna, clarifications from the Proponent are expected.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Clarify the dates of the period during which the Proponent will not carry out deforestation activities.

CCE 7 Cumulative effects assessment for each avian species at risk

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.6.3 (Cumulative effects assessment).

CEAA (March 2018). *Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012*. Available online: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html>

WSP (February 2019). James Bay Lithium Mine. *Supplement to the Environmental Impact Assessment – Response to Questions and Comments by the Canadian Environmental Assessment Agency (Concordance Phase)*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-47.

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 8 (Assessment of Cumulative Effects) and 8.5 (Projects, activities or events linked to valued components).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-83.

Background

In response to Question CEAA-83, the Proponent refers to its answer to Question CEAA-90, which concerns the cumulative impacts assessment for bird species at risk. The cumulative impacts assessment provided in response to Question CEAA-90 does not cover every species for which residual effects are predicted. Since each species faces unique circumstances, threats or issues, a cumulative effects assessment is required for each species separately.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Submit, for each bird species at risk that is or may be present in the study area, an analysis of the cumulative environmental effects (species by species), considering the information in the recovery programs, including identified population and distribution objectives, where available.

Note: The Proponent is encouraged to consider the information provided in the CEAA's Technical Guidance: *Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012* (CEAA, March 2018). The Technical Guidance contains useful information on how to conduct the analysis, including how to select appropriate methods and indicators.

CCE 8 Monitoring program for ponds used by migratory birds

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.4 (Mitigation Measures) and 8.1 (Follow-up Program).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 10.4 (Environmental Monitoring During Operations).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-82 and CEAA-84.

Background

In its answer to Question CEAA-82, the Proponent presents a pond monitoring program. The Proponent plans to carry out a monthly monitoring program to determine how the ponds are being used by avian fauna and whether additional mitigation measures are needed. The Proponent rejects the option of installing acoustic scaring devices as a preventive measure because of the habituation potential.

In its answer to Question CEAA-84, the Proponent indicates that monitoring and follow-up measures “may” be implemented for migratory birds. The Proponent must clearly specify what measures will be taken so that the significance of the residual effects can be documented. As indicated in the *Guidelines for the Preparation of an Environmental Impact Statement* (section 6.4, Mitigation Measures), “[mitigation] measures will be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation.”

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Outline a pond monitoring program to prevent and minimize the project’s adverse effects on the migratory birds that use the ponds. The program must include all the mitigation and/or environmental monitoring measures that will be taken to minimize the contamination risks for the wildlife, especially the migratory birds, using the mining infrastructure.
- B) Demonstrate that monthly monitoring is sufficient to determine how the ponds are used by avian fauna and whether scaring measures are needed at appropriate times to minimize the effects on avian fauna frequenting the ponds.

Note: The avian fauna monitoring program could be structured around bird life cycles and project activities to take account of factors such as pond freeze-over periods and nesting periods.

CCE 9 Submission of a Bank Swallow (*Riparia riparia*) monitoring program

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 8.1 (Follow-up Program).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 10.4 (Environmental Monitoring During Operations).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-84.

Background

In its answer to Question CEAA-84, the Proponent indicates that it may monitor the use of quarries and borrow pits to document their use by the Bank Swallow (*Riparia riparia*) and determine the project's actual impact on avian fauna.

The Proponent states that the quarries and borrow pits may be monitored during monthly rounds or site visits by the Environmental Supervisor. If the quarries and borrow pits are being used by the Bank Swallow (*Riparia riparia*), operations in the section used by the birds may be suspended during the nesting season.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Demonstrate that monthly monitoring is sufficient to determine how the quarries and borrow pits are used by the Bank Swallow (*Riparia riparia*) and whether protective measures are needed at appropriate times to avoid destroying nests.
- B) In the event that the Bank Swallow (*Riparia riparia*) nests in the quarries and borrow pits, specify the protection zone that will be put in place to safeguard the nests.
- C) Referring to section 8.1 (Follow-up Program) of the *Guidelines for the Preparation of an Environmental Impact Statement*, provide a more detailed monitoring program similar to the final monitoring program.

Note 1: Information on best practices to avoid adverse effects on the Bank Swallow (*Riparia riparia*) in sandpits and quarries is available from the following web page: <https://www.canada.ca/en/environment-climate-change/services/migratory-bird-conservation/publications/bank-swallow-riparia-sandpits-quarries.html>.

Note 2: The avian fauna monitoring program could be structured around bird life cycles and project activities to take account of factors such as pond freeze-over periods and nesting periods.

CCE 10 Migratory bird follow-up program

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 8.1 (Follow-up Program).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 10.4 (Environmental Monitoring During Operations).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-84.

Background

In its answer to Question CEAA-84, the Proponent indicates that it may carry out general monitoring of migratory birds to document the project's actual impact on avian fauna.

On the basis of the information provided by the Proponent, the bird monitoring program seems more like a follow-up program. A follow-up program is designed to verify the accuracy of the environmental assessment predictions and to determine the effectiveness of the measures implemented to mitigate the project's adverse effects.

Residual effects are predicted for bird species at risk, and Environment and Climate Change Canada's view is that the follow-up program should pay special attention to each species at risk and take account of the elements of the recovery strategy (where available) for each species at risk concerned.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Outline a follow-up program for bird species at risk taking into account the recovery programs for each species concerned, including
 - the purpose and objectives;
 - the parameters or elements that will be tracked, and the methodology or protocol that will be used (time, frequency, duration, location of sampling stations, etc.);
 - when it will be implemented and how frequently results will be provided to the competent authorities; and
 - the corrective or adaptive management measures that would be taken for each element tracked.
- B) Identify the bird species at risk that will receive special attention under the follow-up program proposed in A.

Species at risk

Requests for information to the Proponent

CCE 11 Mapping of the habitat of the Woodland Caribou, boreal population

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.1.8 (Project setting and baseline conditions – Species at risk) and 6.3.3 (Predicted effects on valued components – Species at risk).

Environment Canada (2012). *Recovery Strategy for the Woodland Caribou (*Rangifer tarandus caribou*), Boreal population, in Canada*. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. xi + 138 pp. Available online: http://publications.gc.ca/collections/collection_2012/ec/En3-4-140-2012-eng.pdf

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 6.3.2.1 (Large fauna).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-86.

Background

In its answer to Question CEAA-86, the Proponent indicates that there is no potential winter habitat for Woodland Caribou (*Rangifer tarandus caribou*), boreal population (boreal caribou), in the mine footprint or its 500-m area of influence. The Proponent's justification for this statement is that the spatial distribution of large-scale habitats does not particularly satisfy the criterion of large areas of contiguous forests, and that the topography of the area is generally uniform.

The criteria used by the Proponent to justify the lack of potential winter habitat do not match the biophysical attributes of the winter habitats frequented by boreal caribou in carrying out their life processes listed in Appendix H of the caribou recovery strategy (Environment Canada, 2012).

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Describe and map the habitats in the area of influence that have the biophysical attributes of the winter habitats frequented by the Woodland Caribou (*Rangifer tarandus caribou*), boreal population (boreal caribou), in carrying out their life processes listed in Appendix H of the caribou recovery strategy (Environment Canada, 2012).
- B) On the basis of the map produced in A, quantify the potential losses of winter habitat associated with the project and the potential losses associated with the buffer zone, and revise the assessment of the project's residual effects on boreal caribou.

CCE 12 Monitoring program and proposed mitigation measures to minimize the impact on the Woodland Caribou and its habitat

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.3.3 (Predicted effects on valued components – Species at risk).

Environment Canada (2012). *Recovery Strategy for the Woodland Caribou (*Rangifer tarandus caribou*), Boreal population, in Canada. Species at Risk Act Recovery Strategy Series*. Environment Canada, Ottawa. xi + 138 pp. Available online: http://publications.gc.ca/collections/collection_2012/ec/En3-4-140-2012-eng.pdf

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 7.3.2 (Large fauna).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-88.

Background

In its answer to Question CEAA-88, the Proponent indicates that, although the aerial survey and the radio-tracking data show that the projected mine area is not used by the Woodland Caribou, there remains the possibility that the species frequents the area, especially in periods of greater mobility.

The Proponent plans, under a species-at-risk monitoring program, to make users aware of the Woodland Caribou's presence in the area. However, in response to Question CEAA-91, the Proponent opines that a monitoring program is not needed for caribou, because they are unlikely to frequent the area during the mine's life cycle.

If caribou are detected in the project area or the project's area of influence, mitigation measures should be taken to prevent the project's impact on the species. Those measures should be identified before the project starts and be spelled out in the monitoring plan. To properly document the significance of the residual effects, the JAC needs to know what measures the Proponent intends to put in place if the Woodland Caribou is present in the project area or the project's area of influence.

Moreover, the Proponent did not consider the impacts that disturbance (noise, light and vibration), increased risk of collision, and pollution will have on the Woodland Caribou, even though it was asked in Question CEAA-88 to describe all of the project's effects on the species and its habitat.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Provide an outline of the environmental monitoring program for species at risk that the Proponent intends to implement, especially for boreal caribou. The Proponent may refer to section 8 (Follow-up and Monitoring Programs) of the *Guidelines for the Preparation of an Environmental Impact Statement* to obtain a list of the elements that such a program should contain.
- B) Identify the measures that will be taken to minimize the project's impact on the Woodland Caribou if individuals of the species are detected in the project area or the project's area of influence.

- C) Revise and describe all of the project's impacts on the Woodland Caribou and its habitat, including disturbance, risk of collisions and pollution, and their potential consequences for the recovery strategy's objectives.
- D) Revise the proposed mitigation measures and the description of the residual effects.

CCE 13 Cumulative effects on Woodland Caribou, boreal population

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.6.3 (Cumulative effects assessment).

Environment Canada (2012). *Recovery Strategy for the Woodland Caribou (*Rangifer tarandus caribou*), Boreal population, in Canada*. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. xi + 138 pp. Available online: http://publications.gc.ca/collections/collection_2012/ec/En3-4-140-2012-eng.pdf

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 8 (Assessment of Cumulative Effects) and 8.5 (Projects, activities or events linked to valued components).

WSP (February 2019). James Bay Lithium Mine. *Supplement to the Environmental Impact Assessment – Response to Questions and Comments by the Canadian Environmental Assessment Agency (Concordance Phase)*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-47.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-86, CEAA-88 and CEAA-90.

Background

In response to Question CEAA-88, the Proponent states that “the mining project will have no foreseeable impact on caribou and their habitat, either during construction or operation of the project and thus no potential impact on the objectives of the recovery strategy.”

In view of the information provided in the answers to Questions CEAA-86 and CEAA-88, Environment and Climate Change Canada is of the opinion that the project would have potential residual effects on boreal caribou. In particular, the project would result in the loss of 265.7 hectares of potential habitat (Table A-86-3; WSP, September 2019). Consequently, the Proponent must carry out an assessment of the project's cumulative effects on boreal caribou.

The Proponent must submit an analysis that shows how the project's potential effects could combine with the effects of the other disturbances considered (past, existing, or future (certain or reasonably foreseeable)) over the entire study area, i.e., within a 50-km radius of the centre of the projected mine. At a minimum, the Proponent must consider existing natural and anthropogenic disturbance rates in the study area and reasonably foreseeable anthropogenic disturbances (including a 500-m buffer zone around all identified anthropogenic disturbances). An assessment should be conducted for each habitat type that has the biophysical attributes required by boreal caribou to carry out the life processes described in Appendix H of the caribou recovery strategy (Environment Canada, 2012). The Proponent should then be able to

describe the consequences of the cumulative effects for the population and distribution objectives identified in the boreal caribou recovery strategy (Environment Canada, 2012).

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Submit an assessment of the cumulative effects on Woodland Caribou taking into account the habitats within the 50-km study area that have the biophysical attributes required by caribou to carry out their life processes.
- B) For the 50-km study area, describe the consequences of the cumulative effects for the population and distribution objectives identified in the Woodland Caribou recovery strategy, which are as follows:
 - Maintain the size of the local population.
 - Maintain the state of the habitat in terms of area and types of undisturbed habitats to ensure the self-sufficiency of the local Woodland Caribou population. The goal is to maintain at least 65% undisturbed habitat and the availability of the biophysical attributes needed by the Woodland Caribou.

Air quality

Requests for information to the Proponent

CCE 14 Source data on air quality and influence of forest fires

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.1.1 (Project setting and baseline conditions – Atmospheric, light and noise environment).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 6.2.10 (Air quality).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-58.

Background

In response to Question CEAA-58 B concerning the impacts of forest fires on air quality in the region and at the project site, the Proponent indicates that the initial PM_{2.5} concentration of 15 µg/m³ takes into account the impact of forest fires on the air quality in the study area for the projected mine site. To support its conclusion, the Proponent studied a single test case using the Playground Canada application developed with the BlueSky Framework (BSF) software suite. Developed in the United States, BSF models the atmospheric dispersion of forest fire smoke and provides an order of magnitude for potential concentrations in the air during forest fire episodes. However, the quality of the results depends in part on the quality of the meteorological and vegetation data used. The explanations provided indicate that the data used is not

clearly representative of the site being studied. The default parameters suggested by the application were used for the test case studied. If U.S. data was used without adjustment for Canadian conditions, the quality of the results is affected, and the level of uncertainty is higher. The Proponent also states that the findings must be interpreted with caution.

Moreover, smoke plumes typically generate very high PM_{2.5} concentrations. According to some observation stations in Northern Quebec, PM_{2.5} concentrations can reach several hundred µg/m³ at various times in the summer. By spreading forest fire observations over an entire year, it is possible to generate observed averages that are much lower than the averages that would be representative of such events. In the Proponent's response, the results appear to show high PM_{2.5} concentrations close to the mine site, and the explanation provided to show that the PM_{2.5} concentrations from forest fires are included in the average concentration of 15 µg/m³ does not appear to be supported.

The influence of forest fires on air quality during the warm season should be taken into account in determining the initial concentrations of contaminants, including PM_{2.5}. On the basis of the information provided, the modelled concentrations appear to have been understated during summer months with forest fire episodes.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Take into account the influence of forest fires on air quality during the warm season, and incorporate those events into the design of the air quality monitoring and follow-up program, particularly for sensitive receptors (for example, put in place measures that will provide adaptive management during air quality deterioration events caused by forest fires).

CCE 15 Sources of nitrogen dioxide (NO₂) emissions

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.2.1 (Predicted changes to the physical environment – Changes to the atmospheric environment).

WSP (October 2018). James Bay Lithium Mine. *Air Dispersion Modelling Study*. Report prepared for Galaxy Lithium (Canada) Inc. Section 2.2 (Substance modelled, p. 3) and Table 1 (p. 6).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-65.

Background

The nitrogen dioxide (NO₂) modelling results were updated and compared with the *Canadian Ambient Air Quality Standards* (CAAQS) established by the Canadian Council of Ministers of the Environment (CCME) for 2025. The one-hour CAAQS for NO₂ was exceeded for the construction phase and the operation phase. According to the results, the main sources of those exceedances were blasting with ANFO and the exhaust gases of mobile equipment.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Consider the sources of nitrogen dioxide (NO₂) emissions, and propose additional mitigation measures, such as reduced idling and other attenuation actions.

Note: Unlike Quebec's *Clean Air Regulation*, the *Canadian Ambient Air Quality Standards* (CAAQS) established by the Canadian Council of Ministers of the Environment do not have scope restrictions and apply to the entire project site.

CCE 16 Dust Management Plan

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.2.1 (Predicted changes to the physical environment – Changes to the atmospheric environment).

WSP (October 2018). James Bay Lithium Mine. *Air Dispersion Modelling Study*. Report prepared for Galaxy Lithium (Canada) Inc. Section 4.10.1 (Atmospheric emissions).

WSP (February 2019). James Bay Lithium Mine. *Supplement to the Environmental Impact Assessment – Response to Questions and Comments by the Canadian Environmental Assessment Agency (Concordance Phase)*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-34.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-66 and Appendix A-66.

Background

The Dust Management Plan (Appendix A-66; WSP, September 2019) addresses Question CEAA-66, on the whole. However, some information seems to be missing for the preliminary air quality follow-up program. Under this plan, only total particulate matter (TPM) will be tracked. Other substances that merit attention, such as PM_{2.5} and PM₁₀, and dust deposition are not mentioned in the plan.

Yet, in the answers to Questions CEAA-69 and CEAA-134, Galaxy states that it plans to track total particulate matter (TPM), respirable suspended particulates (PM₁₀), fine particulates (PM_{2.5}) and crystalline silica as soon as operations begin. The Proponent also indicates that the tracking will be adjusted on the basis of the data collected.

In addition, according to section 7 of the Dust Management Plan (Appendix A-66; WSP, September 2019), the particulate matter recovered by the dust collectors will be disposed of in such a way as to minimize dispersion (page 13), but no further details are provided.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Expand the Dust Management Plan by incorporating specific information about the methods used to sample and analyze total particulate matter (TPM), respirable suspended particulates (PM₁₀), fine particulates (PM_{2.5}) and crystalline silica and about the frequency of the analyses as specified in the answer to Question CEEA-69 (WSP, September 2019).
- B) Expand the Dust Management Plan by including a follow-up program for locations where the largest concentrations of dust are expected and which are identified as locations of concern (sensitive receptors).
- C) Provide detailed clarifications on how the dust recovered by the dust collectors will be managed.
- D) Develop and describe the planned tracking of toxic gases that may be generated during blasting (carbon monoxide and nitrogen dioxide).

CCE 17 Washing of concentrate transport trucks and mitigation of the effects on air quality

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 4.4 (Presentation and organization of the environmental impact statement)

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Sections 4.4.1 (Transportation), 4.10.3 (Residual materials), 4.12 (Concentrate transport to Matagami), 4.14 (Project execution), 7.4 (Impact on the social environment), 7.4.2 (Infrastructure) and 8.5 (Projects, activities or events linked to valued components).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEEA-21.

Background

In Question CEEA-21 E, the Proponent was asked to indicate the mitigation measures necessary to reduce the impacts of truck transportation. Although the Proponent proposed some mitigation measures, Environment and Climate Change Canada believes that other measures could be added.

The Proponent should include additional mitigation measures, such as the washing of concentrate transport trucks before they depart for Matagami to further reduce the quantity of dust emitted during truck transportation.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Determine whether washing the concentrate transport trucks is a technically and economically feasible mitigation measure.

Human health – Toxicological risk assessment

Requests for information to the Proponent

CCE 18 Validation and toxicological follow-up

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.3.4 (Predicted effects on valued components – Indigenous peoples) and 8 (Follow-up and Monitoring Programs).

Chan L., Batal B., Receveur O., Sadik T., Schwartz H., Ing A., Fediuk K., Tikhonov C. and K. Lindhorst (2016). *First Nations Food, Nutrition and Environment Study (FNFNES): Québec City Results 2016*. Ottawa, University of Ottawa. Available online: www.fnfnes.ca/docs/QC_English_June_18.pdf, viewed on January 22, 2020.

Sanexen Services Environnementaux Inc. (2018). James Bay Lithium Mine Project. *Toxicological Human Health Risk Assessment*. Appendix CEAA-44, *Supplement to the Environmental Impact Assessment (Concordance Phase)*. Report prepared for Galaxy Lithium (Canada) Inc.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-106, CEAA-65 and CEAA-69.

WSP (February 2020). James Bay Lithium Mine. *Answers to the Request for Additional Information Dated January 8, 2020 Received from the CEAA as Part of the Environmental Review of the Project*. Report prepared for Galaxy Lithium (Canada) Inc. Appendix AD2-D-60/140-1.

Background

The Proponent uses the *Toxicological Human Health Risk Assessment* (TRA; Sanexen, 2018) to support its contention that environmental follow-ups on air, water and traditional foods are unnecessary. According to Health Canada, however, there are some weaknesses and uncertainties in the TRA, since it is based primarily on modelling data and does not consider the enhanced atmospheric dispersion of contaminants (Appendix AD2-D-60/140-1; WSP, February 2020) recommended by Environment and Climate Change Canada and the contribution of mine effluent. The latter shortcoming understates the contributions of substances in watercourses CE2 and CE5 and the human health risks.¹

In response to Questions CEAA-106 and CEAA-69 (for particles in the air), the Proponent indicates that it will implement an environmental monitoring and follow-up program for relevant contaminants in the various media based on human health protection criteria. The Proponent provided no information about the program, except that it will take action if problems are observed. According to Health Canada, the purpose of such a program is to validate the assumptions made in the Environmental Impact Assessment and the accuracy of the modelling results before problems arise.

¹ For example, exposure through consumption of traditional foods (since the surface water in watercourses CE2 and CE3 could expose wildlife to contaminants and that wildlife could be hunted or trapped for human consumption), or exposure through direct contact with surface water (ingestion, skin contact).

In the JAC's consultations, members of the Eastmain and Waskaganish communities expressed concern about the potential risk of water and traditional food contamination due to the project. They recommended regular follow-up to build trust and limit avoidance by users of the land. Follow-up on the project's possible effects on the taste and nutritional qualities (i.e., fat content) of beaver meat was also recommended to encourage participation by users of the land and leverage their knowledge in these areas.

The scientific literature on the subject is clear: intake of many nutrients improves when Indigenous people eat traditional foods, even in small quantities. As there is substantial food insecurity in First Nations communities (Chan et al., 2016), particularly in areas where prices are high for food sold in stores, access to traditional food should be valued and protected.

Lastly, on the basis of the answer provided to Question CEAA-65, exceedance of the Canadian Ambient Air Quality Standard for nitrogen dioxide (NO₂) is expected occasionally over periods of one hour. Since NO₂ is a no-threshold substance, health effects can occur at any level of exposure.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Outline an environmental monitoring and follow-up program for air, water (watercourses CE2 and CE3) and traditional food (including sampling sites and frequencies) based on human health protection criteria to validate the assumptions in the TRA (Sanexen, 2018). Selection of the contaminants to be tracked and monitored must be based on the geochemical characterization of the various mining materials that will produce mine effluents and on enhanced atmospheric dispersion (Appendix AD2-D-60/140-1; WSP, February 2020), in addition to what is required under the regulations.² The program's human health protection criteria must be described and justified. The program must contain a description of how the environmental follow-up and monitoring data will be transmitted and how any exceedances will be dealt with.³
- B) Specify whether the follow-up and monitoring program for traditional food will be developed in conjunction with the Cree communities. In addition to the relevant contaminants, indicate whether follow-up parameters for nutritional and organoleptic⁴ quality will be considered and selected in conjunction with the Cree communities to prevent any resource avoidance.
- C) Submit a program for tracking NO₂ during project construction and operation.

² Environmental regulations are generally designed to protect ecological elements, not human health, and should not be used for that purpose without justification.

³ For example, implementation of additional NO₂ mitigation measures or temporary modification of mining operations.

⁴ Capable of stimulating a sensory receptor, such as appearance, odour, taste, texture or consistency (definition adapted from www.btb.termiumpius.gc.ca/).

Human health – Noise impacts

Requests for information to the Proponent

CCE 19 Sensitive receptors in the human environment

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.3.4 (Predicted effects on valued components – Indigenous peoples) and 8 (Follow-up and Monitoring Programs).

WSP (February 2019). James Bay Lithium Mine. *Supplement to the Environmental Impact Assessment – Response to Questions and Comments by the Canadian Environmental Assessment Agency (Concordance Phase)*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-19-1 and CEAA-19-2.

WSP (August 2018). James Bay Lithium Mine. *Noise Modelling Study*. Report prepared for Galaxy Lithium (Canada) Inc. Maps 3 to 6.

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Map 6-22.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. 205 pages, maps and appendices.

Background

Maps 3 to 6 of the *Noise Modelling Study* (WSP, August 2018) show more sensitive receptors in the human environment than Map 6-22 of the *Environmental Impact Assessment* (WSP, October 2018). In its response to Question CEAA-19 on sound levels at key receptors in the *Supplement to the Environmental Impact Assessment* (WSP, February 2019), the Proponent considers only the two Cree camps located 5.4 km and 11.4 km from the mine. The noise-related health impacts could be assessed more effectively with a single map showing both the isophon contours and land use by the Cree communities (including all representative human receptors).

In addition, the increase in road traffic generated by the mine's activities was not considered in the *Noise Modelling Study* (WSP, August 2018). There will be a 54% increase in heavy vehicle traffic on the James Bay Highway during the project's construction and operation phases (WSP, September 2019).

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Identify the type of location and the users of each sensitive receptor in the human environment on Maps 3 to 6 of the *Noise Modelling Study* (WSP, August 2018), and provide a rationale for excluding them as representative human receptors for the noise impacts assessment, where applicable.
- B) Submit a single map showing both the isophon contours and land use by the Cree communities (including all representative human receptors).

- C) Clarify whether the increase in road traffic was considered in the *Noise Modelling Study* (WSP, August 2018) and the *Environmental Impact Assessment* (WSP, October 2018) If not, update the modelling of noise levels at representative human receptors, accounting for all noise sources (point and linear sources).
- D) Specify whether construction or transportation activities will take place at night. If so, assess the impact on “sleep disturbance” at the truck stop and any other relevant human receptor, and propose mitigation measures if necessary.
- E) Outline a noise monitoring and follow-up plan (including sampling sites, sampling frequencies and target levels based on human health protection criteria), and describe how the data will be transmitted and how any exceedances will be dealt with. The noise monitoring and follow-up plan must provide the capability to validate the predictions for sites used by Indigenous people and adjust the mitigation measures if required.

CCE 20 Consideration of the noise impacts of explosions on human health

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.3.4 (Predicted effects on valued components – Indigenous peoples).

WSP (August 2018). James Bay Lithium Mine. *Noise Modelling Study*. Report prepared for Galaxy Lithium (Canada) Inc.

United States Environmental Protection Agency (US EPA) (1974). *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (Report No. 550/9-74-004).

International Organization for Standardization (ISO) (2003). *ISO 1996-1:2003 Acoustics – Description, measurement and assessment of environmental noise – Part 1: Basic quantities and assessment procedures*. Available online: http://www.iso.org/iso/catalogue_detail?csnumber=28633

Health Canada (2017). *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*. Available online: www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-noise.html, viewed on March 23, 2020.

JAC Consultations on the Proponent’s Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Eastmain (December 2019).

Background

On page 7-41 of the *Environmental Impact Assessment* (EIA), the Proponent states the following: “A simulation of sound propagation to assess the project’s noise emissions with tailwinds was conducted in year 9 of the operation, the year when the production level would be the highest. Map 7-4 presents the iso-contours of noise as modelled during the operations. The detailed results of this modelling are presented in a separate study (WSP, 2018d).” The Proponent adds, “Considering all of the mine’s emission sources, its maximum sound impact for the nearest sensitive receptor is assessed at 42 dBA (km 381 truck stop).”

In the EIA and the *Noise Modelling Study* (WSP, August 2018), the Proponent did not include a section specifically about explosion noise.

The JAC held consultations on the EIA with the Waskaganish and Eastmain communities in October and December 2019. In those consultations, the question of the noise impacts of explosions, particularly on the Cree camps, was raised a number of times.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Explain how explosion noise was considered in the noise impacts assessment and the simulations carried out for the *Noise Modelling Study* (WSP, August 2018). Specify in particular whether an appropriate adjustment was made in the percentage of people seriously bothered (% Highly Annoyed (HA)), and state whether other health effects indicators (e.g., sleep disturbance) were considered.
- B) Indicate how the Proponent plans to provide land users with advance information about blasting schedules. If there are no plans to notify land users of the schedules in advance, provide an explanation for that decision.

Note to the Proponent: Since the annoyance caused by explosions may depend on the number of explosions per day, the frequency of explosions in a year and the number of years during which explosions are expected to take place, Health Canada recommends that the quantitative assessment of noise include applicable adjustments (weighting) for impulsive noise (i.e., noise from explosions) to provide a full understanding of the potential impacts that exposure to the expected noise levels have on human health. Health Canada also recommends adherence to ISO 1996-1:2003 guidelines in the case of blasting operations lasting more than one year and the U.S. EPA’s methodology (US EPA 1974) for blasting over periods of less than one year.

Comments and advice for the Proponent

Comment 2 Indicators of noise impacts on human health

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.3.4 (Predicted effects on valued components – Indigenous peoples).

WSP (August 2018). James Bay Lithium Mine. *Noise Modelling Study*. Report prepared for Galaxy Lithium (Canada) Inc. 31 pages+ appendices.

Health Canada (2017). *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*. Available online: www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-noise.html, viewed on January 13, 2020.

Comments and advice

The *Noise Modelling Study* (WSP, August 2018) contains the following statement: [Translation] “Although there are no federal regulations in Canada regarding levels of noise generated by mining activities, in January 2017 Health Canada published a document entitled ‘Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise’. A project’s sound impact is assessed against the %HA (Highly Annoyed) index. ” According to Health Canada, the %HA (percentage of people highly annoyed) is one of several indicators.

An update of the noise impacts assessment considering all relevant indicators (hearing loss, sleep disturbance, interference with speech comprehension, noise complaints, and noise-related high annoyance; Health Canada, 2017) is recommended.

Human health – Air quality

Requests for information to the Proponent

CCE 21 Methodology for assessing human health risks

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.3.4 (Predicted effects on valued components – Indigenous peoples).

Sanexen Services Environnementaux Inc. (2018). James Bay Lithium Mine Project. *Toxicological Human Health Risk Assessment*. Appendix CEAA-44, *Supplement to the Environmental Impact Assessment (Concordance Phase)*. Report prepared for Galaxy Lithium (Canada) Inc.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-104 A.

Background

In its answer to Question CEAA-104 A, the Proponent indicates that the crystalline silica concentrations remodelled for enhanced atmospheric dispersion (WSP, September 2019) are not the same as the concentrations used to assess the human health risks (Sanexen, 2018).

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Provide an explanation for the fact that the crystalline silica concentrations used in the toxicological risk assessment (Sanexen, 2018) are not the same as the concentrations used for enhanced atmospheric dispersion modelling (WSP, September 2019).

CCE 22 Air quality impact assessment in view of air quality modelling updates

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.3.4 (Predicted effects on valued components – Indigenous peoples).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 7.2.5.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-60.

WSP (February 2020). James Bay Lithium Mine. *Answers to the Request for Additional Information Dated January 8, 2020 Received from the CEAA as Part of the Environmental Review of the Project*. Report prepared for Galaxy Lithium (Canada) Inc. Appendices AD2-60/140-1 and R-AD2-60/140-2.

Background

In response to Questions CEAA-60 and CEAA-140, the Proponent presents air quality models for transportation on the James Bay Highway (Appendix AD2-60/140-1; WSP, February 2020) and emissions from generators and the concrete plant (Appendix AD2-60/140-2; WSP, February 2020). To consider this new information in the project impact assessment, the Proponent must review its air quality impact assessment.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Review the air quality impact assessment for each phase of the project, including the human health impact due to project-related transportation activities. Where applicable, propose additional mitigation measures.

CCE 23 Dust Management Plan

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.3.4 (Predicted effects on valued components – Indigenous peoples).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Section 7.2.5.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-66.

Background

In its answer to Question CEAA-66, the Proponent presents a Dust Management Plan. In particular, the Proponent describes the measures that will be taken to reduce dust and some improvements aimed at reducing the health effects.

The Dust Management Plan must be designed so as to reduce dust deposition both in general and in the locations of those sensitive receptors specifically.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Provide a map showing the locations of receptors sensitive to dust in relation to the mine.
- B) Specify how the dust tracking data mentioned in the Dust Management Plan will be made public. If there are no plans to make the data public, provide an explanation for that decision.
- C) Describe the methods that will be used to reduce dust emissions, clearly explaining how and when the mine's activities will be modified. The Proponent must ensure that the proposed mitigation measures are specific. For example, specify how the bulldozing of unloaded materials will be managed to prevent the spread of dust; indicate whether water jets will be used whenever the crusher is in operation; explain how work areas that require sprinkling will be determined during topsoil stripping, and how road sprinkling needs will be determined.

Indigenous issues regarding the project's effects on Cree communities and their concerns

Requests for information to the Proponent

CCE 24 Arrangements for fish before Lake Kapisikama dries up

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement. Part 2, section 5 (Consultation with Indigenous Nations and Concerns Raised)*.

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Pages 6-97 and 7-56.*

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019).

Background

In its Environmental Impact Assessment (EIA), the Proponent states that a compensation plan will be developed for the loss of habitat caused by the drying up of Lake Kapisikama, which has a population of yellow perch. The Proponent provides no details about what will happen to the fish before the lake dries up.

The JAC held consultations on the EIA with the Waskaganish community in October 2019. In those consultations, the question of what will happen to the populations of fish in Lake Kapisikama was raised a number of times.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Specify what will happen to the fish currently living in Lake Kapisikama and describe the stages in their capture and relocation or distribution to the Cree, as applicable.
- B) Specify how the Cree land users are expected to participate in this process and, if applicable, at what stage in the process. If there are no plans to have Cree land users participate in the process, provide an explanation for that decision.

CCE 25 Use of the land by non-Indigenous people, and pressure on wildlife resources

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc. Table 7-5.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-98.

JAC Consultations on the Proponent’s Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Eastmain (December 2019).

Background

In its answer to Question CEAA-98, the Proponent explains that the standard work schedule of mine employees will not lend itself to hunting and fishing activities. It also states that firearms will be prohibited aboard aircraft flying workers to the mine site, and most workers will be flown in. However, the Proponent provides no information about how it plans to prevent employees travelling to the mine site by road from bringing firearms with them. In Table 7-5 of the EIA, the Proponent proposes mitigation measure UTT 04, “Prohibit hunting and recreational fishing for workers at the mine site”, to limit the project’s impacts on ongoing use of the land by the Cree communities.

In the JAC’s consultations on the Proponent’s EIA in October and December 2019, the Eastmain and Waskaganish communities expressed concern about the arrival of large numbers of workers who might hunt and fish in the area. They noted that this could put increased pressure on wildlife resources. They also expressed apprehension about the potential effects on tallyman governance capacity and people’s safety.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) State and describe what measures will be taken to prevent workers travelling to the mine site by road from bringing hunting and fishing equipment with them. If there are no plans for such measures, provide an explanation for that decision.
- B) State whether fishing equipment will be permitted on the Proponent's charter flights.

CCE 26 Land and resource use – Impacts of increased road traffic and current use by the Cree communities

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-94.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Waswanipi (February 2020).

Background

In its answer to Question CEAA-94, the Proponent provides clarifications on its traffic management plan and an assessment of the impacts of increased road traffic on land use by the Cree communities that have traplines on either side of the James Bay Highway. The Proponent states that users' tranquillity will be disrupted by the nuisance caused and that users will resume their activities after a period of adjustment. This assessment focuses mainly on user experience (tranquillity, access to camps, and risk of accidents); it does not specify whether the increased road traffic will have an impact on the species of interest hunted by the Cree.

In the consultations on the Proponent's EIA, the Waswanipi community expressed concern about wildlife avoidance of the roads and adjacent areas due to the road traffic generated by the project. The Waskaganish community expressed apprehension about the impacts of increased road traffic on the beaver trapping that regularly takes place along the James Bay Highway. The Eastmain community told the JAC that beavers were often seen along the James Bay Highway and expressed concern about the impacts of road traffic on the species.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Assess the impacts that increased road traffic on the James Bay Highway will have on large fauna and on the beaver, a species valued by the Cree, considering in particular wildlife avoidance of the road and adjacent areas and the higher risk of collisions. Propose appropriate mitigation measures, where applicable.

CCE 27 Land and resource use and traffic management plan

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 5 (Consultation with Indigenous Nations and Concerns Raised).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-94.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Eastmain (December 2019).

Background

In response to Question CEAA-101, the Proponent states that it plans to install road signs but does not specify what signs, and the Proponent does not indicate what specific measures will be taken at the turnoff to the mine and the truck stop (reduced speed limits, speed bumps, pedestrian crossing with signals, etc.).

The Proponent states in its EIA that most of the road traffic will be during the day, but does not specify whether all trucks will leave the mine at the same time. In the JAC's consultations, the Waskaganish community suggested that staggering truck departure times through the day should be considered. The community also expressed concern about traffic and higher risks of accidents at the truck stop, a key location for users. The Eastmain community asked what the maximum speed would be for trucks equipped with a speed controller.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Clarify, to the extent possible, what road signs will be included in the traffic management plan.
- B) Specify what measures are planned to ensure people's safety in the key area around the turnoff to the mine and the truck stop.
- C) Specify the maximum speed of a truck equipped with a speed controller.
- D) Assess the feasibility of staggering truck departure times through the day, and if it is feasible, determine what the intervals would be, where applicable.

CCE 28 Land and resource use – Impact of increased road traffic and mining operations during goose and moose hunting season

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-101.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019).

Background

In response to Question CEAA-101, the Proponent states that it will perform its maintenance shut-downs, which last about 10 days, during the goose hunting season, but it does not specify whether it will liaise with the Eastmain community and whether a similar measure is planned for the moose hunting season. The Proponent also does not specify whether transportation activities will continue during the maintenance shut-downs.

In the JAC's consultations on the Proponent's EIA, the Waskaganish and Eastmain communities expressed concern about the effects of the increased road traffic due to the project, particularly during the annual goose and moose hunting season.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Specify whether transportation activities will continue during the goose hunting season and whether meetings will be held with the Eastmain community with a view to finding a better time.
- B) State whether one or more mitigation measures are planned specifically for the annual moose hunting season.

CCE 29 Land and resource use – Impact of increased road traffic and beaver trapping

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Eastmain (December 2019).

Background

In the JAC's consultations on the Proponent's EIA, the Waskaganish community expressed concern about the impacts of increased road traffic on the beaver trapping that regularly takes place along the James Bay Highway, not only for traditional purposes but also to prevent flooding on the highway. The issue of the safety of land users who park along the highway was also raised. In response to Question CEAA-101, the Proponent provides details of its traffic management plan, specifying that quarterly driver training and discussion meetings regarding driver safety, awareness and sensitive areas are planned.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Specify whether the quarterly awareness and training sessions for truck drivers will include information about the Crees' regular beaver-trapping activities in varying locations along the James Bay Highway.

CCE 30 Land use and landscape – Mine rehabilitation plan and revegetation

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-102.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Eastmain (December 2019).

Background

In its answer to Question CEAA-102, the Proponent does not explain why revegetation of the stockpiles would not occur gradually over the mine's life cycle. In the JAC's consultations on the Proponent's EIA, the Waskaganish community expressed concern that the revegetation included in the mine rehabilitation plan would only involve willow trees, which is apparently the case for other mining projects in the region. The community recommended that species similar to those which existed there before the mine be planted, or that conifer species also be selected. The EIA does not indicate which plant species the Proponent has chosen for this purpose.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Specify how the tallymen will be consulted on the selection of plant species that will be used to revegetate the site during the closure and rehabilitation phase or what plant species are planned at the moment, if any. If there are no plans to consult the tallymen, provide an explanation for that decision.

CCE 31 Land use and landscape – Mine rehabilitation plan, future consultations and communication with the Eastmain community

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 5 (Consultation with Indigenous Nations and Concerns Raised).

WSP (December 2019). James Bay Lithium Mine. *Answers to Precision Request on Answer to Questions (1st Series) Received from the Canadian Environmental Assessment Agency as Part of the Environmental Review of the Project* Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-102.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Background

In its clarification of the response to Question CEAA-102, the Proponent states that the RE2 Eastmain tallyman and his family recommended that the pit be backfilled with waste rock and notes that the recommendation is under consideration.

In its December 2019 consultations on the Proponent's EIA with the Eastmain community, the JAC observed that various segments of the community, including the Band Council, the land users and the residents, had a range of concerns and questions about the mine rehabilitation plan.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Indicate how the final rehabilitation plan will be presented to the Band Council and the tallymen concerned in the Eastmain community for their information prior to its final submission. If there are no plans to share the plan with the Band Council and the tallymen concerned in the Eastmain community, provide an explanation for that decision.

CCE 32 Land use and landscape – Post-closure phase and water quality

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 5 (Consultation with Indigenous Nations and Concerns Raised) and 8.1 (Follow-up Program).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-102.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Eastmain (December 2019).

Background

In section 10.5.2 of its EIA, the Proponent states the following: "Surface and groundwater quality [follow-up] will be required post-rehabilitation. A biannual groundwater [follow-up] campaign (summer and fall) will be carried out, and compliance criteria will be validated against those set out in D019. Furthermore, surface water effluent will also be the subject of a [follow-up] program." No details are provided concerning the frequency of post-rehabilitation surface water quality follow-up and the publication of follow-up results.

In its consultations with the Waskaganish community (October 2019) and the Eastmain community (December 2019), the JAC heard a number of concerns about water quality follow-up in the post-closure phase, particularly regarding access to the follow-up results.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Submit a preliminary schedule for the surface water and groundwater quality follow-up program for the closure and post-rehabilitation phase, specifying the planned frequencies to the extent possible.
- B) Indicate how the follow-up results will be communicated to the Cree communities. If there are no plans to publish the results, provide an explanation for that decision.

CCE 33 Land use and landscape – Post-closure phase and people’s safety

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement. Part 2, section 5 (Consultation with Indigenous Nations and Concerns Raised).*

JAC Consultations on the Proponent’s Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Background

In the JAC’s consultations on the Proponent’s EIA, the Eastmain community expressed concern about access to and future use of the pit in the post-rehabilitation phase by users who might frequent the area with vehicles of all types and get into accidents, especially since the pit would be readily visible from the truck stop.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Specify the measures that will be taken to secure the pit in each phase of the project, including the post-closure phase.

CCE 34 Land use – People’s safety

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement. Part 2, section 5 (Consultation with Indigenous Nations and Concerns Raised).*

JAC Consultations on the Proponent’s Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Background

In the JAC's consultations on the Proponent's EIA in the Eastmain community, residents voiced apprehensions about the safety of workers who might get lost in the area and asked what the Proponent's plans were in this respect. During the consultations, some participants mentioned that the RE2 tallyman would be a useful resource in the event that a worker or someone else became lost in the area.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Specify the proposed procedures or measures for limiting or monitoring the movements of project staff and visitors in the area and ensuring their safety as they move around the site. State how the tallyman would be involved in the event that a worker or someone else became lost in the area. If there are no plans to involve the tallyman, provide an explanation for that decision.

CCE 35 Natural and cultural heritage and Cree culture

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Background

In the JAC's consultations on the Proponent's EIA in the Eastmain community, Band Council representatives recommended that the Proponent organize, in conjunction with the Eastmain community, a ceremony on the future mine site, attended by community members, to honour and recognize Mother Nature and its components that will be adversely affected by the project. The community stressed that this event should be held before construction begins.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Indicate what actions are planned to organize a ceremony recognizing Mother Nature in conjunction with the Eastmain community. If there are no plans to act on the Eastmain community's request, provide an explanation for that decision.

CCE 36 Land and resource use – Wildlife species (excluding caribou)

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 5 (Consultation with Indigenous Nations and Concerns Raised).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-99.

Background

In Question CEAA-99 B, the Proponent was asked to propose mitigation measures related to the modification of wildlife species' behaviours, particularly with regard to worker safety and the presence of black bears. The Proponent stated that it planned to implement measures to restrict access to the mine site and to domestic waste management facilities. However, it provided no details about the planned measures.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Specify what measures are planned to prevent wildlife intrusion into domestic waste management facilities.

CCE 37 Land and resource use – Joint work table on caribou

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 1, section 4.2.2 (Community knowledge and Aboriginal traditional knowledge), and Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised), 6.3.4 (Predicted effects on valued components – Indigenous peoples) and 6.4 (Mitigation Measures).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-100.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Eastmain (December 2019).

Background

In its answer to Question CEAA-100, the Proponent commits to creating a joint work table (Proponent, Eastmain community and Waskaganish community) to discuss caribou follow-up. The Proponent indicates that the table will have a variety of mandates:

“This [follow-up] program will be used to get a clearer picture of the past and future use of RE2 RE3, VC33, VC35, R08 (and RE1 if required) traplines by the caribou. Cree knowledge regarding the fragmentation of the caribou habitat will also be documented thanks to the [follow-up] program. Appropriate mitigation measures for the project’s potential impacts on the woodland and migratory caribou harvest for current and future land users will be developed. The program may contemplate means to communicate knowledge within communities regarding the caribou and its ‘sensitive’ status in order to promote good Cree practises and preservation of the resource for future generations (which could consist of an increasing number of young hunters).”

The JAC notes, however, that no concrete measures are proposed at this point in the planning process for this species valued by the Cree. It is unclear whether the Proponent plans to keep a record of caribou sightings near the mine site and what authorities or persons would be notified, if any.

In the JAC’s consultations on the Proponent’s EIA, the Waskaganish community noted that caribou are very sensitive to changes in the environment, especially noise. The Eastmain community expressed concern about the caribou and the project’s impact on their food.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Specify whether there are plans to keep a record of caribou sightings near the mine site. If there are no plans to do so, provide an explanation for that decision.
- B) State who will be informed of the sightings in the record, including the competent authorities and the Cree tallymen, where applicable.
- C) Specify how the tallymen will be consulted periodically to find out whether they have recently seen any caribou on the traplines. If there are no plans to consult the tallymen, provide an explanation for that decision.
- D) State how often meetings of the joint work table on caribou will be held during the project’s life cycle and whether reports will be published following the meetings.

CCE 38 Land and resource use – Beaver

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volume 2: Main Report (Chapters 6 to 11), p 7-13.

JAC Consultations on the Proponent’s Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Background

In its EIA, the Proponent proposes mitigation measure UTT 03, “Conduct beaver dam inspections at regular intervals to identify any changes to the CE2 water level and flow, and notify the community of these changes.”

In the JAC’s consultations on the EIA in the Eastmain community, some community members expressed concern about the fact that the Proponent’s most recent beaver survey, conducted five years ago, was not recent. Some members recommended that a beaver survey be conducted annually. In general, the JAC notes that the community had a number of concerns about the species.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Clarify what is meant by “regular intervals” by indicating how often beaver dam inspections will be conducted along the CE2 watercourse and whether there are plans to involve the RE2 tallyman in the inspections.
- B) Assess, in conjunction with the RE2 tallyman, the need for a new beaver survey on the trapline before construction begins. If there is no need, provide an explanation.
- C) Assess, in conjunction with the RE2 tallyman, whether intensive beaver trapping on the CE2 watercourse is necessary before construction begins, and if so, how it will be done.

CCE 39 Archaeology

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 1, section 4.2.2 (Community knowledge and Aboriginal traditional knowledge), and Part 2, section 6.3.4 (Predicted effects on valued components – Indigenous peoples).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-117.

Background

In its answer to Question CEAA-117, the Proponent states that it has considered the information provided by Cree users of the RE2 trapline during its consultations, as well as summaries of interviews with the Crees who have lived there for generations, in its discussions leading to the delimitation of areas of archaeological potential. It is unclear to the JAC whether Eastmain Elders were asked to validate or improve on the findings of the study of archaeological potential in this process.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Clarify whether the Elders of the Eastmain community were consulted regarding past use of the land around km 381 of the James Bay Highway to validate or improve on the areas of archaeological potential that

should be surveyed in 2020. If not, specify how they will be consulted, and submit an updated study of archaeological potential, if applicable. If there are no plans to consult the Eastmain Elders, provide an explanation for that decision.

CCE 40 Translation into Cree

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 5 (Consultation with Indigenous Nations and Concerns Raised).

Joint Assessment Committee consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019).

Background

In the JAC's consultations on the Proponent's EIA in the Waskaganish community, the issue of the importance of having a summary of the predicted environmental impacts in each phase of the project and the Proponent's promotional materials translated into Cree was raised.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Specify what documents have been translated into Cree so far, and state what translations are planned in the future.

CCE 41 Inequity of impacts – Participation by women from the Eastmain community

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-116.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Background

In its answer to Question CEAA-116, the Proponent indicates that its follow-up program on the community's well-being and quality of life will include follow-up on the problem of sexual harassment, through interviews with mine employees conducted by the liaison officer. However, the Proponent does not plan to conduct any interview with women from the Eastmain community to flesh out the picture and the follow-up on this issue with persons in the main group likely to be harassed.

In the JAC's consultation with the representative of the women of the Eastmain community, it was mentioned that the women members of the community should have an opportunity to participate in discussions concerning development projects.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) Specify how the follow-up program on the community's well-being and quality of life, which will involve follow-up on the problem of sexual harassment, will include participation by women from the Eastmain community through interviews. If there are no plans for participation by women from the Eastmain community, provide an explanation for that decision.
- B) Describe the procedure for offering a seat on the mine's follow-up committee to a representative of the women of the Eastmain community so that they can participate and contribute throughout the project's life cycle. If there are no plans to provide a seat for a representative of the women of the Eastmain community, provide an explanation for that decision.

CCE 42 Inequity of impacts – Harassment

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-116.

Background

In its answer to Question CEAA-116, the Proponent states that company policy prohibits harassment of any kind. The Proponent does not specify whether the work contracts of its employees and subcontractors contain provisions regarding zero tolerance of harassment of any kind, especially harassment of women.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Specify whether the work contracts of the Proponent's employees and contractors/subcontractors contain provisions regarding zero tolerance of any form of harassment, especially of women. If there no such provisions exist, provide an explanation for that decision.

CCE 43 Inequity of impacts – Safety of people at the truck stop

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 5 (Consultation with Indigenous Nations and Concerns Raised) and 6.3.4 (Project effects assessment – Indigenous peoples).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-116.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Background

In its answer to Question CEAA-116, the Proponent indicates that it will not be able to monitor its employees' alcohol consumption at the truck stop, since it is a public place, but that discussions are under way with the Société de développement de la Baie-James (SDBJ) regarding appropriate surveillance and security at the truck stop.

In the JAC's consultation with the representative of the women of the Eastmain community, the latter recommended that the truck stop not sell alcohol, that a road safety station similar to the one in Matagami be set up if the mining project is approved, and that video cameras be installed in prominent locations to help people using the truck stop feel safer.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

- A) State whether the SDBJ has been contacted to discuss safety and security at the truck stop.
- B) Propose potential measures, and describe the Proponent's contribution to making the truck stop a safe environment for all users.

CCE 44 Cumulative effects on current use by Cree communities

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, section 6.6.3 (Cumulative effects assessment).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answers to Questions CEAA-98 and CEAA-103.

Background

In its answer to Question CEAA-98, the Proponent does not state what it will do if there are complaints about potential cumulative effects of the project on the land. The Proponent indicates that it plans to develop procedures and processes later in conjunction with the follow-up committee. In its answer to Question CEAA-103, the Proponent does not state that it is open to proactively contacting other Proponents in the area if there are complaints that may involve cumulative effects.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Describe the preliminary approach that it will take if there are complaints about the project's cumulative effects, and specify whether this process will include direct contact with other companies or Crown corporations present in the area.

Comments and advice for the Proponent

Comment 3 Integration and recruitment of Cree employees

References

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Comments and advice

In its EIA, the Proponent proposes mitigation measure ELR 05, "Implement mechanisms to integrate workers, particularly for members of Indigenous communities (information sessions, human resources representatives, employee assistance program, etc.)."

In the JAC's consultation with the representative of the women of the Eastmain community, the latter recommended the establishment of informal support groups to break the isolation and promote retention of Cree employees (sewing, traditional cooking, etc.). The JAC recommends that the Proponent consider this advice in planning its project.

Comment 4 Educating employees on the Cree way of using the land

References

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-98.

Comments and advice

On page 7-71 of its EIA, the Proponent indicates that non-Indigenous workers will be educated on the Cree communities' traditional practices, in part to foster the integration of Cree employees. In its answer to Question CEAA-98, the Proponent states the following: "*During the induction training, all the mine site workers will also be educated on the importance of complying with the existing regulations and applicable permits/licenses to obtain regarding the practice of hunting, fishing and trapping across the territory, should they want to practice such activities in the area during their days off.*"

In the JAC's consultations on the Proponent's EIA, the Waskaganish community recommended that workshops on intercultural exchanges between the Cree communities and the mine's employees be offered. The workshops could cover Cree history and culture and provide the workers with more detailed information about the Cree way of using the land and its resources respectfully (e.g., not killing a moose just for its antlers and leaving the meat to rot). The JAC recommends that the Proponent consider this advice in planning its project.

Comment 5 Land use – Publication of the water quality follow-up results

References

WSP (October 2018). James Bay Lithium Mine. *Environmental Impact Assessment*. Volumes 1 to 3. Report prepared for Galaxy Lithium (Canada) Inc.

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-116.

JAC Consultations on the Proponent's Environmental Impact Assessment – Cree Nation of Waskaganish (October 2019) and Cree Nation of Eastmain (December 2019).

Comments and advice

In its EIA, the Proponent indicates that the environmental follow-up results will be made public by the company, but it does not specify whether the liaison officer or some other person proficient in Cree will play a role in disseminating the water quality follow-up results to the tallymen concerned. In its clarification of its response to Question CEAA-116, the Proponent states the following: “Environmental [follow-up] reports will be published on the Galaxy website and presented to respective trapline holders if requested.”

In general, the JAC observed that the water quality follow-ups for all phases of the project raised many concerns for the Cree communities. The VC33 tallyman told the JAC that he was afraid he would not have easy access to the results of the water quality follow-up programs. He said that a community liaison officer should explain the environmental follow-up results to the main tallymen concerned in simple terms in Cree to build trust and limit avoidance of the land.

The JAC is aware that the mine follow-up committee, which includes the tallymen, will discuss the contents of the company’s communications plan at the committee’s initial meetings, and that this forum may provide an opportunity for the tallymen to state their future communications needs with respect to the project.

The JAC recommends that the Proponent consider offering briefings to explain the environmental follow-up results, including the water quality results, in simple terms in Cree to the members of the mine follow-up committee, and that the Proponent canvass the tallymen on their preferences in that regard (follow-ups of interest and desired frequency).

Comment 6 Participation by women from the Eastmain community

References

JAC Consultations on the Proponent’s Environmental Impact Assessment – Cree Nation of Eastmain (December 2019).

Comments and advice

In the JAC’s consultations on the Proponent’s EIA, the representative of the women of the Eastmain community stated that the women of Eastmain could assist in developing and delivering workshops on sexual harassment for mine employees if that option is accepted by the Proponent following its discussions with the Cree Women of Eeyou Istchee Association.

The JAC is aware that the Proponent has entered into discussions with the Cree Women of Eeyou Istchee Association regarding sexual harassment, and it applauds the initiative. The JAC encourages the Proponent to consider the possibility of involving women from the Eastmain community if the idea of having sexual harassment workshops is accepted following the discussions.

Accidents and malfunctions

Requests for information to the Proponent

CCE 45 Environmental follow-up program

References

CEAA (February 2018). *Guidelines for the Preparation of an Environmental Impact Statement*. Part 2, sections 6.6.1 (Effects of potential accidents or malfunctions) and 8.1 (Follow-up Program).

WSP (September 2019). James Bay Lithium Mine. *Answers to Questions and Comments Received from the CEAA as Part of the Environmental Impact Study Review*. Report prepared for Galaxy Lithium (Canada) Inc. Answer to Question CEAA-129.

Background

In response to Question CEAA-129 B, the Proponent indicates that the communications plan will be developed in due course. Consequently, the communications plan for accidents or malfunctions has not been developed yet.

The Joint Assessment Committee requests that Galaxy Inc. (the Proponent) to:

Submit a communications plan, or an outline of a communications plan, to be used in the event of an accident or a spill. The communications plan must indicate what approach will be taken for each type of accident and identify the persons to be contacted, including the RE2, VC33 and VC35 tallymen, and the Eastmain and Waskaganish environmental services.