

STAFF REPORT

IN CONSIDERATION OF ORDINANCE NO. 17-1393 FOR THE PURPOSE OF APPROVING A SOLID WASTE FACILITY FRANCHISE APPLICATION AND AUTHORIZING THE CHIEF OPERATING OFFICER TO ISSUE A NEW FRANCHISE TO SORT BIOENERGY,LLC, TO OPERATE AN ANAEROBIC DIGESTION AND ENERGY RECOVERY FACILITY IN WILSONVILLE, OREGON.

February 16, 2017

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EXECUTIVE SUMMARY

Adoption of Ordinance No. 17-1393 will authorize the Chief Operating Officer (COO) to issue a new solid waste facility franchise to SORT Bioenergy, LLC (SORT) to operate an anaerobic digestion and energy recovery facility to be co-located with Willamette Resources, Inc., at 10295 SW Ridder Road in Wilsonville, Oregon (Metro Council District 3).

BACKGROUND

Overview

On September 6, 2016, in accordance with Metro Code Section 5.01.170¹, SORT submitted an application to Metro seeking a solid waste facility franchise to construct and operate an anaerobic digestion and energy recovery facility that will process commercial food waste into biogas for the production of renewable energy and transportation fuel. The facility will be known as SORT Bioenergy (Sustainable Organics Recycling Technology). A franchise is needed because the facility seeks to accept and process putrescible waste (i.e. food waste). Anaerobic digestion is a type of conversion technology that relies on a controlled and enclosed biological process that breaks down organic matter in the absence of oxygen and can produce biogas for energy production.



Site of proposed facility at 10295 SW Ridder Road in Wilsonville

¹ All Metro Code Chapter 5.01 citations in this staff report reference those adopted by Metro Council through Ordinance No. 16-1386 on November 10, 2016. The new Code citations became effective on February 8, 2017.

The applicant proposes to construct the facility at a site co-located with Willamette Resources, Inc. (WRI), a Metro-authorized solid waste transfer station located at 10295 SW Ridder Road in Wilsonville. WRI is a wholly owned subsidiary of Republic Services (Republic), which is headquartered in Phoenix, Arizona. SORT proposes to construct the facility on a 3.5 acre parcel that will be leased from WRI. SORT will own and operate the proposed facility which will also have cross access and operating agreements with WRI.

The land upon which the facility is to be sited is zoned as a Planned Development Industrial – Regionally Significant Industrial Area (PDI-RSIA) and the proposed use is conditionally allowed. The city of Wilsonville annexed this parcel into the city boundary on June 20, 2016. The applicant provided a copy of a Land Use Compatibility Statement (LUCS) signed by the city of Wilsonville. According to the LUCS, the proposed anaerobic digestion facility qualifies as a composting operation under Oregon Revised Statutes 277.600 and all notification requirements have been met.²

According to the applicant, all commercial food waste received at the facility will be accepted and assessed a fee at WRI’s scale house and then directed to the proposed facility. Billing and tracking of loads will be the responsibility of WRI. Once the food waste is directed to the facility, SORT will manage all processing and reporting of operations. The proposed facility is expected to have processing capacity for 65,000 tons of commercial food waste per year. If the capacity is unmet, the applicant proposes to supplement the operation with fats, oils, grease (FOG) and other liquids associated with food processing. The facility will not accept septage and all liquid waste entering the facility will require certification that demonstrates the material characteristics.

The primary product of the proposed facility will be methane-rich gas (biogas) that will be used as fuel in two on-site internal combustion engines. The engines will convert the biogas into mechanical energy which will be converted into electricity. The applicant plans to generate about 2.4 megawatts of electricity continuously (equivalent to 21,000 megawatts annually); equivalent to meeting the annual power demand of about 1,900 homes. As additional byproducts, the facility will produce post-digestion separated liquids and solids also known as digestates. These by-products may be used for agricultural purposes such as composting or land application. Once in operation, the facility is expected to employ ten people (further details about the proposed operation are provided in the Proposed Facility Systems section of this report).

THE PROPOSED FACILITY SYSTEMS

The following information provides background about the SORT Bioenergy anaerobic digestion facility systems, as described in the franchise application submitted to Metro.

Overview

SORT proposes to construct and operate a food waste recovery facility for processing source-separated food waste generated from local government-managed commercial sector waste collection programs. In addition, SORT will selectively process difficult to manage semi-solid and liquid food waste such as

² ORS 277.600 requires cities and counties to hold a pre-application conference before an applicant can submit an application for land use approval. Also, after the conference, the applicant must hold a community meeting prior to submitting an application for land use approval. Both actions took place in 2015.

production. SORT has identified seasonal re-use applications and will seek to develop opportunities for off-season storage. In the event that off-season storage is not economical, SORT has incorporated the ability to pre-treat and discharge the liquids to the city of Wilsonville's publicly owned treatment works (POTW) located about five miles away from the facility. The applicant estimates that byproducts will consist of about 15,000 tons of post-digestion solids and up to 50,000 tons of post-digestion liquids annually.

Vehicles hauling food waste will enter the facility through WRI's existing entrance and use that facility's scale for transactions. Vehicles will then be directed to SORT's enclosed receiving building. Prior to emptying, vehicles will be visually inspected and once they pass inspection, contents may be tipped on the floor of the building for a second visual inspection of the waste. The applicant estimates that about 17 commercial vehicles will be directed to SORT daily. Loads containing more than 25 percent of contamination will be isolated and the material moved to WRI for disposal. Loads that are rejected due to contamination will be photo documented and charged the wet waste rate plus a special handling fee. WRI will assist in timely notification of reject loads to the generator.

SORT will accept food waste including food packaging. When food and packaging is received, the material will be shredded and conveyed to packaging removal equipment to capture the food component for processing into a "clean" slurry. All material will be processed from the tipping floor on the day it is received; there will be no storage of material on the tipping floor over night. The clean slurry will be pumped into a pre-digestion holding tank that will provide a continuous feeding to the facility's two anaerobic digesters. Both digesters will be continuous flow stirred tank reactors and will maintain the slurry at a mesophylic temperature regime of 98 degrees Fahrenheit for 18 – 22 days. Biogas generated during this time collects in the headspace of the digesters and continuously conveyed to a low-pressure storage sphere that equilibrates delivery for energy use.

The processed slurry material will be continuously pumped from the digesters. The material will be stored in a post-digestion tank before being dewatered through on-site centrifuges inside the operations building. The resulting solid digestate will be used for agricultural purposes (i.e. composted or used as fertilizer). Waste water (liquid digestate) will be directed to beneficial re-use as land application for fertilizer. The land application of the liquid would be managed by Agri-Tech, a wholly owned subsidiary of Republic that specializes in land application of liquids for agricultural purposes. In the event that year-round beneficial re-use is not feasible, the facility will pre-treat the liquids on-site and discharge to the local POTW. The pretreatment system would operate in accordance with an Industrial Pretreatment Permit to be issued by the city of Wilsonville.

SORT's proposed primary use of the biogas generated during anaerobic digestion is fuel to generate renewable electricity. Two internal combustion engines at the facility will convert the biogas to mechanical energy that will generate electricity. The operator has already entered into an agreement with Portland General Electric to purchase the electricity generated at SORT. The engines will operate under the authority of a DEQ-issued Air Contaminant Discharge Permit.⁴ Heat is also a byproduct of the engines and will be used to maintain a constant temperature of the slurry and heat the facility.

Another proposed use of the biogas would be to upgrade the gas for use as transportation fuel. WRI

⁴ DEQ Air Contaminant Discharge Permit No. 34-0179-ST-01 issued on December 30, 2016.

maintains an on-site CNG filling station for its fleet vehicles. Upgraded biogas could be directed to the filling station for use as transportation fuel.



Site of compressed natural gas filling station at WRI.

Odor Control

In its required compost risk screening application evaluation, DEQ determined that the facility's operation poses a risk for odors due to the nature and amount of feedstocks the facility proposes to accept.⁵ In the operations plan submitted to Metro as part of the application, the applicant detailed the odor control methods the facility will employ. All food waste delivered to SORT will be tipped in a fully enclosed receiving building with an air handling system that will maintain a negative pressure environment. Fast acting receiving bay doors will open and close for deliveries. Loads will be tipped at the far end of the building away from the bay doors. Air ducting will be focused over the tipping floor to prevent the escape of odorous compounds during deliveries. All food waste will be processed on the day that it is received and placed in enclosed containers. The tipping floor will be washed down at the end of each work day.

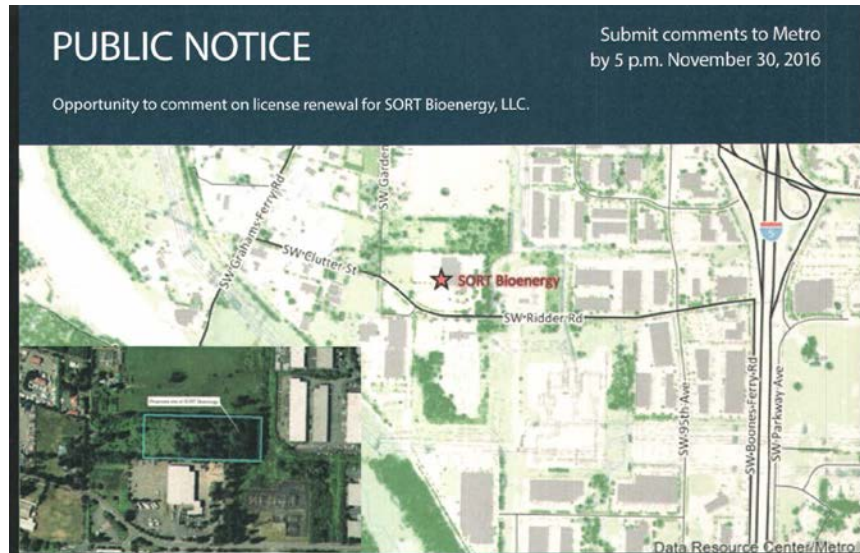
Air drawn from the receiving building will be vacuumed through duct work and discharged into a bio-filter for the removal of odorous compounds. The bio-filter medium will be a sand/soil blend containing microorganisms that consume odorous gas molecules. The operations plan indicates that the provider of the bio-filter technology has provided bio-filter installations for several waste water treatment facilities in and near the Metro region. The facility operator will measure the operation of the bio-filter on a daily basis using a handheld gas analyzer around the boundary of the site. The results of the monitoring will be made available to regulatory agencies including Metro.

The proposed franchise includes provisions to minimize the generation of odors on site including a requirement for the facility to establish an odor control plan and procedures for responding to odor complaints. Additionally the facility will be routinely monitored for compliance by Metro and DEQ inspection staff. The facility must also comply with the city of Wilsonville's odor ordinance.

⁵ Although SORT will not operate as a composting facility, anaerobic digestion facilities are subject to the same risk screening evaluation by DEQ under Oregon Administrative Rules (OAR) 340-096-0001 and 0080.

ANALYSIS / INFORMATION

Public Notice and Opportunity to Comment



Public notice and opportunity to comment cards were sent to nearby residents and businesses

On October 26, 2016, Metro issued notice of the proposed franchise application and provided the public with an opportunity to submit comments. Public notice was mailed to 28 residences and businesses within 1/3 of a mile of the facility, posted on the Metro web site, and e-mailed to a list of industry and government stakeholders, and members of the public that have expressed a general interest in solid waste issues in the Metro region. The public comment period ended on November 30, 2016. There were no comments in response to the public notice.

During Metro's public comment period, DEQ held a public information meeting and hearing in Wilsonville on November 17, 2016, to provide information and solicit comments on the proposed facility and its DEQ permits. Metro staff attended the hearing to provide information and to accept comments on the franchise application. Eleven people signed the attendance sheet for the hearing. There were no formal comments submitted at the hearing.

Known Opposition

There is no known opposition to the proposed franchise.

Legal Antecedents

1. Metro Code Chapter 5.01, entitled "Solid Waste Facility Regulation." Specifically:
 - A. Section 5.01.150 states that a solid waste facility franchise is required for the processing of putrescible waste and operating an energy recovery facility.
 - B. Section 5.01.160 requires that a prospective applicant for a franchise participate in a pre-application conference within one year before filing an application.

The applicant attended a pre-application conference with Metro on July 7, 2016, and subsequently filed a complete franchise application on September 6, 2016.

- C. Section 5.01.170 requires that a franchise application be filed in a format prescribed by Metro and include a description of the proposed activities and waste to be accepted at the proposed facility.

The applicant filed its application using a standard Metro form and submitted the required application fee of \$500 on September 6, 2016. The application included an adequate description of the types of activities and waste to be accepted at the facility.

- D. Section 5.01.170(c) requires that a franchise application must include the following information:

- (1) Proof that the applicant can obtain the types of insurance specified by the Chief Operating Officer during the term of the franchise.

The applicant will be required to submit proof of insurance once the facility is constructed and prior to commencing operation.

- (2) A duplicate copy of all applications for necessary DEQ permits and any other information required by or submitted to DEQ.

The applicant submitted a duplicate copy of its DEQ Solid Waste Disposal Site and Air Contaminant Discharge Permit applications.

- (3) A duplicate copy of any closure plan required to be submitted to DEQ, or if DEQ does not require a closure plan, a closure document describing closure protocol for the solid waste facility at any point in its active life.

The DEQ does not require that the facility submit a closure plan. The applicant included a closure plan with its Metro franchise application.

- (4) A duplicate copy of any documents required to be submitted to DEQ demonstrating financial assurance for the costs of closure.

The DEQ does not require proof of financial assurance for this facility.

- (5) Signed consent by the owner(s) of the property to the proposed use of the property.

The applicant submitted a signed property use consent form with the application.

- (6) Proof that the applicant has received proper land use approval.

The applicant provided proof of land use approval in the form of a LUCS signed by the city of Wilsonville on June 20, 2016.

- (7) Identify any other known or anticipated permits required.

In addition to the proposed franchise, the applicant states it must obtain the following permits to construct and operate the facility:

- DEQ Solid Waste Disposal Site Permit No. 1573 issued on December 5, 2016
- DEQ Air Contaminant Discharge Permit No. 34-0179-ST-01 issued on December 30, 2016
- DEQ Stormwater General Permit 1200-Z
- DEQ Stormwater Construction Permit 1200-C
- City of Wilsonville Industrial Discharge Pre-Treatment Permit

- E. Section 5.01.180(f) states that the Metro Council must consider the following factors when determining whether to authorize a franchise.

- (1) Whether the applicant has demonstrated that the proposed solid waste facility and authorized activities will be consistent with the Regional Solid Waste Management Plan (RSWMP);

Staff finds that the proposed activity is consistent with the regional values and policies outlined in the RSWMP.⁶ Specifically, Chapter III of the RSWMP, entitled “Future Direction and Regional Policies,” establishes the long-term vision, values, and policies that provide direction for the region’s solid waste management system. The applicant’s proposed activity is consistent with the regional values outlined in that chapter in that the proposal seeks to reduce the amount of solid waste generated in the Metro region and divert it to energy recovery. Chapter IV of RSWMP, entitled “Program Areas,” emphasizes program goals to implement a collection and processing system to enhance recovery of commercial food waste by targeting large generators such as grocery stores, institutional cafeterias and food processors. Additionally, to meet the requirements of Oregon Administrative Rules 340-93-070 (4)(b) for its DEQ Solid Waste Disposal Site Permit application, the applicant obtained a written statement from Metro that the proposed facility is compatible with RSWMP.⁷ In fact, management of commercial food waste in this manner is a primary goal of Metro Council based on direction provided at its October 25, 2016 work session.

- (2) The effect that granting a franchise to the applicant will have on the cost of the solid waste disposal and recycling services for the citizens of the region;

⁶ Regional Solid Waste Management Plan 2008-2018 Update

⁷ Solid Waste Disposal Site Compatibility with Solid Waste Management Plan signed June 28, 2016.

The effect is undetermined at this time. Approval of the proposed franchise would not immediately result in the construction of the facility. The applicant has indicated that it is unlikely the facility would be constructed unless it is awarded a supply contract through the competitive procurement process that Metro will conduct later in 2017. However, the applicant has indicated it will evaluate its situation once the RFP decision is finalized. Metro will determine cost impacts on services through that process and through a related determination of how to most effectively transfer commercial food waste to a processing facility (or facilities) that is awarded the contract(s) (further details about the competitive procurement process are provided in the Anticipated Effects section of this report).

- (3) Whether granting a franchise to the applicant is likely to adversely affect the health, safety, and welfare of Metro's residents in an unreasonable manner;

WRI has been operating a transfer station on the property since 1998. In that time WRI has operated at the site without significant impact to nearby neighborhoods or business, and the SORT facility is not expected to adversely affect health, safety, or welfare of nearby residents or businesses as it will have additional odor control measures and all processes will take place in enclosed vessels.

- (4) Whether granting a franchise is likely to adversely affect nearby residents, property owners or the existing character or expected future development of the surrounding neighborhood in an unreasonable manner;

As discussed above in subsection E(3) above, WRI has been operating a solid waste transfer station at the site since 1998 and has a good operating record at the site. SORT proposes to construct and operate an enclosed anaerobic digester for energy recovery adjacent to the transfer station which is consistent with current activities at the site location.

- (5) Whether the applicant has demonstrated the strong likelihood that it will comply with all the requirements and standards of this chapter, the administrative rules and performance standards adopted pursuant to Section 5.01.280 and other applicable local, state and federal laws, rules, regulations, ordinances, orders, or permits pertaining in any manner to the proposed franchise.

Since WRI has operated at the site since 1998 without significant impact to nearby neighborhoods or business, the proposed anaerobic digester at the site is not expected to adversely affect health, safety, or welfare of nearby residents or businesses. In addition, neither DEQ nor the city of Wilsonville have reported any code, environmental, or nuisance violations at the site. Based on the WRI's good compliance record, staff anticipates that the applicant will also remain in compliance with requirements and standards of the proposed franchise.

Anticipated Effects

Adoption of Ordinance No. 17-1393 will authorize a new, five-year solid waste facility franchise for SORT to operate an anaerobic digestion and energy recovery facility with an annual maximum tonnage authorization of 65,000 tons of food waste. If the proposed ordinance is adopted, the franchise will become effective on July 1, 2017. The construction of the proposed facility is not expected to commence before that date.

Metro intends to issue a request for proposals (RFP) in April 2017 to secure stable, proximate food waste processing capacity for the region. Republic pre-qualified as a potential service provider during an earlier request for qualifications.⁸ In its proposal, Republic indicated that SORT would serve as its operator. If Republic is not selected as a service provider by Metro, Republic and SORT have indicated they may re-evaluate whether the proposed facility continues to be viable. Franchise approval does not guarantee that Republic will be selected as a service provider.

Budget and Rate Impacts

If the proposed franchise is approved, SORT is unlikely to have an immediate impact to Metro's budget or transfer station rates. SORT has not yet constructed the anaerobic digestion facility. As discussed above, Republic and SORT have indicated that the proposed facility may be reevaluated if Republic is not selected as a service provider as a result of the RFP. Additionally, SORT's operation will likely coincide with other solid waste policy decisions that may further affect the collection and diversion of commercial food waste and putrescible waste tonnage at both public and private transfer stations. Such direction may result in changes to some of Metro's solid waste fiscal policies and rates at its transfer stations.

Should SORT begin operations it could have an effect on Metro tip fees, transaction fees and disposal costs. For instance, Metro would likely divert the 15,000 tons of commercial food waste that it currently receives directly to SORT. An additional 20,000-30,000 tons of food waste could be diverted if it were to be separated from the current general municipal waste stream. This additional tonnage would be sourced from both Metro's transfer stations and privately-owned transfer stations. Any diverted tonnage from Metro transfer stations will have some commensurate effect on the tip fee, transaction fee, and disposal costs. Under current rate policy, the separation of commercial food waste from the general solid waste stream would result in a slight increase in the per ton rate. Overall, Community Enhancement Fund revenue would be unaffected in the region but would shift from one jurisdiction/fund to another as the waste shifts to different facilities.

Metro's Disposal Cost

Because the proposed facility does not yet receive any waste that would otherwise be disposed of at a landfill, there is no immediate impact on disposal costs.

⁸ In early 2016, Metro issued a Request for Qualifications (RFQ) to qualify firms and technologies that would be eligible to propose in a scheduled future procurement to process up to 50,000 tons of the region's commercial food waste. Thirteen firms submitted qualifications; nine firms were deemed qualified. Metro is now preparing to issue a Request for Proposals (RFP) to procure long-term, proximate processing capacity for the region's commercial food waste. The RFP, applications, evaluation, and selection are likely to be completed by late 2017.

Community Enhancement Fund Revenue

All commercial food waste received at the proposed facility will be subject to a \$1.00 per ton community enhancement fee. The funds collected will be remitted to Metro. In turn, Metro will remit these fees to the already established Wilsonville Community Enhancement Program (Wilsonville CEP). The Wilsonville CEP operates under an intergovernmental agreement with Metro to provide support to the local host community of Wilsonville as determined by the local committee. The funds collected at SORT would serve to increase the funds available to the committee on an annual basis of up to an additional \$65,000 per year. In fiscal year 2016, the Wilsonville CEP received about \$86,600.

RECOMMENDED ACTION:

Based on the information and analysis provided in this report, the COO recommends that the Metro Council adopt Ordinance No. 17-1393 and issue a new five-year franchise to SORT as attached to this ordinance as Exhibit A which becomes effective on June 1, 2017 until December 31, 2021.