Oregon Dairy Air Quality Task Force

Final Report to the Department of Environmental Quality & Department of Agriculture

July 1, 2008

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II. Task Force Members

- Two members of the Senate, appointed by the President of the Senate:
  - Senator Betsy Johnson
  - Senator David Nelson
- Two members of the House of Representatives, appointed by the Speaker of the House:
  - Representative Debbie Boone
  - Representative Jackie Dingfelder
- One representative from the Oregon Department of Environmental Quality (DEQ), appointed by the DEQ Director:
  - Andrew Ginsburg, Air Quality Division Administrator, DEQ
- One representative from the Oregon Department of Agriculture (ODA), appointed by the ODA Director:
  - Lisa Hanson, Deputy Director, ODA
- One representative from the Department of Human Services (DHS) having expertise in public health, appointed by the Director of Human Services:
  - Gail Shibley, Administrator, Environmental Public Health , ODHS
- Three representatives, appointed by the governor from the dairy industry:
  - Dan Bansen, Dairyman, Forest Glen Jerseys, Forest Glen Heifer Ranch, and Forest Glen Oaks
  - Martin Myers, General Manager, Threemile Canyon Farms
  - Dr. Mark Wustenberg, Vice President, Dairy Services Tillamook Creamery Association
- Three representatives, appointed by the governor from environmental-public interest organizations:
  - Jeremiah Baumann, Environment Oregon
  - Dana Kaye, Executive Director for Oregon Chapter American Lung Association
  - Kendra Kimbirauskas, Friends of Family Farmers
- Two representatives, appointed by the governor from institutions of higher education listed in ORS 352.002 having expertise in science and technology relevant to air emissions generated by dairy operations:
  - Dr. Jim Males, Department Head Animal Science, OSU
  - Dr. Jim Moore, Professor Emeritus, OSU

Current Regulations for Air Quality in Oregon:

1. **Federal Clean Air Act**
   a) National Ambient Air Quality Standards (NAAQS) – The EPA establishes standards to protect public health, including sensitive people. State and local air agencies determine if these standards are being met, and devise emissions reduction strategies in any location where standards are exceeded.

   b) Hazardous Air Pollutants - Congress provided EPA with a list of hazardous air pollutants and EPA has identified categories of sources for control of these pollutants. Currently, dairies are not one of the identified categories, although methanol emissions may be large enough to require an air quality permit.

   c) Regional Haze – The Clean Air Act requires air agencies to protect visibility in wilderness areas and National Parks. Visibility degradation in the Columbia River Gorge Scenic Area, however, is not subject to authorities in the Clean Air Act.

2. **Oregon Air Program**
   a) Air Toxics – Oregon has established a program to complement the federal approach by focusing on urban areas where many smaller sources contribute to air toxics concentrations that affect public health.

   b) Nuisance – DEQ has the authority to identify and reduce certain nuisance odors through existing rules. (OAR 340-208-0300). However, this state authority does not include odors from agricultural operations under ORS 30.930. Finally, odors are not subject to regulation under the Federal Clean Air Act.

3. **Other Federal Authorities**
   a) Occupational Safety and Health - Worker health concerns are within the authority of OR-OSHA, which has established standards for exposure.

   b) Emergency Planning and Community Right to Know Act (EPCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – Reporting to EPA is required for both episodic and continuous releases of regulated substances by facilities that meet certain criteria.

C. Air Emissions from Dairies

The National Research Council of the National Academy of Sciences, in its 2003 report titled *Air Emissions from Animal Feeding Operations: Current Knowledge and Future Needs,* identified these air pollutants from animal feeding operations in general, not specifically from dairies. The report identified: Ammonia (NH_3); Nitrous Oxide (N_2O); Nitrogen Oxides (NOx); Methane (CH_4); Volatile Organic Compounds (VOC); Hydrogen Sulfide (H_2S); and Particulate Matter (PM_{10} and $PM_{2.5}$). In addition, the Task Force identified Methanol, a Hazardous Air Pollutant, and Odors as important emissions.

D. Human Health and Dairy CAFOs

There is very sparse research regarding human health issues related to dairy CAFO air emissions. No Oregon industry-wide study was presented to the Task Force that established there was or was not a human health problem associated with dairies. However, if inhaled at sufficiently high concentrations, each of the emissions types associated with dairy CAFOs could be harmful to human health. Health impacts may be acute (immediate) or chronic (long-term). This dairy-specific data gap is important to fill, in order to better understand and protect human health because conclusions drawn from other livestock CAFO studies are not directly transferable to dairy operations.

Research in this area is needed to identify, quantify health risks, and determine appropriate measures to protect: 1) *worker health* (because of their proximity to emission sources, people working and residing on dairies have the greatest risk of experiencing health effects.) 2) *community health* (little is known about health effects on nearby people that are a direct result from dairy air emissions), and 3) *odors* (sensitive individuals experience these effects at lower levels than the general population, and concentrated odors over time are known to cause changes in behavior.)

E. Environmental Impacts

Air emissions from dairies, together with emissions from many other sources, contribute to the following environmental effects:

1. Visibility Degradation: Ammonia plays a key role in the formation of small sulfate and nitrate particles leading to haze pollution, thus degrading scenic vistas in our wilderness areas, National Park, and the Columbia River Gorge

IV. Recommendations

The Task Force respectfully and strongly makes the following recommendations:

A. Program Development

The EQC, working with ODA, DEQ, and DHS, should adopt the rules to implement the following "Oregon Dairy Air Emissions Program" (Program), as a whole, as authorized by ORS 468A.020(2)(c) (SB 235). The Program consists of and is guided by this Recommendation. (Report Section (IV). Over time, Program adjustments should be made, as needed, to implement the intent of these recommendations.

B. Guiding Principles

Program development, implementation and compliance are guided by the following principles:

1. Initially focus on reducing ammonia, methanol, and odors, and instill public confidence in the Program.
2. Make technical decisions based on a review of the available existing science.
3. Allow flexibility for dairy farmers to make decisions that are compatible with their operations and other environmental obligations.
4. Provide economic feasibility and stability for dairy farmers.
5. Model program implementation after the development of Oregon's CAFO Program to prevent water pollution, which was phased from a voluntary program to a regulatory program in a gradual manner as information and experience were obtained.
6. Encourage early, voluntary action and efforts to go beyond requirements.
7. Tailor Program over time to the realities of the state budget, and regularly review and update it as more is learned about dairy emissions.
8. Ensure level playing field and equity for all Oregon dairy producers within Oregon and in the Northwest.
9. Recognize that the Clean Air Act, the Clean Water Act, and the Occupational Safety and Health Act still apply.
10. Create a solution that all interests can support.

C. Program Elements

The Program development, implementation, and compliance are guided by the following elements:

1. Apply to all existing Grade A dairies in Oregon that have or need a CAFO permit;
2. Based on a Best Management Practices (BMP) approach using California and Idaho models as points of reference and the recommendations of a Dairy Air Advisory Committee (DAAC) as specified in section IV. D., below. The BMPs should:
    a. Include structural and management practices to reduce air emissions while considering other impact factors specified herein;
    b. Establish clearly defined BMP targets that are economically feasible for Oregon dairy producers; and
    c. Provide guidance on implementation;
3. Start as a voluntary program, known as "Phase I" at the completion of the Dairy Air Quality Task Force process.

3. Make implementation detail recommendations for both Phases that are designed to accomplish the Program in a fashion consistent with these recommendations;

4. Have, if it desires, subcommittees to manage the work, (e.g. a technical committee and a policy subcommittee), each with balanced representation;

5. Create a program that accommodates the diversity of the Oregon dairy industry;

6. Recommend BMPs as soon as possible, including:

   a) Structural and management approaches to reduce ammonia, methanol, and odors;

   b) Guidance for the implementation of the BMPs;

   c) Tiers based on dairy size/resources (for example, 700 cows and above could be one level, 200 - 699 could be another level, and less than 200 cows could be another level); and

   d) Phase I and II BMP targets for each tier;

7. Evaluate BMP effectiveness on air emissions while considering other impact factors like compatibility with water or land quality issues, affects on other air emissions and livestock health. DAAC should also consider existing third party standards when evaluating BMPs. To the extent possible, the menu should be coordinated with BMPs developed by neighboring states, particularly Washington.

8. Consult with DEQ, ODA, and DHS on procedures and criteria for evaluating the potential for public health risks from any air emissions from dairy operations. These procedures could be used, as needed, if public health concerns at specific dairies need to be investigated. Criteria and procedures to be discussed may cover topics such as emissions estimation, air quality analysis methods, and risk assessment procedures.

9. Report regularly to DEQ, ODA, and DHS on the progress and success of the Program; and

10. Recommend changes to the Program, as needed over time, based on new scientific information and an evaluation of Program effectiveness. This could include updates to the emissions of concern. DAAC should not make recommendations that change the core of this recommended Program and this Task Force's intent.

E. Overall Program Resources

The Task Force recommends that the following resources be provided to implement the recommended Program:

1. Tax credits for voluntary participation during Phase I and exceeding the requirements during Phase II if the tax credit program is extended;

2. Resources to ODA for Program implementation, monitoring and compliance;

3. Resources to DEQ for rule development, Program implementation, and air monitoring;

4. Resources to DHS for technical assistance, consultation, and risk communication; and

5. Funding for OSU to conduct research and development of demonstration projects, BMPs tailored to Oregon's needs, the effectiveness of BMPs, their impact on air emissions, and funds for education, outreach, and technical assistance.

V. Conclusion

In conclusion, The Task Force thanks the Legislature for the opportunity to serve and formulate this consensus package of recommendations. Taken as a whole, they represent an optimal balance between the competing interests and chart a clear and positive path forward for all Oregonians. These recommendations were created because the Task Force worked hard to achieve the necessary levels of understanding, trust, and respect. In order to maintain this positive and balanced momentum, the Task Force believes it is imperative that the Legislature provide the funding for this necessary and evolving program. The monetary requests are modest and responsibly staged over time to ensure the Program can accomplish its purposes without negatively affecting Oregon's other priorities.

Respectfully Submitted on July 1, 2008

Oregon Dairy Air Quality Task Force