Oregon Department of Environmental Quality

Aug. 21, 2013
Environmental Quality Commission meeting
Rulemaking Action Item: H

Conversion technology and anaerobic digestion facility performance standards and solid waste permit requirements

DEQ recommendation to the EQC

DEQ recommends that the Environmental Quality Commission:

Adopt the proposed PERMANENT rules in Attachment A as part of chapter 340 of the Oregon Administrative Rules.

Overview

Short summary

This rulemaking would establish performance standards and solid waste permit requirements for anaerobic digestion facilities and conversion technology facilities. These new standards and requirements would: assure environmental protection; establish appropriate permitting requirements for anaerobic digesters and conversion technology facilities; establish an appropriate fee schedule for anaerobic digesters and the new conversion technology facility permit category; and, provide regulatory certainty for emerging technology providers and DEQ staff.

This rulemaking also proposes changes to existing Oregon rules that include exempting certain low-risk facilities from solid waste disposal permit requirements, making adjustments to composting and waste tire rules, correcting references to solid waste rules and correcting grammar.

Brief history

Conversion technology facilities use chemical or thermal processes to convert solid waste to chemicals, fuels or other products for use or resale. Examples of conversion technology include pyrolysis and gasification. Anaerobic digestion facilities use biological processes to digest solid waste and create methane that can be used to create electricity or transportation fuels. In many cases, processing solid waste through conversion technology facilities or anaerobic digesters is a more sustainable practice than landfilling or incinerating solid waste.

The development and use of conversion technology facilities and anaerobic digesters is fairly new to Oregon and the U.S. DEQ's existing solid waste rules don't provide performance standards, permit requirements or permit exemption pathways that are appropriate for these types of facilities.

Under existing rules, conversion technology facilities and anaerobic digestion facilities are classified as solid waste treatment facilities. This rulemaking proposes to classify facilities using anaerobic digestion as composting facilities and create a new classification of solid waste disposal site called conversion technology facilities.

Regulated parties

The proposed rules would apply to facilities that receive and process solid waste into chemicals, fuels and other products for use or resale. Those facilities include anaerobic digestion facilities and a proposed new category of solid waste disposal site called a conversion technology facility. At this time these rules will affect five existing facilities in Oregon. Additionally, about a dozen on-farm anaerobic digestion facilities under the oversight of the Oregon Department of Agriculture will need to meet the proposed performance standards.

Outline

This rulemaking proposes:

- Adding new definitions and amending existing definitions for anaerobic digestion and conversion technology facilities
- Creating regulations for a new classification of solid waste disposal sites called conversion technology facilities
- Amending composting facility rules to incorporate anaerobic digestion as another biological process
- Establishing performance standards and permit requirements for anaerobic digestion and conversion technology facilities
- Establishing an appropriate fee schedule for conversion technology facility permits and anaerobic digestion facility permits
- Establishing permit exemptions for certain low-risk solid waste disposal facilities
- Adjusting composting rules to redefine classes of feedstocks and operation plan requirements
- Updating waste tire management rules regarding indoor storage of tires
- Correcting grammar and rule references in the solid waste rules

Statement of need

What problem is DEQ trying to solve?

Oregon's existing solid waste rules don't provide definitions or a regulatory structure specific to permitting of conversion technology or anaerobic digestion facilities. This causes confusion and uncertainty about how to apply the current rules to these types of facilities.

Solid waste treatment facility permits do not provide performance standards and permit requirements specific to anaerobic digestion or conversion technology facilities. These permits were originally intended for treatment of wastes for ultimate disposal, primarily remediation of petroleum-contaminated soil and treatment of medical wastes, not for conversion of solid wastes to chemicals, fuels and other products.

DEQ expects to spend more time on anaerobic digestion and conversion technology facility proposals in the coming years. DEQ has responded to dozens of permitting inquiries over the past five years and has issued

six solid waste treatment facility permits for anaerobic digestion and conversion technology facilities. DEQ expects more facility proposals as this technology continues to evolve.

Permit exemptions for low-risk conversion technology facilities don't exist in the current rules. These facilities often pose no more risk to the environment than facilities handling source-separated material for recycling, which have a regulatory exemption from permitting.

How would the proposed rules solve the problem?

If adopted, these rules would:

- Define anaerobic digestion and conversion technology
- Regulate anaerobic digestion facilities as composting facilities with permit requirements appropriate for anaerobic digesters
- Distinguish conversion technology from incineration facilities
- Establish requirements for a new conversion technology facility permit category using a risk-based regulatory approach based on the level of environmental and public health risk posed by a facility
- Establish performance standards specific to anaerobic digestion and conversion technology facilities
- Exempt from permit requirements lower-risk conversion technology facilities that comply with specified performance standards
- Establish a fee structure appropriate to anaerobic digestion and conversion technology facilities
- Streamline DEQ's permitting process for anaerobic digestion facilities and conversion technology facilities
- Provide regulatory certainty to facility operators and owners as they plan construction, operations and growth

How will DEQ know the problem has been solved?

Indications that the problem has been solved will be:

- Consistent implementation of anaerobic digestion and conversion technology facility permitting regulation statewide
- Permit issuance timeframes being met for anaerobic digestion and conversion technology facilities that are consistent with timeframes for other types of solid waste disposal site permits
- Reduction in number of clarifying conversations about anaerobic digestion and conversion technology facility regulations

What alternatives did DEQ consider?

DEQ considered not adopting conversion technology rules. DEQ determined that rules were necessary to limit confusion about what rules and permits apply to anaerobic digestion and conversion technology facilities and to provide regulatory certainty for technology providers and prospective facility developers.

Federal relationship

"It is the policy of this state that agencies shall seek to retain and promote the unique identity of Oregon by considering local conditions when an agency adopts policies and rules. However, since there are many federal laws and regulations that apply to activities that are also regulated by the state, it is also the policy of this state that agencies attempt to adopt rules that correspond with equivalent federal laws and rules..."
ORS 183.333

Relationship to federal requirements

These rules amend and establish regulatory requirements for two new classes of solid waste disposal sites – anaerobic digestion facilities and conversion technology facilities. The proposed rules apply only to Oregon state law and aren't related to a federal requirement or corresponding federal regulation. Federal law primarily addresses requirements for development, construction and operation of municipal solid waste landfills. Oregon solid waste management laws have adopted federal law regarding municipal solid waste landfills, but also address other types of landfills and other aspects of solid waste management, including regulation of other classes of solid waste facilities that manage solid waste.

What alternatives did DEQ consider, if any?

DEQ considered not adopting rules and instead applying a policy approach to regulating these facilities through an Internal Management Directive. However, DEQ determined this would be an inappropriate approach for implementing solid waste management statutes.

Rules affected, authorities, supporting documents

Lead division: Land Quality

Program or activity: Solid waste permitting program

Chapter 340 action

Recommendation	Division	Rule	Title	SIP/Land use*
amend	064	0015	Waste Tire Storage Permit Required	Land use
amend	064	0022	Financial Assurance	Land use
amend	064	0035	Standards for Waste Tire Storage Sites	Land use
amend	064	0055	Waste Tire Carrier Permit Required	Land use
amend	093	0030	Definitions	Land use
amend	093	0050	Permit Required	Land use
amend	093	0070	Applications for Permits	Land use
amend	093	0105	Categories for Permit Actions	Land use
amend	093	0110	Issuance or Denial of Permit	Land use
amend	093	0115	Termination or Revocation of a Permit	Land use
amend	095	0090	Financial Assurance Criteria	Land use
amend	095	0095	Form of Financial Assurance	Land use
amend	096	0001	Applicability	Land use
amend	096	0010	Special Rules Pertaining to Incineration	Land use
amend	096	0040	Transfer Stations and Material Recovery Facilities	Land use
			Special rules pertaining to composting:	
amend	096	0060	Applicability	Land use
amend	096	0070	Performance Standards	Land use
amend	096	0080	Screening	Land use
amend	096	0090	Operations Plan Approval	Land use
amend	096	0100	Registration	Land use
amend	096	0110	Composting Permit	Land use
amend	096	0120	Groundwater Protection	Land use
amend	096	0130	Biogas/ Leachate Management Requirements	Land use
amend	096	0140	Pathogen Reduction	Land use
amend	096	0150	Unacceptable Odors	Land use
			Special rules pertaining to conversion technology:	
adopt	096	0160	Applicability	Land use
adopt	096	0170	Performance Standards	Land use
adopt	096	0180	Operations Plan Approval	Land use
adopt	096	0190	Registration	Land use
adopt	096	0200	Conversion Technology Permit	Land use
amend	097	0001	Applicability	Land use
amend	097	0110	Solid Waste Permit and Disposal Fees	Land use
amend	097	0120	Permit/Registration Categories and Fee Schedule	Land use

* SIP – This rule is part of the State Implementation Plan.

* Land use – DEQ State Agency Coordination Program considers this rule, program or activity is a land use program.

Statutory authority

ORS 459.005-459.418, 459.785, 459A.025, 459A.100, 459A.110, 459A.115, 459A.120, 468.020, 468.065

Documents relied on for rulemaking ORS 183.335(2)(b)(C)

Document title	Document location
List of background information	DEQ Conversion Technology rulemaking website
Oregon Administrative Rules Chapter 340 Divisions 64, 93, 95, 96, 97	DEQ Oregon Administrative Rules website

Statement of fiscal and economic impact ORS 183.335 (2)(b)(E)

Statement of Cost of Compliance

1. Impacts on general public
   The proposed rules will have little impact on the general public. Very few facilities will be impacted by this proposal, and, as outlined below, these facilities will have some reduced costs in terms of application and compliance fees, and slight increases in costs to meet required performance standards.

2. Cost of compliance on small businesses (those with 50 or fewer employees). ORS 183.336.

   a) Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule.

   Facilities most affected by the proposed rules are small businesses, which in some cases will have reduced permitting costs under the proposed rules. DEQ estimates that only one existing facility will be required to obtain a conversion technology solid waste permit and four facilities will be required to obtain anaerobic digestion (composting) permits if the proposed rules are adopted. Four of these five facilities currently have more stringent and expensive solid waste treatment facility permits but will be able to move to new, less-expensive permit categories after rule adoption. One of the five facilities is currently not permitted, but will require a composting permit or registration if these rules are adopted, or a solid waste treatment facility permit if these rules aren't adopted. In addition, one facility that currently requires a solid waste treatment facility permit for tire pyrolysis may be able to claim an exemption from all permit requirements. Two plastics pyrolysis facilities may also be exempt if these proposed rules are adopted, but must still comply with facility performance standards proposed in rule.

   In addition to the four anaerobic digestion/composting facilities mentioned above, approximately 12 on-farm anaerobic digestion facilities will be overseen by the Oregon Department of Agriculture with DEQ review but will not require a composting permit or other disposal site permit. There would be no permit fee changes for these facilities with ODA oversight.

   b) Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule.

   DEQ expects that only one facility will see increased costs in administrative services and possibly professional services resulting from complying with these rules. As described above, that facility currently does not have a DEQ solid waste permit. Those facilities choosing to obtain a new conversion technology facility permit or an anaerobic digester permit will likely have some additional administrative costs but no professional services costs related to the one-time re-permitting event. For facilities that currently possess a DEQ solid waste permit, the administrative activity costs should remain the same.

   The anaerobic digestion facilities may have slightly higher expenses in order to meet requirements for pathogen testing and for storage of liquid digestate, but otherwise the rules will have little financial impact.

Other proposed changes in the rules are only intended to clarify existing requirements and won't change current practices in the way that Oregon regulates disposal sites.

c) Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule.

Facilities that currently hold a DEQ solid waste permit will likely not experience the need for additional equipment, supplies, labor or administration as a result of these proposed rules. The new conversion technology or anaerobic digester permits will have only slight changes in compliance requirements. The one unpermitted anaerobic digester may need to install equipment for digestate storage.

d) Describe how DEQ involved small businesses in developing this proposed rule.

DEQ included representatives from many of the current facilities and their consultants on the advisory committee that oversaw this rule development. Representatives from other facilities attended advisory committee meetings and/or made presentations to the advisory committee. DEQ also provided notice to all persons who've expressed interest in solid waste rulemaking about the proposed rule development for conversion technology and anaerobic digestion facilities and other proposed changes to the solid waste disposal site rules.

3. Impact on large businesses (all businesses that are not small businesses under #2 above)

Facilities that will be regulated under these rules generally have fewer than 50 employees. Some are subsidiaries owned or controlled by larger corporations though, and so large businesses may be indirectly affected.

4. Impact on local government other than DEQ

DEQ doesn't expect any local governments to be affected economically by any of the proposed rules.

5. Impact on DEQ

Impact on DEQ is expected to be minimal due to the small number of facilities expected to be regulated under these rules. Both the permit application fees and the annual compliance fees proposed here are lower than the fees currently required for solid waste treatment facilities, which is the permit category most of these facilities are currently regulated under. Existing facilities, however, have only been operating in startup or pilot mode, and therefore have only been paying the minimum annual compliance fee, so there will be very little change in revenue for DEQ.

DEQ expects that the cost of approving new permits will be greater than the fee charged for permit applications, and that the cost of compliance inspections and other permit-related work will exceed annual compliance fees to be paid by these facilities, but that the impact will be minimal since so few facilities will be regulated under the proposed conversion technology and anaerobic digestion (composting) permits.

Documents relied on for fiscal and economic impact

- DEQ lists of permitted disposal site facilities
- Existing and proposed disposal site and fee rules
- Unpublished analysis of regulatory effort required to process and issue a composting facility permit or registration

- Presentation by Bob Barrows on conversion technology and anaerobic digestion facilities presented to the Conversion Technology Rulemaking Advisory Committee Jan. 27, 2012 (www.deq.state.or.us/lq/pubs/docs/sw/convtechnology/CTRulemaking120127DEQPresentation.pdf)

Advisory committee

DEQ appointed an advisory committee and considered the committee's recommendations regarding this fiscal and economic impact statement. In compliance with ORS 183.333, DEQ asked for the committee's recommendations on:

- Whether the proposed rules would have a fiscal impact
- Extent of the impact
- Whether the proposed rules would have a significant impact on small businesses and compliance with ORS 183.540

Comments provided by committee members, who are current facility operators during advisory committee meetings, generally indicated that the proposed application and compliance fees are low and would not have a significant impact on small businesses. One comment during the public comment period indicated that any permit fee would put conversion technology facilities at a competitive disadvantage to manufacturers that do not use solid waste feedstocks.

Housing cost

To comply with ORS 183.534, DEQ determined the proposed rules would have no effect on the development cost of a 6,000-square-foot parcel and construction of a 1,200-square-foot detached single-family dwelling on that parcel. The proposed fee affects only owners and operators of conversion technology facilities and anaerobic digestion facilities in Oregon.

Fees

The Oregon Environmental Quality Commission approval of this rule proposal would maintain or decrease existing fees. EQC has authority to act on the proposed fees under ORS 459.235.

Brief description of proposed fees

DEQ is proposing solid waste permit application and annual compliance fees for a small new class of disposal sites called conversion technology facilities. These sites are currently classified as solid waste treatment facilities, which have higher fees. In addition, conversion technology facilities meeting certain criteria will be exempt from these permits and fees. DEQ also proposes to classify anaerobic digestion facilities as composting facilities instead of solid waste treatment facilities. No change is proposed in compost permit fees, but compost fees are already lower than solid waste treatment fees.

Reasons

Conversion technology facilities do not fit very well into any of the existing categories for disposal site permits, leading to regulatory uncertainty. DEQ is proposing to develop a new category of permit to better fit these facilities and is also proposing to change the rules for composting facilities to better fit anaerobic digestion facilities. DEQ is purposefully setting the fees for these facilities below the costs for disposal facilities such as landfills, incinerators and treatment facilities as an incentive for conversion technology and anaerobic digestion, which, as forms of energy recovery and composting, are generally more environmentally beneficial than landfilling and incineration, as specified in ORS 459.015.

This rulemaking and fee proposal was triggered by recent proposals to construct new pyrolysis, gasification and anaerobic digestion facilities and complaints by the proposers that rules for the existing disposal site categories do not fit well for these types of facilities. Issues related to pyrolysis and the inadequacy of existing rules also came up at the Oregon Legislature in conjunction with proposed legislation on plastics pyrolysis during the 2011 and 2012 sessions.

Fee proposal alternatives considered

DEQ considered the same fee structure proposed here but using different dollar amounts.

Fee payer

DEQ estimates four anaerobic digestion facilities and one conversion technology facility would pay the proposed lower fees. Some other facilities currently or recently paying fees as solid waste treatment facilities may be exempt under the proposed rules and not be required to pay any fees.

Affected party involvement in fee-setting process

Affected parties were members of the advisory committee, attended advisory committee meetings or made presentations to the advisory committee.

Summary of impacts

The proposed fees will have minimal impacts on DEQ revenue or on costs of facilities that are required to pay the fees.

Fee payer agreement with fee change

Advisory committee members who are current facility operators generally indicated that the:

- Proposed application and compliance fees are low.
- Requirements are not excessive.
- Regulatory certainty would help anyone proposing to develop a new Oregon conversion technology or anaerobic digestion facility.

Links to supporting documents for proposed fees

- Chapter 340, Division 097 of the Oregon Administrative Rules
- DEQ database of permitted disposal site facilities
- Unpublished analysis of regulatory effort required to process and issue a composting facility permit or registration
- Presentation by Bob Barrows on conversion technology and anaerobic digestion facilities presented to the Conversion Technology Rulemaking Advisory Committee Jan. 27, 2012 (www.deq.state.or.us/lq/pubs/docs/sw/convtechnology/CTRulemaking120127DEQPresentation.pdf)

How long will the current fee sustain the program?

Oregon adopted the current solid waste treatment facility fees in 1992 and the current composting permit fees in 2009. The conversion technology and anaerobic digestion facilities covered under current fees, and affected by these new fee rules, make up a very small portion of the disposal sites with solid waste permits, six out of about 330 facilities with active solid waste permits, and an even smaller portion of the fees received from permitted solid waste disposal sites, about 0.1 percent. However, the permit compliance fees as a whole paid by solid waste disposal sites have been declining for the past several years. If disposal volume does not increase, DEQ will need to address this shortfall in the future for the entire solid waste permit program.

How long will the proposed fee sustain the program?

Existing conversion technology facilities make up only a tiny fraction of the facilities regulated under solid waste permits and an even smaller fraction of the fee revenue received by the solid waste program each biennium.

The decline in solid waste annual compliance fees under the proposed rules, when compared to fees that would have been received if these rules were not adopted, is expected to be about $6,000 per biennium. A DEQ analysis from November 2012 compared the estimated 2013-15 revenue to be received from the eight existing facilities under the new rules to what they would owe under existing rules. The estimates assume increases in tonnage compared to 2011-13 handled by facilities that will soon come online. Expected revenue for new facility applications depends on how many facilities apply.

Under the existing rules and fee structure, DEQ expects only one or two new facilities to apply each biennium, which would generate revenue of between $10,000 to $20,000. Under the new proposed rules and fee structure, the number of facilities applying may be slightly lower due to proposed exemptions, with an expected revenue of only $1,500 to $10,000 per biennium.

Transactions and revenue

	Number of transactions	Number of Fee Payers	Impact on revenue (+/-)	Total revenue (+/-)
2011-2013 biennium	0	0	$0	$0
2013-2015 biennium	16	6	-$6,000	-$6,000

Fee schedule

OAR 340-097-0120

Permit/Registration Categories and Fee Schedule

The proposed rules add new categories for application fees and operational plan review fees for conversion technology facilities. The proposed rules also add a new annual compliance fee category for conversion technology facilities. These conversion technology facilities would otherwise have been permitted as solid waste treatment facilities.

The proposed rules also reassign anaerobic digestion facilities to the composting facility permit category, instead of the solid waste treatment facility permit category. The effect will be to reduce fees for anaerobic digestion facilities.

Land use

"It is the Commission's policy to coordinate the Department's programs, rules and actions that affect land use with local acknowledged plans to the fullest degree possible."

ORS 197.180, OAR 660-030

Land-use considerations

To determine whether the proposed rules involve programs or actions that are considered a *land-use action*, DEQ considered:

- Statewide planning goals for specific references. Section III, subsection 2 of the DEQ State Agency Coordination Program document identifies the following statewide goal relating to DEQ's authority:

Goal	Title
5	Open Spaces, Scenic and Historic Areas, and Natural Resources
6	Air, Water and Land Resources Quality
11	Public Facilities and Services
16	Estuarial Resources
19	Ocean Resources

- OAR 340-018-0030 for EQC rules on land-use coordination. Division 18 requires DEQ to determine whether proposed rules will significantly affect land use. If yes, how will DEQ:
  - Comply with statewide land-use goals, and
  - Ensure compatibility with acknowledged comprehensive plans, which DEQ most commonly achieves by requiring a Land Use Compatibility Statement.
- DEQ's mandate to protect public health/safety and the environment.
- Whether DEQ is the primary authority responsible for land-use programs or actions in the proposed rules.
- Present or future land uses identified in acknowledged comprehensive plans.

Determination

DEQ determined that the proposed rules identified under the 'Rules affected, authorities, supporting documents' section above affect solid waste disposal site permitting, which is an existing rule, program or activity that is considered a land-use program in the DEQ State Agency Coordination Program.

DEQ's statewide goal compliance and local plan compatibility procedures adequately cover the proposed rules. Under OAR 340-018-0050(2)(a), ensuring compatibility with acknowledged comprehensive plans may be accomplished through a Land Use Compatibility Statement. Under the proposed rules, a Land Use Compatibility Statement is required to obtain a conversion technology or anaerobic digestion facility or registration permit. The proposed rules also define requirements for mobile disposal facilities

Implementation

Notification

If approved, the proposed rules would become effective on filing, which is expected to be before the end of September 2013. DEQ would then notify affected parties by posting on the conversion technology rulemaking website, direct contact with applicable known affected facilities and by direct e-mail through distribution to the conversion technology rulemaking e-mail list and to approximately 7,000 other interested parties through a GovDelivery notice.

Systems

Upon rule adoption, DEQ would update the Conversion Technology website.

Permits and Procedures

Upon rule adoption, DEQ would develop new permits for conversion technology facilities and anaerobic digester composting facilities. DEQ will also develop policies and procedures to evaluate new conversion technology facility proposals.

Five-year review

Requirement ORS 183.405

The Administrative Procedures Act requires DEQ to review **new** rules within five years of the date EQC adopts the proposed rules. Though the review will align with any changes to the law in the intervening years, DEQ based this analysis on the current law.

Exemption

The following APA exemptions from the five-year rule review apply to some of the proposed rules:

- Amendments or repeal of a rule. ORS 183.405 (4)

Five-year rule review required

No later than Aug. 20, 2018, DEQ will review the newly adopted rules required under ORS 183.405 (1) to determine whether:

- The rule has had the intended effect.
- The anticipated fiscal impact of the rule was underestimated or overestimated.
- Subsequent changes in the law require that the rule be repealed or amended.
- There is continued need for the rule.

DEQ will use "available information" to comply with the review requirement allowed under ORS 183.450 (2).

DEQ will provide the five-year rule review report to the advisory committee to comply with ORS 183.450 (3).

Stakeholder and public involvement

Advisory committee

DEQ convened a Conversion Technology Rulemaking Advisory Committee Jan. 27, 2012. The following is an excerpt from The Conversion Technology Rulemaking Advisory Committee Charter, explaining the group's mission. The committee "was established for the purpose of making recommendations to assist DEQ in developing new Conversion Technology rules. These rules will establish performance standards and solid waste permit requirements for Conversion Technology facilities which assure environmental protection as well as establish an appropriate fee structure for this new permit category. The Advisory Committee is intended to provide a forum for input and recommendations to DEQ for these Conversion Technology facility rules."

The 15-member advisory committee included representatives from eight groups: 1) conversion technology facility operators; 2) anaerobic digestion facility operators; 3) technology consultants; 4) solid waste haulers; 5) local governments; 6) renewable energy advocates; 7) environmental groups; and 8) the public. DEQ also consulted with two affected state agencies during this rulemaking development process, the Oregon Department of Agriculture and the Oregon Department of Energy.

The advisory committee met four times over seven months in 2012 and communicated with DEQ staff by e-mail and over the phone. The committee reviewed and commented on draft rules and made vital technical and practical recommendations, many of which DEQ used to refine new rule drafts.

The committee also reviewed the fiscal impact statement, specifically the impact on small businesses.

EQC prior involvement

DEQ shared information about this rulemaking with the Environmental Quality Commission as part of annual rulemaking planning Dec. 10, 2010, and Dec. 16, 2011. DEQ provided an additional rulemaking update to the commission at its June 19, 2013, regular meeting.

Public notice

The Secretary of State published notice of the proposed rulemaking in the *Bulletin* Jan. 1, 2013. DEQ also:

- Posted the notice on DEQ's webpage http://www.deq.state.or.us/regulations/proposedrules.htm on Dec. 14, 2012.

- Emailed the notice to:
  - 6634 interested parties through GovDelivery Dec.14, 2012.
  - 15 members of the advisory committee Dec.14, 2012.
  - Four key legislators required under ORS 183.335 Dec. 14, 2012. Key legislators included:
    - J. Bailey, Representative, Energy, Environment and Water Committee
    - A. Olsen, Senator, Environment and Natural Resources Committee
    - V. Gilliam, Representative, Energy, Environment and Water Committee (at the time of notice)
    - J. Dingfelder, Senator, Environment and Natural Resources Committee

Public hearings and comment

DEQ held one public hearing in Portland, Oregon, Jan. 16, 2013. DEQ convened the hearing at 2 p.m. and closed the hearing at 3 p.m. Through the iLinc system, the hearing was available to anyone with internet access. Following the hearing, DEQ closed the public comment period on Jan. 22, 2013, at 5 p.m. DEQ received 10 public comments. The commenter section below lists all people who provided comments on this proposal. The summary of comments and DEQ responses section below addresses each public comment.

Presiding Officers' Record

The Portland hearing presiding officer, Tom Roick, summarized procedures for the hearing including notification that DEQ was recording the hearing. The presiding officer asked people in attendance who wanted to present verbal comments to complete and submit a registration form or, if attending electronically through iLinc, to use the "chat" feature and indicate their intent to present comments.

Per Oregon Administrative Rule 137-001-0030, DEQ staff Bob Barrows and Peter Spendelow gave a presentation about the proposed rulemaking that included content of the notice given under Oregon Revised Statute 183.335. These staff responded to questions from people present at the hearing, as well as from people using the iLinc system.

Twelve people attended the hearing, four in person and eight electronically through iLinc. One person testified. DEQ added all names, addresses and affiliations provided on the registration form and attendee list to DEQ's interested parties list for this rule and to the commenter section of this staff report. Oral comments at the hearing have been included in the summary of comments and agency responses section of this staff report.

Summary of comments and DEQ responses

Following is a summary of the public comments received during the public comment period, cross-referenced to the commenter. DEQ's response follows each comment summary. The original comments are on file with DEQ. The names or affiliations of the commenters are listed at the end of this summary and response section.

1. DEQ is regulating materials that are not solid wastes [Commenters 4, 5, 8, 9]

a) No clear distinction between "useless and discarded material" which are solid wastes vs. "useful and valuable feedstocks" which are not solid wastes (9)
b) Rules have flawed assumption that all feedstock materials used in conversion technology are solid wastes (5)(9)
c) DEQ cannot regulate facilities using materials that are valuable commodities, even if they were once solid wastes (5)
d) When someone is willing to pay for a material, it is no longer solid waste (8)
e) This rule package creates an unequal playing field between existing recycled material end-users/manufacturing facilities and plastics-to-oil facilities (4)(5)
f) DEQ should follow EPA's 4-part test for when materials are a legitimate ingredient in a manufacturing process (76 FR 44094) or a legitimate fuel (5)(9)
g) If this interpretation of solid waste were applied to other types of facilities, numerous businesses including glass manufacturers and pulp mills would be unknowingly swept up in permitting requirements (4)(5)(8)

DEQ Response
Most of these comments question whether waste plastic processed into feedstock for plastics pyrolysis facilities should be considered a solid waste as defined in ORS 459.005. A material that is not a solid waste is not subject to the proposed rules governing the management of solid waste by conversion technology facilities.

The proposed rules do not change the way the EQC and DEQ have interpreted the statutory definition of solid waste. Changing the interpretation of the statutory definition of solid waste would have major implications throughout the entire solid waste program, and would potentially involve many stakeholders not represented in the conversion technology workgroup. For these reasons, DEQ considered changing the interpretation of the definition of solid waste to be outside of the scope of this rulemaking process. DEQ is evaluating this issue for discussion in a different forum.

DEQ's interpretation of the definition of solid waste has long been guided by opinions and advice issued by the Oregon Attorney General. In 42 Op. Atty. Gen. Ore. 132 (1981) the Attorney General stated:

> We recommend that in order for a material item to be classified as "useless and discarded," it be established that:
>
> 1. The item has lost its value for the purposes for which it was intended by the prior owner; and
> 2. It is fit only (if for anything) for:
> a. remanufacture into something else; or
> b. some other use which differs substantially from its original use.

Consistent with this, in a 2002 letter, the Attorney General's office stated:

> In Oregon, when determining whether a material is subject to regulation as a waste, we generally look to see whether it has a nexus at some point in its life to the element of discard, and whether it becomes a part

of the waste stream at any time. Additionally, we consider *whether the material must be reclaimed, processed, altered, transformed, mixed, purified, etc. to be useful. If so, it will generally be considered a waste until actually converted to a bona fide product.* [Emphasis added]

Many valuable feedstock materials fit the definition of "solid waste," such as scrap paper, plastic, and metal sent to mills for recycling. These materials are "useless and discarded" by the original owner (hence why they were set out for recycling), and are useful only in the sense that they can be a feedstock fit for remanufacture into something else. Yet, they can be worth hundreds of dollars per ton to the mills that remanufacture them into bona fide products. Even when delivered to a material recovery facility after being collected and commingled together with other materials and containing various contaminants in a curbside cart, the mixture of recyclables generally has positive economic value.

Although recyclable materials meet the definition of solid waste, they, and the facilities that process them, generally do not provide any significant threat to the environment or to public health. Thus, Oregon's existing solid waste rules generally exempt the facilities recycling these materials from any solid waste permit requirements.

If materials are not solid wastes to begin with, they are not subject to any solid waste rules. For example, crops that are grown to be pyrolysed into fuel (torrefaction) would not be subject to the conversion technology rules, in spite of the fact that pyrolysis is a conversion technology.

Regarding the potential that the rules will create an unequal playing field between existing recycled material end-users/manufacturing facilities and plastics to oil facilities, based on information discussed by the Conversion Technology Rulemaking Advisory Committee in the rulemaking process, it seems likely that plastics-to-oil facilities will also qualify for an exemption from solid waste permitting requirements, the same as plastics recycling facilities. However, if a specific pyrolysis facility does pose more than a minimal risk to the environment or public health, a registration or possibly even a full permit may be required. Facilities that recycle plastics that also pose a potential threat to human health or the environment can also be required to obtain a solid waste permit, but it does not seem likely that source-separated recyclable plastic would pose this sort of risk when recycled.

Two commenters suggested that DEQ adopt and follow the proposed Environmental Protection Agency's 4-factor approach for hazardous waste regulatons, for determining whether materials are legitimate feedstocks or sham utilization. The proposed rules use most of these factors in determining whether a facility using solid waste should be exempt from solid waste permitting requirements. EPA's first factor is that the material must be managed as a valuable commodity. Proposed OAR 340-096-0160 (4)(b)(C) limits exemptions just to material that is purchased or obtained for free by the conversion technology facility, and excludes wastes for which a disposal tip fee generally is charged, indicating that the material has negative value. The second EPA factor is that the material makes a useful contribution to the recovery process. This factor is not directly addressed in the proposed rules, but there is no reason why a facility would pay for a feedstock or obtain it for free unless that feedstock could be used to make a product that can be sold. The third EPA factor is that the processing of the material produces a valuable product or intermediate material. By definition in proposed OAR 340-093-0030, conversion technology facilities must produce "fuels, chemicals, or other useful products from solid waste." The fourth EPA factor is "comparison of toxics in products." This factor is directly addressed in the proposed performance standard OAR 340-096-0170 (12) and in the requirement of the proposed OAR 340-096-0160 (4)(b)(G) that exempt facilities must be able to demonstrate that they will be able to comply with the performance standards.

No change was made to the proposed rules as a result of these comments.

2. Consider whether these rules are necessary [Commenters 4, 8]

a) DEQ has not proved a need for this new type of permit for conversion technology (4)
b) ORRA requests that DEQ not adopt these rules, and instead, take the time to consider whether they are necessary at all (8)

DEQ Response
If new conversion technology rules are not adopted, then all conversion technology facilities will continue to be required to obtain solid waste treatment permits, even if they pose little or no risk to human health and the environment. None of the conversion technology facilities that mainly produce fuels are eligible for exemptions from permits under current rules. In addition, the existing solid waste treatment permits are not well-suited for new emerging technologies such as conversion technologies. Solid waste treatment facilities permits were designed for facilities that treat petroleum-contaminated soils and other solid wastes for disposal, and were not designed for facilities that recover wastes to produce useful materials.

Under Oregon Revised Statutes 459.205, a facility that manages or uses wastes, and does not qualify for an existing exemption from permit requirements under Oregon's solid waste rules, is required to obtain a solid waste disposal site permit. The proposed rules provide for solid waste permit exemptions for low risk conversion technology facilities and, also for the following low-risk facilities that currently require solid waste facility permits under existing rules:

- Facilities that prepare urban wood waste to produce hogged fuel;
- Facilities that burn the above hogged fuel;
- Processors who send waste plastics or other waste materials to a conversion technology facility to be converted into a fuel; and
- Companies that collect or process used oil that becomes a fuel.

Based on available information, DEQ has determined that many of these facilities pose minimal risk of harm to the environment or human health and should be exempt from permit requirements.

The existing exemption for collectors and processors of source-separated recyclable materials for the purposes of material recovery will continue to exist if these rules are adopted. This recycling exemption applies to paper mills, glass plants, commingled recycling processing facilities, and metal recyclers that handle recyclable materials, as well as many others.

DEQ has determined that if the proposed conversion technology rules in OAR 340-096-0160 through 340-096-0200 and the proposed exemptions in OAR 340-093-0050 are adopted, it is likely that only one or two existing facilities will be required to obtain either a conversion technology registration or permit. These facilities each currently have a more costly solid waste treatment permit. Based on the information DEQ heard from the advisory committee, other existing or recently operating conversion technology facilities will likely be exempt from solid waste permit requirements under the proposed rules as well.

No change was made to the proposed rules as a result of these comments.

3. Need new provisional permit for new experimental or untested facilities [Commenters 1, 7, 10]

a) DEQ should consider establishing a provisional, experimental, or pilot permit provision. This is important for untried or untested technologies or for processes with uncertain feedstock types or sources. As a way to balance encouragement of new technology and provide sufficient oversight, DEQ should allow a short term permit that could more quickly allow a new technology to come on line for a limited period of time (2-3 years) while examining operating data. (1)(10)
b) I'm for creating regulatory rules that require initial demonstration projects for such technologies and enhanced collection and recording of operational and emissions data during these demonstration projects. (7)

DEQ Response
Under the proposed conversion technology rules and current solid waste rules, DEQ is authorized to issue permits for up to a ten year period. DEQ also has the ability, under this authorization, to issue solid waste permits for a shorter time period if necessary. DEQ also has the ability under current solid waste rules and the proposed conversion technology rules to place conditions of approval into permits and tailor permit conditions to address identified operational and environmental concerns. The public has the opportunity to provide comments on proposed permits during a public comment period provided for each permit.

If a proposed facility plans to use an untried or untested technology, or process feedstocks that if not managed properly may cause adverse impacts to human health and the environment, DEQ could draft a proposed permit with conditions of approval. The conditions of approval could include such provisions as requiring a facility to operate at reduced tonnage to demonstrate the facility can meet applicable requirements within a certain timeframe, and if the facility could not demonstrate compliance within the given timeframe and at reduced capacity, then DEQ could terminate the permit or amend the permit as necessary to address operational concerns.

After a solid waste disposal site permit is issued, DEQ staff closely monitor new facilities that have unproven track records. Staff conduct site inspections more frequently with new facilities than with existing facilities. DEQ staff will often maintain regular e-mail or phone contact with new facilities in order to check on regulatory issues.

Facilities with permit terms less than ten years are not subject to additional permit fees. Under the current and proposed fee structure in OAR Chapter 340 Division 97, fees are not charged for permit renewals or permit modifications.

Existing rules also provide a permit option called a solid waste letter of authorization for a short term disposal or pilot projects. SWLAs are issued for six months with a one time option to renew for an additional six months for a maximum permit term of one year. There is a $500 fee for each six month SWLA term. In the past DEQ has issued SWLAs granting a short term approval for facilities to demonstrate the viability of their proposals while providing DEQ an ability to evaluate the potential impacts to public health and the environment. Examples include issuing a SWLA to a composting facility to demonstrate its ability to manage and compost type 3 feedstocks and to a landfill to demonstrate the viability of gasifying wastes to produce electricity. In both instances a long term solid waste disposal permit was issued for the continuance of the demonstrated operations.

No change was made to the proposed rules as a result of these comments.

4) Do not exempt facilities from permit requirements that cannot provide commercial operating data. [Commenters 7, 10]

a) DEQ should not allow an exemption from permitting for conversion technology facilities when DEQ "has no actual operating data from commercial facilities in the U.S. using the technology proposed." (10)
b) I was perplexed with why DEQ was developing and proposing rules for technologies that not only have no demonstrably acceptable commercial operations or emissions record, but which in some cases have been associated with exaggerated and false claims, excessive emissions, operational failures, and a million dollar Oregon pollution cleanup. (7)(10)

DEQ Response
DEQ agrees that facilities using new, unproven technologies to convert waste should be subject to additional regulatory oversight until they can demonstrate that their technology can operate in compliance with established performance standards. As such, facilities should not be exempt from permit or registration requirements until the technology can be demonstrated through operating experience to be able to comply with permit exemption and performance standards set in these rules. DEQ notes that this requirement will not affect existing conversion technology facilities such as the Agilyx and Wastech Plastics to Oil facilities, nor will it affect new facilities using the same technologies, since these existing facilities and technologies have already demonstrated a track record through their operational experience. In response to these comments, below is the change we propose to make in OAR 340-096-0160:

340-096-0160(4)(b)(G) The person who has established or who is proposing to establish the conversion technology facility can demonstrate that the facility operation will be able to comply with the performance standards in OAR 340-096-0170 **based on actual operations data from an existing facility using similar technology**, and continues to comply with those standards.

Facilities that do not have existing operations data can use the permitting options discussed in comment 3 above.

5) Definition of "Conversion Technology Facility" in proposed OAR 340-093-0030(28) [Commenters 4, 5]

a) The definition of "Conversion Technology Facility" appears arbitrary in that it excludes one kind of thermal process (melting) without providing a rationale. (4),(5)

DEQ Response
While melting is a thermal process, it does not change the chemical structure of the material being melted. Melting changes a solid to a liquid through heating. In contrast, a conversion technology thermal process causes a chemical change in a material such that the resultant material is distinctly different than the original feedstock. For example, most plastic that is recycled through melting and re-molding remains an innocuous, nontoxic substance that can often even be used as food packaging. In contrast, the common products of pyrolyzing plastics includes many toxic chemicals, including benzene and polycyclic aromatic hydrocarbons, and potentially chlorinated hydrocarbons, and thus have a much greater potential to negatively impact human health and the environment if not properly managed. No change was made to the proposed rules.

6. Definition of "Disposal Site" in OAR 340-093-0030 [Commenter 2]

a) The way the definition of disposal site is constructed, it is unclear whether certain facilities are examples of exclusions from the definition of disposal site, or are examples of disposal sites. This would be more clear if the exclusions were set off in a separate sentence. (2)

DEQ Response
DEQ agrees with this comment and is proposing changes to make two sentences, and also is correcting a rule reference, to read as:
(34) "Disposal Site" means land and facilities used for the disposal, handling, treatment or transfer of or energy recovery, material recovery and recycling from solid wastes, including but not limited to dumps, landfills, sludge lagoons, sludge treatment facilities, disposal sites for septic tank pumping or cesspool cleaning service, land application units (except as exempted ~~by subsection (81)(b) of~~ **within the definition of solid waste in** this rule), transfer stations, energy recovery facilities, **conversion technology facilities**, incinerators for solid waste delivered by the public or by a collection service, composting facilities and land and facilities previously used for solid waste disposal at a land disposal site**.** ~~; but the~~ **The** term **"disposal site"** does not include a facility authorized by a permit issued under ORS 466.005 to 466.385 to store, treat or dispose of both hazardous waste and solid waste; a facility subject to the permit requirements of ORS 468B.050; a site that is used by the owner or person in control of the premises to dispose of soil, rock, concrete or other similar non-decomposable **clean fill** material, unless the site is used by the public either directly or through a collection service; or a site operated by a wrecker issued a certificate under ORS 822.110.

7. Definitions - general comments [Commenter 1]

a) The terms "products" and "materials" appear throughout the proposal but are not clearly defined in Division 93. DEQ should make sure that the references are consistently used, defined, and applied. (1)

DEQ Response
Throughout the rules DEQ uses the term "product" to mean a substance produced through a natural, chemical, or manufacturing process. This can include waste products. DEQ reviewed all of the uses of "product" and "material" throughout the proposed rules. Based on that review DEQ is now proposing a change in the wording of OAR 340-093-0070 (3)(h)(A) to make the wording more understandable, as follows:

340-093-0070 Permit applications:
(3) (h) For a new conversion technology facility:
(A) A description of the technology to be used at the facility including the types, sources, and amounts of feedstocks to be processed, the processing methods, the ~~**products**~~ **materials produced by the technology**, the amounts of each product, the expected uses of the products, the types of ~~**products**~~ **materials** that the ~~**outputs**~~ **products** of the conversion technology facility are intended to replace, and how feedstocks**,** **products** and ~~**products**~~ **other materials** will be stored;

8. General exemptions from solid waste permits proposed in OAR 340-093-0050(3) [Commenters 4, 5]

a) Determining whether a recycling market is "viable" under OAR 340-093-0050(3)(d)(E) is not practicable: The recyclables markets are best suited to identifying the best markets and pricing for plastics, not DEQ. (5)
b) Limiting the grades of plastic that can be used to "nonrecyclable" plastic introduces a subjective term that will be hard to enforce. (4)

c) To regulate waste plastic for highest and best use purposes is unrealistic and has flow control implications. DEQ staff point to the advantages to recycling regarding greenhouse gases, but fail to take into consideration the higher greenhouse gas exposure from drilling, transporting, and refining oil.(4)
d) It is arbitrary to exclude one category of plastics - clean polyolefin film plastics acceptable in commercial recycling programs - from permit exemption.(5)
e) The exemption in proposed OAR 340-093-0050(3)(d)(B) should include materials that have been sorted at a material recovery facility.(5)

DEQ Response
a) Other parts of recycling statutes also involve a determination as to whether a material has a viable market. "Viable market" as used in Oregon Revised Statutes 459A is, in fact, determined by the private marketplace as those materials that have a positive (or non-negative) value for recycling. DEQ takes a long-term view on whether a market is viable, and does not flip between "viable" and "not viable" based on short term price fluctuations.
b) The rule does not use the term "nonrecyclable" but instead lists two specific types of plastic that are clearly recyclable.
c) & d) The greenhouse gas analysis that DEQ has reviewed does take into account the greenhouse gas associated with drilling, transporting, and refining oil as it pertains to both the production of plastics from petroleum and the production of fuels from petroleum. The analysis was prepared by Good Company for Agilyx, and slides from a presentation of that analysis are available on the web at http://www.accoonline.org/ccls/Waste2010/ACCO-CCLS-October2010-Session2-Skov.pdf. The analysis shows that recycling plastic results in significantly less greenhouse gas production than if the plastic is used as feedstock for pyrolysis or burned for energy recovery. Clean polyolefin film is identified in the proposed rule because of it's enduring value as a recyclable plastic. Existing language in OAR 340-090-0080(2) requires that source-separated recyclable plastics and most other source-separated recyclable material must go to either reuse or recycling and is excluded from being disposed or burned for energy recovery. "Flow control" refers to a government directing solid waste to be taken to specific facilities. These proposed rules do not direct materials to any specific facility.
e) The proposed language in OAR 340-093-0050(3)(d)(D) does provide the permit exemption for materials that have been sorted at a material recovery facility, except for hazardous materials (which are not exempt).

9. Permit application requirements for conversion technology facilities (OAR 340-093-0070 (3))
[Commenter 5]

a) Proposed Section OAR 340-093-0070(3)(h)(E) should be revised to require a description of how detrimental material will be minimized or excluded from the conversion technology process and/or how any detrimental impacts will be mitigated.(5)

DEQ Response
DEQ agrees with this suggestion and added the word "minimized" to the proposed rule.

10. Exemptions proposed for conversion technology facilities under proposed OAR 340-096-0160(4)
[Commenters 5, 9]

a) DEQ should remove the restricting phrase "such as auto shredder wastes" from OAR 340-096-0160(4)(b)(B) as proposed.(5)
b) Proposed OAR 340-096-0160(4)(b)(C) needs clarification and should allow for at least 20% process waste, or no limit at all.(5)(9)

c) Proposed OAR 340-096-0160(4)(b)(C) needs to be clarified as to the time period over which it is measured. Propose to measure it over a year, and exempt facilities for the first 12-18 months.(5)(9)
d) The exemption criteria in proposed OAR 340-096-0160(4)(b) creates an uneven playing field for CT facilities.(5)
e) Proposed OAR 340-096-0160(4)(b)(F) is vague in its use of the term "routinely" and should not preclude an exemption even if a tipping fee is charged.(5)

DEQ Response
a) Auto shredder wastes contain a diverse and variable mix of materials that may include hazardous components and that also may include substantial amounts of materials such as polyvinyl chloride plastic that are not suitable for many types of conversion technology and that may pose environmental or health risks. Due to the nature of this material, it should be handled in a facility that has either a conversion technology registration or permit.

b) & c) DEQ considered several clarifying options for OAR 340-096-0160(4)(b)(C), regarding the percent of waste allowed for disposal and the time frame. Since a conversion technology facility cannot regularly accept a fee for waste and qualify for the exemption from a permit requirement, the risk of abandonment of wastes on site would seem to be low. DEQ therefore has removed this paragraph from the proposed rule.

d) Because conversion technology facilities chemically alter their feedstocks and often produce toxic liquids and gasses as end products, they have a greater potential for damaging the environment than do facilities that receive plastics, paper, metals, and other similar materials for recycling. These risk factors should be considered when determining if a solid waste disposal permit should be required. Oregon solid waste rules also allow DEQ to require permits for facilities handling only source-separated recyclable materials if they pose a threat to human health or the environment.

e) Many of the facilities that have created environmental damage and required public or substantial private cleanup are facilities that handle material that they are paid to take such as tires, asphalt roofing shingles, and paper recycling rejects. The risks associated with potential abandonment of these low-valued materials warrants further regulatory oversight than is needed for materials that routinely are marketed at positive value. This permit exemption also aligns with the EPA's first legitimacy criteria: “Does the processor treat the material as a valuable commodity?” as discussed in the first comment.

11. Comments on risk factors for proposed conversion technology facilities under OAR 340- 096-0160(7)
[Commenters 5, 10]

a) The "risk factors" are ambiguous, provide no standards for measurement, and may result in inconsistent and arbitrary determinations. In particular, three aspects were discussed:
    - the term "not likely";
    - the risk factor concerning whether materials produced by the facility will cause a threat to human health or the environment; and
    - The catch-all provision that the facility does not pose other likely risks to human health or the environment.

    Further clarification is needed. (5)
b) The requirement that facilities satisfy all seven "risk factors" is unreasonable, unnecessary, and illogical when compared to other kinds of manufacturing facilities. (5)

c) Object to the additions of the word "significant" in relation to the potential for the releases of hazardous substances. Oregon should not risk the abandonment of facilities that release hazardous substances on site. (10)

DEQ Response

a) An issue in drafting the conversion technology rules is the future need for the rules to be applied to technologies that have not yet been invented and for which feedstocks may be used in unanticipated ways. Therefore, sections such as those identifying risk factors need to be sufficiently general to be able to be used in the novel applications that are likely to come in the future. The risk factors that are identified in the conversion technology rules are in part based on similar rules for composting. These risk factors are not set standards that facilities have to meet. Rather, they describe the risk factors that DEQ will take into account when determining if a facility will require a conversion technology permit or a registration.

DEQ agrees, though, that the term "likely" is too vague in that it could be interpreted differently by different people. Thus we propose to add the following qualifier to this section: "As used in this section, "likely" means that there is a reasonable potential that the event or condition will occur."

Regarding the risk factor in OAR 340-096-0160 (7)(b)(E) of this rule concerning whether the materials produced by the facility will cause a threat to human health or the environment, this factor is tied to the standards described in OAR 340-096-0170 (12), providing much firmer definition of how this particular risk factor will be considered. OAR 340-096-0170 (12) requires that hazardous substances in the material produced by the conversion technology facility must meet at least one of the two following criteria:

- They do not significantly exceed the concentrations in comparable raw material or commercial product, or
- They will not exceed acceptable risk levels when used in ways the material may reasonably be expected to be used.

The beneficial use rules for solid waste use very similar criteria as is proposed here for conversion technology facilities (OAR 340-093-0270 (1)). Both use a comparison to other comparable raw materials or commercial products, and both also allow the use of acceptable risk levels as laid out in the Hazardous Substance Remedial Action Rules (OAR 340-122-0115). In addition, this criteria is very similar to the fourth EPA factor for recycling legitimacy ("comparison of toxics in products") discussed in Comment 1.

Finally, regarding the catch-all provision in OAR 340-096-0160(7)(b)(G) of the rule, it is very possible that some new technology not yet envisioned at present and considered in these rules, could pose a threat to human health or the environment. If such a risk were to be identified, it would be negligent of DEQ to ignore that risk simply because we did not list it in our rules. To use this provision, DEQ will have to identify the specific risk.

b) If a facility poses a risk to human health or the environment because of the way it manages solid waste, that risk needs to be addressed and minimized through provisions in a solid waste permit. If, however, a class of facilities poses little risk, then a permit is not necessary, and the Environmental Quality Commission can adopt rules exempting those facilities from permit requirements. EQC has done that for most facilities using and recycling source-separated materials, unless DEQ finds those facilities pose a "potential threat of adverse impact on the environment or public health". Similarly, the rules proposed here allow conversion technology facilities to be exempt from all permit requirements if they meet all the exemption requirements and do not pose a risk. The exemption criteria are more stringent for facilities involved in conversion technology than they are for facilities recycling source-separated materials because conversion technology

facilities often chemically change the materials they are processing, creating greater environmental risk, and also do not generally have long operational histories that can be used to evaluate risk.

c) Commenter 10 indicates that we should drop the word "significant" in the risk criteria where there is a significant potential for spills or releases of hazardous substances onsite. Removing the word "significant" would make this criterion too stringent in that there is always a risk for hazardous substances spills, although that risk might be negligible for some facilities. If this risk criterion were always triggered, then all facilities would be required to get permits - even those with negligible risks. DEQ believes that only those facilities with a significant (i.e. non-negligible) risk should require permits.

12. Comments on performance standards under proposed OAR 340-096-0170 [Commenter 5]

a) The performance standards in OAR 340-096-0170(1)-(6), (8), and (11) are duplicative of existing regulations and therefore unnecessary. (5)
b) Proposed OAR 340-096-0170(12) is unreasonable because DEQ has no authority under its solid waste laws to regulate products produced by a conversion technology facility. (5)
c) Proposed OAR 340-096-0170 (12) is vague and lacking in any relevant standards or procedures for determining whether a "hazardous substance" exceeds risk standards that are inapplicable to product use scenarios. (5)

DEQ Response

a) This rule includes in one place all of the main performance standards that conversion technology facilities need to comply with, making it easier for facility operators to know what standards they need to meet. In many cases, the requirements are not duplicative, but instead direct that requirements that are applicable to other types of facilities also apply to conversion technology facilities.

b) As discussed in Comment 1, DEQ's interpretation of solid waste is that a material that has been discarded remains a solid waste as long as it must be further reclaimed, processed, or purified to become a bona fide product. DEQ is concerned that if a facility is not properly managed, contaminants derived from solid waste may end up in the materials produced by the facility and may threaten human health and the environment. If the materials produced by the facility contain constituents such as heavy metals, dioxins, PCBs or other dangerous chemicals or biological agents related to the waste and require further processing before they become useful products suitable for their intended purpose, then DEQ does not consider these materials to be legitimate products. Note that this standard is very similar to the fourth EPA factor for recycling legitimacy ("comparison of toxics in products") discussed in Comment 1 and Comment 11.

c) The wording in proposed OAR 340-096-0170 (12) is based on a very similar requirement used in the solid waste beneficial use rules OAR 340-093-0270(1)(c) and is also similar to the fourth EPA factor for recycling legitimacy ("comparison of toxics in products") discussed in Comment 1 and Comment 11. DEQ believes that most conversion technology facilities will meet this standard through the first criteria - that the hazardous substances in their products do not significantly exceed the concentration in comparable raw material or commercial product. For example, if the oil produced in plastics pyrolysis facilities is sold to petroleum refineries, it would be appropriate to compare that oil to crude petroleum, which is loaded with toxic organic substances. The second criteria comes into play only if the facility fails the first criteria. If a facility is operated in such a way that it produces materials that fail to meet the acceptable risk levels, and fail to protect public health and the environment, then that facility should change its practice to minimize or eliminate that risk.

13. Comments on Conversion Technology Facility Operation Plans (proposed OAR 340-096-0180) [Commenter 5]

a) The Operation Plan requirements in proposed OAR 340-096-0180(4)(b)-(e) are duplicative of existing regulations. (5)
b) The requirement to prepare and submit to DEQ an Operations Plan will jeopardize highly confidential and proprietary information about a permittees' facility and business model. (5)

DEQ Response
The Operations Plan requirements in proposed OAR 340-096-0180 identify the elements a Conversion Technology Facility Operations Plan must address in order for DEQ to determine if a facility will meet performance standards. These plan elements for conversion technology facilities, identified in OAR 340-096-0180, are not duplicative and are not required elsewhere in the proposed or existing solid waste rules.

Protecting confidential and proprietary information has not historically been a problem. Currently, DEQ staff oversee permits for approximately 300 solid waste management facilities. Approximately 200 of these permitted facilities have prepared operations plans for DEQ review and approval. Operations plans describe among other things, the procedures employed at a facility which are intended to attain compliance with their DEQ permit and protect public health and the environment. To date, the requirement to prepare an operations plan has not resulted in the disclosure of any facilities' confidential or proprietary information.

In the event an applicant or permittee is concerned that their operations plan may expose confidential or proprietary information, DEQ staff will work closely with the applicant/permittee to address potential concerns. If an applicant or permittee claims a document or other information submitted to DEQ is confidential, upon public request for the document, the applicant or permittee must demonstrate that each piece of information being requested to be kept confidential meets the requirements under Oregon Revised Statute 192.501 (Public records conditionally exempt from disclosure) or ORS 192.502 (Other public records exempt from disclosure). DEQ recognizes this concern and will continue to work with facilities on finding a balance between the level of detail to determine compliance with keeping proprietary information confidential.

14. Definition of Composted Material and Compost (OAR 340-093-0030(21) [Commenter 1]

a) Change the definition to solid "material" rather than "product." The definition indicates that additional composting may be necessary before the compost can be used, so "material" would be a better term to use. (1)

DEQ Response
DEQ agrees with this suggestion and has replaced the word "product" with the word "material."

15. Composting Specified Risk Material (SRM) that may contain prions that cause transmissible spongiform encephalopathies [Commenters 1, 7]

a) Because the compost derived from SRM must always be disposed, it should not routinely be classified as a compostable feedstock. Washington already has a type 4 feedstock, which could create confusion. Recommend classifying it as "Type X" instead. (1)
b) SRM should be prohibited from composting processes and anaerobic digestion facilities. Even if the digestate from a load of processed SRM-containing material is disposed, how can we be certain that a

digester will not be left with some level of BSE prion contamination that will not then spread to future digestate or compost created by the digester? (7)

DEQ Response

a) DEQ agrees with the argument in a) and has changed "Type 4" feedstock to "Type X" in the proposed rules.

b) After consulting with the State Veterinarian at the Oregon Department of Agriculture, DEQ determined that the risk of contamination from the BSE prion in the situation described is very minimal and therefore DEQ has not changed the proposed procedures. However, because of the concerns with type X feedstocks, DEQ staff will encourage all anaerobic digester operators to remove all type X feedstock prior to addition of animal mortality (type 3 feedstock) to the digester. If, however, an operator proposes to include type X feedstocks, DEQ will work closely with the Oregon Department of Agriculture and the operator to ensure the process is as sanitary as possible. DEQ will closely monitor any operations that include type X feedstock. DEQ will continue to monitor on-going BSE prion research in Europe and the U.S. and will adjust policies, procedures and rules as new information warrants.

16. Comments on anaerobic digestion permits [Commenters 3, 6]

a) Exempting anaerobic digestion facilities operated in conjunction with a confined animal feeding operation from most composting requirements potentially puts human health and the environment at risk. (6)
b) We don't believe in "waste." Items (like crop wastes) that others may consider to be waste, we see as under-utilized resources. It is our belief that such proactive efforts to live out the sustainability practices discussed regularly in Oregon should be celebrated and encouraged, rather than hampered by regulations more appropriate to waste-generating businesses. (3)

DEQ Response

Farm-based anaerobic digestion and composting facilities are subject to all performance standards identified in the composting facility rules. DEQ works closely with Oregon Department of Agriculture staff in reviewing site design and operations plans for composting facilities and anaerobic digesters located on farms that have a Confined Animal Feeding Operation permit. As part of the CAFO permit, farms must submit for review and approval, composting facility design and operations plans that address how composting facilities and anaerobic digesters will be constructed and operated in a manner that protects public health and the environment and in compliance with DEQ composting rules. These farms must also update their CAFO-required Nutrient Management Plans which describe how leachate or digestate will be applied to the soil only in the amounts necessary for the growing of crops.

DEQ agrees that any waste materials or byproducts have value if reused, recycled, composted or used for other productive purposes. DEQ encourages and applauds companies or farms for using their "under-utilized" resources. In developing the conversion technology rules and other rules, DEQ has attempted to impose regulations that discourage disposal, while encouraging sustainable practices in a manner protective of human health and the environment. By deferring primary oversight of facilities with CAFO permits to ODA, DEQ has attempted to minimize and not duplicate regulation.

17. Comments on fees [Commenters 5, 7, 10]

a) The proposed regulations unfairly impose three layers of fees on conversion technology facilities that are not imposed on similar manufacturing facilities. (5)

b) Special higher fees should be created for permits for experimental facilities, to provide the funds needed to gather and analyze date to determine risk to human health and the environment. (7) (10)

DEQ Response

a) There are a number of conversion technology facilities likely to meet permit exemption requirements, and thus operate without being required to obtain a solid waste permit or pay permit fees. Those conversion technology facilities that do not meet exemption requirements have in the past been required to obtain a more expensive solid waste treatment permit, but will be eligible for the less-expensive conversion technology permit under the proposed rules. The table below compares annual compliance fees and one-time application fees for solid waste treatment facilities and proposed conversion technology facilities:

	Solid Waste Treatment	Conversion Technology
Annual Compliance Fee	$0.21 per ton	$0.10 per ton
One-time Application: 7,500 tons/year or more		
Application fee	$10,000	$2,000
Plan review fee, if required	none	$2,200 to $5,000
Total Application and plan review	$10,000	$2,000 to $7,000
One-time Application: less than 7,500 tons/year		
Application fee	$5,000	$1,500
Plan review fee, if required	none	$1,000 to $1,500
Total Application and plan review	$5,000	$1,500 to $3,000

The proposed fee schedule was reviewed by the Conversion Technology Rulemaking Advisory Committee. During the advisory committee meetings, committee members reviewing the fees thought they were very reasonable and possibly lower than they should be, and no committee member expressed concern that the fees were too high.

b) DEQ understands the argument that special higher fees should be created for permits for experimental facilities. DEQ's experience has been that these facilities require far more work and review than most other facilities, increasing DEQ costs. However, the number of facilities applying for permits that are experimental facilities is very small - usually less than one per year and can be absorbed by other permit fee revenue. Also, DEQ would like to encourage new technologies that may result in better management of solid waste, and does not want to discourage the establishment of those facilities through high permit fees.

18. Rule Update [Commenter 9]

a) Rules should include a provision for an update or revision of the rules in two years. (9)

DEQ Response

In accordance with statutory requirements (Oregon Revised Statute 183.405), DEQ will review the conversion technology rules within five years of rule adoption to determine if adjustments are necessary.

Commenters

Below is a listing of the 10 people and organizations that submitted comments on the proposed rules. These comments were submitted by the deadline for submitting public comments. The original comments are on file with DEQ.

1 **Commenter:** Roy Brower **Affiliation:** Metro
This commenter submitted comments under Comment 3, 7, 14, and 15 in the *Summary of comments and DEQ responses* section above.

2 **Commenter:** Roger Dilts **Affiliation:** Clean Water Services
This commenter submitted comments under Comment 6 in the *Summary of comments and DEQ responses* section above.

3 **Commenter:** Tina Galloway **Affiliation:** Stahlbush Island Farms
This commenter submitted comments under Comment 16 in the *Summary of comments and DEQ responses* section above.

4 **Commenter:** Mary Sue Gilliland **Affiliation:** Agri-Plas, Inc.
This commenter submitted comments under Comments 1, 4, 5, and 8 in the *Summary of comments and DEQ responses* section above.

5 **Commenter:** Andrew M. Kenefick **Affiliation:** Waste Management
This commenter submitted comments under Comments 1,5,8,9,10,11,12,13, and 17 in the *Summary of comments and DEQ responses* section above.

6 **Commenter:** Denise Luc & Kathy Hessler **Affiliation:** Friends of Family Farmers and Animal Law Clinic, Lewis and Clark Law School
This commenter submitted comments under Comments 16 in the *Summary of comments and DEQ responses* section above.

7 **Commenter:** Joe Miller **Affiliation:** Oregon Physicians for Social Responsibility
This commenter submitted comments under Comments 3, 4, 15, and 17 in the *Summary of comments and DEQ responses* section above.

8 **Commenter:** Kristan Mitchell **Affiliation:** Oregon Refuse and Recycling Association
This commenter submitted comments under Comments 1 and 2 in the *Summary of comments and DEQ responses* section above.

9 **Commenter:** Ross M. Patten **Affiliation:** Agilyx, Inc.
This commenter submitted comments under Comments 1, 10, and 18 in the *Summary of comments and DEQ responses* section above.

10 **Commenter:** Jeanne Roy **Affiliation:** Center for Earth Leadership
This commenter submitted comments under Comments 3, 4, 11, and 17 in the *Summary of comments and DEQ responses* section above.

Comments received after close of public comment period
DEQ did not receive any comments after the close of public comment.