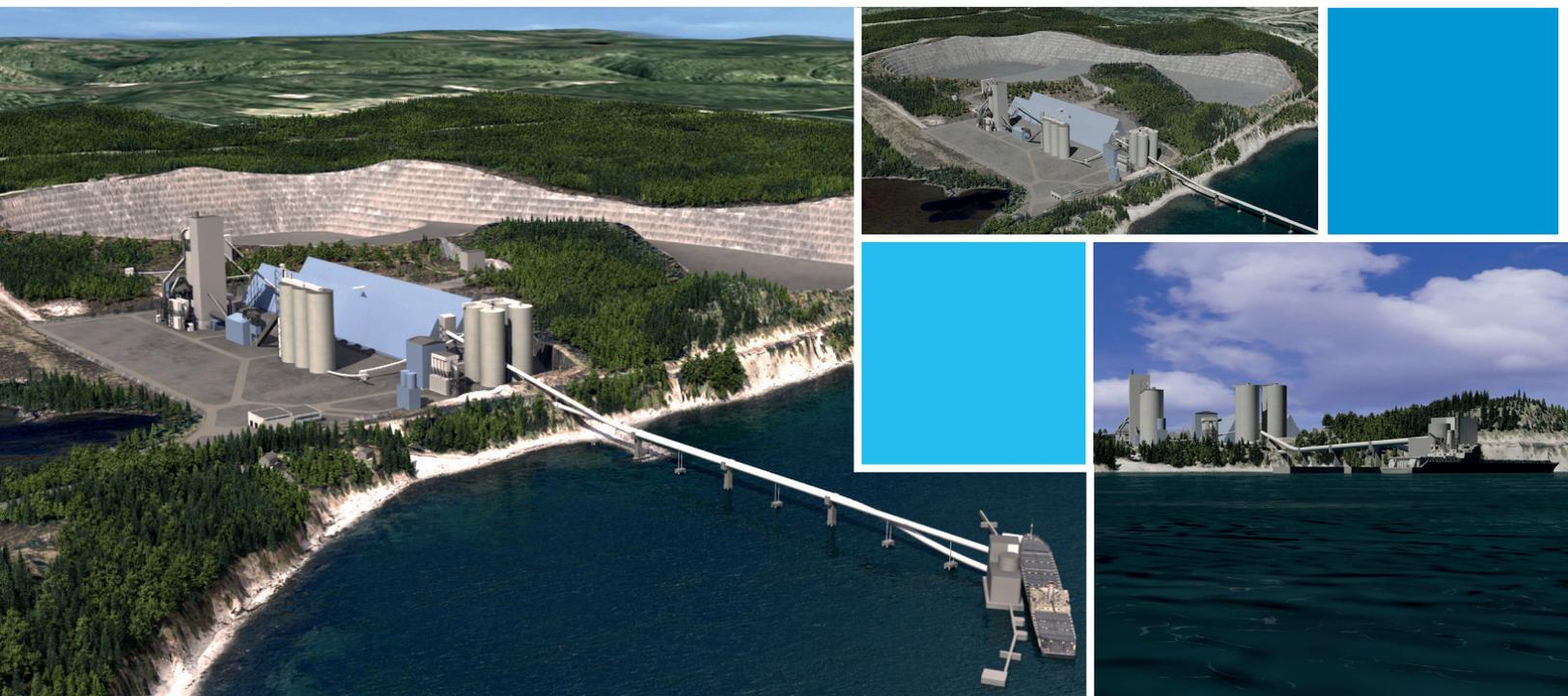


# Cement Plant Development Project in the Territory of Port-Daniel-Gascons

## UPDATE OF THE ENVIRONMENTAL REPERCUSSIONS STUDY

Consolidated document for public distribution including the original report and the additional analyses requested by the MDDEFP

### LIST OF COMMITMENTS MADE BY THE DEVELOPER (APPENDIX O)



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GENIVAR INC.  
1600, Rene-Levesque Blvd. West, 16<sup>th</sup> floor  
Montreal (Quebec) Canada H3H 1P9

TEL.: 514 340-0046  
FAX: 514 340-1337  
WWW.GENIVAR.COM





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## **I. CONSTRUCTION PHASE**

### **a) Environmental monitoring program**

An environmental monitoring program will be filed with the Québec Ministry of Sustainable Development, Environment, Wildlife and Parks (*Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs* or **MDDEFP**) with the application for a certificate of authorization for the construction of the Project. The purpose of this program will be to ensure environmental monitoring of the following elements while construction is underway:

- Atmospheric emissions and ambient air quality;
- Water management;
- Soundscape;
- Management of hazardous and waste materials;
- Fauna;
- Handling and storage of petroleum products;
- Use of motorized equipment;
- Archaeological heritage;
- Tree clearing.

The analyses required under the environmental monitoring program will be carried out in one or more laboratories accredited by the MDDEFP.

### **b) Atmospheric emissions and ambient air quality**

Dust emission management during construction will be done by spreading water on the roads.

Diesel with reduced sulfur content will be used for mobile equipment.

### **c) Water**

From the moment the cement plant's sedimentation basin is designed, infrastructure will be planned to allow for the eventual installation of water measurement and control equipment.

The water in the sedimentation basin will be monitored weekly during the construction phase for the following parameters: SS (suspended solids), C<sub>10</sub>-C<sub>50</sub> (petroleum hydrocarbons) and pH.

Concrete mixers used during the construction phase will be cleaned systematically on an impervious surface so the water can be collected and treated as needed.

The construction site will be established in a manner that takes into account the need to effectively manage runoff water. Runoff water will be diverted from work areas in order to reduce the input of suspended solids into the water.

Phosphorus concentrations in groundwater will be measured during the construction phase and the results of these measurements will be sent to the MDDEFP at the stage of the application for the certificate of authorization regarding the operation of the Project.

An audit will be conducted within a one-kilometer radius of the Project to ensure that all groundwater catchment works not owned by the Developer are included in the inventory of groundwater catchment works in the area. This information will be sent to the MDDEFP at the stage of the application for the certificate of authorization regarding the operation of the plant.

Should the presence of new wells be confirmed (relative to those presented in the updated environmental repercussions study), following the audit conducted within a one-kilometer radius of Project, the representativeness of samples from these new wells will be validated to determine the relevance of adding them to the groundwater monitoring program: for example, the sampled water must not be directly influenced by surface water or affected by de-icing salts.

#### **d) Soundscape**

Noise will be assessed during the Project's construction phase. When construction work takes place only during the day, these assessments will be done during daytime (12 hrs). When construction work takes place both day and night (for instance, when concrete for the silos is being poured), noise analyses will be carried out continuously (24 hours).

#### **e) Non-hazardous waste**

Non-hazardous waste generated during the Project's construction phase will be managed in accordance with the 3R-RD rule, in the following order of priority:

- Reuse;
- Recycling, including biological treatment or spreading on the ground;
- Any other reclamation method by which waste materials are processed to be used as a substitute for raw materials;
- Energy recovery;
- Disposal.

Waste with fertilizing properties will be used for plantings, depending on availability.

Non-hazardous waste that has not been reclaimed will be shipped to a disposal site in accordance with the provisions of the Regulation respecting the landfilling and incineration of residual materials (*Règlement sur l'enfouissement et l'incinération de matières résiduelles*).

**f) Invasive alien species (IAS)**

Any colony of an invasive alien species (IAS) that may be identified at the site during the construction phase of the Project will be “geolocated” and characterized, and its presence reported to MDDEFP.

Should an IAS be identified at the Project site, construction will first be carried out in areas free of the IAS and then in the affected areas. If this sequence cannot be implemented, the excavating machinery will be cleaned far away from any water bodies and wetlands and in a location that is non-conducive to the establishment of the IAS, before being used again in non-affected areas.

The topsoil and materials used and the soil set aside for re-use in site restoration will be verified as to provenance to prevent the establishment of IASs.

Exposed areas will be replanted out as the work progresses to limit the establishment of IASs.

An inspection of the exposed and replanted areas will be part of the environmental monitoring program; invasive alien plants that may have established at the work site will also be controlled via this program.

**g) Biological environment and fauna**

Consultation with selected conservation groups from the MRC de Rocher-Percé and the MDDEFP (Bas-Saint-Laurent and Gaspésie-Îles-de-la-Madeleine Regional Analysis and Expertise Directorate) will be initiated by the Developer to determine the feasibility or suitability of potential projects to restore wetlands in MRC de Rocher-Percé territory. The results of this consultation could be sent periodically to the MDDEFP in order to show the Ministry how the compensation options being considered are evolving. The full version of the compensation program will be filed together with the application for a certificate of authorization for the operation of the quarry and will include specific measures to mitigate the loss of bat habitat.

To avoid encroachment on wetlands, work areas will be marked, machinery traffic will be limited to the marked areas, temporary storage areas will be prohibited in wetlands and machinery will be maintained and cleaned in locations that are more than 30 metres from wetlands. If it is impossible to comply with this distance, a membrane that is leak proof or able to absorb petroleum products will be put in place.

The application for a certificate of authorization for the operation of the quarry will detail the reasons why the impact of the quarry and related facilities on wetlands MH-9, MH-12 and M-13 cannot be avoided.

A minimum ratio of 1:1 will be applied to compensate for wetland losses, including the loss or disturbance of wetlands MH-9, MH-10, MH-11, MH-12, MH-13 and MH-14 as identified in Appendix H-2 of the environmental repercussions study.

Tree clearing activities required for the construction of the Project will not take place between the beginning of April and the end of August.

An audit will be conducted in spring 2014 in order to validate whether the peregrine falcon uses a nesting site on the cliffs overlooking Chaleur Bay. If necessary, specific mitigation measures will be implemented. The results of this verification and identification of the selected mitigation measures will be provided to the MDDEFP prior to the planned interventions involving the cliff that are associated with the installation of the conveyor axis for the marine terminal.

The relevance of conducting environmental monitoring to document the initial concentration of certain contaminants in the hepatopancreas of lobster will be evaluated before construction of the Project begins. If required, monitoring measures to be implemented in this regard will be agreed to with the MDDEFP at the stage of the application for the certificate of authorization regarding the operation of the plant.

#### **h) Archaeological heritage**

Construction of the Project will be interrupted should any artifacts be discovered in the Project area and this discovery will be communicated to the competent authorities.

#### **i) Emergency measures**

A final version of an emergency measures plan for the construction phase will be filed together with the application for the certificate of authorization for this phase of the Project. The municipality of Port-Daniel-Gascons will also be consulted to ensure successful implementation of the emergency measures plan.

In the event that contamination of soil or groundwater is discovered during construction, the Developer will comply with the policies, guidelines and legal requirements for land rehabilitation and management of contaminated soils.

#### **j) Management of technological risks**

Once the detailed engineering of the Project is completed, an updated analysis of technological risks will be conducted and filed together with the application for a certificate of authorization for the operation of the Project.

#### **k) Social impacts and acceptability**

A second public information session regarding the Project will be held by the Developer before Project construction begins and a detailed report of the information session will be sent to the MDDEFP, for information purposes, within 60 days following this meeting. This report will identify the questions and concerns raised by the public, the answers provided and any additional action that may result from these discussions, if any.

The procedures initiated with the Mi'gmaq on a voluntary basis will continue and the MDDEFP will be informed periodically of the progress of these initiatives; non-confidential information will be shared with the MDDEFP.

Details on the complaint management system that are relevant to activities covered by the applications for certificates of authorization will be provided to the MDDEFP as part of the application process.

Contractors hired by the Developer to construct the Project must agree to comply at all times with the Act to eliminate union placement and improve the operation of the construction industry (*Loi éliminant le placement syndical et visant l'amélioration du fonctionnement de l'industrie de la construction*) and with the Regulation respecting the Service de référence de main-d'oeuvre de l'industrie de la construction (*Règlement sur le Service de référence de main-d'oeuvre de l'industrie de la construction*) and when hiring, to give preference to construction workers with equal skills from the Gaspésie-Îles-de-la-Madeleine region.

## II. **OPERATION PHASE**

### a) **Environmental monitoring program**

A new atmospheric dispersion modeling study will be filed with the MDDEFP together with the application for a certificate of authorization for the operation of the Project.

An environmental monitoring program will be filed with the MDDEFP together with the application for a certificate of authorization for the operation of the Project. The objective of the program will be to ensure environmental monitoring of the following elements associated with the Project's operation:

- Atmospheric emissions and ambient air;
- Noise;
- Vibration and air overpressure;
- Surface water and effluent;
- Groundwater;
- Wetlands;
- Waste materials (hazardous and non-hazardous);
- Some socio-economic aspects;
- Equipment that may fail while the Project is in operation (dust collectors, etc.).

Procedures for monitoring air emissions and ambient air will be discussed in greater detail with the MDDEFP at the stage of the application for the certificate of authorization regarding the operation of the Project. These conditions will notably deal with the installation of measuring stations at key points on and off the Project site, the analysis of concentrations of total particles, fine particles, nitrogen dioxide and metals in ambient air, the measuring of wind speed and direction at a weather station near the site, re-evaluation of the monitoring program conducted jointly with the MDDEFP after the Project has been in operation for three years, the yearly transmission to the MDDEFP of all data collected during monitoring and the mitigation measures that have been implemented, as applicable.

The analyses required under the environmental monitoring program will be carried out in one or more laboratories accredited by the MDDEFP.

**b) Atmospheric emissions and ambient air quality**

Road surfaces will be maintained in order to reduce atmospheric emissions during operations by implementing various measures including watering roads regularly with a mixture of water and calcium chloride and setting a speed limit of 40 km/h at the Project site.

The Project will be run in accordance with U.S. standards under the National Emission Standards for Hazardous Air Pollutants ("NESHAP (2015)") applicable to new kilns and chillers, which are more restrictive than the standards for air quality currently applicable in Quebec.

Diesel fuel with reduced sulfur content will be used while the Project is in operation.

Emissions control equipment at the cement plant will be operated and maintained so as to keep them operating at maximum efficiency (i.e.: dust collectors, automated continue technology of Selective non-catalytic reduction [SNCR]).

Active leak detectors will be installed for all dust collectors.

**c) Water**

The concentration of suspended solids will be measured in spring 2014 in Chaleur Bay just off the Project's host environment and the results of the measurement campaign will be filed together with the application for a certificate of authorization for the operation of the cement plant.

The waters of the sedimentation basin will be monitored weekly for the following parameters: SS (suspended solids), C<sub>10</sub>-C<sub>50</sub> (petroleum hydrocarbons) and pH. After the end of the first year of operations, the frequency of effluent monitoring will be adjusted based on the results obtained during the first year.

Flow and pH of drainage water will be measured if drainage water is discharged continuously. If drainage water is discharged from time to time only, monitoring arrangements will be determined in collaboration with the MDDEFP based on the frequency and volume of these discharges.

After three (3) years, a study will be conducted to determine the quality of effluents from the site in order to evaluate the performance of the wastewater treatment system.

Drainage waters from the site where the Project is being developed will be directed to the plant's sedimentation basin prior to being discharged into the environment.

Surface water will be managed in such a way as to prevent soil loss by keeping soil from dispersing into natural watercourses.

Monitoring wells will be installed around the quarry and the plant in order to detect the level of water table drawdown so that an intervention plan can be implemented if necessary. These wells will also be used to monitor groundwater quality, which will be part of the environmental monitoring program and will include monitoring activities at dwellings that are inhabited and connected to a drinking water well.

In the event that groundwater contamination is detected during the Project's operational phase, the Developer will undertake appropriate restoration measures or, in cases involving landowners whose well water has become objectively unfit for human consumption (due to some action on the part of the Developer), the Developer will provide drinking water to the owner of the impacted well, at a rate and quality at least equivalent to the previous source, by connecting the property to a water supply system, by drilling a new well or by treating the water drawn from the well adequately.

**d) Soundscape**

A review of the soundscape study during the operation phase will be filed with the MDDEFP when applications for certificates of authorization for the operation of the Project are submitted.

Studies on the soundscape during the operation phase will be revised if the railroad is commissioned. This review will include the information specified by the MDDEFP, including a complete inventory of the quarry equipment.

While the Project is in operation, noise assessments will be conducted during daytime and night time (24 hours). The frequency of those assessments will be discussed with the MDDEFP when applications for certificates of authorization for the operation of the Project are submitted.

**e) Non-hazardous waste**

Non-hazardous waste generated during the Project's operation phase will be managed according to the 3R-RD rule, in the following order of priority:

- Reuse;
- Recycling, including biological treatment or spreading on the ground;
- Any other reclamation method by which waste materials are processed to be used as a substitute for raw materials;
- Energy recovery;
- Disposal.

Non-hazardous waste that has not been reclaimed will be shipped to a disposal site in accordance with the provisions of the Regulation respecting the landfilling and incineration of residual materials (*Règlement sur l'enfouissement et l'incinération des matières résiduelles*).

**f) Hazardous waste**

The preferred approach for managing septic tank sludge will be to send it to the regional composting center.

Mobile equipment will be cleaned in the quarry workshop, which will be equipped with a water treatment and recirculation system. Impurities removed from the water will be stored and managed off-site at a location approved by the MDDEFP.

**g) Biological environment and fauna**

An environmental monitoring program will be implemented to monitor wetlands at risk of impacts due to an eventual drawdown of the water table. Should drying of these wetlands occur, corrective action and/or compensation will be proposed to the MDDEFP for approval.

If a future expansion of the quarry north of Highway 132 were to result in the loss of wetlands, additional compensation measures would then be proposed to the MDDEFP for approval.

**h) Dynamiting and vibrations from quarry operation**

Regular inspection of a control house (located far away from the quarry and not subject to vibrations caused by its operation) will be conducted while the quarry is in operation.

Vibration velocity and air overpressure will be measured by means of three seismographs located in the houses closest to the quarry.

Quarry activities will comply with Québec's regulatory standards respecting vibration velocity.

A quality assurance program for the drilling and operation plan will be filed when the application for a certificate of authorization for the operation of the quarry is submitted.

The recommendations made in the study on vibration and air overpressure, provided in Appendix K, will be implemented, notably by adapting blasts schedules to weather conditions and by planning blasts so that fragments are projected away from Highway 132.

If required, additional specific measures will be agreed to with the competent authorities (MTQ, SQ, municipality, MRC) regarding the establishment of a security perimeter to ensure the safety of users.

The Project will comply with the requirements regarding buffer zones for dwellings (600 m) and public roads (70 m) set out in the Regulation respecting pits and quarries (*Règlement sur les carrières et sablières*).

**i) Quality of life**

The results of the various environment quality monitoring programs and the main mitigation measures implemented during the operation phase will be transmitted to the public in a popularized format.

The Project will comply with all applicable standards and criteria for noise and atmospheric emissions and vibrations.

**j) Depollution attestation**

An application for a depollution attestation will be filed with the MDDEFP by the Developer within 30 days following the date the certificate authorization for the operation

of the plant is obtained, in accordance with the Regulation respecting industrial depollution attestations (*Règlement sur les attestations d'assainissement en milieu industriel*).

#### **k) Emergency measures**

A final version of the emergency measures plan for the operation phase will be prepared in consultation with the municipality of Port-Daniel-Gascons, the Ministère de la Santé et des Services sociaux – Regional Public Health Directorate, the Ministère de la Sécurité publique – Regional Public Safety Directorate, and the Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs – Regional Analysis and Expertise Directorate. This plan will be filed together with the application for a certificate authorization for the operation of the cement plant.

The Developer's final emergency measures plan for the Project's operation phase will notably include the following elements:

- Description of accident scenarios selected for planning purposes;
- List of intervention equipment;
- Internal evacuation plan, if necessary;
- Detailed action plan (minute-by-minute intervention scenario);
- Planned means to effectively alert people;
- Protective measures to consider for public protection;
- Scenarios and selected measures regarding hazardous materials present at the site;
- Various consequence areas (potential impact radii) for alternative scenario # 4 in Figure 1 of Appendix M (ammonia modeling);
- A section specifically describing dynamiting activities during the operation phase.

The Developer will sit on the regional consultative committee for emergency interventions.

In the event that contamination of soil or groundwater is discovered during construction, the Developer will comply with the policies, guidelines and legal requirements regarding land remediation and management of contaminated soils.

#### **l) Social impacts and acceptability**

During the first three years of the Project's operation, a scientific survey will be conducted by experts in this field in order to assess the perception of citizens regarding the Project. The results of this survey will be sent to the MDDEFP for information. In the event that significant issues are identified during said survey, an additional scientific survey will be conducted.

**m) Visual Impacts**

A wooded 35-metre buffer strip will be preserved or landscaped between the cement plant's area of operation and the right-of-way of any public road in any area located within 100 metres of Highway 132. At locations where this wooded density is impossible (notably near rocky areas, wetlands and in places where buildings and roads are located), the surroundings will be landscaped and density increased as needed, while preserving the existing elements.

**n) Water supply**

In the event that it is decided that the Project will take its water supply from the water supply system of the municipality of Port-Daniel-Gascons, a study will be conducted and filed with the MDDEFP to certify that the volumes of water taken by the Project will not adversely impact the proper operation of the municipality's existing infrastructure (wells, pumps, tanks, pipes, etc.).

**III. DECOMMISSIONING PHASE**

Following the end of the Project's service life, structures that cannot be left in place will be removed down to one meter below the surface of the soil before backfilling is done.

Once the structures have been removed, the affected soils will be replanted.

The quarry site will be restored in compliance with the provisions set out in the Regulation respecting pits and quarries (*Règlement sur les carrières et sablières*). The related technical aspects will be indicated in a restoration plan that will be filed together with the application for a certificate of authorization for the operation of the quarry.