AIR POLLUTION: What You Need to Know about the National Air Quality Management System

Because air knows no borders, managing air pollution and air quality are best tackled on a national level, with coordination by federal, provincial and territorial government. So on Oct. 11, 2012, the federal, provincial and territorial environmental ministers, through the CCME, agreed

to improve air quality throughout the country with a comprehensive new Air Quality Management System (AQMS). Here's an overview of the AQMS and its possible impact on companies that emit substances that contribute to air pollution.

AQMS 101

According to the CCME Q&A on the AQMS, the system reflects a flexible approach to implementation that recognizes the current air quality measures already being undertaken by various Canadian jurisdictions, particularly for existing industrial facilities. That is, the system doesn't replace but enhances existing air quality laws and regulations. With the exception of Québec, all Canadian jurisdictions have agreed to begin implementing the AQMS, subject to further jurisdictional approvals. Although Québec supports the system's general objectives, the province won't implement the system because it includes federal industrial emission requirements that duplicate Québec's *Clean Air Regulation*. But the province will collaborate with the other jurisdictions on developing other elements of the system, notably air zones and airsheds (explained below).

In terms of implementation, the provinces and territories will manage activities at the level of air zones, while the federal government will collaborate on transportation sources and lead actions addressing international cross-border air pollution. The AQMS will be held accountable through monitoring and reporting of outdoor air quality conditions and emissions from major industrial sources.

The CCME says the AQMS will help Canada internationally by letting it continue to demonstrate active management of air quality, strengthening its negotiating position with the US to expand the Canada/US Air Quality Agreement. The CCME also claims that the AQMS is a positive development because it's:

- Comprehensive in that it looks at *all* major sources of

air pollution that contribute to air quality problems and supports actions that will address these sources;

- Collaborative because it provides a framework for federal, provincial and territorial governments to work together to find the best way to improve air quality;
- Inclusive’stakeholders and communities play an important role in finding the
- best ways to improve air quality;
- Proactive because it focuses on effective actions that’ll reduce pollution levels
- overall and keep clean areas clean;
- Flexible, recognizing the important differences among Canadian jurisdictions and allowing for tailored responses to air quality problems; and
- Accountable in that it provides Canadians with information about the state of the air they’re breathing and actions underway to protect and improve outdoor air quality.

4 KEY COMPONENTS OF THE AQMS

The AQMS includes four key components:

1. Air Quality Standards

A core element of the AQMS is air quality standards that set the bar for outdoor air quality management across the country. To that end, the federal government recently announced new Canadian Ambient Air Quality Standards (CAAQS) that lower short-term limits and introduce new limits for long-term exposure for particulate matter and ground-level ozone, two major components of smog. The new standards build on the Canada-wide Standards for Particulate Matter and Ozone developed by the CCME in 2000 but are more stringent. (See the chart at bottom for a comparison of the current and new standards.) And the governments have started work on standards for sulphur dioxide and nitrogen dioxide, which are significant components of air pollution.

The AQMS standards set the bar for action on air quality. Jurisdictions will monitor the concentrations of emissions in the air and decide what actions need to be taken to either improve poor air quality or maintain good air quality. Although the air quality standards won't be enforceable, they will be incorporated as objectives under Secs. 54 and 55 of the *CEPA*. Provinces and territories may also incorporate them into their regulatory regimes if they choose to do so.

2. Industrial Emissions Requirements

While the air quality standards deal with the general quality of the air outdoors that people breathe, the industrial emissions requirements specifically address the emissions created by industrial activity. The jurisdictions have agreed on requirements that set a base level of performance for new and existing major industrial sectors, including cement and base metal smelting, and some equipment types. Emissions requirements for sectors such as petroleum refining, coal-fired electricity generation and reciprocating engines will be addressed through a continuing collaborative process. These requirements are focused on nitrogen oxides (NOx), sulphur dioxide (SO_2), volatile organic compounds (VOCs) and particulate matter (PM). The AQMS also includes monitoring and reporting of these industrial emissions.

3. Regional Airsheds

Canada is a big country and air moves over it in six large 'airsheds' that extend across provincial/territorial and even international borders. The AQMS has identified these airsheds to help facilitate coordinated action when air pollution crosses a border. Because the authority to act to reduce pollution resides within each province and territory, there needed to be a mechanism to support action between governments to address cross-border air pollution problems'that's where the airsheds come in. When it's the Canada-US border at issue,

the federal government will lead the coordination effort.

4. Framework for Air Zone Management

The AQMS provides for considerable flexibility in air zone management to accommodate the range and variety of air quality challenges in Canada. Air zones are smaller areas within individual jurisdictions that enables action tailored to specific sources of air emissions in a given area. Jurisdictions will monitor air quality within these zones and, depending on conditions and major sources, manage the quality to ensure that poor air quality improves and good air quality stays good. Air zone management is supplemented by collaboration at the regional airshed level on trans-boundary air pollution. The provinces and territories are responsible for air zone management and will delineate their air zones and manage their air quality as conditions require.

IMPACT OF THE AQMS

The part of the AQMS that most companies may be concerned about are the industrial emissions requirements. The system operates on the principle that industries are just one of a number of influences on outdoor air quality. For example, in many parts of Canada other sources such as transportation can influence air quality even more than industrial sources. So the industrial emissions requirements aren’t intended’on their own’to address all air quality concerns or achieve the air quality standards. Instead, they’re intended to work in concert with other actions to achieve the air quality standards.

The AQMS’s industrial emissions requirements are designed to achieve a base level of performance across the country. That’s because, currently in Canada, management of industrial emissions varies from jurisdiction to jurisdiction, creating an uneven playing field for Canadian companies. The AQMS establishes consistent industrial emission requirements to

level this playing field.

For some industrial sources, provincial standards are already as good as or better than the base level of performance set by the AQMS. But in some cases, the industrial emissions requirement may be more stringent than what's currently required in some jurisdictions. The aim of the AQMS is to ensure that good performance is achieved by all industrial facilities across Canada. However, as part of their air management and where needed for better air quality, provinces and territories can choose to impose stricter requirements on industry than those required by the AQMS. Note that the system does operate on the principle that the industrial emissions requirements can be reviewed and made more stringent over time.

BOTTOM LINE

The AQMS isn't intended to replace existing air quality management policies and regulation. Instead, it builds on existing initiatives to improve the management of air quality across the country. It recognizes that some jurisdictions are already active in improving the air quality and keeping clean areas clean. This system offers additional tools that governments can use to enhance their air quality management efforts. So you'll still have to comply with the air quality policies and regulations that are already in place in your jurisdiction. And jurisdictions will have to decide whether they need to modify their existing regulations to reflect the standards in the AQMS, especially as to industrial emissions.

New Canadian Ambient Air Quality Standards

The new Canadian Ambient Air Quality Standards provide more stringent objectives for outdoor air quality in Canada as shown in the table below. For the first time in Canada, the standards also include a long-term (annual) target for fine

particulate matter.

Pollutants	Existing Standards	New Standards	
		2015	2020
PM2.5 annual	n/a	10 æg/m’	8.8 æg/m’
PM2.5 for 24-hour	30 æg/m’	28 æg/m’	27 æg/m’
Ozone for 8-hour	65 parts per billion	63 parts per billion	62 parts per billion