

THE CORPORATION OF THE
CITY OF WHITE ROCK
CORPORATE REPORT



DATE: **October 16, 2023**

TO: **Mayor and Council**

FROM: **Jim Gordon, P.Eng., Director, Engineering & Municipal Operations**

SUBJECT: **Andion Biogas Project**

RECOMMENDATIONS

THAT Council receive the corporate report dated October 16, 2023, from the Director of Engineering and Municipal Operations, titled "Andion Biogas Project" for consideration; and request that:

1. Metro Vancouver thoroughly investigate and advise the City of the potential for odours from the proposed Andion biogas facility being carried by prevailing winds to White Rock and negatively affecting quality of life of White Rock residents and,
 2. Metro Vancouver thoroughly investigate and advise the City of the potential for gases emitted or wastewater effluents or discharge from the proposed Andion biogas facility being carried by prevailing winds to White Rock and negatively affecting the health of White Rock residents and,
 3. Metro Vancouver advise what regulatory tools it has available should design deficiencies, production challenges or poor feedstock management result in emissions of malodorous or unhealthy gases or wastewater effluents or discharge and,
 4. Council provide comment to Metro Vancouver after Metro Vancouver responds in detail to the concerns about potential odours, unhealthy gases or wastewater effluents or discharge potentially affecting White Rock residents as noted above.
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EXECUTIVE SUMMARY

Under the *Environmental Management Act*, Metro Vancouver (Metro) has been delegated authority from the Province to manage air quality within its boundaries. It administers laws that regulate emissions from industrial, commercial and industrial sources, through permits, compliance promotion and enforcement. A key role is establishing ambient air quality criteria that may be different but no less stringent (or more stringent) than requirements established by the province.

Semiahmoo RNG GP Corp. (Andion) applied to Metro for a permit pursuant to the *Greater Vancouver Regional District Air Quality Management Bylaw 1082, 2008*. This permit application is for its proposed biogas facility that will be located at 16535 & 16565 Beach Road, Semiahmoo First Nation. The site is adjacent to Highway 99 and south of the City of Surrey and

beyond White Rock boundaries and jurisdiction, although prevailing winds could potentially carry odours or unhealthy gases westward to the City or from wastewater effluents or discharge.

Metro asked for White Rock comments on the permit application (Appendix A). Given that White Rock does not have technical experts on staff in air quality matters, this report is a simple overview of the proposed project and proposes a response to Metro.

INTRODUCTION/BACKGROUND

Organic waste typically used in biogas facilities includes manure, food waste, and green waste. Early treatments included simple land application, disposal in moving water, and drying and burning. More recently, co-mingling with garbage and landfill disposal was common for food waste and green waste. Currently, separated food waste or green waste is usually composted or digested anaerobically while a significant amount of manure is spread on farmland.

Composting

Composting is an aerobic process whereby green waste decomposes to form useful materials for soil amendment. Well-designed composting facilities blow air through the feedstock, regularly turn the feedstock, and have means to contain and manage odours. Composting failures occur when the feedstock is not properly aerated and turns anaerobic.

Examples of composting failures that cause significant community odour concern have occurred with mishandled farm composts and in some cases commercial facilities located close to residential areas.

Anerobic Digestion

Anaerobic digestion is used in secondary sewage treatment and in biogas facilities. Key to the success of these facilities is the containment and scrubbing of off gases. Useful byproducts include renewable natural gas (RNG), fertilizer and biosolids that can be composted and used as a soil amendment.

There are biogas facilities on farms in the Fraser Valley and Delta as well as a facility in Port Kells, North Surrey. Facilities are located in an industrial park in Lethbridge and in various locations in Ontario. Some of these facilities had significant air quality issues in their initial stages but seem to have modified their processes to the point where complaints are relatively low. An example is a biogas plant in Elmira Ontario that is presently in the process of applying to double capacity.

Odour and gas emission or potential wastewater effluents or discharge problems can occur in biogas facilities due to poor design, poor production methods or mismanagement of feedstocks. It appears as if these do get rectified over time at most facilities but have caused considerable early concern in communities adjacent to biogas plants.

ANDION PROPOSAL

Andion requested authorization from Metro to discharge air contaminants from a commercial scale food waste and organic feed stocks to renewable natural gas facility located on the eastern edge of the Semiahmoo First Nation (SFN) reserve adjacent to Highway 99 (Appendix B). This is beyond White Rock boundaries and jurisdiction, although emissions could potentially affect surrounding communities including White Rock residents. Attached as Exhibit C is an update from Metro to the City of White Rock on the status of the Semiahmoo RNG GP Corp. permit application and process dated October 12, 2023.

The proponent states that this is an organic material resource recovery facility, comprised of;

1. an anaerobic digestion plant for the treatment of packaged and post-consumer food waste, fat, oil, grease and other organic feed stock and;
2. a biogas cleaning and upgrading facility to produce renewable natural gas and components for soil amendment.

To mitigate odour, it is proposed that the facility will operate under negative pressure and will treat odorous air with a multi-stage biofiltration and wet scrubbing system.

Benefits/Concerns for White Rock

Biogas facilities provide environmental benefits as they produce RNG, reduce greenhouse gases, and provide fertilizer and other resource recoveries. The Andion plant could possibly take White Rock green waste, thereby reducing the current trucking of this waste to a composting facility in Delta near Boundary Bay Airport. The plant also provides an opportunity for Council to support its SFN neighbour in economic development.

The primary concerns for White Rock would be potential odours and health effects from the discharged gases listed in the permit application (Appendix B) or from wastewater effluents. Staff do not have the air quality expertise to evaluate whether these are legitimate concerns. These concerns need to be thoroughly addressed by Metro with a response to the City before Council can provide informed comment on the application.

Next Steps

Staff corresponded with Metro about the permit application and are assured that Metro will await Council comments before taking the next steps in reviewing the application. Metro permit review steps are outlined in Appendix C.

COMMUNICATION AND COMMUNITY ENGAGEMENT IMPLICATIONS

The proposed biogas facility is beyond City boundaries and jurisdiction and located on Semiahmoo First Nation land. Council feedback to Metro is planned to be by resolution in a public meeting. As a governmental body with jurisdiction, Metro has its own consultation processes (Appendix D).

CLIMATE CHANGE IMPLICATIONS

Biogas facilities are known to have environmental benefits through the production of RNG, reduction in greenhouse gases, and recovery of fertilizer and other resources.

OPTIONS / RISKS / ALTERNATIVES

Council could decide not to respond to Metro's request for comments; however, this is an important issue potentially affecting the community, so informed feedback to Metro as it considers the permit is warranted.

CONCLUSION

Andion requested authorization from Metro Vancouver to discharge air contaminants from a commercial scale food waste and organic feed stocks to renewable natural gas facility located on the eastern edge of the Semiahmoo First Nation (SFN) reserve adjacent to Highway 99. Although this proposed facility is beyond City boundaries and jurisdiction and located on Semiahmoo First Nation land, prevailing winds or wastewater effluents could potentially carry odours or unhealthy gases westward to the City.

It is requested that Metro respond in detail to concerns about potential odours and unhealthy gases potentially affecting White Rock residents so Council can provide Metro with informed comment about the project.


Respectfully submitted,

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Jim Gordon, P.Eng.,
Director of Engineering and Municipal Operations

Comments from the Chief Administrative Officer

I concur with the recommendations of this corporate report.

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Guillermo Ferrero
Chief Administrative Officer

- Appendix A: Letter from Metro Vancouver to City of White Rock dated August 31, 2023 with attached Environmental Protection Notice and Seeking Feedback from the City
- Appendix B: Metro Vancouver Environmental Protection Notice
- Appendix C: Metro Vancouver Response dated October 12, 2023 to City of White Rock Semiahmoo RNG GP Corp. Application Update and Process
- Appendix D: Metro Vancouver Environmental Regulation & Enforcement Division Air Quality Permit Application Comment Form