

**REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, JUNE 19, 2024**

SUBJECT **Biosolids Advanced Thermal Demonstration Plant – Project Update**

ISSUE SUMMARY

To provide an update on the status of the project to procure and carry out a biosolids advanced thermal demonstration plant.

BACKGROUND

At the April 12 2023 meeting, the Capital Regional District (CRD) Board directed staff to issue a Request for Expressions of Interest (RFEOI) for the design and operation of a Biosolids Advanced Thermal Demonstration Plant. An open call was posted on BC Bid and ten submissions from companies world-wide were received and evaluated, resulting in six proponents being shortlisted for the next step, an invitational Request for Proposals (RFP). On October 11, 2023, the Board also provided direction that consideration should be given to the processing of a secondary waste stream as part of the demonstration project.

Since that time, a business advisor has been engaged, Reshape Strategies, a Vancouver-based firm that was instrumental in the renewable natural gas project. Also, an RFP for an owner's engineer/technical advisor was issued and GHD was selected to fill this role. The RFP for the design-build-operation of the demonstration facility is under development and is scheduled to be issued to the six proponents in mid-July. The CRD has a standard RFP document and contract for services that is being customized for this procurement due to the unique nature of the project. Work is advancing on the technical specifications, as well as the general conditions that will form the main elements of the RFP.

Primary considerations in this RFP for the demonstration plant include the following:

- The trial period will be for 15 months, as this is the maximum trial duration allowed under a provincial approval pursuant to the Environmental Management Act.
- The technologies that will be accepted as an advanced thermal process include gasification, pyrolysis and any variations thereof, but will not include incineration.
- The intent is that this trial will be a Design Build Operate Maintain project.
- The RFP will provide the proponents with several options on payment for the equipment, including a straight purchase or a lease for the duration of the trial period.
- The capacity required will be based on a minimum of 2.5 tonnes per day (tpd) but will allow for any larger amount up to 10 tpd based on the proponent's standard available model.
- Proponents can optionally propose one or more secondary streams of solid waste to be processed as part of the demonstration plant trial.
- The RFP period will be conducted concurrently with the first stage of regulatory authorization to expedite project delivery.

IMPLICATIONS

Climate Implications

Operational greenhouse gas (GHG) emissions will be one of the evaluation criteria included within the Request for Proposals. During the pilot period, the pilot will evaluate end uses for the

byproducts, which are expected to include biochar, syngas and a bio-oil. As part of this evaluation, an analysis of the GHG sequestration potential and value of carbon credits that could result from biochar will be included.

Financial Implications

Following the RFEOI process, the Board approved pursuing an advanced thermal demonstration plant project, with a preliminary estimate of \$10M, including all soft costs, which is based on preliminary costs provided by several respondents. There are no indications that this will be insufficient at this time.

Submissions will be evaluated on the costs of both the pilot project, including any salvage value remaining at the end of the pilot period, along with the (indicative) levelized cost of a permanent plant over an assumed 15-year life span. Because of the lengthy regulatory process required for permitting of a permanent plant after a (successful) pilot period, staff are not yet certain if it will be possible to reuse equipment from the trial period.

Intergovernmental/Regulatory Implications

Staff and the technical advisor have identified several regulatory permitting requirements that are required for this project. First is obtaining authorization for air discharges under the Environmental Management Act. Staff have initiated the first of this two-stage process and anticipate an approximate 4-6-month timeline for completing the pre-application stage. Following pre-application, staff, the selected proponent, and the CRD's technical advisor will compile and submit a detailed application for provincial review and approval, which staff anticipate will take an additional 18-22 months. If the pilot project is successful, this process will need to be repeated for a full commercial-scale facility.

In addition to the above, the CRD may require several permits for completing a development project from the District of Saanich, as well as permits from Technical Safety and WorkSafe BC. However, until the project details are established through the RFP process, these specific requirements cannot be determined.

Service Delivery Implications

The project schedule calls for issuing the RFP by mid-July and staff are currently on schedule to meet that date. The schedule originally allowed for the RFP to be open for five weeks but the CRD's business advisor has recommended allowing eight weeks, plus potential for up to four additional weeks, if extensions are requested. The reasoning is that a shorter timeline may result in some proponents choosing to not submit a proposal, particularly as this period of time occurs during the summer vacation season. Staff feel it is prudent to follow this recommendation to ensure all six proponents have ample opportunity to respond with a bona fide proposal. With the longer initial RFP open period and potential extensions, it is anticipated that the results of the RFP and staff recommendation will be presented to the ESC at the October 16 meeting. The RFP period will therefore be taking place concurrently with the first stage of regulatory authorization to expedite the overall project delivery.

The Fall staff report will establish an overall project schedule based on the input of the preferred proponent and the response from the Province.

CONCLUSION

At the direction of the CRD Board, staff issued a Request for Expressions of Interest for a Biosolids Advanced Thermal Demonstration Plant and a subsequent Request for Proposals is being developed to be issued to the six shortlisted proponents. The RFP will be issued in mid-July and the project is deemed to be on budget at this time. The pre-application has been submitted to the province and a response is expected in the Fall, at which time an updated project schedule will be presented to the Environmental Services Committee.

RECOMMENDATION

There is no recommendation. This report is for information only.

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