

AGRI BUSINESS E-Update

This Member Update has been distributed to OABA Regular and Branch Members



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Introduction

Companies involved in the grain, feed and crop input sectors produce airborne emissions – including dust, noise and odour. This update will provide some background information on the environmental regulations and certification requirements that regulate these airborne emissions. OABA has noticed the Ministry of Environment becoming more pro-active in the countryside and agri businesses need to be aware of what their regulatory requirements are.

In Ontario, all industrial processes and equipment that release contaminants (including sound) to the atmosphere require approval from the Ontario Ministry of the Environment under Section 9 of the Environmental Protection Act. As such, it is important that you develop an airborne emissions strategy for your firm. There is cost associated with on-going regulatory compliance, however, these costs will likely be much less than the cost of being ordered into compliance by the Ministry of Environment.

This member update includes a number of links to government regulations and resources. It should be noted that this information can be very technical and in some cases overwhelming. With this in mind, you should give consideration to establishing contract services with an environmental consultant to fully ensure that you meet all regulatory requirements. OABA has created an Environmental Assessment Program that will help you make an initial assessment of your level of compliance with all applicable environmental legislation, policies and best management practices. Contact the OABA office for more details on this valuable due diligence tool.

Regulatory Environment

In Ontario, all industrial processes and equipment that release contaminants (including sound) to the atmosphere require approval from the Ministry of the Environment under Section 9 of the Environmental Protection Act. Ontario Regulation 419/05: Air Pollution – Local Air Quality, which replaced Regulation 346 in November 2005, is the provincial government's tool for reducing the impacts of air contaminants. The regulations state that equipment, structures or processes that may discharge a contaminant to the

atmosphere must be approved by the ministry before construction, modification or replacement of the equipment. Approval is also required for the ongoing operation of any equipment that may discharge a contaminant to the atmosphere. The definition of a contaminant is very broad, and unless explicitly exempted, most industrial processes and equipment require approval.

Regulation 419 of the Environmental Protection Act can be found by searching the Ontario government e-laws website: <http://www.e-laws.gov.on.ca/index.html>

General information on regulations and some resources:
<http://www.ene.gov.on.ca/en/air/ministry/index.php>

Adverse Effect & Nuisance Claims

Obtaining a Certificate of Approval verifies that your business is managing airborne emissions in accordance with government requirements, however, it does not completely protect your business against nuisance complaints made by neighbours.

Section 14 of the Environmental Protection Act prohibits the discharging of contaminants that might cause an 'adverse effect'. A contaminant is defined as any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of those items that result directly or indirectly from human activities. An 'adverse effect' includes, but is not limited to, harm or material discomfort to any person, negative effect on the health of any person, loss of enjoyment of normal use of property, and interference with normal conduct of business.

It goes without saying that a Good Neighbour Policy is an essential part of your business operation. It is equally import that you closely monitor any applications for zoning changes in your area and to actively challenge any zoning changes that would allow residential developments close to your facility. For Certificates of Approval and when investigating nuisance complaints, the Ministry will look at emission levels at 'sensitive receptors', which tend to be the closest residences to the facility.

Once these residential units are in place the argument that 'I was here first' will not help, and the closer proximity of sensitive receptors to your location could make it more difficult to obtain a Certificate of Approval and will likely increase the probability of complaints.

Other Reporting Requirements Ontario Regulation 127 and NPRI

Ontario's Regulation 127/01, Airborne Contaminant Discharge Monitoring and Report Regulation, requires that Ontario based facilities emitting certain quantities of substances report to the government. These reports are made available to the general public. More information on Reg. 127 can be found at:
<http://www.ene.gov.on.ca/envision/monitoring/monitoring.htm>

Guidelines for emission calculation, record keeping and reporting can be found at:
<http://www.ene.gov.on.ca/publications/4099e04.pdf>

The Ontario Ministry of Environment recently amended Regulation 127 to better harmonize the air reporting system with that of the federal government's National Pollutant Release Inventory (NPRI) program. Reporting can be conducted using the national web-based reporting system called OWNERS, the One Window to National Environmental Reporting System.
<http://www.owners.gc.ca/default.asp?lang=En&n=2D5E2E2F-1>

Certificates of Approval (air & noise)

A Certificate of Approval (air & noise) is a legal document issued by the Ontario Ministry of the Environment (MOE). A business that creates emissions as part of its operations must have a C of A in order to be in compliance with the Act.

Originally, Certificates of Approval (air & noise) were provided for each specific piece of equipment that created emissions. This was replaced by a Consolidated C of A that took into account all emission sources from a business location into a single certificate. The problem with the Consolidated C of A is that any amendments must be approved by MOE prior to making changes that would affect emissions. Currently, the MOE is taking over a year to review amendments. This type of C of A is really only recommended if the processes at the facility rarely change, and no other modifications, such as adding new equipment, are expected to be made.

The newest type of C of A, a Basic Comprehensive C of A, includes all air/noise emission sources at the facility, not unlike a Consolidated C of A. However, a Comprehensive C of A provides limited operational flexibility to the facility to permit modifications without formal MOE review. The facility would be required to assess all proposed modifications and document continued compliance with the regulation.

An application for an Air & Noise Certificate of Approval must be submitted to the Environmental Assessment and Approvals Branch (EAAB) of the MOE for most industrial processes and equipment.

The following is the typical scope of work involved in preparing a C of A application package.

- Identify all potential air emission sources at the facility, identify potential contaminants being emitted, and estimate emission rates based on one or more of the following acceptable techniques: engineering calculations, EPA AP-42 emission factors, and/or source testing data. Care should also be taken to identify 'insignificant sources' of emissions, the emissions from these sources do not need to be included in the calculations.
- Perform air dispersion modeling for the facility for each of the identified contaminants and compare the results to the standards.
- Prepare Application for Certificate of Approval for the facility and a complete ESDM (Emission Summary and Dispersion Modeling) Report to accompany the application according to MOE Publication PIBs#3614e03 "Procedure for Preparing an Emission Summary & Dispersion Modeling Report", Version 2, dated March 2009, which can be found at: <http://www.ene.gov.on.ca/envision/gp/3614e03.pdf>
- Complete the MOE Noise Screening Form. If sensitive points of reception are located within the minimum separation distance of the facility, then a detailed acoustic assessment (possibly vibration) report must be prepared which assesses and documents the impacts of noise emissions from their facility on the sensitive points of reception.
- Determine the fee that will be charged by the MOE to review the application
- Discuss the application as necessary with the MOE to expedite approval

Once submitted, applications are initially screened for completeness by the EAAB. Incomplete applications may be returned. An acknowledgement of receipt of the application is generally sent out within two weeks of submitting the application to the EAAB. Applications are then assigned to and reviewed by engineers.

Historically, the review process can take a long time with some member companies waiting for 3 to 4 years for the application to be reviewed and approved. Recently, the new Director of Approvals at the MOE has made it a priority to reduce C of A backlog. The backlog has been reduced by almost 70% according to the MOE and future C of A applications are expected to be turned around within a 120 day period.

During this process, it is a good idea to have your consultant request a copy of the C of A draft for review prior to final approval. There may be transcriptional errors or the addition of terms and conditions that could significantly change the requirements of the certificate. It is very important that you identify, at this stage, any items that would be very difficult to achieve and determine if there is room for negotiation with the Ministry on these items.

For more information on the Certificate of Approval application process go to:

<http://www.ene.gov.on.ca/en/business/cofa/airnoise.php>

A guide for applying for approval (air and noise) can be found here:

<http://www.ene.gov.on.ca/envision/gp/4174e.pdf>

OABA has an electronic copy of a Certificate of Approval application that was used during the pilot stage of an OABA project. Contact the OABA office if you would like to see a copy of this document to assist you in better understanding what is involved with a C of A submission. Contact: ron@oaba.on.ca

Noise

During the OABA airborne emission project it was determined that noise would be the most challenging issue for most member facilities. General agri business operations, including plant equipment, grain running through legs and truck traffic all produce noise at levels greater than the limits set out in Regulation 419.

A noise assessment compares the total noise emitted from the facility's site with the applicable limits. The limits are applied at all of the surrounding noise sensitive land uses. Land that is zoned to allow future noise sensitive use should also be evaluated. The applicable limits are based on the lowest background sound level, and the classification of the area as urban, semi-rural, or rural. Allowed sound levels are **lower** in rural areas than in large urban areas. For example the allowable limit for noise during the day (7:00 a.m. to 7:00 p.m.) in a rural area is 45 decibels (dB), compared to 50 dB for urban and semi-rural areas. These limits are then lowered further between 7:00 p.m. and 7:00 a.m. To appreciate the significance of these standards, it should be noted that a normal conversation is conducted in the 60-70 dB range. The standards set by the Ministry are similar to the background noise generated by an HVAC system inside an office or library.

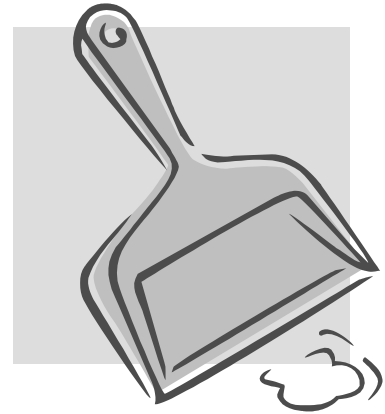


Noise levels are usually measured at the nearest sensitive land use to the facility. Sensitive land uses include: permanent or seasonal dwellings; hospitals, nursing and retirement homes; schools, universities and daycares; churches and places of worship; campgrounds; hotels and motels; and places where a quiet environment is expected. As mentioned earlier in this update, it is essential that you challenge any proposed changes to zoning that would create new noise sensitive land uses closer to the facility.

Noise levels can be established either through noise measurements or numerical modeling. If a facility cannot meet the required noise levels, it will be required to develop a plan outlining what changes to the facility's operation are required in order to meet the limits. These changes could include addition of equipment such as silencers, establishment of sound barriers or changes in truck idling policy. Details of the noise reduction techniques and reduction amounts are laid out with a timetable for making the changes. A report showing all of the details of the current or proposed future compliance with the limits is submitted as part of the C of A (air & noise) application.

Dust / Contaminants

As part of the Certificate of Approval application, a facility must assess their compliance with the Ministry of the Environment standards for any source that emits air quality contaminants to the atmosphere. Key air quality contaminants of concern for agri business include particulate matter (dust), by-products of combustion and odour. As mentioned in the section on Certificate of Approvals (air) you will need to identify all sources including 'insignificant sources' of emissions, however, the emissions from these insignificant sources do not need to be included in the calculations.



Standards, Limits, Guidelines, Criteria and Thresholds

These are outlined in Ontario Regulation 419/05 (O.Reg.419/05) and can be found by searching at: <http://www.e-laws.gov.on.ca/index.html>

O.Reg.419/05 summarizes the standards and thresholds for a number of air quality contaminants under Schedules 1, 2, 3, 6 and 7. The Ministry of the Environment has also published a number of other documents which provide air quality criteria, guidelines, limits and levels. Care should be taken when using these documents as they may not necessarily be standards. Links to some of the commonly referred to documents are provided:

- Summary of Standards & Guidelines (form 6569e): <http://www.ene.gov.on.ca/en/publications/forms/index.php#aircofa>
- Ambient Air Quality Criteria (form 6570e): <http://www.ene.gov.on.ca/en/publications/air/index.php#4>
- Jurisdictional Screening Level (JSL) List: <http://www.ene.gov.on.ca/publications/6547e.pdf>

Once all the potential sources of air emissions have been identified at the facility, emission rates must be generated for each source through engineering calculations, emission factors, manufacturer's equipment specifications or source measurement.

If your initial assessment does not show compliance with applicable Ministry of the Environment standards, a review of possible strategies to reduce emissions at the source or to improve atmospheric dispersion will be required. There are a number of source specific mitigation strategies that can be used to bring a facility into compliance. These include material substitution, process alteration, increased stack height, or pollution control equipment.

Mitigation Strategies

Dust from agri business operations can come from specific equipment (e.g., baghouses) and fugitive sources such truck traffic on gravel yards and driveways. Often, fugitive dust sources can be controlled through a Best Management Practices (BMP) plan. Although a BMP is not typically required for an Emission Summary Dispersion Modeling (ESDM) report in support of a Certificate of Approval application, the MOE has requested this type of information from members previously. The Ministry of the Environment expects a BMP to be a comprehensive document to cover all sources of dust emissions from a site, and should build on current and known practices and commit to continuous improvement.

Odour

Odour is a common source of complaints and one of the more difficult emissions to quantify. Odour has a published Ministry of Environment standard of one (1) Odour Unit, but the Ministry has not established a regulatory limit, as a result it is often the subject of discussions with the MOE.



Odour is currently measured using Odour Units (OU). An Odour Unit is defined as the number of dilutions with clean air required to establish a concentration of an odorous compound or mixture that is detected as present (but not necessarily identified) by 50% of subjected population (ED50). For example a sample which requires 4 dilutions to reach ED50 will contain 5 OU (4 dilutions plus the original volume). Most Certificates of Approval (air) will establish an odour standard of 1 OU; most complaints are received when the odours are greater than 6 or 7 OU. For a comparison roasting coffee generates approximately 2,000 OU, and spreading fresh hog manure is valued at around 2,500 OU.

The Ministry of Environment is working on developing a measurable concentration and risk measurement strategy as part of O.Reg.419.

As discussed earlier in the section on Certificates of Approval, odour is something you should try to 'negotiate' with MOE since they will likely initially state that one (1) Odour Unit must be achieved and that compliance testing must be conducted to prove this requirement. Some companies have been successful in getting the MOE to increase the compliance limit and/or add an additional requirement that the company move towards achieving the standard of 1 OU over a specified period of time and/or show yearly progress towards the standard. A good neighbour policy is still your best defense against odour issues, which are usually complaint driven.

What to do if MOE Visits Your Location

It is important to understand your rights and responsibilities if your business location is visited by the Ministry of Environment. The MOE official may arrive at your business location as the result of a complaint, a random visit, or part of a targeted sector inspection. In each of these cases the MOE official could inspect emission sources and ask to see a copy of your Certificate of Approval (air & noise) and/or other applicable permits.

Any site inspection will likely be conducted by a Ministry of Environment official with Provincial Officer powers. A Provincial Officer cannot be barred access to property, buildings, storage areas, processing areas or offices for purpose of inspection. Provincial Officers have the right to inspect all documentation covered under the Environmental Protection Act including permits, C of A's, etc. and to remove/copy any documentation (this includes electronic documentation, consultant reports, etc). While on a business site, Provincial Officers must obey all health and safety practices as well as any biosecurity or food safety protocols and procedures that are in place.

Investigators are responsible for the collection of evidence for prosecution of an offence or where there have been reasonable or probable grounds of non-compliance. Investigators do not have the same power of inspection as Provincial Officers'. Investigations can take place either with consent, based on an agreement to cooperate or to allow an investigator on premises or without consent by obtaining a judicial order such as search warrant or subpoenas. Evidence is collected by gathering data, interviewing consultants, experts or complainants.

Privileged Information

Documentation and communication that is both confidential in nature as well as kept confidential between a lawyer and their client (including consultants and agents of the Company) can be assigned as Privileged. If a court agrees with the assigned Privilege, those documents cannot be reviewed or used by the investigator. A claim of privilege is jeopardized if the privileged and confidential documents are not kept separated (physically and electronically) from non-privileged documents.

To maintain legal confidentiality the consultant must be hired and instructed directly by the lawyer, communications can include the facility but have to be addressed to the lawyer.

Conclusions

The environment is becoming an increasingly important issue for the Ontario public, and, as a result, environmental legislation and enforcement will continue to expand as no government will want to appear 'weak' on the environment. The Ontario Agri Business Association strongly recommends that all members review their compliance for environmental requirements. While this Member Update focuses on airborne emissions, it should be noted there are also standards for other issues including drinking water protection, protection of lakes and waste disposal. The Association has developed an Environmental Assessment Program to help members assess their compliance, and develop a strategy for meeting compliance requirements and demonstrating due diligence. For more information on this assessment tool contact the OABA office.

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