

Issue Brief - Air Management Framework for the Industrial Heartland

Introduction

Currently, emissions from facilities are regulated by Alberta Environment and the ERCB who set enforceable limits, standards, or technical requirements for industry in Approvals, Regulations, Codes of Practice, Directives, and Licenses. But the prospect of rapid industrial development in the Capital Region and the Industrial Heartland has raised questions about the capacity of the environment to sustain this growth.

Alberta is evolving towards a new approach to emissions management called the Cumulative Effects Management Framework which considers the environmental implications of development for an entire region. The new Cumulative Effects Management Framework allows various stakeholders within the region to work together and agree on environmental outcomes. The burden of meeting those standards is to be shared fairly among all residents, including municipalities and industry.

In 2007, the provincial government announced a series of comprehensive, science-based targets, outcomes and actions for the region to protect the air, land and water. The Cumulative Effects Management Framework for the Industrial Heartland specifies one outcome for all large industrial facilities within the Industrial Heartland to be subject to cumulative airshed thresholds for oxides of nitrogen (NO_x) and sulphur dioxide (SO₂) air emissions.

Thresholds

The annual thresholds announced by Alberta Environment last year were 28 ktonnes for SO₂ and 25 ktonnes for NO_x. Industry in the region has had concerns with the thresholds because they were not based on an objective measure of air quality or the capacity of the air shed. Furthermore, the thresholds were based on the application of Best Available Technology for all industries and no economic or reliability considerations were used to develop the thresholds.

Recent modeling results show that for SO₂, the Alberta Ambient Air Quality Objectives (AAAQO) would not be exceeded if all of the proposed operations were built and operated. For NO_x the situation is more complex owing to contributions from traffic in the region. Additional modeling work is currently being completed with respect to NO_x.

Air Working Group

An Air Working Group was struck in October 2007 to begin discussions on several key matters including:

- Threshold values for NO_x and SO₂; and
- Allocation Management System for NO_x and SO₂.
- Sub-Committees were formed to look at both of these key considerations.

The working group included representation from government, industry, non-governmental organizations (NGOs), and municipalities.

The working group has considered strategies for an Industrial Air Management Area (IAMA) that is larger than just the Industrial Heartland, because air quality in the region is also impacted by upwind sources, including the City of Edmonton, the "refinery row" area of Strathcona County, and natural sources of emissions. The IAMA includes the city of Fort Saskatchewan; parts of Lamont, Sturgeon and Strathcona counties; Elk Island National Park; and the City of Edmonton east of 50th Street (Refinery Row and Clover Bar areas).

Industrial facilities within the IAMA that emit more than approximately 100 tonnes/year of either NO_x or SO₂ will be affected by the Air Management Framework and the emissions management approach implemented by the province. The varying nature of the facilities in the region required that the Air Working Group consider:

- that different industrial sectors are at different points in their economic business cycle;
- the different levels in the state of the emissions control technology providing significant differences in the cost of emissions reductions;
- industrial facilities with very different processes and products in the IAMA (some facilities change their product mix and processes from year-to-year as market conditions warrant); and
- facilities in the IAMA that are in direct competition with facilities in other jurisdictions where there are different environmental regulations.

Industry Recommendation

The Air Working Group debated a number of management options including proposals for a cap and trade system, a strict regulatory approach, and a variety of charge and rebate initiatives. A cost-based system proposal was supported by all 21 NCIA members as well as the proposed upgraders to be developed in the Industrial Heartland. The proposal from industry, which has been presented to the Minister of Environment, is a Baseline Intensity Reduction System.

Under a Baseline Intensity Reduction System, existing facilities would submit 10-year Intensity Reduction Management Plans (IRMPs) to reduce their NO_x and SO₂ emissions intensities. These plans would be based on a Best Economic Retrofit Technology (BERT) concept and would be guided by a corresponding cost per tonne of emissions reduced.

An emissions charge would be set as a minimum greater than the cost of implementing the technologies to reduce emissions as committed to in the IRMP. Facilities that took longer than planned or did not get the stated level of emissions reductions in a given year would be required to pay the charge into an emissions fund. Facilities that reduced their emissions sooner or deeper than identified in their IRMP would be eligible for a rebate.

At the end of the 10-year period, facilities would be required to achieve the level of reductions set out in their IRMP, and would also be expected to prepare another 10-year IRMP using a new emissions price established by the government to meet the IAMA's environmental objectives. New facilities would enter the system by using the Best Available Demonstrated Technology Economically Achievable (BATEA) and would be considered as meeting their IRMP and be exempted from the Baseline Intensity Reduction System for a set period of time.

This system would allow some considerations (other than ability to pay) to inform the allocation of emissions room. Sectors and facilities that can make dramatic reductions can be asked to do so, while those with less room to move can be asked to do less. Once the airshed is fully allocated, proponents of further development would be required to demonstrate that there had been or would be reductions at existing facilities to offset the emissions from the new project prior to receiving regulatory approval.

Support for Baseline Intensity Reduction System

A majority of the Air Working Group preferred the Baseline Intensity Reduction System approach for the following reasons:

Flexibility to Meet Targets

- Allows for greater flexibility based on environmental outcomes and society's desire for economic prosperity.
- Recognizes new and existing industry are not the same and have different capabilities to implement change at any given time.

Level Playing Field for Industry Sectors

- An equitable level of effort for existing facilities is required.

Easy to Implement for Regulatory Agencies

- By making use of the existing 10 year operating approval process, administratively this is a very efficient system to implement.
- Not command and control – each industry stakeholder makes a commitment to reach targets and generates a partnership between industry, government, and other stakeholders.

Greater Certainty for Industry and Government

- A 10 year plan and commitment allows industries to plan capital accordingly.
- Certainty of environmental and economic outcomes.
- Regulator still has the final say on behalf of Albertans.

Next Steps

NCIA has provided input to the Minister of Environment and are awaiting his decision on the path forward. Alberta Environment has agreed to further discussions on the threshold values once further modeling (specifically for ozone) is completed. Determining appropriate thresholds will be part of the Phase I implementation plan for the emissions management framework chosen by the province.

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