IN CAMERA

CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date:	July 20, 2017
Contact:	Albert Shamess
Contact No.:	604.873.7300
RTS No.:	12096
VanRIMS No.:	08-2000-21
Meeting Date:	July 25, 2017

TO: Vancouver City Council

FROM: General Manager of Engineering Services, in consultation with the Director of Finance, Chief Procurement Officer and Director of Legal Services

SUBJECT: Vancouver Landfill Renewable Natural Gas Project Update and Next Steps

IN CAMERA RATIONALE

This report is recommended for consideration by Council on the In Camera agenda as it relates to Section 165.2(1) of the *Vancouver Charter*: (k) negotiations and related discussions respecting the proposed provision of an activity, work or facility that are at their preliminary stages and that, in the view of the Council, could reasonably be expected to harm the interests of the City if they were held in public.

RECOMMENDATION

A. That Council authorize and direct staff to finalize negotiations in respect of a contract with FortisBC Energy Inc. relating to the Vancouver Landfill Renewable Natural Gas Project described in this report provided the terms of such contract align with the project risk and reward parameters and principles summarized in this report.

B. That Council, subject to the terms of the contract being negotiated to the satisfaction of the City's General Manager of Engineering Services, Director of Finance, Chief Procurement Officer and Director of Legal Services, authorize and direct each of the foregoing to execute the contract on behalf of the City.

C. That no legal rights or obligations will be created by Council's adoption of these Recommendations unless and until such contract is executed by all of the authorized signatories of the City set out in Recommendation B.

D. That upon award of the contract as contemplated in Recommendations A, B and C, the award will be reported by the Chief Procurement Officer to Council at the next Council meeting.

REPORT SUMMARY

This report summarizes a significant opportunity for the City to recover currently flared Landfill Gas (LFG) for conversion to Renewable Natural Gas (RNG) for distribution within the provincial natural gas utility operated by FortisBC Energy Inc. (Fortis) as part of ongoing efforts to maximize beneficial use of LFG, reduce greenhouse gas emissions and support the City's Greenest City and Renewable City plans.

Fortis is offering to finance, design, build, operate and maintain an RNG facility at the Vancouver Landfill. The RNG facility proposed will be designed to produce 210,000 gigajoules (GJ) of RNG annually, to be injected into the Fortis distribution system.

This report summarizes the procurement process from the original Request for Expressions of Interest (RFEOI) to the more recent technical, financial and regulatory due diligence that the City has undertaken with Fortis. This includes the project risk and reward parameters and principles that may be acceptable to the City that will inform the negotiation of the project contract if authorized by Council.

If Council approves the report recommendations, and a mutually agreeable project contract is entered into by the City and Fortis, the expectation is that Fortis will seek British Columbia Utilities Commission (BCUC) approval for the project that would be targeted to be constructed in the coming two years, with start-up expected in early 2020.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

Background

In 2012, the City issued RFEOI No. PS20120223 seeking proposals for beneficial use of new LFG. Fortis scored highest with a plan to finance, design, build, operate and maintain a facility at the Landfill, to produce 210,000 GJ of RNG annually (equivalent to annual heating requirements for about 2,000 homes) and inject it into their distribution system. The proposal called for no direct financial contribution from the City.

Previous Council Decision

After City staff reached an impasse in negotiations with Fortis due to higher than expected project costs that exceeded a BCUC allowable threshold, in November 2016 Council provided authorization for staff to:

- Close Landfill Gas Utilization RFEOI No. PS20120223
- Report back to Council with results of a comprehensive evaluation of the business case and project risks for the development of an RNG facility
- Report back with an appropriate business approach and structure for project development, and

- Pursue senior government funding opportunities for a Vancouver Landfill Renewable Natural Gas Project.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The City Manager recommends approval.

REPORT

Background/Context

In 2012, the City issued RFEOI PS20120223 seeking proposals for beneficial use of new LFG. Fortis scored highest in the procurement process with their proposal to finance, design, build, and operate and maintain an RNG facility at the Vancouver Landfill. In 2013 the City and Fortis initiated discussions on the feasibility of the project as part of the RFEOI process.

An agreement on the original terms was unsuccessful due to higher than expected costs for the project that exceeded the BCUC allowable threshold at that time of approximately $15/GJ.

In November 2016 Council authorized staff to cancel the RFEOI because the project did not appear viable. Prior to closing the RFEOI, in March 2017, the BC Government issued Order in Council 161 (the "Order in Council") to make certain changes to the Greenhouse Gas Reduction Regulation (the "GHG Reduction Regulation") under British Columbia's *Clean Energy Act*. The implications of these changes are summarized below in the Strategic Analysis section of this report. As a result of these changes, Fortis advised the City that there was an opportunity for a successful project to be developed under the terms of the original RFEOI.

Fortis and the City have since had productive technical and commercial discussions and believe that a successful project under the terms of the original REFEOI is now possible.

The City has an existing contract with Village Farms in Delta, to supply LFG for their combined heat and power facility. That contract ends in 2023 and Village Farms has expressed interest in extending, even though there is some question about their readiness to continue beyond that period. Their existing LFG supply levels are in part linked to BC Hydro agreements that will also need to be renewed. In staff's opinion it is in the City's best interest to have several supply options going forward.

Strategic Analysis

Summary of 2012 RFEOI

The RFEOI was issued in accordance with City's Procurement Policy AF-015-01. The City received responses from Landfill Energy Systems LLC., DTE Biomass Energy, Deep Blue NRG Inc., Quadrogen Power Systems Inc., Norseman Engineering Ltd., Cedar Road Bioenergy Inc. and Fortis. The responses were evaluated by staff from Engineering Services, with oversight by Supply Chain Management to ascertain if the responses offered good overall value to the City.

Based on the overall evaluation, the City team concluded that the proposal submitted by Fortis best met the City's requirements and provided best overall value to the City.

In accordance with its original proposal, Fortis has offered to invest the capital to finance, own, operate and maintain a Landfill Renewable Natural Gas Facility that, if built, will be the second largest in Canada. As part of their offer, Fortis proposes to pay the City a fair price for the LFG. The City in return is being asked to provide a reasonably reliable supply of at least 1,000 standard cubic feet per minute (scfm) or 265,000 GJ of LFG over 20 years (feeding 210,000 GJ into the Fortis system).

Key Project Risk/Reward Parameters and Principles

The purpose of this section is to set out the key parameters and principles to determine a commercially reasonable allocation of project risk between Fortis and the City. To understand this, it is helpful to have an understanding of the implications of the BC Government Order in Council.

(1) Implications of BC Government Order in Council

The Order in Council has effectively encouraged Fortis to make additional investments in RNG projects. It allows Fortis to make RNG investments up to a relatively high cost threshold ($30 per GJ) and allows for a significant volume of RNG as a proportion of its annual sales throughput (approximately 5% of Fortis' annual sales volume). It also ensures that Fortis can recover these costs from its customers in future rates and may streamline the usual BCUC regulatory approval process. This should, in turn, inform the City's strategy towards risk management for this project.

(2) Acceptable Risk/Reward Parameters and Principles

In light of the above, and based on discussions with Fortis, the City's analysis to date (which includes the advice of an external energy industry expert hired by the City) suggests that the following project risk and reward parameters and principles should be acceptable to the City:

- The City cannot accept any risk for which Fortis can, using various tools available to it as a regulated utility, manage or pass to customers.
- The City cannot accept any risk that is disproportionate to or exceeds the reward received over the length of the contract.
- The City's aggregate liability under the contract must be capped, and as a starting point for negotiation, this cap should be below the maximum level acceptable to the City.
- The City cannot accept risk for those aspects of gas supply that are beyond the City's control.
- Any in-kind contribution (e.g. initial site preparation work) by the City to the project should provide a benefit to the City apart from the project and must be recovered by the City over the term of the contract.

- Contract pricing for LFG provided must be reasonable and can be adjusted upward as pricing for natural gas and RNG change over time.

- The contract must consider possible changes to the risk profile of LFG supply over time. For example, based on certain assumptions, the City's LFG supply risk may be higher during the last few years of the proposed 20 year contract.

- To further the City's climate change and renewable energy objectives, the City should have a right of first refusal to purchase the RNG provided it does not overly complicate the contract or Fortis' regulatory approval process.

- The terms of the contract must remain consistent with the intent of the 2012 RFEOI.

Risks of Gas Supply Over Time

Current results of our LFG projection model are provided below to illustrate the risks of changing gas supply over time. These values greatly depend on future waste flows, which are beyond the City's control, and could be higher or lower in future.

Table 1 – LFG Forecast and Allocations (scfm @ 50% methane)

Year	Forecast	Village Farms (2020-23 with possible extension)	Fortis (2020-40)	CoV Heat & Flare	Extra
2020	4758	**3,000**	**1000**	300	458
2021	5052	**3,000**	**1000**	300	752
2022	5145	**3,000**	**1000**	300	845
2023	5217	**3,000**	**1000**	300	917
2024	5273	3,000	**1000**	300	973
2025	5317	3,000	**1000**	300	1017
2026	5353	3,000	**1000**	300	1053
2027	4762	3,000	**1000**	300	462
2028	4176	2,876	**1000**	300	0
2029	3730	2,430	**1000**	300	0
2030	3384	2,084	**1000**	300	0
2031	3110	1,810	**1000**	300	0
2032	2889	1,589	**1000**	300	0
2033	2706	1,406	**1000**	300	0
2034	2557	1,257	**1000**	300	0
2035	2431	1,131	**1000**	300	0
2036	2325	1,025	**1000**	300	0
2037	2232	932	**1000**	300	0
2038	2043	743	**1000**	300	0
2039	1857	557	**1000**	300	0
2040	1704	404	**1000**	300	0

The facility proposed by Fortis, supplying over 210,000 GJ annually, will be the second largest of its type in Canada (second only to Montreal), and bring the Vancouver Landfill much closer to 100% utilization of the available LFG.

Due Diligence Approach

The City, supported by external experts, has completed an initial due diligence review of the technical and regulatory details to consider risks.

A technical assessment of system capacity was completed by CH2M Hill (the original designer of the LFG collection system). The results of the assessment show that the RNG facility is viable when paired with the City LFG system and Village Farms system.

A regulatory review was conducted by industry expert Ron Cliff (who also sits on the Neighbourhood Energy Utility rate setting panel) to consider the new regulatory framework. That independent assessment has helped to establish an outline for negotiations with Fortis. Staff will continue to utilize Mr. Cliff through remaining negotiations up to and including a final contract review.

Implications/Related Issues/Risk

Please see the *Strategic Analysis* section.

Financial Implications

Under the current proposal, Fortis will be responsible for the design, construction, financing, operation and maintenance of an RNG facility to be located at the Vancouver Landfill.

The City will make no direct financial contribution to the project.

The final purchase price for the LFG is yet to be finalized, but based on preliminary discussions the City could collect at least $5 million over the 20 year term of the contract for the supply of LFG.

As part of the negotiation, the City will limit its risks and liability in accordance with the key risk/reward parameters and principles set out in this report, taking into consideration the City's and Fortis' ability to manage and/or transfer their respective risks in a commercially reasonable manner.

Environmental

The Greenest City Action Plan and the Renewable City Strategy both highlight the need for increasing supplies of RNG if the City is going to achieve its climate change and renewable energy objectives. This project will help to fulfill a quick start commitment in the Renewable City Strategy to expand the beneficial use of LFG produced by the Vancouver Landfill.

The 210,000 GJ of RNG produced at the facility annually would offset the need for an equivalent amount of fossil fuel natural gas. This will result in a reduction of approximately 10,500 tonnes of greenhouse gas emissions relative to the combustion of fossil fuel natural gas in the community. While the City will be an important partner in making the project and its environmental benefits happen, the reductions in emissions will be attributable to the consumers of the RNG.

Legal

The material, contractual, and legal risks in respect of the proposed contract will be effectively addressed by keeping the contract terms consistent with the key risk/reward parameters and principles set out in this report.

CONCLUSION

Staff believe that a contract with Fortis consistent with the key risk/reward parameters and principles set out in this report is possible. Successful implementation of this project increases the beneficial use of LFG, which is one of the City's goals under the Renewable City Strategy. If Council adopts the recommendations set out in this report, a cross-functional staff team supported by independent experts will work to finalize the negotiation of a successful contract with Fortis.

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