

# Proposed Guideline to Address Odour Mixtures in Ontario

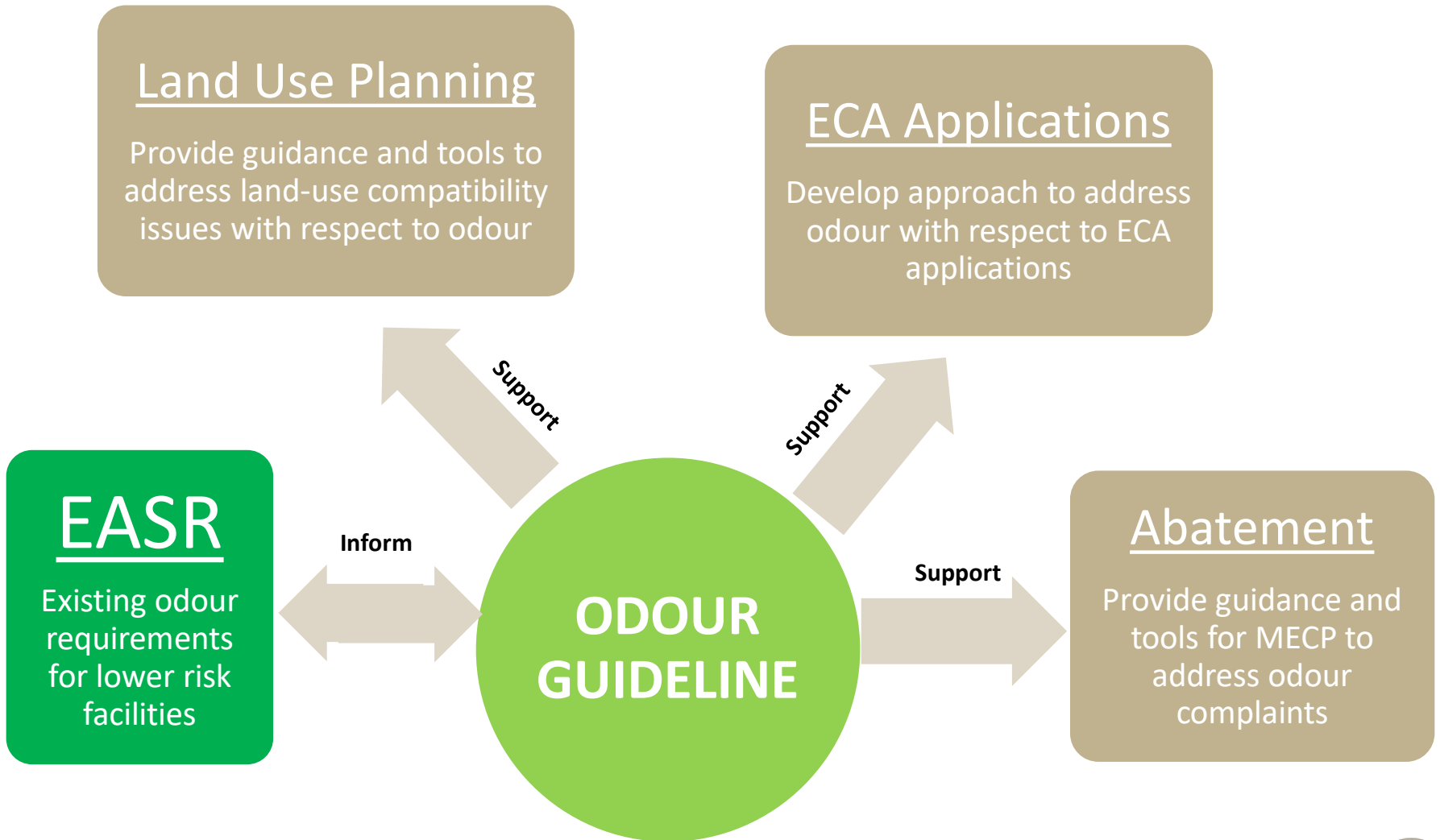
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# Proposed Odour Guideline Overview

The proposed guidance is based on a review of:

- 10 years of historical complaint data (2005-15) which identify different classes of facilities or processes that could be odorous.
  - Review of other jurisdictions' odour management approaches and current ministry practices.
  - Experience from field staff.
- Based on the review, odorous facilities and processes were identified and grouped into three tiers based on the potential to cause odour / odour complaints.
  - Using the odour tiers, the Odour Guideline developed requirements for odorous facilities based on increasing odour concerns:
    - outlines requirements for Environmental Compliance Approval submissions to proactively address odours,
    - outlines the steps for preparing an odour compatibility study as part of the land use planning process.
  - This approach is consistent with the tiered approach and requirements already in place for lower risk facilities registered to the environmental activity and sector registry (EASR).

# Proposed Odour Guideline – Linkages



# Examples of Tiers

Example Tier 1 Activities & Processes	Odour Setback
Blowing or expanding foam products	500 m
Meat and poultry processing	300 m
Plastic extrusion or melting	100 m
Low volume printing and spraying operations	100 m
Example Tier 2 Activities & Processes	Odour Setback
Asphalt paving mixture and block manufacturing	500 m
Vulcanized rubber product manufacturing	500 m
Composting – leaf and yard waste only	500 m
High volume printing and spraying operations	500 m
Example Tier 3 Activities & Processes	
Animal or poultry slaughtering	
Large wastewater treatment plants	
Rendering or tallow production	
Composting other than leaf and yard waste	

The odour setback distances indicate the distance between a major facility and a sensitive land use at which additional measures may need to be incorporated by a facility to avoid negatively impacting the sensitive land use from odour.

# Support to Land Use Planning

- The odour guidance and tools will support and link to the Land Use Compatibility (LUC) Guideline to assist planning approval authorities.
  - The ministry's LUC Guideline states that if required, a compatibility study for odour must follow the procedure listed in the Odour Guideline.
  - Odour compatibility studies will use odour Tiers and odour setback distances (different from AOs), with increasing requirements based on increasing odour concerns.
  - The land use proponent is responsible for the compatibility study, as well as any required odour minimization or mitigation.
  - In these cases, an agreement may be required.



# Proposed Odour Guideline: Requirements

- Depending on the odour potential, the Guideline will assist facilities with proactively addressing odour issues or speeding up remediation (if needed) through the preparation of:
  - Best Management Practices Plan to assist facilities with reducing odour as part of their day-to-day operations
  - Odour Technology Benchmarking Report to identify best technical options available, if looking to make changes to reduce odours
- The ministry would also support key sectors by developing Minimum Expectation Technical Bulletins over time that will provide examples of effective odour control options.

# Odour Compatibility Study

First step - what Tier??? What is odour setback distance???

## Compatibility Study involving 'Major Facilities' with Tier 1 Activities or Processes:

- For a proposal where a sensitive land use is outside the Major Facility's odour setback distance (i.e. major facility not located close to sensitive receptors), no further assessment will be required (unless requested by the planning authority during review of a land use application).
- For a proposal where a sensitive land use is within a Major Facility's odour setback distance, a BMPP would need to be in place at the facility to minimize / mitigate odour.

# Odour Compatibility Study

## Odour Compatibility Study Involving 'Major Facilities' with Tier 2 Activities or Processes:

- For a proposal involving a facility with a Tier 2 activities or processes, a BMPP would need to be in place at the facility to minimize or mitigate odour.
- If the proposal results in a sensitive land use within the Major Facility's odour setback distance, assessment is required to determine if/how odour needs to be further minimized/mitigated:
  - if a technical bulletin (minimum expectations) has been developed, the facility needs to meet the level of odour control outlined in the technical bulletin;\*
  - otherwise, an OTBR must be developed to determine if/what additional controls may be required.\*
  - Mitigation plan may be required

\*Note: any required documents or mitigation as a result of the odour compatibility study will be the responsibility of the land use proponent



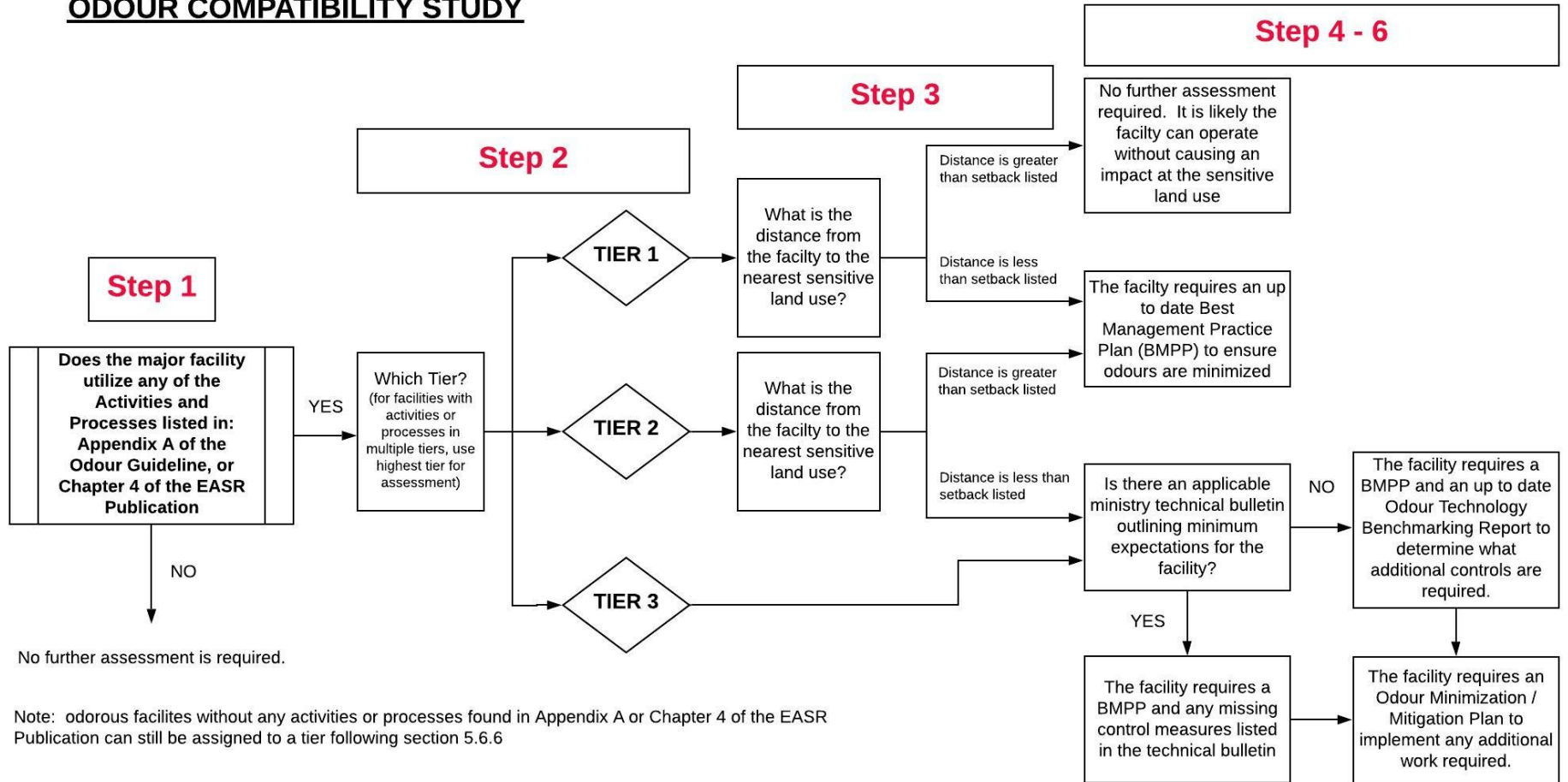
# Odour Compatibility Study

## Odour Compatibility Study Involving 'Major Facilities' with Tier 3 Activities or Processes:

- For a proposal involving a facility with a Tier 3 activities or processes, a BMPP would need to be in place at the facility to minimize/mitigate odour.
- Additional assessment is also required to determine if/how odour needs to be further minimized or mitigated:
  - if a technical bulletin (minimum expectations) has been developed, the facility needs to meet the level of odour control outlined in the technical bulletin;
  - otherwise, an OTBR must be developed to determine if/ what additional controls may be required.
  - Mitigation Plan may be required.
- It should be noted that the LUC Guideline has also developed 'minimum separation distances' (MSDs). The Odour Guideline states that if a proposal results in a sensitive land use within a Major Facility's MSD, additional work may be required (and in some cases no amount of control may be able to minimize or mitigate odour to an acceptable level).

# Odour Compatibility Study

## ODOUR COMPATIBILITY STUDY



# Questions to Inform Feedback

The type of feedback for the ERO posting would include consideration of the following questions:

1. Is the proposed Odour Guideline clear and easy to understand? If not, what do you find unclear?
2. What do you think of the process/activity specific approach to the tiers?
  - a) Does the facility-specific approach provide greater certainty and clarity for those sectors?
  - b) Are the odour setbacks and tiers proposed appropriate?
  - c) Are any activities or processes miscategorized or missing?
3. Do you feel that the odour guidance will be effective at avoiding, minimizing, and mitigating compatibility issues?
4. Should Planning Authorities be able to allow proponents to prepare an OTBR instead of following the minimum expectations in situations where this may be too onerous (e.g. small major facility, and proposal results in sensitive land use JUST inside the AOI)?
5. Do you have further suggestions related to how to address odour mixtures in areas undergoing intensification?

# Appendix A - Proposed Tier 1 Facilities

NAICS Code	Description	Tier	Odour Setback Distance (m)
221320	Municipal and private communal wastewater facilities (design capacity of facility < 25,000 m <sup>3</sup> /day)	1	500
325510	Paint and coating manufacturing	1	500
324121	Asphalt paving mixture and block manufacturing (portable)	1	500
325520	Adhesive manufacturing	1	500
325910	Printing ink manufacturing	1	500
	25 additional NAICS codes listed in <a href="#">EASR Publication</a>		

Odorous Process	Tier	Odour Setback Distance (m)
Blowing or expanding foam products	1	500
Crematory	1	200
Meat and poultry processing	1	300
Landfills	1	2000
Plastic extrusion or melting	1	100
Printing (printing rates > 100kg/hr, and < 400 kg/hr)	1	100
Process using resins	1	250
Scented products manufacturing (<10 million kg/year)	1	500
Spraying operations (< 10 L/hr)	1	100
Thermal Treatment of Waste (non-biomass)	1	2000
Waste Transfer and/or Processing Station – indoor (residential & ICI)	1	150

**Note: For land use planning, Odour Setback Distances are for compatibility studies only (and are not the same as AOIs)**

# Appendix B - Proposed Tier 2 Facilities

NAICS Code	Description	Tier	Odour Setback Distance (m)
221320	Municipal and private communal wastewater facilities (design capacity of facility > 25,000 m <sup>3</sup> /day and ≤ 100,000 m <sup>3</sup> /day)	2	500
322121	Paper (except newsprint) mills	2	1000
322122	Newsprint mills	2	1000
322130	Paperboard mills	2	1000
324121	Asphalt paving mixture and block manufacturing	2	500
324122	Asphalt shingle and coating material manufacturing	2	500
	3 additional NAICS codes listed in <a href="#">EASR Publication</a>		

Odorous Process	Tier	Odour Setback Distance (m)
Cooking or drying animal products	2	500
Composting – leaf and yard waste only	2	500
Food frying	2	350
Printing (printing rates ≥ 400 kg/hr)	2	500
Scented products manufacturing (≥10 million kg/year)	2	500
Spraying operations (≥10 L/hr)	2	500
Vulcanized rubber product manufacturing	2	500
Waste transfer and/or processing station - outdoor (residential or IC&I)	2	500

**Note: For land use planning, Odour Setback Distances are for compatibility studies only (and are not the same as AOIs)**

# Appendix C - Proposed Tier 3 Facilities

NAICS Code	Description	Tier	*Odour Setback Distance (m)
221320	Municipal and private communal wastewater facilities (design capacity of facility > 100,000 m <sup>3</sup> /day)	3	n/a
311221	Wet corn milling	3	n/a
311224	Oilseed processing	3	n/a
311225	Fat and oil refining and blending	3	n/a

Odorous Process	Tier	*Odour Setback Distance (m)
Anaerobic digestion	3	n/a
Animal or poultry slaughtering	3	n/a
Biofuel production	3	n/a
Composting other than leaf and yard waste	3	n/a
Ethanol production	3	n/a
Rendering or tallow production	3	n/a
Thermal Treatment of biomass, other than woodwaste	3	n/a
Waste transfer and/or processing station (putrescible)	3	n/a

*Note: For land use planning, Odour Setback Distances are for compatibility studies only (and are not the same as AOIs)*

\* There are no proposed set back distances for Tier 3 facilities.

# Appendix D – Best Management Practices Plan

- An effective Best Management Practices Plan (BMPP) integrates odour management activities into the daily routine of site staff to ensure practices and procedures for the management and mitigation of potential odour issues become routine.
- Best management practices would require facilities to identify sources of odour and ensure proper odour management.
- These are typically low-cost and practical solutions such as better housekeeping (e.g. proper handling/storage of odorous materials) and do not generally involve additional engineering, significant process modifications, or the installation of additional pollution control equipment.
- When preparing a BMPP, facilities should follow the ministry's Technical Bulletin 'Best Management Practices for Industrial Sources of Odour' (<https://www.ontario.ca/page/best-management-practices-industrial-sources-odour>).

# Appendix E - Odour Technology Benchmarking Report

- An Odour Technology Benchmarking Report (OTBR) ranks and assesses the technical feasibility of applicable odour control strategies at a facility.
- The goal of the OTBR is to provide the facility with information to ensure transparent and thoughtful decisions are made when choosing control strategies for odour, and includes:
  - a technical and jurisdictional review to identify all potential options for controlling odours;
  - off-property odour dispersion modelling for the proposed facility or modifications and for potential odour reduction opportunities;
  - a list of all technically feasible pollution controls and strategies to reduce odour at the facility; and
  - a ranking of all options and combination of options based on reducing odour at off-property receptors.
- This information would help facilities develop an action plan if odour issues arise and save facilities time and money by reducing likelihood of implementing ineffective abatement plans or controls.
- The ministry is also preparing an example OTBR to clarify requirements.



# Appendix F - Minimum Expectations

- Over time, the ministry will be developing additional guidance in the form of technical bulletins outlining minimum expectations for certain odorous activities and processes with the purpose of encouraging facilities to implement best practices and controls to reduce odour emissions.
- These technical bulletins will be developed to outline recommended minimum expectations with respect to odour control and best practices for specific activities or processes and may include:
  - industry specific best management practices;
  - proper process management to reduce odours;
  - specific operation and maintenance procedures;
  - air pollution controls to address odorous sources; and
  - odour control equipment with minimum % odour reduction / control efficiency, etc.
- There will be no requirement to follow the recommendations listed in the technical bulletins, however doing so may eliminate the need for an OTBR.

# Appendix G - Proposed Odour Guidance – Documents

1. Guidance Document – outlines the ministry’s proposed approach, including facility requirements when submitting ECA applications and guidance for land use planning.
2. Technical Bulletin – Methodology for completing an odour assessment for odour mixtures.
3. Example odour technology benchmarking report (OTBR).
4. Technical bulletins – outlining minimum expectations (best technologies / practices) to effectively minimize odour emissions for certain sectors or processes.
  - Technical Bulletins would be developed over time for facilities/processes that require an OTBR (Tier 2 facilities that do not meet their odour distance and all Tier 3 facilities), with the goal of encouraging facilities to do the best they can to prevent or reduce odours.
  - Technical Bulletins could also be used by facilities when assessing odour control measures, or by the MECP to benchmark facilities when evaluating ECA applications.
  - If all the recommendations in the “minimum expectation” technical bulletin are followed, an OTBR would not be needed to be submitted with their ECA.