

Proposal to Streamline Environmental Permissions for Microbreweries and Nanobreweries Through Self-Registrations and Exemptions Discussion Paper

This paper outlines a proposed framework to streamline air permission requirements for microbreweries and nanobreweries through self-registration, exemptions and the elimination of technical reporting requirements unnecessary to prove emissions generated from these facilities will comply with ministry emission limits. The proposal intends to reduce burden and cost for small-scale breweries while maintaining protection of the environment and human health. The proposal also supports Ministry of the Environment, Conservation and Parks (ministry) oversight that is proportional with potential risks of these facilities to the environment and human health.

Contents

1. Background:	2
1.1 The Ministry’s Risk-Based Tiered Approach.....	2
1.2 Sector Overview: Craft Breweries - Microbreweries, Nanobreweries and Brew Pubs	4
1.3 Current Regulatory Requirements for Microbreweries.....	5
1.4 Compliance History with the <i>Environmental Protection Act</i> and Ontario Regulation 419/05	5
2. Proposed Environmental Permissions Framework for Microbreweries	5
2.1 The Proposed Approach for Streamlining Permissions for Breweries.....	6
3. Compliance	12
4.0 Implementation	12
5.0 Additional Information	13
Appendix A - Microbrewery Definition Details	13
Appendix B – Assumptions in the Technical Assessment of Small-scale Breweries.....	14
Appendix C - Other Potential Environmental Permissions Outside of Air	14
Water	15
Sewage and Wastewater	15
Waste.....	15

1. Background:

1.1 The Ministry's Risk-Based Tiered Approach

The ministry uses a Risk-based Tiered Approach (RBTA) to determine if lower risk activities would be better suited to alternative approaches to traditional environmental permissions. Traditional permissions (e.g., Environmental Compliance Approvals (ECA) or Permits to Take Water (PTTW)), self-registrations through the Environmental Activities and Sector Registry (EASR)) and exemptions represent tiers in the ministry's RBTA. This approach ensures that the level of ministry oversight is proportionate with the level of risk to human health and the environment.



Figure 1 – The Ministry's Risk-based Tiered Approach

Exemptions target activities that pose the lowest risk to the public or environment and offer immediate burden reduction by eliminating the cost and time related to obtaining an environmental permission or self-registration. Activities must remain within specific conditions placed in an exemption or be required to obtain an environmental permission or self-register to continue operations.

The EASR is a public, online self-registration process that allows businesses to register and undertake certain activities immediately after registration confirmation that are less complex and lower risk to the environment and human health. An EASR saves businesses the cost and time related to obtaining a traditional environmental permission. EASR registered activities must abide by related EASR regulation requirements that protect the public and environment.

There are two types of EASRs in the RBTA; a rules-based and an assessed EASR which are both supported by regulations. A rules-based EASR regulation provides set rules (i.e. operating requirements) a business must follow to remain in compliance following registration. An assessed EASR has set rules and requires a qualified professional, such as a professional engineer, to prepare facility or activity specific technical assessment reports in advance of self-registration. Activities registered under an assessed EASR must abide by these set rules and the technical assessment reports prepared by the qualified professional.

An example of an assessed EASR is the Air Emissions EASR (A/E EASR) under O. Reg. 1/17: Registrations Under Part II.2 of the Act – Activities Requiring Assessment of Air Emissions. The A/E EASR regulation captures a wide range of activities with air emissions (e.g., air contaminants, noise, odour, and dust). Breweries are a sector currently captured by the A/E EASR.

The EASR development process includes the identification, notification, and engagement of potentially interested stakeholders that might be impacted or interested in the proposal through the Environmental Registry of Ontario and Regulatory Registry. Environmental protections, including mitigation measures to prevent impacts to specific media and sensitive uses, are built into the eligibility and operating requirements of the EASR regulation that regulates the activity.

The Ontario government is focused on supporting the growth of new and existing small businesses. Microbreweries and nanobreweries, proportionally the largest segment of the craft brewery industry, are small businesses with many new entries and expansion of existing operations over the past decade. They are commonly located in commercial areas of municipalities and provide economic opportunities for entrepreneurs, local employment, tourism and the hospitality industry.

The ministry is considering if regulation of small-scale breweries through the A/E EASR is proportionate to the level of risk presented to the environment and local communities. The ministry completed an assessment of small-scale brewing facilities. The assessment determined that microbreweries and nanobreweries have low environmental impacts, less complex

operations, and standard processes for beer production. These characteristics make them good candidates for permissions streamlining. Streamlined permissions will reduce burden and cost on small scale breweries, support expansion of existing businesses and further encourage new entries into the market.

1.2 Sector Overview: Craft Breweries - Microbreweries, Nanobreweries and Brew Pubs

For the purposes of this proposal, the ministry will focus on the segment of craft breweries known as microbreweries under the *Alcohol, Cannabis and Gaming Regulation and Public Protection Act* (ACGRPPA)¹. Under the ACGRPPA, a beer manufacturer is a microbrewer if the annual worldwide beer sales in a production year² was not more than 49,000 hectolitres (hL).

The ministry undertook a technical assessment based on the annual beer production limit of not more than 49,000 hL to support this proposal. The technical assessment of microbrewery operations also assumed a total simultaneous beer production that does not exceed 600 hL in any stage of production in a given day.

A nanobrewery is defined in this proposal as a microbrewery producing less than 3,000 hL annually. This is aligned with the definition in the Ontario Ministry of Agriculture, Food and Rural Affairs document - *Publication 857 – Starting a Craft Brewery in Ontario*. Additionally, the ministry's technical assessment assumed no more than 30 hL of beer in any stage of production in a given day as a daily production limit for a nanobrewery.

The technical assessment found that small-scale beer production facilities (i.e., microbreweries and nanobreweries) using standard processes and operating within these daily and annual production limits are expected to comply with ministry air emission limits.

This proposal defines a brew pub as a business with a Brew Pub Endorsement through the Alcohol and Gaming Commission of Ontario (AGCO). A Brew Pub Endorsement permits the sale and service of beer manufactured by the licensee on the licensed premises, for consumption on the licensed premises. There are currently 57 Brew Pub Endorsements issued by AGCO.

The Ontario Craft Brewers association (OCB) estimates that there are 270 nanobreweries and 42 microbreweries, leaving about eight craft breweries³ producing over 49,000 hL of beer

¹ See Appendix A for further detail on the definition of microbreweries in this proposal compared to the definition in the ACGRPPA

² ACGRPPA - PART II - TAX ON BEER, WINE AND SPIRITS - Division A — Interpretation and Obligation to Pay Tax “Definitions -Section 17 (1): production year” means, in relation to a sales year for beer, the 12-month period that ends on the December 31 immediately before the beginning of the sales year.

³ The OCB association defines a craft brewery as producing up to 400,000HL annually.

annually. Therefore, this proposal will streamline environmental permissions for most of Ontario's craft breweries using the RBTA to ensure that ministry oversight is proportional with potential risks of these facilities to the environment and the surrounding community.

1.3 Current Regulatory Requirements for Microbreweries

The OCB estimates that over 95% of microbreweries have access to municipal services, including water and sanitary sewer. Therefore, the focus for environmental permissions streamlining for microbreweries and nanobreweries in this proposal is for air emissions, including odour, noise and dust, under Section 9 of the EPA.

Historically, breweries were required to obtain an ECA for air/noise. The introduction of A/E EASR regulation in January 2017 shifted the requirement for breweries from an ECA (air/noise) to an A/E EASR registration. Breweries with an existing ECA (air/noise) are required to register for an A/E EASR by January 2027 or earlier. The A/E EASR regulation requires breweries to have a licensed engineering practitioner sign and seal an Emission Summary and Dispersion Modelling (ESDM) report, and complete noise, odour, and fugitive dust reports prior to registration.

There is an exemption under Ontario Regulation 524/98 – Environmental Compliance Approvals – Exemptions from Section 9 of the Act (O. Reg. 524/98) that allows for the commercial brewing of beer without a requirement to obtain an environmental permission or self-register the activity for air emissions. Specifically, section 1(1)9 of O. Reg. 524/98 exempts a business from an ECA (air/noise) or EASR self-registration if the primary business of the facility does not include the preparation of food or beverages (e.g., beer) for wholesale distribution or for sale to retail facilities. The proposed amendments would clarify that the exemption in O. Reg 524/98 applies to brew pubs.

1.4 Compliance History with the *Environmental Protection Act* and Ontario Regulation 419/05

There are few reported complaints to the ministry related to emissions, odour, noise and dust from microbreweries or nanobreweries. Ministry inspections of craft breweries found the most common non-compliance issue was the requirement to have the appropriate environmental permission (e.g., registration under the A/E EASR). Other non-compliance issues were generally administrative, such as not having required documentation as per conditions in their ECA.

2. Proposed Environmental Permissions Framework for Microbreweries

The potential for breweries to impact human health and the environment is associated with the daily and annual production of beer at a facility and practices undertaken by the facility to minimize and/or mitigate potential impacts on surrounding sensitive uses (e.g. emissions and nuisance odour and noise impacts on surrounding residences).

The A/E EASR regulation broadly captures facilities that produce beer without considering significant differences in production levels and size of operations. The A/E EASR places the same emissions standards, studies and reporting requirements on microbreweries as larger scale beer manufacturers. For example, under the A/E EASR regulation, a facility producing 4,000,000 hL annually and a nanobrewery producing less than 3,000 hL annually are currently required to undertake facility specific studies and produce reports to prove compliance with the same ministry air emissions limits.

2.1 The Proposed Approach for Streamlining Permissions for Breweries

The ministry is proposing a rules-based EASR regulation for microbreweries. A rules-based EASR regulation would eliminate the burden and cost of technical reports deemed unnecessary to prove emissions generated from beer production will comply with ministry emission limits. A rules-based EASR regulation would give microbreweries the flexibility to operate within pre-established parameters that mitigates potential impacts to the surrounding community, primarily from nuisance noise and odour. The following are proposed to support a rules-based EASR for microbreweries:

Registration requirements:

- Prior to registration, a facility that does not obtain water for beer manufacturing through the municipality must:
 - comply with the Small Drinking Water System program regulations if taking from a private well; and,
 - obtain a Permit to take Water through the ministry if taking more than 50,000 L of water per day (if applicable).

Eligibility requirements:

- A maximum:
 - annual production capacity of not more than 49,000 hL/production year;
 - daily capacity of beer in any stage of production of 600 hL/day;
 - hourly packaging rate of 200 hL/hr to minimize noise related to bottling and emissions of CO₂ and ethanol that contribute to odour;
 - natural gas, propane, or fuel oil heat input of 10 MMBTU/hour or less for process combustion equipment (does not apply to equipment for comfort heating and cooling).
- The facility cannot use diesel, waste or spent grain as fuel source.
- The facility has agreements or permissions in place for discharges or emissions to the environment for media other than air/noise where applicable, including:
 - Sewage/Wastewater
 - an approval under the Building Code for an on-site septage system if the discharge from brewery and other activities will not exceed 10,000 L/day; or
 - an agreement with the municipality to discharge to the municipal sewers or an ECA for sewage if the discharge from brewery operations and other activities is to exceed 10,000 L/day.
 - Waste - an arrangement with the municipality, a private hauler, or an ECA for waste;
- The facility is not located on a property that also has a child-care facility, health care facility, senior citizens' residence or long-term care facility, or an educational facility.
- The facility is not being placed within a building that has another unit within the same building involved in beer production.

Operating requirements:

- Limiting the hours of operation for activities such as shipping and receiving using trucks to 7am-7pm or the hours reflected in a municipal bylaw.
- Limiting of truck idling on the premises.
- No refrigerated trucks on the premises.
- Keeping doors closed except for ingress and egress and windows closed while noise generating operations underway to prevent propagation of un-attenuated process equipment noise to the outside environment.
- Location of dust collectors or cyclones in areas that takes advantage of distance and shielding to mitigate noise impacts to noise receptors.
- Removal of pooled water within the facility.

- Waste yeast and spent grains sealed in storage containers and outdoor storage avoided.
- Facility must not pneumatically unload products.
- Immediately for new operations and within 120 days of registration for existing operations:
 - windows, doors and over-head bay doors have a minimum noise rating of STC30⁴;
 - a dust collector if the operations includes the milling of grains with a discharge to the atmosphere;
 - installation of vapour condenser to capture and condense vapour from the brew kettle;
 - venting of fermentation vessels and/or tanks through a water trap; and,
 - development of an odour, noise and dust complaint response protocol, including tracking in a complaint log.
- Record keeping related to the operation and maintenance of equipment used in the process of beer production and mitigation of odour, noise and dust in a manner that satisfies the recommendations of the equipment manufacturer.
- Reporting to the MECP within two business days of an odour, noise and/or dust complaint that relates to the facility and the natural environment, including the company's proposed actions to resolve the complaint.

In addition, the ministry is also proposing that the Director have the authority to require:

- An odour assessment (measurement, modeling) to be completed for the facility, which may occur as a result of a verifiable odour complaint, and the implementation of odour mitigation measures.
- An acoustic assessment to be completed for the facility, which may occur as a result of a verifiable noise complaint, and the implementation of noise mitigation measures.

The following operating requirements support the mitigation of noise impacts from building ventilation and/or air exhaust and would be in effect immediately for new operations:

- The manufactures rating for static pressure of each fan associated with any equipment cannot exceed 38.1 millimeters of water column (or 1.5 inches of water column); the exception to this is the cyclone.

⁴ Older buildings with single glazed windows and unsealed window gaps likely do not achieve STC30 rating. Therefore, noise from interior of the beverage facility can be more audible outside of the building envelope than those considered in Ministry's technical assessment.

- The manufacturers rating for the volumetric air flow rate of individual process equipment exhausts do not exceed 11.8 m³/s (or 25,000 cfm) as specified at standard temperature (20 degrees Celsius) and pressure (1 atmosphere or 101.3 kilopascals).
- If the manufactures rating is unknown, hire a person who has obtained the appropriate education and training and has demonstrated experience and expertise to test static pressure and volumetric air flow rate within 120 days of registration.

This proposal also includes the creation of an exemption for nanobreweries from the requirement to obtain an air permission under section 9 of the EPA. The nanobrewery exemption would apply to facilities with beer production of not more than 3,000 hL in a production year with a maximum daily capacity of beer in any stage of production of 30 hL/day. The relatively low level of daily and annual beer production from a nanobrewery is expected to comply with ministry emission limits with a low potential for the surrounding community to experience nuisance odour and noise. Additional proposed conditions for the exemption would be that the facility is:

- not located on a property that also has a child-care facility, health care facility, senior citizens' residence or long-term care facility, or an educational facility; and/or,
- not being placed within a building that has another unit within the same building involved in beer production.

The ministry and the OCB have partnered to develop a draft Best Management Practices (BMP) document with proactive measures, equipment and routine operational activities to mitigate the potential for nuisance odour, noise and dust on the surrounding community. The BMP document will be especially beneficial for exempted nanobreweries not required to follow the operating requirements under a proposed EASR regulation for microbreweries.

A microbrewery could use the BMP document to go 'above and beyond' the operating requirements of the proposed EASR to mitigate potential or actual odour, noise and/or dust impacts on the surrounding community. The BMP document will also inform facilities on practices that can be undertaken should a complaint related to odour, noise and/or dust occur.

The proposed amendments would also include clarity on the existing exemption under section 9 of O. Reg. 524/98⁵ as applied to beer production. The ministry understands that there might have been some confusion about when the exemption applies to specific scenarios when food was sold on the premises. This proposal would clarify that the exemption only applies to

⁵ a restaurant, snack bar, cafeteria, banquet hall or similar facility, if the primary business of the facility does not include the preparation of food or beverages for wholesale distribution or for sale to retail facilities.

businesses that have a brew pub endorsement from the AGCO. A brew pub endorsement permits the sale and service of beer manufactured by the licensee on the licensed premises, for consumption on the licensed premises. The brew pub endorsement does not allow for retail sales off premises.

Breweries currently producing more than 49,000 hL annually (or more than 600 hL/day at any stage of production) will continue to require registration under the A/E EASR regulation. This includes the requirement to have an ESDM report and odour, noise and fugitive dust reports completed prior to registration and additional requirements depending on setbacks from sensitive receptors⁶.

A microbrewery facility that has registered under the proposed rules-based EASR regulation that expands beer production beyond 49,000 hL annually (or more than 600 hL/day at any stage of production) would need to register under the A/E EASR regulation.

The chart below summarizes the proposed environmental permissions framework for facilities that produce beer.

⁶ The A/E EASR regulation includes setbacks within the EASR publication that trigger the need for either an Odour Best Management Practices Plan (e.g., <200,000 hL annual beer production; facility located within 250m from receptors) or an Odour Control Report as well as a Best Management Practices Plan (e.g., >200,000 hL annual beer production; facility located within 500m from receptors).

Brewery Type	Annual Beer Production Limits	Approximate Number of Facilities	Proposed Permission (Air)	Rationale
Beer Manufacturers	> 300,000 hL	6	A/E EASR	Beer production above 300,000 hL/year should continue to undertake technical studies and prepare reports prior to A/E EASR registration to inform on potential impacts on the environment and surrounding community and facility specific mitigation measures and/or equipment.
Small Beer Manufacturers	49,001-300,000 hL	8	A/E EASR	Beer production above 49,000 hL/year should continue to undertake technical studies and prepare reports prior to A/E EASR registration to inform on potential impacts on the environment and surrounding community and facility specific mitigation measures and/or equipment.
Microbreweries	3,001 - 49,000 hL (<600 hL/daily)	42	Rules-based EASR	Level of production can rely on operating requirements of a rules-based EASR to mitigate noise and odour impacts.
Nanobreweries	≤3,000 hL (<30 hL/daily)	270	Exemption	Low production levels with potential nuisance odour and noise impacts mitigated through Best Management Practices, municipal site decisions and compliance through municipal bylaws
Brew Pubs	N/A	57	Exemption	Clarity on application of current O. Reg. 524/98 exemption for businesses with a Brew Pub Endorsement (beer production only for consumption on premises with no off-premises retail sales).

Table 1 – Summary of Proposed Environmental Permissions Framework for Breweries

3. Compliance

EASR registered activities must abide by a specific EASR regulation with requirements that protect the public and environment. This proposal would be implemented by a EASR regulation specific to eligible microbreweries. A microbrewery not in compliance with the operating requirements of the proposed EASR regulation would be subject to the same compliance actions and/or penalties as businesses that are not complying with an ECA.

As commercial operations, small-scale breweries could be sources of nuisance odours, noise and dust in the community that do not cause health impacts. The *Ontario Municipal Act* gives municipalities the authority to regulate nuisance odours, noise and dust. Nuisance noise, odour and dust complaints are best handled by the municipality under local by-laws.

The BMP document is useful for municipalities to inform on abatement activities under local by-laws to get small-scale breweries back into compliance if nuisance odour, noise and dust complaints are received. Municipalities may also find the BMP document useful, along with other ministry land use compatibility guidelines (e.g. Guideline D-6-1 and NPC-300), to support land use decisions related to placement of microbreweries and nanobreweries within communities.

4.0 Implementation

The ministry will consider all comments received on this proposal before making a decision on streamlining environmental permissions for microbreweries and nanobreweries through self-registration and exemptions. If a decision is made to move forward with the proposal, the ministry would develop an EASR regulation to allow microbreweries to self-register for an EASR without requiring a licensed engineering practitioner sign and seal an ESDM report, and complete noise, odour, and fugitive dust reports prior to registration. The ministry would also develop an on-line self-registration tool for the microbrewery EASR.

The ministry will consider comments on the BMP document and work with the OCB to finalize the document. The BMP document would then be placed, maintained and publicly available on the OCB's website.

Feedback received on the discussion paper and the BMP will be used to develop and finalize:

- 1) an EASR regulation specific to microbreweries;
- 2) any regulatory amendments necessary to create the exemption for nanobreweries; and,

- 3) any regulatory amendments necessary to clarify that the current O. Reg. 524/98 exemption to commercially produce beer without requiring an environmental permission or self-registration exclusively applies to brew pubs.

Directly effected stakeholders, such as breweries and municipalities, will be notified of the ministry's decision, which will be posted on the Environmental Registry of Ontario and the Regulatory Registry.

The regulation that creates the nanobrewery exemption which would be expected to happen shortly after the ministry decision.

5.0 Additional Information

The following provides additional information on the proposed definition of a microbrewery compared to the ACGRPPA definition, assumptions made in the ministry's technical assessment, and other environmental permissions that may be required outside of air for breweries.

Appendix A - Microbrewery Definition Details

Under this proposal, each company's individual facility is defined as a microbrewer if the facility does not exceed 49,000 hL in a production year and the simultaneous brewing capacity of beer in any stage of production is less than 600 hL daily. Under the ACGRRA, a microbrewer is defined in section 22(3):

22(3) For the purposes of this section, a beer manufacturer is a microbrewer for a sales year if all of the following circumstances exist:

1. The beer manufacturer's worldwide production of beer in the preceding production year was not more than 49,000 hectolitres or, if this is the first production year in which it manufactures beer, its worldwide production of beer for the production year is expected to be not more than 49,000 hectolitres.
2. In the preceding production year, the beer manufacturer was not a party to any agreement or other arrangement pursuant to which any other beer manufacturer that is not a microbrewer agreed to manufacture beer for it.
3. REPEALED: 2017, c. 8, Sched. 1, s. 1 (2).
4. Every affiliate that the beer manufacturer had that manufactured beer in the preceding production year was a microbrewer.

A company could have multiple facilities contributing to their overall annual worldwide sales by beer production under the ACGRRA. Under this proposal, each individual facility of a company would be categorized according to the Proposed Environmental Permissions Framework for Breweries (see Table 1).

Appendix B – Assumptions in the Technical Assessment of Small-Scale Breweries

In the technical assessment of craft breweries, the maximum emissions from any one step in the brewing process were considered as representing a conservative site-wide emission rate based on the following assumptions:

- the emissions intensive activities typically require employee input and it is reasonable to assume a small facility would not have the staff to perform multiple processes simultaneously;
- the individual steps were assessed based on a simultaneous brewing capacity (i.e. no more than 600 hL) of beer in any stage of production in a given day; and
- a maximum hourly packaging capacity (i.e. bottling, canning, or kegging) of 200 hL was assumed for 1-hour ethanol emissions. Considering a typical 35 hL kettle, 200hL/hour should not be limiting for most operations.

Under these assumptions, the technical assessment found that emissions from interactions for each stage of the process (i.e., grain milling, brewing, fermentation and bottling) are expected to comply with ministry emission limits. Potential nuisance odour and noise impacts on the surrounding community can be mitigated by the operational requirements of a proposed rules-based EASR regulation for microbreweries or use of best management practices by nanobreweries.

Appendix C - Other Potential Environmental Permissions Outside of Air

Below is an overview of other potential environmental permissions outside of air. These should be reviewed in the context of eligibility for the proposed rules-based EASR regulation and the need for a brewery to potentially obtain other environmental permissions outside of air to remain in compliance with environmental legislation and regulations and municipal approvals and bylaws. This overview is for guidance purposes only and operators should consult with the ministry or municipality to ensure compliance where applicable.

Water

Most microbrewers and nanobrewers obtain their water from the municipality and do not require an environmental permission for their water usage. Breweries in rural areas that are using or intend to use well water must meet the Small Drinking Water System program regulations. A brewery that obtains over 50,000L of water per day through a non-municipal source will be required to obtain a PTTW under the *Ontario Water Resources Act*. The PTTW will have conditions related to the taking and monitoring of water.

Sewage and Wastewater

A brewery that discharges to the municipal sewer must have an agreement with the municipality before discharging to the municipal sewage system. These facilities are expected to maintain compliance with applicable municipal by-laws for sewage quality. Facilities must contact the municipality if the intention is to discharge to the municipal sewers ahead of operations. Municipalities can levy surcharges on microbreweries and nanobreweries using sampling to measure wastewater quality to minimize potential loadings on treatment plants.

Liquid waste may also be treated on-site and discharged into the environment through a leach pond/lagoon or septic system (tank and leach bed). These systems must be properly designed and require approval from the MECP or from the municipality (for septic systems that receive 10,000L or less per day of flow).

Treatment system design is highly dependent on effluent flow and quality and the receiving environment (soil conditions, receiving water body). Facilities that do not discharge to municipal service would be required to have liquid waste collected and removed from the site or obtain an ECA to treat the liquid waste on site.

Facilities may be required to obtain approval for storm water management as applicable (i.e. if sewage works are required for collection, transmission, or retention of stormwater).

Waste

Waste is regulated in Ontario under the Environmental Protection Act and Regulation 347 (General – Waste Management). Together these provide the regulatory framework that set out the requirements for the proper management of all wastes. It is the responsibility of those who generate waste, such as small scale breweries, to determine whether the waste they generate are hazardous or not, and if so, properly classify and manage them according to the regulations.

Guidance material is available to assist generators with fulfilling these requirements. The [Registration Guidance Manual for Generators of Liquid Industrial and Hazardous Waste](#) is a detailed document that takes the generator step by step through the determination and classification process. Once the waste has been properly characterized, then the generator can determine if further requirements (such as registration and manifesting) apply to the waste. The Manual contains sections specific to these requirements, but also has general information on the management of waste and when waste approvals may or may not be required for waste management activities.