



Permit Evaluation

Oregon Department of Environmental Quality
Northwest Region Office
2020 SW 4th Avenue, Suite 400
Portland OR 97201

September 30, 2013 and Updated April 30, 2014

To: Audrey O'Brien, Manager
Solid Waste Program
DEQ Northwest Region

From: Lawrence Brown REHS
Environmental Health Specialist - Solid Waste Program
DEQ Eastern Region

Subject: Permit Evaluation Report
Proposed Solid Waste Composting Permit #1433
Grimm's Fuel Company
Washington County

INTRODUCTION:

Grimm's Fuel Company, owns and operates an existing compost facility which produces various landscape supplies, soil amendments and hog fuel. Their composting facility is located at 18850 SW Cipole Road, Tualatin, Oregon, where they produce approximately 35,000 tons of compost per year using Type 1 and Type 2 feedstocks.

In September, 2009, DEQ adopted new rules governing the permitting of compost facilities. These rules required new and existing compost facilities to submit information to DEQ for an environmental and human health risk assessment and to determine the type of permit required for their compost operations. Grimm's Fuel Company submitted a timely application.

LAND USE APPROVAL:

On file is a signed land use compatibility statement from the City of Tualatin Planning Department dated February 12, 2010, indicating that the composting activity or use is compatible with the Land Conservation and Development Commission-acknowledged comprehensive plan or complies with the statewide planning goals.

On May 8, 2012, Grimm's Fuel Company was granted land use approval from the City of Tualatin to compost residential food waste. At this time Grimm's Fuel Company does not have plans to accept and compost any type of Type 3 food waste; but wants the ability to accept such

material in the future if they obtain a franchise agreement with Metro as part of an approved organics collection program. DEQ's review includes an updated Operations Plan that shows how Grimm's Fuel Company would handle Type 3 food waste if they were to obtain a Metro franchise agreement.

COMPOST OPERATION DESCRIPTION:

Organic wastes are accepted from a variety of retail and commercial sources including homeowners, landscape contractors and commercial haulers. These wastes are converted into basically two different products at Grimm's Fuel Company: hog fuel and compost.

Each incoming load is visually inspected for prohibited items as it enters the facility at a scale house. Acceptable loads are directed to the concrete tipping area which is monitored by loader and plant operators working in the area. Once yard debris has been placed on the tipping floor, it is processed through their primary production line (A Hog), which consists of a Jeffery Swing Hammer Hog. A 200-foot conveyer belt carries coarse ground material (twelve-inch minus) for placement in the primary composting pile. The material remains in the pile for 120 to 180 days, during which the pile is turned and mixed three or four times. The material then goes back through a secondary production line (B Hog) and is screened. Any physical contaminants, such as plastics, are removed via a series of vacuum separators and disposed of as solid waste. Organic material too large to pass through the 5/8" screen is re-mixed with incoming feedstocks and goes through the process once again.

Fine compost is then placed in the finished goods storage area for final curing on the upper lot. After curing, finished compost is periodically hauled to storage piles located on the lower lot and sold to the public for landscape products such as garden mulch, blended soil and soil amendments.

ENVIRONMENTAL AND PUBLIC HEALTH CONCERNS:

In September 2009, newly adopted compost rules required new and existing compost facilities to submit information to DEQ for an environmental and human health risk assessment. Under the new rules low risk facilities are allowed to operate under a registration permit. Higher risk facilities are required to provide an updated operations plan for DEQ approval which addresses the identified risks. High risk facilities are also required to operate under an individual compost permit.

DEQ staff evaluated Grimm's Fuel Company compost operations for potential environmental and human health risks, including risks to surface water and groundwater and possible odor impacts to facility neighbors.

Surface Water Screening: After going through several types of treatment (screens, settling basin, vegetative bioswale) stormwater leaves the composting site during the rainy months which discharges into a conveyance system leading to surface waters. They operate under a 1200-Z National Pollutant Discharge Elimination System (NPDES) stormwater permit issued by DEQ's

water quality program. At the time of DEQ's environmental screening in February 2011, the 1200-Z NPDES stormwater permit did not adequately address the type of waste characteristics which are commonly associated with composting activities. Because sufficient water quality data associated with their composting activities was not available, DEQ made the determination that Grimm's Fuel Company composting operations posed a potential environmental risk to surface waters.

Groundwater Screening: DEQ also did not have sufficient data to demonstrate that Grimm's Fuel Company composting operations would be protective of groundwater. Even though the majority of decomposition occurs on paved areas, their stormwater discharge eventually enters into a shallow, unlined, vegetated bioswale before exiting the property. DEQ screened Grimm's Fuel Company compost operations as a potential risk to groundwater until DEQ has enough stormwater/leachate data to evaluate the potential risks (or lack thereof) to groundwater.

Odor Screening: Grimm's Fuel Company is an existing composting operation that uses a large pile composting method rather than windrows. This means that their composting pile is in a mixture of composting stages at any given time. New material added to the top of the pile causes less volatile organic compounds to be released into the atmosphere compared to open windrow systems which are turned frequently. Grimm's Fuel Company turns their compost material relatively infrequently and is very cautious of wind directions to limit impacts to surrounding residential neighbors. Wind direction and wind speed are constantly monitored at their facility.

Even though at the time of the environmental screening in February 2011, Grimm's Fuel Company received only a couple of odor complaints over the past decade or more, DEQ identified the potential for odor concerns due to the nature of composting operations, volumes received, and that the property is located in an area where residential properties have encroached upon the composting facility. Based on this evaluation DEQ screened Grimm's Fuel Company composting operations as having the potential to cause odor impacts outside the boundaries of the facility. Since DEQ completed the environmental risk screening in February 2011, DEQ has received over 45 odor complaints regarding the compost operations.

Pathogens: Temperatures in the active compost pile are maintained at 131 degrees Fahrenheit or greater for a minimum of 15 days. During this time the active compost pile is turned a minimum of 3 times. Once screened, the compost is placed in the finished goods storage pile where it is turned a minimum of two times prior to sale.

Finished compost is tested monthly for fecal coliform and salmonella in accordance with the U.S. Composting Council's Seal of Testing Assurance (STA) program guidelines. Grimm's submitted data to DEQ demonstrating that pathogens are being reduced to acceptable levels as required in rule. This is an alternative method where the permittee can demonstrate they are achieving an equivalent reduction of human pathogens.

RISK ASSESSMENT EVALUATION RESULTS:

Because of the identified potential environmental risks, Grimm's Fuel Company composting operations is required to be operated under an individual Compost Permit, and they must submit an updated Operations Plan for DEQ review and approval prior to the proposed permit going out on public notice.

DEQ has received an updated Operations Plan from Grimm's Fuel Company that addresses the identified potential environmental risks, and has drafted a permit.

To address surface water and groundwater concerns, Grimm's Fuel Company now has testing and monitoring requirements for nitrate and phosphorous incorporated in their current 1200-Z NPDES stormwater permit. Currently the results are provided only to DEQ's water quality staff. As a permit condition DEQ is requiring that a copy of their stormwater test results also be provided to DEQ's Solid Waste Program. This will allow Solid Waste staff to evaluate the effectiveness of various best management practices used by Grimm's to reduce leachate from coming into contact with stormwater, and if proper treatment is occurring prior to discharging to surface waters.

For potential odor impacts outside the boundaries of the facility, Grimm's Fuel Company has submitted an odor minimization plan that outlines how they will respond to complaints and efforts they will take in order to control and minimize odors.

FINANCIAL ASSURANCE RISK SCREENING:

OAR 340-096-0001 provides the authority for DEQ to require financial assurance for composting facilities and to exempt low-risk facilities from those requirements. For purposes of composting facility financial assurance risk screening, a low risk facility is one DEQ determines is not likely to result in significant amounts of residual waste materials or contamination at the time of site closure. DEQ makes this determination based on review of site-specific information in the permit application package and any additional information DEQ may request.

Based on DEQ's evaluation of the information submitted, other DEQ file documents, and additional information gathered by DEQ staff, DEQ has determined that Grimm's Fuel Company composting facility would be a low-risk facility for financial assurance and therefore is exempt from financial assurance requirements.

This determination is based on the nature of the solid waste, minimal engineering maintenance level required at the site after the site would be closed, and that the solid waste would not be deposited at the site permanently, but would be removed and used for other purposes.

COMPLIANCE HISTORY:

To date, DEQ Solid Waste Program has not cited compliance issues at this facility.

PERMIT DISCUSSION:

The Solid Waste Composting Facility Permit for Grimm's Fuel Company covers a ten year period from the date of permit issuance, and requires that the permittee meet performance standards as stated in Oregon Administrative Rules 340-096-0070. There is also a clause that allows representatives of DEQ access to the facility at all reasonable times for the purpose of performing inspections, surveys, collecting samples, obtaining data and carrying out other necessary functions related to this permit.

Sections 1 and 2 of the permit discuss allowable activities (authorizations and prohibitions); Sections 3-6 discuss operations and design (operating conditions, operations plan, record keeping and reporting, engineered design structure management); Sections 7-9 discuss general conditions (administration, permit modification requirements, site operations); and Sections 10 and 11 discuss compliance conditions (summary of due dates and when to notify DEQ).

In response to comments received during the public comment period, DEQ modified proposed permit conditions and added new permit conditions. Permit language that is underlined indicates new permit language and language with a strikethrough (~~strikethrough~~) indicates deleted permit language. **Note: DEQ has also recast the format of the final permit in a different style that is uniform throughout, rather than mixed as shown here. The following discussion concerns the content of the sections, rather than their presentation on the page.**

DEQ modified or added the following permit conditions:

1.1 In this section	This section describes the activities the permittee is authorized to conduct, including: <ul style="list-style-type: none">• Authorization to receive specific types of <u>Types 1-3</u> feedstocks;• <u>Criteria for residential food waste authorization;</u>• <u>Residential food waste demonstration project;</u>• Authorization to receive other feedstocks or amendments;• Authorization of other activities; and• Water quality activities.
----------------------------	--

1.2 Authorization to receive Types 1 – 3 feedstocks

This permit authorizes the facility to accept the following feedstocks (Note: a detailed list of authorized feedstocks is listed in the Department-approved Operations Plan for this site.):

- A. Types 1 and 2 Feedstocks are authorized to be accepted at this facility.

- ~~B. The only Type 3 feedstocks authorized to be accepted at this facility is curbside collected residential food waste mixed with yard debris. Other Type 3 Feedstocks cannot be accepted unless Grimm's receives prior written approval from DEQ. and only after Grimm's Fuel Company obtains a Metro franchise agreement as part of an approved organics collection program. If the permittee receives these approvals, then Type 3 feedstocks may be used to meet up to 25% of the composting volume.~~

Reference: Permit conditions 1.3, 1.4, 2.2 and 3.2

1.3 **Criteria for residential food waste authorization**

The permittee must complete the following prior to receiving DEQ written approval to accept residential food waste:

- A. Facility compost operations must be in compliance with the permit conditions and applicable compost regulations;
- B. Submit updated Operations Plans for DEQ review and approval. The updated plan must address the demonstration project requirements in permit section 1.4 and the following:
 - i. accepting, managing and processing residential food waste;
 - ii. incorporating incoming residential food waste in a timely manner into compost piles to control and minimize odors and prevent vectors;
 - iii. implementing additional odor control measures to control and minimize odors from the acceptance and management of residential food waste;
 - iv. monitoring compost piles for oxygen, C:N ratio, moisture content, and other necessary composting parameters;
 - v. formation of compost piles to prevent anaerobic conditions including maintaining pile heights at or below 30 feet;
 - vi. leachate management including preventing formation of leachate puddles, reducing leachate generation, leachate collection and odor controls for leachate collection and spray system;
 - vii. monitoring pile and weather conditions prior to turning piles to control and minimize odors and dust; and
 - viii. recordkeeping to track and monitor incoming residential food waste tonnage.
- C. Submit facility complaint records and facility response for the last six months prior to date of submittal; and
- D. Submit documentation indicating the permittee has written approval from Metro to accept residential food waste.

Reference: Permit conditions 1.2, 1.4 and 4.4

1.4 **Residential food waste demonstration project.** The permittee must demonstrate an effective and efficient compost operation for residential food wastes that complies with the conditions of this permit and applicable DEQ regulations by conducting a demonstration project with DEQ approval.

- A. Prior to initiating the demonstration project of residential curbside collected composting program, the permittee must prepare an updated Operations Plan explaining how residential food waste mixed with yard debris will be accepted, incorporated into the composting process, and how the composting process will be conducted and evaluated to ensure compliance with the Performance Standards under OAR 340-096-0070.
- B. The permittee may accept up to **200 tons per month** of residential food waste at the facility during the demonstration project unless DEQ otherwise approves or restricts in writing.

- C. Prior to increasing the amount of residential food waste that may be accepted, the permittee must submit to DEQ for review and approval a written report evaluating the demonstration project. The permittee may submit the written report after accepting and composting residential food waste for at least 90 days.
- D. The written evaluation report must include, at a minimum:
- i. a summary of the residential food waste compost operations;
 - ii. a summary of the wastes accepted for the compost operations;
 - iii. a summary of how the incoming wastes are incorporated in a timely manner to control and minimize odors;
 - iv. an evaluation of the effectiveness of the composting method for properly managing residential food wastes including but not limited to odors, anaerobic conditions, leachate prevention and management, dust control and vectors;
 - v. a description of any problems encountered and measures taken to address and resolve the problems;
 - vi. verification that acceptance, sorting, grinding, storage and transport to and from the site are conducted in a manner to prevent offsite dust, odors or runoff problems. Verification may include submittals of daily logs verifying that the site has been swept and watered, all complaints addressed, and photo documentation of operations;
 - vii. any recommended changes to the Operations Plan or composting method to address operations problems encountered; and
 - viii. a detailed request documenting effective and sufficient operations to allow for an increase in residential food waste tonnage.
- E. DEQ will evaluate the written report and facility operations to determine if operations are conducted in a manner to successfully demonstrate compliance with DEQ rules and permit requirements including meeting the Performance Standards, dust control, odors, runoff or other water pollution concerns. If DEQ determines compliance with the Performance Standards, DEQ may authorize an increase in the amount of residential food waste allowed for acceptance. DEQ may require that the demonstration project continue with this increased amount of residential food waste and require a new written evaluation per 1.4.D. above.
- F. The demonstration project timeframe is a minimum of 180 days unless DEQ requires a continued demonstration project phase, determines that residential food waste cannot be accepted or approves acceptance of food waste on an ongoing basis.
- G. The permittee may not expand the residential food waste operations beyond the demonstration project without written DEQ approval.

Reference: Permit conditions 1.2, 1.3, 2.2 and 3.2

1.35 Authorization to receive other feedstocks or amendments	<u>Feedstocks or amendments excluded from the above authorization may not be accepted unless DEQ has approved in writing an updated site Operations Plan which describes the new feedstocks or amendments as well as the procedures to make sure that Type 3 feedstocks remain below 25% of composting volume. DEQ may require a demonstration project similar to that identified in conditions 1.3 and 1.4 above prior to allowing acceptance of additional feedstocks.</u>
---	--

2.2 Prohibited feedstocks or wastes

The permittee is prohibited from accepting materials for composting that are not specifically authorized in Section 1.2 of this permit, unless the materials have been approved in accordance with the requirements of Section ~~4.3~~ 1.5 of this permit.

The permittee must not accept dead animals at the facility.

The permittee must not accept any wood waste that does not meet the definition of wood waste in OAR 340-093-0030.

The permittee must not accept unsorted, mixed domestic solid waste as a feedstock or for disposal at the composting facility.

The permittee must not accept any materials that are listed in OAR 340-093-0040, as prohibited from disposal at solid waste disposal sites, including but not limited to hazardous waste as defined in ORS 466.005 and OAR 340, Division 101.

2.5 Sewage sludge (biosolids)

The permittee must not accept any sewage sludge for composting at this facility, ~~except Class A exceptional quality biosolids. If the permittee wishes to accept sewage sludge, other than Class A exceptional quality biosolids, then the permittee must request a permit modification of this solid waste permit and obtain the applicable water quality permit, in lieu of this solid waste permit, as required under ORS 468B and OAR 340-050.~~

3.2 Performance Standards

The composting facility must be operated in conformance with the performance standards identified in OAR 340-096-0070:

(1) All composting facilities must be designed, constructed, and operated in a manner that does not cause a discharge of leachate, liquid digestate, or stormwater from the facility to surface water, except when such discharge is in compliance with a discharge permit issued by the department.

(2) All composting facilities that collect and dispose of leachate, liquid digestate, or stormwater in engineered structures must comply with the applicable requirements of OAR 340-096-0130: Special Rules Pertaining to Composting: Biogas, Liquid Digestate and Leachate Collection Design and Management Requirements.

(3) All composting facilities must be designed, constructed, and operated in a manner that does not cause a likely adverse impact to groundwater under OAR 340 Division 40. All composting facilities proposing to use infiltration in soil as a method for managing leachate, liquid digestate, or stormwater must comply with OAR 340-096-0120: Groundwater Protection.

(4) All composting facilities must be designed, constructed, and operated in a manner that, to the greatest extent practicable, consistent with proper facility design and operation, controls and minimizes odors that are likely to cause adverse impacts outside the boundaries of the facility.

(5) All composting facilities must be designed, constructed, and operated in a

manner that achieves human pathogen reduction as required by OAR 340-096-0140: Pathogen Reduction.

(6) All composting facilities must be designed, constructed, and operated in a manner that controls (6) All composting facilities must be designed, constructed, and operated in a manner that controls or prevents propagation, harborage, or attraction of vectors, including but not limited to rats, birds, and flies.

(7) All composting facilities that produce, collect or store biogas must be designed, constructed, and operated to meet state and local fire regulations to address the potential for fire and explosions.

(8) All composting facilities that collect, store and manage liquid digestate must demonstrate adequate capacity to store or remove the digestate. For facilities that land apply, storage must be provided for periods when the production of liquid digestate exceeds the capacity of the soil to use the digestate at agronomic rates including during wet winter months.

(9) All composting facilities must comply with all other applicable laws and regulations.

4.1 In this section

This section describes the requirements associated with the composting facility Operations Plan, including:

- Plan compliance
- ~~Initial~~ Updated Operations Plan;
- Compost pile height reduction plan;
- Odor Minimization Plan;
- Odor Minimization Plan implementation;
- Updated Odor Minimization Plan;
- Plan maintenance; and
- Submittal address.

4.3 Updated Operations Plan

Within 60 days of permit issuance, the permittee must update the Operations Plan and include a revised Odor Minimization Plan, and submit the updated plans for DEQ review and approval.

Reference: Permit conditions 4.4 and 4.5

4.4 Compost pile height reduction plan

As part of the updated Operations Plan required under permit condition 4.3, the permittee must submit a plan identifying measures to reduce active compost pile heights at or below 30 feet. The plan must include sufficient details describing the measures the permittee will implement to reduce pile heights by September 30, 2014 and must include methods to monitor and measure the pile to ensure the height is maintained at or below 30 feet. The permittee must maintain compost pile heights at or below 30 feet on an ongoing basis unless otherwise allowed or restricted by DEQ based on necessary composting parameters and compliance with the Performance Standards under OAR 340-096-0070.

Reference: Permit condition 1.4

4.5 Odor Minimization Plan

As part of the updated Operations Plan required in condition 4.3, the permittee must prepare a revised Odor Minimization Plan that identifies how the permittee will modify operations to control and minimize adverse impacts of odors outside the boundaries of the facility. The odor minimization plan must include:

- A. A management plan for how malodorous feedstocks will be accepted, ground and incorporated into the composting piles as soon as practicable within the same day received;
- B. Procedures for receiving and recording odor complaints, immediately investigating any odor complaints to determine the cause of odor emissions, and promptly remedying any odor at the facility that does not meet the performance standards under OAR 340-096-0070(4);
- C. Additional odor-minimizing measures, including the following:
 - i. Avoidance of anaerobic conditions in the composting processes;
 - ii. Use of mixing for favorable composting conditions;
 - iii. Formation of windrow or other composting piles into a size and shape favorable to minimizing odors;
 - iv. Use of end-product compost as cover to act as a filter during early stages of composting;
 - v. Specification of a readily available supply of bulking agents, additives or odor control agents;
 - vi. Procedures for avoiding delay in processing and managing feedstocks during all weather conditions; and
- D. Methods for taking into consideration the following factors prior to turning or moving composting material:
 - i. Time of day;
 - ii. Wind direction;
 - iii. Percent moisture;
 - iv. Estimated odor potential; and
 - v. Degree of maturity.

Reference: OAR 340-096-0150(5)

4.6 Odor Minimization Plan implementation

The permittee must implement the Odor Minimization Plan upon DEQ approval.

4.7 Updated Odor Minimization Plan

The permittee must review and update the Odor Minimization Plan as needed to reflect changing conditions or upon DEQ request. The updated plan must be submitted to DEQ for review and approval.

PUBLIC INVOLVEMENT:

DEQ held a public hearing on October 30, 2013 at the Juanita Pohl Center in Tualatin. The purpose of the hearing was to provide citizens an opportunity to ask questions about the proposed draft DEQ solid waste compost permit and provide DEQ with comments. DEQ issued a Public Notice advertising the hearing and requesting comments.

Owners of property within one quarter mile of the facility were notified through postal mail. In addition, subscribers of DEQ's email notification list received a message about the proposed permit issuance, the hearing and the chance to comment. The initial comment period closed at 5 p.m. on Wednesday, November 6, 2013. At the public hearing held on October 30, 2013, DEQ received a request to extend the public comment period. DEQ extended the comment period until Wednesday, November 20, 2013 at 5 pm.

DEQ received 55 written comments, including one signed by 22 residents of the Pony Ridge subdivision. At the public hearing, twenty people provided verbal comments and DEQ received two written comments. DEQ also received a document containing 453 signatures from people who are supportive of Grimm's composting permit. DEQ has summarized and responded to the comments received in Attachment A. The original comments and transcript of the hearing are located in Attachment B.

NEXT STEPS:

DEQ will issue this Solid Waste Composting Permit to Grimm's Fuel Company. DEQ staff will regularly inspect Grimm's to assess compliance with the permit and applicable regulations.

This page intentionally left blank.