Ontario’s New Compost Framework
What is it all about?

Presentation to Compost Council of Canada’s Annual Conference
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Ministry of the Environment
These slides provide summary information about Ontario’s new compost framework and the related amendments to Reg. 347 made under the EPA and O. Reg. 267/03 made under the NMA. The slides are provided for educational use, and are not complete or exact reproductions of the regulatory framework. They are not intended, or to be used, as advice, legal or otherwise, about the requirements of the regulatory framework. Such advice should be obtained from competent experts, including lawyers. Where there is a discrepancy between anything in these slides and any part of the regulatory framework, the regulatory framework prevails.
Intended Outcomes of Framework

Goals:
- Support increased diversion of organics from landfill
- Improve best practices in the compost industry
- Return nutrients and organic material to soil
  - Promote plant growth, improve soil quality, reduce reliance on chemical fertilizers
- Support the growth of Ontario’s compost industry
- Align Ontario more closely with CCME* and other provinces

Guiding Principles:
- Provide up-to-date guidance for facility operators
- Update standards to encourage composting of more materials such as biosolids
- Help improve facility operations and prevent environmental impacts
- Ensure compost use continues to be protective of the environment and human health
- Maintain the most stringent compost standards in Canada

* CCME – Canadian Council of Ministers of the Environment
New Framework in a Nutshell

1. Three categories of compost (AA, A and B) replacing the previous single category – set out in new document “Ontario Compost Quality Standards”
   - Replace the 1991, 2004 standards
   - Each category is associated with:
     - Risk-based quality standards: feedstock quality, metals, pathogens, maturity, foreign matter and labelling
     - Permitted uses which reflect product quality and application risks
     - Provides a new option for the management of biosolids and septage

2. Regulatory exemptions for Category AA or Category A compost (Reg. 347)
   - Exemption from need for approvals for transport and use of compost that meets specified standards

   - Covers facility siting, design and operation for a range of operations, with a focus on odour management
   - Provides much more detail than previous Guideline, addressing a broad range of key issues of concern for facility operators
Regulatory Amendments

- Compost that meets Category AA quality criteria or Category A quality criteria and labelling requirements will be:
  - Exempt from the approval requirements for use and transportation under Reg 347 under EPA
  - Excluded from the NASM requirements under the Nutrient Management Act, 2002 and O. Reg. 367/03
- Category B or organics not properly composted continue to be regulated as a “waste under the EPA and/or as a “NASM” under the NMA (on farm)
- Quality criteria in the Standards and the Regulation prevail over the compost quality and use provisions in the facility’s Environmental Compliance Approval (ECA) – subject to Phase-In period
Compost Standards - Key Revisions

Three categories:

- Category AA is based on Ontario’s previous compost standard with following changes:
  - Maintained stringent foreign matter standards;
  - Added pathogen testing standards for *E. coli* and *Salmonella*;
  - Revised and added maturity testing standards i.e. minimum curing time, respiration rate analysis;
  - Modified metals standards for feedstock - remain protective of the environment and human health; and
  - Removal of the PCB testing requirement - analysis showed such low content in feedstock.

- Categories A and B are brand new categories.
  - Support the composting of additional materials, such as biosolids.
  - Biosolids only permitted as feedstock for Categories A and B.
## Compost Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
<th>Use</th>
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</thead>
</table>
| **AA (New)** Similar to previous | - Highest quality - use *Interim Guidelines* metals standards for finished compost  
- Adds pathogen standard – test for E. coli & Salmonella  
- Revises and adds maturity testing standards i.e. minimum curing time, respiration rate analysis  
- Maintains stringent foreign matter standards  
- Modifies metals standards for feedstock  
- Removes the PCB testing requirement  
- Feedstock may not contain sewage biosolids, pulp & paper biosolids or septage | - Category AA may be used without approvals, both on and off farm |
| **A (New)** | - Consistent with CCME Category A quality  
- Similar to Category AA but allows for slightly higher concentration of zinc and copper  
- May use biosolids as feedstock - maximum 25% of total feedstock on a dry weight basis  
- Must meet the metals standards for all input feedstock | - Category A must include label or bill of lading if sold in bulk, with:  
  - maximum application rate  
  - identification of any biosolids used as feedstock  
  - warning that product should not be used on soils with elevated copper or zinc concentrations  
- May be used without approvals, both on and off farm |
| **B (New)** | - Meets CCME Category B quality  
- Less restrictive metals and foreign matter standards than Category AA or Category A  
- No limit on amount of biosolids can use  
- Same feedstock standards as A | - Category B will continue to require government approval for use and transportation, i.e., ECA or EASR registration for transport and ECA for use off-farm or approved NASM Plan on-farm |
Use of Compost

Categories AA & A Compost
- Exempt from transport and use approvals under EPA
- All compost is considered a nutrient under the NMA
- When applied as a nutrient on land that already requires a Nutrient Management Plan or NASM plan, the compost must be applied in accordance with that Plan and Reg. 267/03

Category B Compost
- Not an exempt waste. Requires approval for use and transportation i.e., ECA or EASR registration for transport and ECA for use off farm or approved NASM plan on farm
- When applied to agricultural land as a nutrient, and meets Reg. 267/03, it is exempt from Part V and Reg. 347 for use, but not for transportation
- Typically not permitted for areas with regular human contact such as parks or residential areas; however, may be used as organic soil conditioner in applications like land reclamation, mining rehabilitation, reforestation, subject to an ECA
- May be used as daily, intermediate cover at a landfill that has an ECA that permits use of Category B compost as cover

Note: Compost products that are sold must also meet requirements of Federal Fertilizer Act & regulations, administered by CFIA
Sampling and Analysis

Sampling and analysis procedures are generally set out in the conditions of a facility’s ECA

- ECA conditions will generally reflect the guidance in Standards document
- Director may add or subtract conditions based on the facility or feedstock
- All sampling and analysis is the responsibility of owner/operator

Part IV of the Standards Document
- Sets out typical requirements for sampling feedstock and compost and provides guidance on laboratory analyses
- Recommends a written Sampling Plan and Standard Operating Procedures
  - Field samples are representative of the material being sampled;
  - The results are reproducible; and
  - That samples are collected, handled, and stored in a manner that minimizes any potential sources of contamination, bias or error
- Sampling plan must provide specific instructions for each feedstock material and finished compost, including frequency and number of laboratory submission samples required that depends on tonnage of compost produced and whether human biosolids are included as feedstock.
- Records, including log books must be kept for 5 years.
Compost Guideline at a Glance

*Guideline for the Production of Compost in Ontario* (Guideline)

- Sets out currently accepted best management practices and guidance for composting facilities
- Sets out guidance on odour control measures applicable to siting, design and management of composting facilities
- Key inclusions in the Guideline include:
  - Separation distances from sensitive receptors and buffer zones
  - Feedstock, including acceptance of plastic bags, compostable plastic bags, disposable diapers and sanitary items
  - Proper composting processes
  - Proper maintenance, operation, repair of equipment & systems
  - Odour impact assessment
**Separation Distances -- Odour Management**

- Composting facilities should be physically separated as far from other land uses as possible to help mitigate potential adverse effects such as odours, dust, litter, noise and potential impacts on surface water and groundwater.
- Some compost operators may need much larger separation distances to allow odours generated at the site to dissipate before they reach a neighbour’s property.

<table>
<thead>
<tr>
<th>Type of Facility</th>
<th>Distance to Nearest Sensitive Receptor</th>
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<tbody>
<tr>
<td>Outdoor leaf and yard waste only facilities</td>
<td>Shortest Distance</td>
</tr>
<tr>
<td>Enclosed facilities (defined in Appendix 1) &lt; 40,000 tonnes/year</td>
<td></td>
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<tr>
<td>Outdoor facilities with less than 1000 tonnes/year of non-leaf and yard waste</td>
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</tr>
<tr>
<td>feedstock (maximum 25% non-leaf and yard waste feedstock);</td>
<td></td>
</tr>
<tr>
<td>Semi-enclosed facilities (defined in Appendix 1) &lt; 40,000 tonnes/year;</td>
<td></td>
</tr>
<tr>
<td>Enclosed facilities 40,000 – 80,000 tonnes/year</td>
<td></td>
</tr>
<tr>
<td>Outdoor facilities with greater than 1000 tonnes/year of non-leaf and yard waste</td>
<td></td>
</tr>
<tr>
<td>feedstock (maximum 25% non-leaf and yard waste feedstock);</td>
<td></td>
</tr>
<tr>
<td>Semi-enclosed facilities 40,000 – 80,000 tonnes/year;</td>
<td></td>
</tr>
<tr>
<td>Enclosed facilities &gt; 80,000 tonnes/year</td>
<td></td>
</tr>
<tr>
<td>Semi-enclosed facilities &gt; 80,000 tonnes/year</td>
<td>Longest Distance</td>
</tr>
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### Factors that Reduce the Need for Separation Distance

<table>
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<tr>
<th>Factor</th>
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<tr>
<td>Sensitive receptors located upwind from facility, relative to prevailing winds</td>
</tr>
<tr>
<td>Favourable topography and vegetative buffer</td>
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<tr>
<td>Receipt of lower-odour feedstock (e.g., higher carbon materials like leaf and yard waste)</td>
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<tr>
<td>High degree of odour containment and control (from receipt to finished product)</td>
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<tr>
<td>Effective odour treatment</td>
</tr>
<tr>
<td>Facility design and odour control system well-demonstrated as successful</td>
</tr>
<tr>
<td>Flexibility and redundancy in facility design and operations to account for operational upsets and changing feedstocks or conditions</td>
</tr>
<tr>
<td>Low population density, and no particularly sensitive receptors such as hospitals nearby</td>
</tr>
</tbody>
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Implementation

Standards:

- **January 1, 2013** - regulatory amendments are now in force
  - 2-1/2 year transition period to allow facilities to adopt new standards for “exempt compost” in a reasonable timeframe (Exemptions during transition for facilities with ECA issued before Jan. 1, 2013).
  - Do not have to meet new foreign matter and maturity standards until July 1, 2015 provided comply with new Category AA standards for pathogens and all other conditions relating to quality of compost in ECAs.
- **July 1, 2015** - must meet all Category AA standards, or Category A standards and labeling requirements, in order to produce “exempt compost”
  - Do not need to amend existing ECA in order to meet the new standards.
  - Need to apply for ECA amendment if make changes to materials accepted (e.g., biosolids) or to the facility processes or equipment.

Guideline:

- **September 25, 2012** – Guideline in effect and forms basis for ministry approvals and abatement activities in relation to applicable facilities
  - Case-by-case basis when applying Guideline to existing facilities seeking ECA amendments.
Facility Approval Considerations

• Guidance on planning for and establishing a composting facility that produces compost that meets “Ontario Compost Quality Standards”, with minimal on and off-site environmental, community and public health impacts, such as odour.

• Considerations during application review process, i.e., submit studies, plans and reports, related to:
  • Site selection;
  • Site design; and
  • Prevention and control of potential adverse effects.

• May be reflected in ECA conditions, e.g., special measures to prevent or address operational issues: recipe development criteria, processing criteria.
Benefits for Biosolids Industry

• New option for sewage biosolids/septage management
  • Less odour, less pathogens for land applied materials; and
  • Creates a higher-quality soil nutrient that can be applied to land with fewer restrictions.

• Increase opportunities for municipalities to achieve diversion targets
  • Keep more organics out of landfills.

• Investment in composting infrastructure more attractive to industry and municipalities.

• Municipalities will be able to use Category B compost produced from mixed waste processing with an approval – either an NASM Plan on-farm or an ECA off-farm.
Benefits for Compost Industry

- More organic matter diverted from disposal
- Open more markets to Ontario’s compost industry
- Improve industry’s competitive position
- Better guidance:
  - Promote best management practices
  - Improve operations, minimize odour emissions & other off-site impacts
  - Reduce number of scale-backs and temporary shut-downs
  - Reduce public opposition to applications for approval for new facilities
- Three new categories for finished compost (AA, A and B):
  - The most stringent standards in Canada
  - Continue to ensure that compost use is protective of human health and the environment while allowing for the composting of more organics
- The more waste we keep out of landfills today, the cleaner the environment we leave for our children and grandchildren
Ontario’s Proposed Waste Reduction Strategy

- On June 6, 2013, the Ontario Government released a draft Waste Reduction Strategy for public comment, which included a proposal to create an organics strategy for Ontario. The Strategy is being consulted on together with Bill 91 – the proposed Waste Reduction Act.

- Stakeholders from the compost industry have commented that the timeline of four years for the development of an organics strategy, as proposed in the Waste Reduction Strategy, is too long. However, some municipalities have raised concerns over the lack of processing capacity in Ontario and would like to ensure that sufficient processing capacity exists for organics before implementing an organics strategy.

- We will continue to consult with Ontario residents, industry, municipalities and other stakeholders on the path forward for an organics strategy to increase the diversion of organic waste.
Thank You

- MOE website - includes “Ontario Compost Standards” & “Guideline for the Production of Compost in Ontario”.  


- If you have any questions about the new policy framework, or for more information, contact:
  - Stephen Jones - 416-314-4633 or by email stephen.jones2@ontario.ca
  - Ashley Smith - 416-212-4032 or by email ashley.smith@ontario.ca
  - Wendy Ren - 416-212-1128 or by email wendy.ren@ontario.ca
  - Stephanie Wheeler - 416-326-8207 or by email stephanie.wheeler@ontario.ca for non-haz waste related questions
  - Paul Sims - 519-873-5013 or by email paul.sims@ontario.ca for biosolids questions
Appendix 1: Additional Compost Quality Characteristics

End users may seek compost with characteristics or qualities particular to their use. Set out below are non-regulatory examples of specific qualities some end users may prefer for desired plant growth.

<table>
<thead>
<tr>
<th>These are not MOE regulatory criteria, but ranges of characteristics typical of good compost quality</th>
<th>From Compost Quality Alliance Voluntary program established by the Composting Council of Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle Size: &lt;25 mm</td>
<td>Soluble Salts (ms/cm)</td>
</tr>
<tr>
<td>Moisture: 40% - 50%</td>
<td>Remediation</td>
</tr>
<tr>
<td>Total Organic Matter: &gt; 30% dry weight basis</td>
<td>Soil Amendment</td>
</tr>
<tr>
<td>C/N Ratio: &lt; 22</td>
<td>Landscaping</td>
</tr>
<tr>
<td>pH: 5.5 – 8.5</td>
<td>Planting Media</td>
</tr>
<tr>
<td>Soluble Salts: &lt; 4 ms/cm</td>
<td>Turf</td>
</tr>
<tr>
<td>Sodium (Na): &lt;2% (equivalent to 20,000 mg/kg)</td>
<td>Potting Soil</td>
</tr>
</tbody>
</table>