

Frequently Asked Questions: Draft Code of Practice for Compost Facilities

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General Questions

1. What are the main highlights of the draft Code of Practice for Compost Facilities?

- The draft Code of Practice for Compost Facilities builds on the [Standards for Compost Facilities in Alberta \(2007\)](#) and outlines the minimum requirements for design, construction, operation, monitoring, and closure of Class I and Class II Facilities.
- Further, the Code provides clear regulatory requirements for Class I and Class II Compost Facilities, and aligns with modern composting industry best practices. The draft Code of Practice for Compost Facilities and Acceptable Feedstock List for Compost Facilities outlines the following:
 - Well-defined list of acceptable feedstock for the different classes of compost facilities
 - Detailed requirements for facility design plan and specifications, operations plan, soil conservation plan, fire prevention, and control plan, and nuisance management plan.
 - Detailed requirements for odor management and process for responding to odor complaints.
 - Enhanced protection of water quality through more detailed groundwater monitoring requirements for Class I Compost Facilities.
 - Environmental setback requirements for Class I and Class II Compost Facilities.
 - New provision for pilot projects to promote innovation and cut regulatory red tape.
 - New provisions for vermicomposting and dead animals composting requirements.
 - Detailed environmental monitoring standards for Class I and Class II Compost Facilities.

- Harmonization with British Columbia by creating a new provision for Qualified Professionals to sign off on application documents for Class I and Class II Compost Facilities.
- Harmonized engineered liner requirements with manure storage requirements under the *Agricultural Operations Practices Act*.
- Mandatory tonnage reporting requirements for Class I and Class II compost facilities to inform Alberta Environment and Parks' waste performance measures.
- Transitional considerations for compost facilities already in operation under the existing composting regulatory framework.

2. How does the updated Compost Code of Practice streamline Alberta's composting regulatory framework and cut red-tape?

- The updated Code of Practice for Compost Facilities will streamline Alberta's composting regulatory framework and cut regulatory red-tape by repealing the four regulatory and guideline documents listed below with one updated Code:
 - Code of Practice for Compost Facilities (1996)
 - Leaf & Yard Waste Composting Manual (1999)
 - Mid-Scale Composting Manual (1999)
 - Standards for Composting Facilities in Alberta (2007)
- The updated Code will provide local governments with more confidence to approve new compost facility development permits with less conditions and less public complaints.

3. Will the repeal process affect compost facilities under an *Environmental Protection and Enhancement Act* (EPEA) approval that reference the Standards for Composting Facilities?

- No, compost facilities under an approval will still have to follow the conditions of their approval and any references in the approval from the Standards for Composting Facilities.

4. Does the updated Code allow proponents of new compost facilities to propose performance-based solutions that deviate from the prescriptive requirements of the Code?

- Yes, the updated Code of Practice for Compost Facilities employs a hybrid regulatory approach of prescriptive and performance-based approach. This means, proponents of new compost facilities can propose performance-based solutions that deviates from the Code as long as the proposed solution is superior to the requirements outlined in the Code.

Applicability and Compliance with the Code of Practice

5. Which compost facilities are the Code of Practice for Compost Facilities applicable?

- The Code applies to:
 - Class I Compost Facility that accepts not more than 20,000 tonnes of feedstock per year; and
 - Class II Compost Facility that accepts not more than 20,000 tonnes of vegetative matter or manure per year.
- The Code does not apply to:
 - Class I or Class II Compost Facilities that accept more than 20,000 tonnes of feedstock per year.
 - a compost facility that receives only sludge as defined in the Wastewater and Storm Drainage Regulation (AR 119/93).
 - a residential composter as defined in the Activities Designation Regulation (AR 276/2003).
 - a manure storage facility as defined in the *Agricultural Operation Practices Act*.

6. Why should Class II compost facilities under a Notification comply with the Code of Practice for Compost Facilities?

- Section 24(2) of the Waste Control Regulation (AR 192/96) stipulates that the person responsible for Class II compost facility shall ensure that the compost facility is sited, designed, constructed, operated and reclaimed so as to meet, as a minimum, the standards and requirements set out in the Code of Practice for Compost Facilities.

7. Are amendments accepted at a compost facility included in the less than 20,000 tonnes feedstock per year permitted capacity for Class I and II Compost Facilities?

- Yes, Alberta Environment and Parks include amendments accepted by a composting facility from offsite sources in all calculations of permitted capacity. However, amendments that are screened out and subsequently recycled and re-used are **not** included as part of the permitted capacity calculations.
- Example: Assuming a Class I compost facility processes the following:
 - Feedstocks accepted = 14,000 tonnes per year
 - Amendments from offsite sources = 5,000 tonnes per year
 - Amendments recycled and re-used within facility = 3,000 tonnes per year
 - **Permitted capacity = 19,000 tonnes per year**

**Compost
Facilities
Application
Requirements**

8. Which documents do the proponents of Class I or Class II Compost facilities have to submit to the Director for authorization?

- The person responsible for a proposed Class I or Class II Compost Facility shall submit the following documents to the Director for authorization.

Class I Compost Facility	Class II Compost Facility
<ul style="list-style-type: none"> • Registration application form 	<ul style="list-style-type: none"> • Notification form
<ul style="list-style-type: none"> • Class I Compost Facility checklist 	<ul style="list-style-type: none"> • Class II Compost Facility checklist
<ul style="list-style-type: none"> • Facility design plan and specifications 	<ul style="list-style-type: none"> • Facility design plan and specifications
<ul style="list-style-type: none"> • Soil conservation plan 	<ul style="list-style-type: none"> • Soil conservation plan
<ul style="list-style-type: none"> • Operations plan 	<ul style="list-style-type: none"> • Operations plan
<ul style="list-style-type: none"> • Fire prevention and control plan 	<ul style="list-style-type: none"> • Fire prevention and control plan
<ul style="list-style-type: none"> • Nuisance management plan 	<ul style="list-style-type: none"> • Nuisance management plan
<ul style="list-style-type: none"> • Odour management plan 	<ul style="list-style-type: none"> • Odour management plan.
<ul style="list-style-type: none"> • Groundwater monitoring plan 	
<ul style="list-style-type: none"> • Background groundwater quality report 	
<ul style="list-style-type: none"> • Financial security 	

9. Referring to Section 5(1)(2)(a)(iii), why is the facility design capacity of each processing area in volumes (m³) instead of weights of feedstock and amendments (tonnes)?

- The quantity of feedstocks and amendments delivered to compost facilities are usually recorded by weight in tonnes. However, the design of capacity of processing areas and equipment are typically based in

volumetric units (m³). This is due to the wide variations in density and moisture content of feedstocks and amendments processed at compost facilities. Also, it gives credence to the fact that the mass feedstock and amendments decompose during the composting process resulting in changes to the mass of materials.

- Further, the design capacity of each processing area, and the entire facility will be determined based on the number of windrows and stockpiles that could be present at any given time at the facility. To calculate the maximum volume of each processing area, the maximum volume and dimension of piles and windrows will be utilized.
- The use of maximum pile sizes to regulate capacity prevents the creation of large compost piles, which may result in the production of offensive odors and other nuisance issues.

10. Referring to Section 5(1)(2)(a)(iii) of the Code, why is Alberta Environment and Parks requiring Class I and Class II Compost facilities to provide information about their design capacity including maximum capacity for all processing and storage areas as part of the design report?

- The requirement for the person responsible for a Class I or Class II Compost facility to provide information about their compost facility's capacity ensures that compost facilities are being operated within their authorized design capacity. The person responsible for a Class I or Class II Compost facility will be required to submit a design capacity including the following:
 - Maximum feedstock preparation area capacity;
 - Maximum amendment storage area capacity;
 - maximum processing area capacity;
 - maximum curing area capacity;
 - maximum product storage area capacity; and
- Exceeding the Director authorized design capacity for a compost facility can lead to several problems including:
 - Backlogs of unprocessed feedstock and excessive compost pile heights, such conditions commonly lead to offensive odours;
 - Attraction of birds and rodents; and
 - Increased risk of fires

11. What is the essence of the odour contingency response plan?

- Improper operation and mismanagement of a compost facility can result in the creation of offensive odours. Should odours develop at a compost facility, the person responsible must immediately implement their

Director authorized odour contingency plan to take the necessary actions including but not limited to identifying the specific source(s) of the odours and take corrective actions to mitigate the odour.

12. How can existing Class I Compost Facilities establish background groundwater quality?

- As per Section 5(6), existing Class I Compost Facilities shall establish background groundwater quality by using historical data or by obtaining groundwater samples from monitoring wells established in nearby areas not affected by composting activity.

13. Which compost facilities are required to post financial security?

- As per Section 27 of the Waste Control Regulation, Class I Compost Facilities under a registration are required to post financial security.

Pilot Projects 14. What type of projects constitute a pilot project?

- As per the Code, pilot projects are projects where the specific purpose is to investigate the suitability of an alternative feedstock not listed in Acceptable Feedstock List for Compost Facilities, published by Alberta Environment and Parks, as amended, or projects for technology demonstration to determine the suitability of a novel composting technology prior to its commercial application if:
 - the composting technology has not been used in Alberta before,
 - the operating period, excluding construction, set-up time and decommissioning but including down time, does not exceed 3 months, or
 - the total amount of feedstock that is processed during the operating period does not exceed 500 tonnes.

15. What is the purpose of the new pilot projects provision?

The purpose of the new pilot provision is to promote innovation and cut regulatory red-tape. At the moment composting activities involving the use novel feedstocks or composting technologies not contemplated in the Code, require an *Environmental Protection and Enhancement Act (EPEA) Approval*. The EPEA approval process is often tedious and time-consuming, and could take up to 18 months to get authorization to commence operation. The new provision will create an alternative path for proponents to conduct a pilot to determine the viability of a novel feedstock or composting technology. This provides the Director with the required information to make an informed decision on whether a proposed activity

should be classified as either a Registration or Notification instead of an EPEA Approval.

16. What is the timeline for converting a pilot project to a permanent activity or facility?

To convert a pilot project into a fully authorized Class I or Class II Compost Facility or permanent activity, the person responsible shall submit an application to the Director for authorization, within ninety (90) calendar days of the pilot project completion.

Changes to Plans or Person Responsible

17. Does the person responsible for a Class I or Class II notify the Director in writing about changes to compost facility ownership or changes to plans submitted as part of the application process?

- Yes, Section 7 of the Code stipulate that the person responsible for a Class I or Class II Compost facility shall notify the Director in writing within 30 days if there are any changes to the Person Responsible for a compost facility or changes to authorized plans in which the proposed change is a fundamental change to the authorized composting activity or has potential impacts to the facility or the environment.
- The plan changes requiring Director notification as described above include:
 - Design Plan and specifications
 - Operations Plan
 - Fire Prevention and Control Plan
 - Odour Management Plan
 - Groundwater Monitoring Program
 - Nuisance Management Plan

Construction Specifications

18. Is it possible to start construction and development work for a proposed Class I or Class II Compost Facility without authorization from the Director?

- No, the person responsible for a proposed Class I or Class II Compost Facility shall not commence construction until a Registration has been issued by the Director for a Class I Compost Facilities or the Director has acknowledged receipt of Notification for Class II Compost Facilities.

19. Are alternative liner materials other than clayey material acceptable for retention pond liner or compost facility processing areas liner construction?

Facility Operations

- Yes, the Code permits the use of alternative liner materials such as geomembrane, concrete or asphalt as long as the material provides equivalent or superior performance to a natural protective layer.

20. Is the requirement for certified operators mandatory? in Section 9(2) of the Code mandatory?

- Yes, the requirement for certified compost operators is mandatory as per Section 25 of the Waste Control Regulation. A Class I or Class II Compost Facility shall be supervised by a Certified Operator during the hours of operation of the facility.
- For more information about the requirements for certified compost facility operators, please check out the link:
<https://www.alberta.ca/landfill-and-composting-facility-operator-certification.aspx>

21. Why is the acceptable feedstock list not listed in the Code of Practice for Compost Facilities?

- The publication of the feedstock list in a separate document, *Acceptable Feedstock List for Compost Facilities*, allows AEP staff to quickly update the acceptable feedstock list without any delays anytime there is a novel feedstock authorized for composting without going to through the lengthy process of amending the Code.

22. Are there any prohibited feedstock materials for Class I or Class II Compost Facilities?

- Yes, any feedstock material not listed on the Acceptable Feedstock List for Compost Facilities is a prohibited material that should not be accepted at a Class I or Class II Compost Facility. Some prohibited materials include but not limited to asbestos or asbestos containing materials, biomedical waste, hazardous waste, car wash sump waste, sulfur containing waste materials, drywall waste, hydrovac waste, industrial sump and pit wastes.

23. How long should feedstock accepted at a compost facility be stored?

- As per Section 9(5)(c) of the Code, all feedstock accepted at a compost facility shall be pre-processed and mixed with amendments as required, and incorporated into active composting piles within 24 hours upon receipt at the compost facility.

24. How long should amendments be stored at a compost facility?

- As per Section 9(5)(d) of the Code, amendments shall be stored at a compost facility for a maximum of 12 months from the date of receipt.

25. What are the key operational requirements in the Code to mitigate offensive odours at Compost Facilities?

- The operational practices in the Code to mitigate and address the root causes of offensive odours include:
 - Feedstock pre-processing and incorporation into active composting pile within 24 hours upon receipt at compost facility.
 - Requirement for Class I or Class II compost facilities compost recipe design for initial composting materials mix carbon-to-nitrogen (C:N) of 20:1 to 40:1. A mixture with a C:N ratio less than 20:1 may result in accelerated microbial growth and the excess nitrogen will readily form ammonia and odorous compounds. In such composting material mixtures, oxygen will be consumed rapidly generating excess heat, both of which results in anaerobic conditions and generation of offensive odours.
 - Compost recipe pH range requirement of 6 to 8. Maintaining a proper acid-base balance of the compost is vital for controlling odors. Deviation from a neutral range (6-8), either lower or higher, results in reduced biological performance and higher likelihood of producing odorous compounds.
 - Compost pile height, size, and configuration: windrow piles shall not exceed 12 feet high by 25 feet wide at the base. Pile height for static piles employing the static composting method shall not exceed 16.4 feet or 5 meters.
 - Requirement to turn windrow compost piles during high temperature pathogen reduction period including when temperature of compost piles exceeds 65° C. When temperatures rise above 65 °C the microorganisms suffer the effects of high temperatures and the composting process slows down. Excessive temperatures can increase the rate of emission of volatile odorants from the compost mass resulting in the generation of offensive odours.

26. What are the storage requirements for finished compost?

- Finished compost individual stockpile shall not exceed 5000 m³ in volume and 25 feet in height.

- Finished compost shall be stored in a manner that maintains moisture content of between 35% and 50%.

**Environmental
Monitoring
Standards**

27. What are the sampling requirements for finished compost or vermicompost?

- Class I or Class II Compost facilities are required to collect a minimum of one representative composite sample comprising 15-sub-samples representative of the entire volume of the finished compost or vermicompost pile.
- The sampling and testing is carried out for every 1000 tonnes (dry weight) of batch compost or vermicompost produced or once per year, whichever one comes first.

**Reporting and
Record
Keeping**

28. What are the mandatory reporting and record keeping requirements for Class I or Class II Compost facilities?

- Operating Record: shall be established and maintained for a Class I or Class II compost facility until the end of final closure period. The person responsible for a compost facility shall only submit the operating record to the Director upon request.
- Monitoring records for sampling or analysis performed by a Class I or Class II compost facility shall be retained for at least 5 years as per Section 39 of the Waste Control Regulation. The person responsible for a compost facility shall only submit monitoring records to the Director upon request.
- Tonnage report shall be submitted by the person responsible for a Class I or Class II to AEP's online Waste Measurement System on a yearly basis by March 31st of the year following the year on which the report was based. Compost facilities who do not have access to a scale can estimate the quantity of feedstock processed.

- Annual Report shall be prepared by the person responsible for a Class I or Class II Compost facility. The person responsible shall only submit annual report to the Director upon request.

Final Closure 29. When should the person responsible for a Class I or Class II Compost Facility notify the Director about closure plans?

- The person responsible for a Class I or Class II Compost Facility shall notify the Director in writing about final closure of compost facility by submitting a final closure plan within 6 calendar months after the final acceptance of feedstock at the facility.

Transition for Existing Facilities 30. What are the transitional considerations for existing and already operating Class I or Class II Compost Facilities?

- Transitional considerations and compliance schedule for existing Class I and Class II Compost Facilities can be found in Schedule 1 of the Code of Practice.