



Maryland Department of the Environment

Maryland Draft Composting Regulations

November 21, 2013

**Mid-Atlantic Chapter
Solid Waste Association of North America
Board Meeting**





Background

May 2011: Chapter 393, Acts of 2011 signed (study bill)

May 2012: Composting Workgroup formed

January 2013: Composting Workgroup Report published, containing regulatory recommendations

May 2013: Chapter 686, Acts of 2013 signed, providing regulatory authority for the regulations

March – September 2013: Technical Subgroup met monthly to develop regulations





Statutory Changes in 2013

1. Organics being composted in accordance with the new regulations are not “solid wastes” under Env. Art. 9-101(j) and therefore the facilities composting them do not require refuse disposal permits.
2. MDE is required to adopt new regulations establishing a permitting system and design and operational conditions specific to composting facilities.



Scope of the Regulations



Design and operation of composting facilities.



No changes to Natural Wood Waste Recycling Facilities
(COMAR 26.04.09)



No changes to sewage sludge composting facilities
(COMAR 26.04.06)



Composting of mixed MSW will still be handled through the
refuse disposal permit (COMAR 26.04.07)



No changes to MDA requirements relating to: product
registration, operator certification, labeling/product
classification, and compost testing



Definitions

Feedstock Types – Type 1



- Yard Waste
 - "Yard waste" means organic plant waste derived from gardening, landscaping, and tree trimming activities.
 - "Yard waste" includes leaves, garden waste, lawn cuttings, weeds, and prunings.
- Other materials with low level of risk of hazardous substances, pathogens, and contaminants.





Definitions

Feedstock Types – Type 2

- Pre- and post-consumer food scraps
- Non-recyclable paper
- Animal manure & bedding (Department approved)
- Industrial food processing materials (Department approved)
- Compostable products
- Other materials with low risk of hazardous substances and higher risk of pathogens and contaminants, relative to Type 1.





Definitions

Feedstock Types – Type 3

- Sewage sludge & biosolids
- Septage
- Used diapers
- Mixed MSW
- Other materials with higher risk of pathogens and contaminants, relative to Types 1 and 2.





Definitions

Facility Tiers

- **Tier 1:** Accepts only Type 1 materials (yard waste)
- **Tier 2:** May accept Types 1 & 2, but not Type 3.
 - Tier 2 Small → produces $\leq 10,000$ cy of compost per year.
 - Tier 2 Large → produces $> 10,000$ cy of compost per year.
- **Tier 3:** Accepts any Type 3 (regardless of whether Types 1 and/or 2 also accepted)
 - Handled through refuse disposal permit or sewage sludge permit. Not subject to these regulations.





Definitions

Stormwater vs. Contact Water

Contact Water.

- “Contact water” means liquid, including runoff from precipitation, that has been in contact with feedstocks or active composting material and runs off the feedstock receiving area, feedstock storage area, or active composting area.
- “Contact water” includes liquid that has passed through or emerged from feedstocks or active composting material and contains soluble, suspended, or miscible materials removed from the piles.

Stormwater.

- “Stormwater” means stormwater runoff, snow melt runoff, and surface runoff and drainage. (Federal definition)
- “Stormwater” does not include contact water.





Permit Requirements & Exemptions

Unless exempt, all Tier 1 and 2 facilities require a Composting Facility Permit (CFP).

Exempt facilities do not require a CFP.

1. **Backyard composting exemption** – Feedstocks generated on site; compost used on site (regardless of size).
2. **Small facility exemption** – Tier 1 and 2 facilities, where $\leq 5,000$ sq ft used in support of composting and any windrows or piles are no higher than 9 feet.
3. **Farms** – Permit requirement depends on the origin of feedstocks and the use of the compost.





On-Farm Composting Facilities

	Feedstocks from on site	Feedstocks from off site
Compost used on site	Exempt	Registration
Compost distributed	Not exempt – CFP required	Not exempt – CFP required

*A farm can also take advantage of the small facility exemption, if under 5,000 sq ft.





On-Farm Registration

The registration must include:

- A description of the facility and the site
- A description of feedstocks accepted and the approximate quantities
- The origin of the feedstocks accepted from off site.

The Department has the option of requiring a registration facility to obtain a permit; otherwise the facility is exempt.





Existing Facilities – Compliance Schedule

Existing facilities (in operation at the time the regulations become effective) must submit an Existing Facility Notification within **60 days** of effective date.

Must come into compliance by **July 1, 2016** or upon expanding/changing operations.





General Restrictions & Specifically Prohibited Acts

These are the only requirements that apply to all composting facilities, even exempt facilities.

A person shall not engage in composting in a manner which will likely...

- Create a nuisance, harbor animals, cause an infestation
- Cause air pollution
- Cause a discharge of pollutants to waters of the State
- Harm the environment, create hazards to public health, safety, or comfort.





Facility Location

Setbacks:

- 50 feet from a property line
- 300 feet from a dwelling not owned by the operator
- 300 feet from a drinking water supply well; and
- 100 feet from a stream, lake, or other body of water

Other considerations:

- Follow any FAA guidelines for facilities located near airports
- May not be located in a floodplain (except if specifically approved)
- Comply with wetlands siting restrictions, if applicable
- Comply with restrictions on siting in Critical Areas, if applicable
- Comply with any local requirements (zoning, etc.)



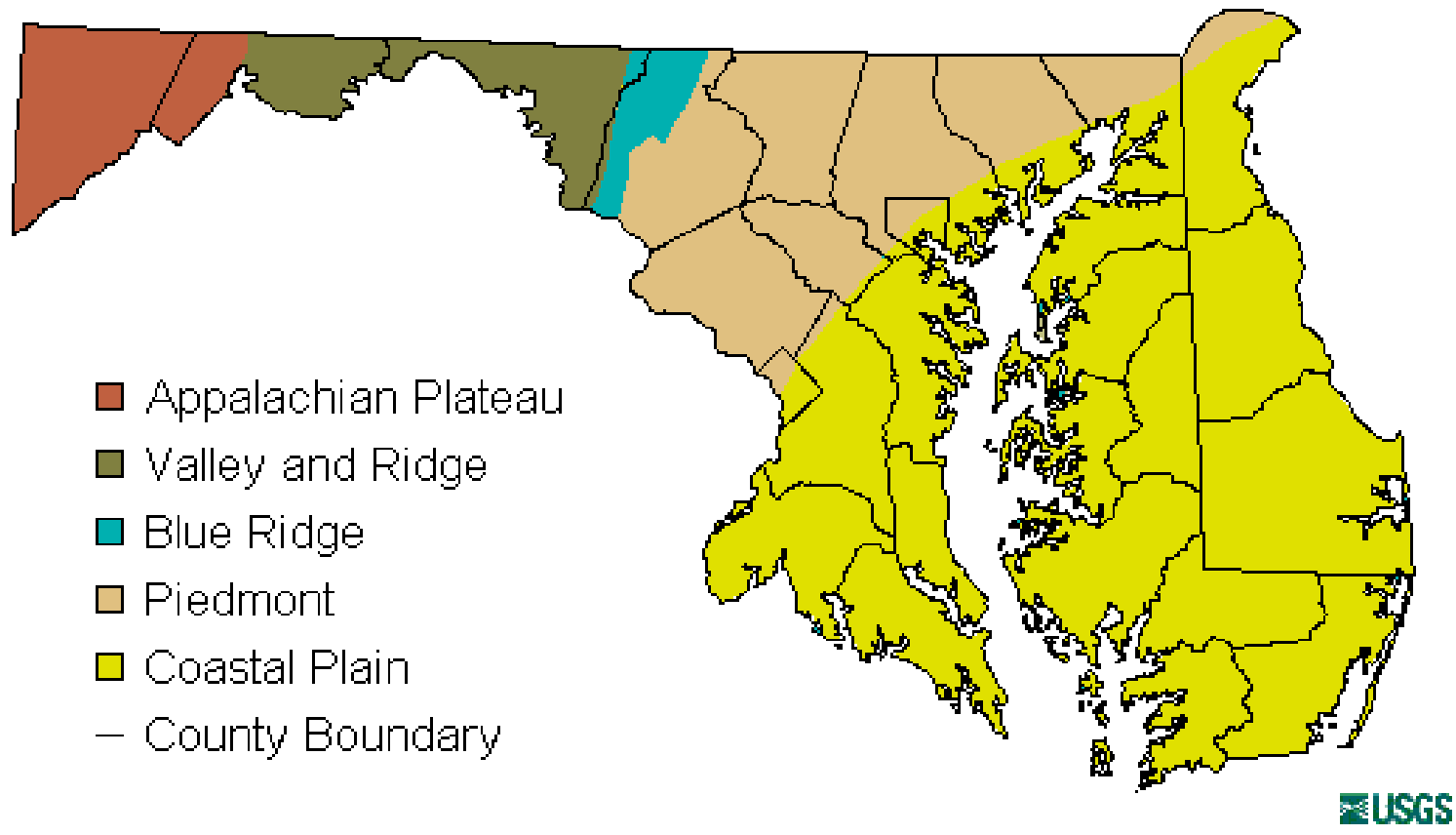


Distance to Groundwater

- Outside coastal plain province: 4 ft
- Inside coastal plain province:
 - 4 ft if no groundwater protection report applies to that location; or
 - The distance specified in groundwater protection report, but no less than 2 ft.
- Department may specify another distance if considered necessary due to site-specific hydrogeologic factors.



Physiographic Provinces of Maryland and Delaware



U.S.G.S., <http://md.water.usgs.gov/groundwater/physiomaps/>



Composting Pad - Slope

All surfaces used for feedstock receiving, active composting, curing, and compost storage must be sloped between 1 - 6 %.

For areas located indoors, the slope need only be sufficient to prevent ponding and facilitate cleaning – no percent is specified.





Composting Pad – Tier 1

Tier 1 – feedstock receiving, active composting, curing, and storage must be on an “all-weather pad.”

- This means “*a pad of sufficient construction, firmness, and grading so that composting equipment can manage the process during normal inclement weather, including expected rain, snow, and freezing temperatures.*”
- There is no permeability requirement for Tier 1, regardless of size.





Composting Pad – Tier 2 Small

- All-weather pad (same as Tier 1) AND
- A 6-inch layer of carbon-rich materials placed between the all-weather pad and each **active** composting pile (not curing or finished piles).

Note: As an alternative, Tier 2 Small facilities may opt to use the low-permeability pad required for Tier 2 Large facilities, but this will also subject them to the contact water collection requirements applicable to Tier 2 Large.





Composting Pad – Tier 2 Large

- **For curing and finished compost areas:** all-weather pad
- **For feedstock and active composting areas:** must have a low-permeability pad meeting the following criteria:
 - If the pad is constructed on the surface of the ground → 1 x 10⁻⁵ cm/sec or less;
 - If the pad is buried → 1 x 10⁻⁶ cm/sec or less;
 - A pad made of asphalt concrete or Portland cement concrete shall be designed to minimize the potential for cracking and allow equipment to operate without damage; and
 - A pad made of compacted clay shall have a minimum thickness of one foot and shall be protected from desiccation and installed in a manner such that the integrity will not be impaired by the operation of heavy equipment used on the pad.





Stormwater Management

Run-on: Structures such as berms or ditches shall be used to prevent run-on to the feedstock receiving, feedstock storage, active composting, curing, and compost storage areas.

Stormwater discharges associated with industrial activity must be managed in accordance with the NPDES permit issued by the Department, if required, and any State or local stormwater and sediment and erosion control requirements.

- Federal requirement: A NPDES permit is required for stormwater discharges where the facility's "primary industry" is composting.





Management of Contact Water

- **Tier 1** – No specific requirements
- **Tier 2 Small** – No specific requirements
- **Tier 2 Large** – Contact water must be collected from feedstock and active composting areas and contained prior to one of the following:
 - Reuse on composting piles
 - Transport off site for treatment at a permitted facility
 - Discharge pursuant to COMAR 26.08.01 - .04. (MDE surface or groundwater discharge permit).





Containment System for Contact Water

The collection basin, tank, or other containment system used to collect contact water shall:

(i) Be sized to handle at least a 24-hour, 25-year storm event;

(ii) Have a synthetic or compacted clay liner with a hydraulic conductivity of 1×10^{-7} cm/sec; and

(iii) If the liner is constructed of compacted clay, have a thickness of at least 1 foot.





Covered vs. Uncovered Facilities

“Covered” means covered with a synthetic low-permeability tarp or roof that prevents precipitation from contacting the materials.

For Tier 2 Large facilities in which the **active composting piles** are covered:

- Aisles between the covered piles do not need the low permeability pad
- Water that hits covered piles or aisles and runs off does not need to be managed as contact water (but liquid draining from underneath the piles still does).
- Containment size is not based on the 24-hour storm





Operational Requirements

- Department-approved operations plan:
 - Description of operational procedures
 - Description of methods, equipment, and feedstocks to be used
 - Maximum capacity of the facility and annual throughput
 - Plan to prevent nuisances, harborage and infestation of vectors
 - Description of methods used to control stormwater and contact water
 - Emergency preparedness plan (fires, explosions, etc.)
 - Plan for monitoring, temperature, oxygen, and moisture
 - Methods of handling unacceptable wastes
 - Employee safety training





Operational Requirements

- Finished compost may not be stored on site longer than 12 months, unless otherwise approved.
- **Tier 2 facilities:** all Type 2 feedstocks must be incorporated into composting piles, mixed with bulking material and covered, or transferred to leak-proof containment, by the end of the operating day.
- Additional requirement for **Tier 2 Small:**
 - 6-inch layer of compost or carbon-rich material must be placed over the active composting piles by the end of the day they are formed and each time the pile is turned.





Pathogen Reduction

- A temperature monitoring plan must be specified in the operations plan (including at least 3 daily temperature readings for the purpose of proving compliance with the pathogen reduction requirements).
- **For windrows:** there must be at least 15 days in which the average temperature for each day was 55 C or higher.
 - During this period, there must be at least 5 turnings with at least 3 days between the turnings.
 - The 15 days do not need to be consecutive.
- **For ASP and In-vessel:** there must be at least 3 days in which average temperature for each day was 55 C or higher.





Composting Facility Permits - 2 Options

Individual

- Requires submission of detailed application, including maps, drawings, site plans
- Each application is distributed to relevant state and local agencies for comment.
- The public is notified of the application via MDE's website and there is a written comment period, but no public meeting.
- The applicant may apply for variances
- Permit term is 5 years.

General

- Submissions consist only of a Notice of Intent and a copy of the operations plan.
- There is a public comment period and opportunity for a meeting on the general permit itself.
- But, no public notice or comment for each facility covered under the general permit.
- Variances are not allowed.

There are no fees associated with either type of permit.





Recordkeeping and Reporting

Recordkeeping:

- Keep records for 5 years.
- Records include: quantities and types of feedstocks received, quantity of compost produced, results of temperature and other monitoring, results of analytical testing required by MDA.

Annual Report:

- Quantities and types of feedstocks received, including the counties of origin; quantity of compost and residuals produced and distributed.
- A current version of the operations plan must be submitted with the report (required to be updated with any changes annually)
- Report is due **January 31** for previous calendar year. This is the same date as one of the MDA semi-annual reports.





Variations and Pilot Approvals

Variance

Available for individual permittees only

Applies for the entire permit term (unless rescinded)

May have a technological, environmental, or economic justification.

Proposed alternative must be equally protective of the environment.

Pilot or Research Approval

Available for general or individual permittees

Temporary – maximum duration is 1 year (but may reapply thereafter)

Must have a valid research or pilot purpose, such as:

- Test acceptance of Type 2 materials
- Conduct academic research
- Fulfill temporary or seasonal need for handling certain materials.





Closure

Submit notice of closure within 270 days after receipt of final load.

Notice of closure includes a plan to:

- Manage materials remaining on site
- Treat or remove contact water stored in containment structures
- Remove compost within 12 months of completion
- Remove other materials (not being composted) within 12 months of receipt of final load





Other Relevant Requirements

MDA requirements (COMAR 15.18.04) relate to product registration, operator certification, labeling/product classification, and compost testing.

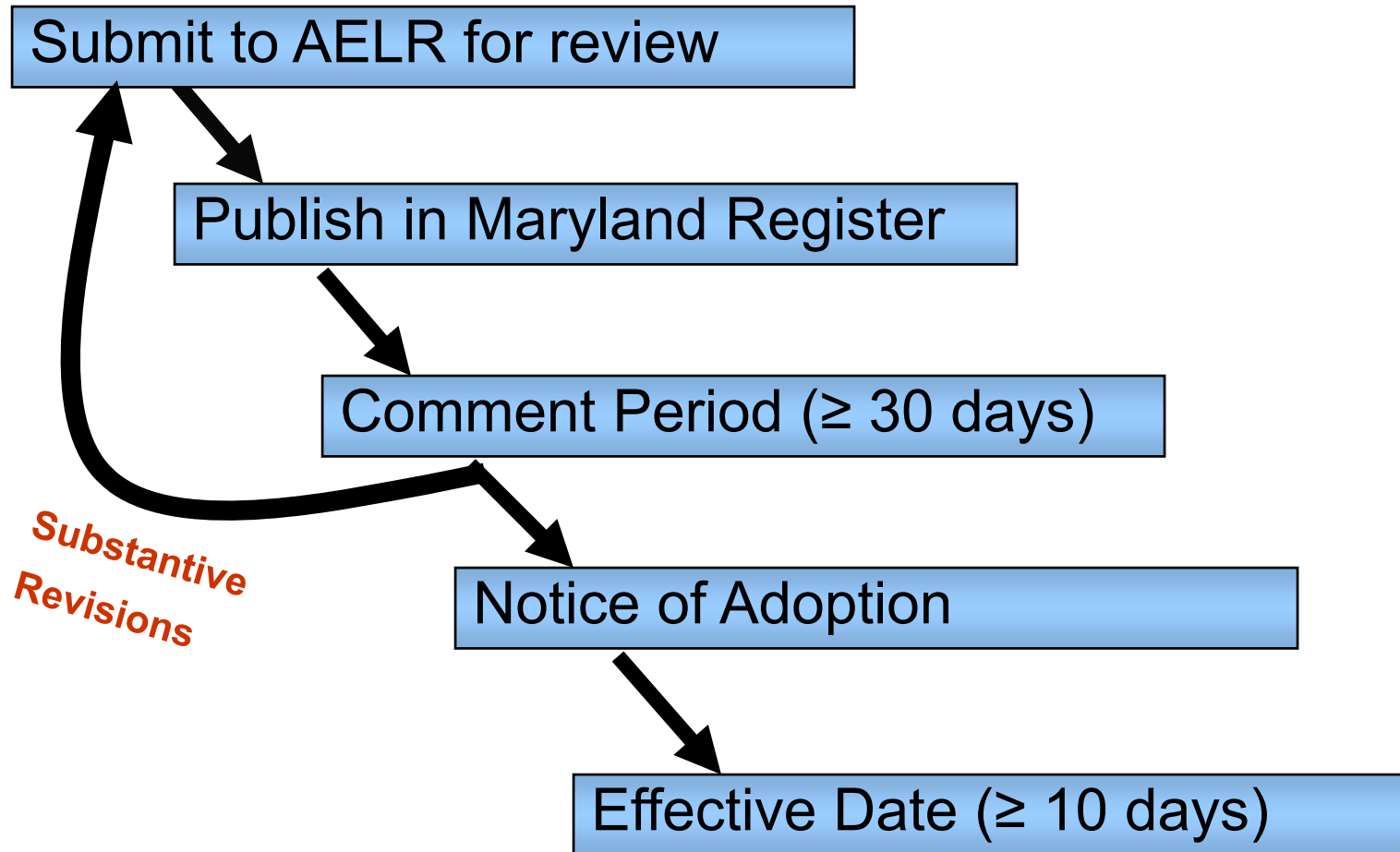
MDE Discharge Permits (COMAR 26.08.01 - .04)

MDE Air Permits (COMAR 26.11.02)

- No permits required for composting itself, but a permit to construct may be required for certain equipment, such as grinders.



Next Steps





Maryland Department of the Environment

Questions?

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