



Metro Solid Waste Regulatory Guidance Bulletin

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Solid Waste Reloading and Processing Facilities Accepting Food Waste from the Metro Region

(Applicable to Both In-Region and Out-of-Region Facilities)

Metro's solid waste regulatory system supports the region's sustainability and waste reduction goals by ensuring that waste generated in the Metro region is delivered to appropriate, safe, and well-operated reloading and processing facilities. Metro routinely coordinates and consults with local governments and the Oregon Department of Environmental Quality (DEQ) about facilities, whether they are located inside or outside the region.

I. Introduction

This Metro regulatory guidance bulletin has been developed to provide solid waste facility owners and operators an overview of the considerations that will guide Metro's regulatory decisions about food waste reloading and processing facilities that seek to accept food waste from the Metro region. Facilities intending to reload or process food waste, including composting, anaerobic digestion and reloading facilities must obtain Metro approval and comply with the requirements in the Metro Code, including but not limited to:

- 1) Provide proof that the applicant has received local land use approval;
- 2) Demonstrate that the food waste will be responsibly and safely managed;
- 3) Minimize the creation of negative impacts on adjacent communities and businesses; and
- 4) Ensure that the end-product is safe and marketable.

The most common feedstocks used for producing compost in the Metro region are yard debris and wood waste. However, a number of composting facilities in Oregon are now obtaining DEQ permits to accept all types of food waste, including meat and dairy products. This bulletin addresses two general categories of food waste that are shaping Metro's regulatory decisions about food waste reloading and processing, and are important to achieving the region's solid waste recovery goals: **commercial food waste** and **residential food waste mixed with yard debris**.

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These two categories are described below:

“Commercial food waste”: refers to source-separated, pre-and post-consumer food waste, including meat and dairy products and waxed cardboard packaging that are typically generated in restaurants, cafeterias, grocery stores, produce warehouses, and food processing or packaging plants.

“Residential food waste mixed with yard debris”: refers to source-separated, post-consumer food waste, including vegetative food waste and meat and dairy products that are generated by residences and mixed with residential yard debris in roll-cart containers. The region is starting to see residential recycling programs that promote the co-collection of food waste with yard debris in the same container. For example, the City of Portland is currently implementing a phased approach to rolling out such a program city-wide. However, once residential yard debris is mixed with food waste it is regarded by Metro to be food waste and not yard debris.

To ensure that malodors and other nuisance impacts associated with deliveries of decomposing food wastes do not become problems for nearby homes and businesses, a facility that accepts food waste will be required to meet more stringent odor control standards than a facility accepting only yard debris. Existing yard debris reloading and composting facilities will need to obtain the necessary additional authorizations from Metro to accept residential food waste mixed with yard debris or commercial food waste.

II. Metro’s Regulatory Approval Process

Facilities must receive Metro authorization before accepting food waste generated in the Metro region. Applications for such authorization require that the facility submit detailed design and operation plans.

In-region reloading or processing facility (located inside the Metro boundary)

In order to operate inside the Metro region, a food waste reload or processing facility must submit an application to Metro in order to obtain a Metro solid waste facility **License** or **Franchise**. An existing Metro licensed yard debris reload or yard debris composting facility must apply for and receive Metro authorization prior to accepting any food waste – even if it is comingled with yard debris. Metro Code Chapter 5.01 governs solid waste facility regulation and describes the application process and regulatory requirements.

Out-of-region reloading or processing facility (located outside the Metro boundary)

A processing facility located outside the Metro region that seeks to accept food waste generated from inside the Metro region on an ongoing basis may wish to seek approval to become a **Designated Facility** by the Metro Council. Upon approval, the facility would then enter into an agreement with Metro called a **Designated Facility Agreement (DFA)**. The DFA authorizes the facility to receive and process source-separated food waste from the Metro region under specific terms and

conditions that address facility design standards, operating conditions and reporting obligations.

A hauler (transporter), generator, reloading facility, or transfer facility that seeks to deliver food waste from the Metro region directly to an out-of-region facility that has not obtained a Metro DFA, must apply for and obtain a **Non-System License** (NSL). An NSL may be granted by the Metro Council for up to two years. Metro Code Chapter 5.05 governs solid waste that leaves the Metro region and describes requirements for obtaining an NSL or a DFA.

An application for a Franchise, Designated Facility Agreement, or a Non-System License is subject to Metro Council approval. The Metro Chief Operating Officer approves Licenses to operate food waste reloads that do not conduct food waste processing activities. The Metro application process requires that any facility seeking to accept Metro-area food waste must participate in a pre-application meeting with Metro and submit an application in accordance with the applicable Metro Code requirements. These requirements include proof of local land use approval and compliance with permitting requirements of the DEQ (or its out-of-state equivalent).

III. General Performance Goals

The following performance goals describe Metro's general expectations for any food waste processing and reload facility. These goals are similar to those adopted by Metro for all material recovery facilities. Each of the goals listed below must be addressed as part of the application process for both in-region and out-of-region facilities, including applications for NSLs:

- 1) *Environment.* Facilities must be designed and operated to preclude the creation of undue threats to the environment including but not limited to, stormwater or groundwater contamination, air pollution, and improper acceptance and management of hazardous waste and other prohibited waste.
- 2) *Health and safety.* Facilities must be designed and operated to preclude the creation of conditions that may degrade public health and safety, including but not limited to, fires, vectors, pathogens and airborne debris.
- 3) *Nuisances.* Facilities must be designed and operated to preclude the creation of nuisance conditions, including but not limited to, litter, dust, malodors and noise.
- 4) *Processing.* Facilities processing food waste must be designed and operated to assure that the food waste is processed in a timely manner and the end-products are safe and marketable.
- 5) *Reloading.* Facilities conducting food waste reloading shall be designed and operated to assure that the reloading and transfer of food waste to a Metro authorized processing facility is conducted rapidly and in a manner that precludes the creation of off-site odor or nuisance impacts.

- 6) *Record keeping.* Facilities shall keep and maintain complete and accurate records of the amount of all solid waste and recyclable materials that are received, recycled, reloaded, processed and disposed. This information must be submitted to Metro on a monthly basis.

IV. General Operating Guidelines

The following operating guidelines clarify some of Metro's key expectations regarding odor management practices at food waste processing and reloading facilities. In particular, the following facility design and operating concerns must be addressed as part of the application process for both in-region and out-of-region facilities, including applications for NSLs:

Food Waste Processing Facilities

- A. *Feedstock intake building required.* Food waste, especially large volumes of commercial food waste, has the potential to create malodor releases at the feedstock intake and preparation area where the food wastes are initially delivered and mixed with other feedstocks (e.g., yard debris, compost overs, wood chips) to prepare an optimum blend for composting.

Feedstock preparation or processing might include the following types of activities:

- Removing contaminants (includes opening and removing bags).
- Feedstock grinding and blending to set optimum particle size, porosity, and carbon to nitrogen ratio.
- Blending and mixing the feedstocks with compost overs, finished compost or other additives to control odors or improve biological activation.

The feedstock intake and preparation activities must be conducted inside a roofed structure, enclosed on at least three sides with the ability to effectively enclose the fourth side to contain malodors. Further, the building must have an effective negative air circulation system that can be routed to an effective biofilter, or an alternative method for preventing odors from being released from the building. Alternatives to this management method may be considered on a case-by-case basis and would depend on the details of the specific proposal.

- B. *Alternative management methods for a feedstock intake building.* The suitability of a proposed alternative management method will be evaluated based on: 1) the processing site location (urban or rural and proximity of residences and businesses to the facility), 2) the volume, type and condition of food waste feedstocks, 3) the on-site processing and odor control methods, and 4) the record of the facility (or owner/operator) in effectively managing feedstocks and malodors. For example, if the processing site is located in a relatively isolated rural area and the odor control and processing methods are proven to be highly effective – then an on-site intake and mixing building may not be required by Metro. However, the intake building may be a necessary feature that will be required by

Metro if the facility cannot control odors associated with intake and feedstock preparation.

Examples of two alternative management options are outlined below.

Option 1 - No intake building at processing facility. Food waste deliveries and food waste feedstock preparation activities are not conducted in an enclosed building. The facility location and odor management methods preclude and prevent off-site odor impacts. This option could be considered for existing yard debris composting facilities that seek to accept residential food waste mixed with yard debris provided that such deliveries are managed in accordance with an effective facility odor control plan.

- *Site location and processing.* The processing facility is located in a rural or rural/urban edge area with sufficient buffer zones that adequately mitigate impacts on surrounding communities. On-site processing and odor management methods must meet or exceed industry standards and are proven to be effective.
- *Volume, condition and source of food waste.* Food waste volumes can be highly variable, ranging from low volume deliveries of fresh food waste collected from local sources (e.g. deliveries in a packer truck or front end loader), to very large volumes collected, consolidated and reloaded in urban areas from further away. Large volumes of food waste deliveries (e.g. deliveries in containers other than a packer truck or front end-loader) to less isolated processing sites might require off-site feedstock preparation in an enclosed building to stabilize food waste odor potential prior to reloading and delivery to the processing site (see Option 2 below).

Option 2 - Off-site intake and feedstock preparation building. Like Option 1, an intake and feedstock preparation building may not be required at the processing site. However, large volumes of commercial or residential food waste that are typically collected in urban areas could be delivered to a separate reload facility that controls odors associated with intake and feedstock preparation. The purpose is to adequately prepare large volumes of food waste feedstocks so that they arrive at the processing facility in a state that is unlikely to generate odors, will minimize additional handling and allow feedstocks to be immediately placed into the composting system.

- *Site location and processing.* Under this option, the processing site might be located near an urban area with insufficient buffer zones to adequately mitigate negative impacts associated with feedstock intake and preparation activities. For example, nearby residences or businesses could be adversely impacted by malodors released from deliveries of large volumes of reloaded urban food wastes. The on-site processing and odor management methods must meet or exceed industry standards that are proven to be effective.
- *Volume, condition and source of food waste.* Food waste volumes under this option can be highly variable, ranging from low volume deliveries of fresh food

waste collected from local sources, to very large volumes collected, consolidated and reloaded in urban areas. Smaller volumes collected fresh from local food waste sources that are delivered in packer trucks or front-end loaders might not require any off-site feedstock preparation in an enclosed building. Such deliveries could be managed in accordance with an effective facility odor control plan. Loads of fresh food waste will result in less odor issues than food waste that has started to decompose.

- C. Processing systems. The building requirements for the feedstock intake and preparation activities have already been addressed in the preceding section. Processing facilities must prepare and implement a Metro approved facility operating plan that addresses processing procedures such as: inspecting incoming loads, managing prohibited waste, odor control, dust prevention, vector control, emergencies, and nuisance complaints. Applications for Metro food waste processing facility authorizations also require that facility design and operating plans address the following:

Biofilters. Facilities proposing to use a biofilter must provide the design criteria and specifications for the biofilter in the facility design plan to effectively control odors.

Leachate management. Facilities must manage leachate to avoid off-site impacts. Food wastes can release large amounts of liquid. In addition to causing odors, these liquids contain nutrients and pathogens that must be managed in accordance with the rules and regulations of the DEQ or applicable local regulations.

Stormwater management. Facilities must ensure stormwater is controlled to minimize contamination with raw food waste feedstocks and liquids that have not undergone pathogen reduction. Stormwater must be managed in accordance with the DEQ or applicable local regulations.

Pathogen reduction. Facilities must implement procedures to safeguard and protect human health and the environment because food waste contains human pathogens, fungi and bacteria. The DEQ has regulations to address pathogen reduction at composting facilities that vary depending on the processing method used by the facility. To ensure that the finished product is safe to use, pathogen reduction procedures must be addressed in the facility operating plan.

The following are examples of two types of food waste processing systems that would be addressed in Metro's application process:

Forced aeration composting system. Most food waste processing systems include some form of composting that uses forced aeration with pumps that typically pull air through the pile core (negative aeration) and divert it to a biofilter to remove odors. In addition, facilities processing food waste typically cover compost piles with breathable fabrics or other equivalent products or structures to help contain malodors. Since covered and aerated composting systems are

known to effectively reduce the production of malodors, Metro considers these to be the minimum standard for composting facilities accepting the region's food waste. Alternatives to this composting method may be considered on a case-by-case basis and would depend on the details of the specific proposal, the type of material, processor experience and the site location.

Passive pile or windrow composting. Virtually all of the Metro region's five licensed yard debris composting facilities process large volumes of yard debris utilizing a passive composting system. Rather than a forced aeration system, compost piles or windrows are aerated when they are turned on a regular schedule using equipment such as a bucket loader or specialized turning machinery. This type of passive composting system is not suitable for managing large volumes of food waste, as the piles can quickly turn anaerobic and create malodors when they are turned. Existing Metro licensed yard debris facilities will need to obtain additional Metro authorization prior to accepting food waste. The facility design, operating and odor control plans will need to be updated to describe how the food waste will be managed to avoid anaerobic conditions and preclude the production of malodors that can be detected off-site.

Anaerobic digestion systems. Most anaerobic digestion systems are designed so that food wastes are processed inside an enclosed building and within an in-vessel system. Metro standards for anaerobic digestion systems are similar to composting facilities that receive and process food waste. In particular, the same standards apply for receiving waste, feedstock management, odor control, biofilters, leachate and stormwater management. In addition, biogas production and management would also need to be addressed (including methane and hydrogen sulfide). Pathogen reduction requirements would depend on the processing system and disposition of the by-products. Additional guidance will be provided to these facilities based on the proposed method of processing, operator experience and the facility site location.

Food Waste Reloading Facilities

Facilities that receive commercial food waste or residential food waste mixed with yard debris must consolidate, reload and transport these materials to a Metro authorized or designated facility or under authority of a Metro non-system license. In order to minimize the generation of malodors, food waste and food waste mixed with yard debris must be reloaded and taken to an off-site processing facility after it has been received – generally within 24 hours of receipt. Such reloading activities must be conducted inside a roofed structure that is enclosed on at least three sides (for additional odor management, a fourth side and a negative aeration system and biofilters should be considered in urban locations). Transport containers must have watertight seals and be covered. Leachate and stormwater must be managed in accordance with DEQ requirements (and/or applicable local requirements). Reloading food waste does not include processing activities such as sorting, grinding, composting or other feedstock preparation.

V. Record Keeping & Reporting

Metro's regulatory authorizations and agreements allowing the acceptance of food waste will include record keeping and reporting requirements. Complete and accurate records must be kept for all transactions including the ticket or slip number, material category type, date the load was accepted, the net weight of the load, material origin, and the fee charged by the facility. Monthly records must be provided in an electronic format prescribed by Metro. These records provide a basis for regional solid waste planning, compliance, and monitoring operational activities.

VI. Metro Fees & Taxes

Metro's Regional System Fee and Excise Tax (fees and taxes) are not currently paid on source-separated food waste that is delivered and successfully processed at a Metro-approved facility. However, waste that is not recovered, and is subsequently disposed, is subject to full fees and taxes. Metro's regulatory authorizations and agreements include the terms and conditions for when fees and taxes must be paid. For example, if the facility accepts food waste that does not meet its acceptance criteria or the facility fails to process the material as required, the facility would be liable for payment of fees and taxes for each ton of waste delivered to a solid waste disposal site.

VII. Conclusion

In summary, facilities proposing to accept food waste from the Metro region must be able to address the performance goals and operating guidelines by submitting a facility design plan, a facility operating plan, and a comprehensive odor management plan as part of its application to Metro. Effective and reliable odor management controls are essential characteristics of a viable, sustainable and long-term food waste processing strategy for the Metro region.

Questions or Concerns

If you have questions about the information in this regulatory guidance document or would like more information, please contact Bill Metzler, Senior Planner, Metro Finance and Regulatory Services, Solid Waste Compliance and Cleanup Program at 503-797-1666 or email at bill.metzler@oregonmetro.gov.

This regulatory guidance bulletin is advisory only, and is intended to provide assistance in understanding certain Metro solid waste requirements. The information contained in the bulletin is not an administrative procedure, rule or performance standard as set forth in Metro Code Section 5.01.132.

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