

# REGULATING AIR QUALITY IN ALBERTA

Legislation and regulations are an important part of an overall program to protect the environment in Alberta. *The Alberta Environmental Protection and Enhancement Act (EPEA)* is the key piece of legislation that governs air quality management in the province.



## Acts, Regulations and Objectives

In general terms, legislation is created when a Bill (proposed Act) is discussed and approved by the Alberta Legislature. In many cases, one or more regulations are developed for an Act. In addition to containing compliance actions (penalties) for breaking the law, regulations provide details on what the Act expects or requires businesses or individuals to do. For example, the Substance Release Regulation, which falls under the EPEA, identifies the maximum concentrations allowed for some emissions released by industry.

### OBJECTIVES, GUIDELINES OR STANDARDS

Objectives, guidelines and standards are also developed to help expectations regarding activities that are covered by the EPEA. For example, Alberta's Ambient Air Quality Objectives (AAAQO) are used as part of industrial

approvals to regulate facility operations. The AAAQO are pre-established levels for ambient concentrations of certain substances that are considered harmful to the environment and human health. When concentration levels are greater than the set objective, it indicates a possible emissions problem and an investigation may be initiated.

When operating approvals are issued to a business or industry for their work, objectives are used when determining limits for specific emissions. Objectives may be developed in a few ways, depending on the subject area, but are generally developed through one or more of the following:

- In house with the Government of Alberta.
- Through multi-stakeholder consultation.
- Based on a federal government standard.

## APPROVALS

The Government of Alberta uses legislation to determine what activities require an approval. An approval can be issued for up to 10 years and is developed through a process that allows for public input. When an approval is issued, it ensures the activity is conducted in a manner that minimizes any potential of harming the environment. It also ensures the applicant follows the appropriate procedures, and has systems and safeguards in place to protect the environment and the public. Industrial approvals related to air quality include:

- Pollution control technology and emission reduction procedures.
- Stack design monitoring and reporting requirements.

When setting emission limits, local weather patterns and terrain are also considered.



## Codes of Practice

Codes of Practice are also developed under the EPEA and are very specific to an activity. For example, there are Codes of Practice for small incinerators, sawmill plants and asphalt paving plants. Codes are issued in place of formal approvals, and give details on operating conditions and practices for activities that have less environmental impact. Individual companies agree to meet these codes and are then issued a registration. The Government of Alberta conducts random compliance checks to make sure the requirements in the code of practice are met.

Approvals for large industrial operations may include requirements for monitoring ambient air, emissions and many other environmental factors. The intent is to require monitoring of emission and effluent sources of environmental significance as well as aspects of the environment that could be impacted by an industrial operation.

Smaller facilities do not require an approval or code of practice (e.g. paint shops). However, they still must abide by the general provisions in the EPEA and cannot cause adverse effects to the environment. Other sources of emissions, such as lawnmowers, fireplaces and home heating are not specifically regulated. However, the Government of Alberta may investigate the operation of these emitters if they are causing a significant adverse effect.

## Exceedance of Guidelines or Objectives

Sometimes the levels listed in the objectives are exceeded. When monitoring indicates ambient air concentrations are higher than allowed in the objectives, the Government of Alberta is notified as soon as the increased level is discovered. If the exceedance was caused by an industrial plant, the facility must try to correct the situation and send the Government of Alberta a written description of the incident and why it happened. In the event that an exceedance occurs at an air monitoring station that is not adjacent to an industrial facility, the exceedance is reported by the Airshed doing the monitoring and followed up with a written description of the incident.

The Government of Alberta uses a set of criteria to evaluate the severity of an exceedance and determine the corrective actions that are needed. These criteria include the level, frequency and duration of an emission, its impact on the environment and past enforcement history. In some cases, Government of Alberta staff may investigate an incident further. This may involve interviewing facility employees/taking statements, and collecting physical and documentary evidence from the site.

Depending on what is found during the investigation, the Government of Alberta may do one of the following:

- Take no further action
- Issue a written warning, an environmental protection order, an enforcement order, or administrative penalty.
- Prosecute the operator.



## Who is Involved in Regulating Industrial Facilities?

The Government of Alberta and the Alberta Energy Regulator (AER) are regulatory agencies and are often both involved in issuing approvals to operate. Which agency is involved depends on the type of activity, the size of the facility, and the scale of environmental impact. For example, large industrial operations such as bitumen upgraders require the involvement of both agencies. The approval process may take more than two years.

Approvals issued by the Government of Alberta contain air emission limits. These approvals are issued to upgraders, refineries, pulp and paper mills, and other emission sources. The AER regulates the actual development of Alberta's energy resources including oil, natural gas, oil sands, coal and pipelines. The federal government is involved through broader, overarching regulations such as unleaded gasoline and vehicle emission standards.

## Definitions

**Administrative penalty** – a monetary fine issued for a minor contravention of an approval or code of practice.

**Ambient concentration** – the concentration of airborne substances in the outside air.

**Emission limits** - depend on existing air quality and air quality objectives, and are often determined using results from air quality modeling.

**Enforcement Order** - a legal order issued to a regulated party that requires a contravention to be remedied and, where appropriate, requires actions to be taken that prevent future contraventions. Examples of required actions include orders to stop activity or install pollution control device(s).

**Environmental factors** - include ambient air, stack, wastewater and treated sewage releases, air quality, surface water quality, groundwater quality, soil quality, and hazardous wastes.

**Environmental Protection Order** - issued to prevent contraventions of the *Environmental Protection and Enhancement Act*. This order is issued when there is reason to believe that an action may harm the environment. Actions required may include maintaining a record, reporting, auditing or changing procedures. These actions are designed to provide information on the suspected operation.

**Prosecution** - all legislation enforced by the Government of Alberta includes provisions for prosecution. The penalties depend on the severity of the contravention and may include fines or jail time.

**Regional Airsheds** – organizations formed by stakeholders to monitor and report on the concentration of substances in the air.

**Stack design** - effective stack design allows efficient dispersion of emitted pollutants.

**Written Warnings** - issued for minor contraventions and normally given to first-time offenders. The desired outcome is to have the recipient come into voluntary compliance after being made aware of the offence. Repeated non-compliance may result in increased enforcement action.