

News Release

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Sweet smell of success in plan to address livestock industry air emissions

In a report released today, the Clean Air Strategic Alliance (CASA) announced a 10 point plan to address air emissions from confined feeding operations in Alberta. Members of CASA's Confined Feeding Operations (CFO) Project Team have committed to support and implement recommendations on monitoring, research and managing emissions between 2008 and 2011.

The CFO team, representing industry, government and non-government organizations, was created 2005 to develop a plan to improve the management of air emissions from CFOs and to improve relationships between stakeholders. The team focussed on five priority substances (ammonia, hydrogen sulphide, volatile organics compounds, particulate matter and bioaerosols/pathogens) and one priority issue (odour) in developing the plan.

The Government of Alberta and industry will be implementing the team's recommendations over the next three years. Alberta Agriculture and Rural Development (AARD) will be monitoring the air around CFOs starting this year to determine the source and amount of emissions. There will also be further research into mechanisms used to manage emissions by government and industry. The team will reconvene at CASA in 2011 to review progress and make further recommendations.

According to team industry co-chair, Rients Palsma from Alberta Milk, "Industry will be developing a template to assist operators in managing emissions from their operations and will work closely with operators to address specific problem areas."

Ann Baran of Southern Alberta Environmental Group and the team's NGO co-chair, says, "These recommendations are an important first step in monitoring and managing emissions from CFOs. We look forward to improving relationships between all stakeholders – operators, neighbours and others.

Barb Shackel-Hardman, Branch Head at AARD and the team's government co-chair expressed that, "It is our hope that the commitment to this three year plan developed at CASA will result in a well coordinated approach to managing air emissions in the province. We expect to have a clearer picture in 2011 through these initial steps of monitoring emissions and exploring options."

The Clean Air Strategic Alliance is a multi-stakeholder partnership, comprised of representatives selected by industry, government and non-governmental organizations committed to developing and applying a comprehensive air quality management system for Alberta.

To learn more, please see the report at www.casahome.org.

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Backgrounder

Confined Feeding Operations in Alberta

Definition: Confined feeding operations (CFOs) are defined as fenced or enclosed land or buildings where livestock are confined for the purposes of growing, sustaining, finishing or breeding by means other than grazing, and any other building or structure directly related to that purpose, but does not include residences, livestock seasonal feeding and bedding sites, equestrian stables, auction markets, race tracks or exhibition grounds (Agricultural Operation Practices Act, Section 1).

Types of livestock: The legislation applies to a variety of livestock categories including beef, dairy, swine, poultry, turkeys, ducks, geese, horses, sheep, goats, bison, cervid (elk/deer), and wild boars.

In Alberta, a CFO is generally thought of as beef feedlots, hog operations, dairy operations, and chicken, turkey and egg operations. As of 2004, Alberta had approximately dispersed throughout the province, including:

- 212 feedlots with over 1000 head capacity
- 1200 hog operations
- 800 dairy operations,
- 285 broiler operations,
- 40 hatching egg operations,
- 59 turkey operations, and
- 170 table egg operations.¹

Although CFO operations are located throughout the province, some types of CFOs concentrate in certain geographical areas because of access to meat processing plants and natural resources, such as water and fertile soil for growing crops for animal feed. The feedlot industry, for example, is located mainly south of Calgary and the swine industry is located mainly along the Highway 2 corridor.

CFOs and Air Quality

An important issue facing existing, expanding and new CFOs relates to public concerns about odour and dust. These arise from nuisance complaints as well as from concerns about the impact of odour and dust on the health of workers, neighbours and local communities. Questions have also arisen about the impact of specific CFO air emissions, including ammonia, hydrogen sulphide, volatile organic compounds, particulate matter and endotoxins, on human and animal health and on air and environmental quality.

CFO emissions are generally diffuse, arising from point and non-point sources,² such as feeding pens, lagoons or land after manure application. The emissions arise from the animals themselves, manure, and buildings, and include dust from roads and cropping.

Odour is a natural output of CFOs. Odour emissions from livestock are complex and comprise over 160 compounds. Odour is difficult to quantify and individual reactions to odour are highly variable and hard to predict. These conditions make it very difficult to assess the impacts of odours, resolve odour concerns and implement effective odour controls.

As the CFO industry grew, there was a recognized need to more effectively address a) public concerns about air quality related to CFOs, and b) land use conflicts arising due to Alberta's rapid economic

¹ Source: November 2004 Statement of Opportunity presented to the CASA Board; figures compiled by the Intensive Livestock Working Group.

² Point sources are stationary and the emissions released can be traced back to a single identifiable location. Non-point sources describe emissions from spatially diffuse and/or numerous sources that can only be measured or estimated using the accumulation of point sources.

growth.³ Implementing reasonable, scientifically sound air management practices by CFOs will improve air quality and protect human, animal and environmental health, improve relations between livestock producers and local communities, and ensure the economic prosperity of Alberta's livestock industry.

CASA Confined Feeding Operations Project Team

The CASA Board established the CFO project team in September 2005, to develop a strategic plan to improve the management of air emissions from existing and future CFOs in Alberta and to improve relationships between stakeholders. The team gathered information and developed a greater understanding of stakeholder concerns prior to reaching consensus on the following recommendations:

Recommendations

The CFO project team recommends that:

1. Development of a New Emissions Inventory

The Government of Alberta, led by Alberta Agriculture and Rural Development, with support from Alberta Environment and advice from a multi-stakeholder group formed for this purpose, compile an inventory for CFO air emissions in Alberta based on the US EPA National Air Emissions Monitoring Study, with the inventory to be completed by March 31, 2011.

2. Source Apportionment

Alberta Environment, with support from Alberta Agriculture and Rural Development and the intensive livestock industry, conduct specific studies in areas with CFOs, using suitable source apportionment methods to estimate the contribution of CFO emissions of the five priority substances relative to other sources of these emissions. These studies are to be completed by December 31, 2010.

3. Monitoring for Ammonia, H₂S, PM and VOCs

Alberta Agriculture and Rural Development:

- a) Develop, with input from all stakeholders, an ambient monitoring plan for ammonia, hydrogen sulphide (H₂S), particulate matter (PM) and volatile organic compounds (VOCs) to determine current ambient levels around CFOs. The plan will include timelines, budget, methodology (with reference to the Air Monitoring Directive), and responsibilities;
- b) Undertake ambient air monitoring of ammonia, H₂S, PM and VOCs around CFOs, based on the above plan, beginning in 2008; and
- c) Submit a status report by March 31, 2009, with a final report on results to be submitted by March 31, 2010 to CFO project team stakeholders and the Alberta Ambient Air Quality Objectives Stakeholder Advisory Committee.

4. The 24-hour AQO for Ammonia:

The Alberta Ambient Air Quality Objective Stakeholder Advisory Committee defer its decision on a 24-hour ambient objective for ammonia until April 2009, at which time the AAAQOSAC will determine if they have sufficient information from the ambient air monitoring study on which to base a decision.

5. Management Mechanisms Research Plan

Alberta Agriculture and Rural Development and the CFO industry develop a plan to submit to the Government of Alberta and research agencies for funding to do a study to quantify the reductions in priority emissions and odour, and any other benefits, from frequent manure removal, manure application, and moisture management.

6. Paper Study on Potential Management Mechanisms

Alberta Agriculture and Rural Development lead a paper study on the following five management mechanisms, to assess their potential to favourably affect emissions, ambient air quality, nutrient

³ The Government of Alberta is conducting extensive work and consultations to develop an integrated Land Use Framework for the province, and is looking at land use conflicts in detail.

recovery, and other potential benefits, and report back to CFO project team stakeholders by March 31, 2009, at which time consideration will be given as to where the research might be applied.

- Biocovers
- Bottom loading
- Shelterbelts
- Composting
- Dust palliatives

7. Odour Management Plan Template

The CFO industry develop an odour management plan template for use by operators in the intensive livestock industry. The plan will be based on economic feasibility, scientific evidence of odour reductions, and new technology, specifically best available technology economically achievable (BATEA), and will be ready for use by January 2009.

8. Managing Odour in Problem Areas

The CFO industry work with operators in problem areas to develop a site specific odour management plan. The Government of Alberta will provide resources (expertise, skills, knowledge) to assist with plan development and implementation. Problem areas will be identified using information from the NRCB and the industry. In working with operators, the industry and government may want to consider measuring odour around CFOs.

9. Improving Communications

The NRCB and Alberta Agriculture and Rural Development work with all involved parties to develop a plan by March 31, 2009 to improve communications and relationships among stakeholders regarding information related to CFOs. The following are areas where attention should be focused to improve communications and stakeholder relationships:

- Alternative dispute resolution processes,
- Communications between agencies and Government of Alberta departments, and
- Communications between the NRCB and complainants.

10. Evaluating the Strategic Plan

The CFO team reconvene in January 2011 to:

- a) review the implementation status and outcomes of recommendations made in this report,
- b) assess the success of these activities, and
- c) make any further recommendations, if needed, to reduce air emissions from CFOs in Alberta related to this strategic plan.