

## IMPACT STATEMENT

189431

**Legislation title:** Authorize contract amendment with HDR Engineering, Inc. for additional construction and start up support services for the Columbia Boulevard Wastewater Treatment Plant (CBWTP) Renewable Natural Gas Facility, BES Project E10033. (Ordinance; amend Contract No. 30003218)

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**Presenter name:** Paul Suto/Vu Han

### **Purpose of proposed legislation and background information:**

The Bureau of Environmental Services (BES) owns and operates the Columbia Boulevard Wastewater Treatment Plant (CBWTP), which treats an average of 28 billion gallons annually of wastewater in accordance with State of Oregon Department of Environmental Quality (DEQ) issued National Pollutant Discharge Elimination System (NPDES) permit requirements.

Currently, the CBWTP produces approximately 600 million cubic feet annually of digester gas, or biogas, from its anaerobic digestion process. Approximately 20% of the biogas is used onsite for digester and building heating boilers, 20% is sold to a nearby industrial user, and 40% is used for the cogeneration process (power generation and heat recovery). The remaining 20% is flared through a waste gas burner onsite.

In 2013, HDR Engineering, Inc. was retained, through a selection process, to provide predesign engineering services to identify and assess alternatives for beneficial use of the remaining biogas, and to recommend an alternative for the most beneficial use. Ordinance No. 185872 authorized HDR to proceed with the predesign phase, in the amount of \$298,600, and asked that BES report back to the City Council on the findings and recommendations at the conclusion of the predesign phase. The predesign phase was complete and an alternative, to reuse biogas for vehicle fuel, was the recommended alternative.

The recommended alternative, treating and utilizing biogas for vehicle fuel, was determined the most beneficial from various aspects, including financial, social and environmental aspects.

In 2015, the City Council authorized Ordinance No. 187022, which authorized HDR to further develop the gas treatment for vehicle fuel alternative, and proceed with final design and construction support services, in the amount of \$995,410, for total contract amount of \$1,294,010. The level of confidence rating for this project at the time was Moderate.

During the final design, it was further refined that treated biogas for vehicle fuel be best produced as Renewable Natural Gas (RNG) and transported via the gas utility pipeline network. Furthermore, it was determined that the RNG production capacity be increased to match the current total biogas production at the CBWTP (rather than capacity for only the excess biogas being flared). The increase in design capacity (from 400 standard cubic feet per minute for primarily the flared volume, to 1,100 standard cubic feet per minute) will help BES address the fluctuation issues in the biogas production process, and provide more flexibility to prioritize and distribute the biogas to the highest value and maximize revenue.

This project is unique and is also one of the first RNG projects for a wastewater facility in the country. For those reasons, extra effort on permitting and reviewing of equipment submittals during construction phase, coupled with the increase in the system capacity, will require additional

construction and start up support services by HDR, for the completion and operation of the RNG facility, which is scheduled for Fall 2019.

This council item is to obtain the City Council approval to authorize a contract amendment for HDR Engineering, Inc. for the needed additional construction and start up support services.

The established cost for contract amendment is \$222,800, for total revised contract amount of \$1,516,810. Funds are available in the Sewer System Operating Fund, FY 19-20 Budget, Bureau of Environmental Services, Cost Center, WBS E10033.

The traditional contract structure typically includes a contract for full project delivery from predesign through construction. However, the Bureau and the Commissioner's Office wanted to set up the contract in such arrangement at the time, due to the unknown and uncertainty in the scope of this project as many biogas utilization options were considered. This contract was originally set up in two phases, with one ordinance for the predesign phase and a separate ordinance, with a contract amendment, for final design and construction support phase. As such, all subsequent contract amendments require an approved Ordinance by City Council. This increase is approximately 17% above the total contract amounts approved to date.

This will be the fourth amendment to the contract. The listing of the amendments is shown below.

Contract Amount	\$298,600	Predesign Phase
Amendment No. 1	\$0	Add an ESB Firm to Subconsultant List
Amendment No. 2	\$995,410	Final Design, Bidding, Construction Services
Amendment No. 3	\$0	Time Extension Only
Amendment No. 4	<u>\$222,800</u>	
Revised Contract Amount	\$1,516,810	

#### **Financial and budgetary impacts:**

The current approved budget for project E10033 is \$13,599,341. The requested contract amendment, in the amount of \$222,800, is within the project approved budget. With the completion of the project anticipated for Fall of this year (2019), the level of confidence for the requested contract amendment amount is high.

This is a revenue generating project. When the RNG Facility is complete and operational in 2020, it is expected to generate revenue in the range of \$3 million to \$10 million a year. The expected simple payback for the project is within 4 to 8 years.

Interconnection agreement with NW Natural for transporting RNG has been signed, an agreement for off-taking RNG with Clean Energy Renewable Fuels (CERF) is being finalized.

In a separate funding, BES in partnership with NW Natural, has built and operated a Compressed Natural Gas (CNG) on at the CBWTP, with operating CNG vehicles. When RNG facility is complete and operational, RNG will be supplied to the CNG fueling station to offset natural gas, which will further the fuel savings.

#### **Community impacts and community involvement:**

This Council item will lead to completion of the RNG production facility at the CBWTP. This work is not likely to negatively impact neighbors or the broader community.

BES staff has developed and continue to maintain a relationship with North Portland businesses and residents through the CBWTP's longstanding Citizen's Advisory Committee. BES also drafts and mails an annual newsletter to North Portland neighbors, which provides construction and operational updates to residents. BES public involvement staff frequently provide updates on projects to neighborhood and business associations in North Portland, including the Kenton and Portsmouth Neighborhood Associations. Frequently, neighbors and business owners are interested in the biogas uses at the plant.

Throughout the project, BES public involvement staff has provided updates to neighbors and stakeholders in the area to provide information and solicit comments related to this project. To the extent practicable, BES staff has incorporated public feedback into project development and project communications.

BES primary contact for this public involvement process is Debbie Caselton, Community Outreach and Information Representative, 503-823-2831, [Debbie.Caselton@portlandoregon.gov](mailto:Debbie.Caselton@portlandoregon.gov).

This is a high profile renewable energy project, and hence, it is closely monitored by the Citizens Utility Board (CUB) and the Public Utility Board (PUB).

When the project is complete later in the year, it will have been one of the first wastewater treatment facilities in the country to produce RNG for pipeline injection for vehicle fuel, as well as direct use for CNG vehicles for City Fleet. There has been many inquiries and interests in the project from the industry, professional associations, the media, as well as the general public. BES has created an RNG website to project information and updates. The BES information officer for the RNG project webpage and media relations is Diane Dulken, 503-823-5328, [diane.dulken@portlandoregon.gov](mailto:diane.dulken@portlandoregon.gov).

### **100% Renewable Goal:**

The completion of the project will result in 100% beneficial use of the biogas produced at the CBWTP. It is well aligned with the City's renewable goals and Climate Action Plan. The project will provide significant benefits in reducing greenhouse gas (ghg) emission by displacing the traditional petroleum fuels, and addition to generating revenue to the BES and its ratepayers.

### **Budgetary Impact Worksheet**

#### **Does this action change appropriations?**

- ☐ **YES:** Please complete the information below.  
☐ **NO:** Skip this section

<b>Fund</b>	<b>Fund Center</b>	<b>Commitment Item</b>	<b>Functional Area</b>	<b>Funded Program</b>	<b>Grant</b>	<b>Sponsored Program</b>	<b>Amount</b>