



NORTHWEST ENVIRONMENTAL DEFENSE CENTER
10015 S.W. Terwilliger Blvd., Portland, Oregon 97219
Phone: (503) 768-6673 Fax: (503) 768-6671
www.nedc.org

January 20, 2006

Wym Matthews
Oregon Department of Agriculture
Natural Resources Division
635 Capitol Street NE
Salem, OR 97301-2532

Re: Premier Dairy ATR

Dear Wym:

These comments are prepared jointly by Mark Riskedahl, executive director of the Northwest Environmental Defense Center (NEDC) and Andrea Rodgers, staff attorney at the Western Environmental Law Center, and are submitted on behalf of the Northwest Defense Center (NEDC) concerning Peter DeHaan's application to register for coverage under the Oregon General Concentrated Animal Feeding Operation (CAFO) National Pollutant Discharge Elimination System (NPDES) Permit for the Premier Dairy, southwest of Hermiston. NEDC also wishes to incorporate by reference comments submitted by or on behalf of the mayors, city managers, and/or city councils of the cities of Hermiston, Echo and Stanfield.

NEDC's mission is to preserve and protect the environment and natural resources of the Pacific Northwest, and our membership includes individuals who visit, recreate near, or live in the vicinity of the proposed site for the Premier Dairy. NEDC routinely comments on state-issued NPDES permits, and was the lead plaintiff in a lawsuit against the state of Oregon that resulted in the negotiated terms of Oregon's General CAFO NPDES Permit.

As the scale of modern CAFOs expands exponentially, so do the potential environmental and public health risks associated with their siting and operation. Though the phenomenon of large CAFOs in Oregon is a fairly recent one, it is essential that we learn from the failures and mistakes of other states that have gone before us, lest we be doomed to repeat them. Inadequate protection of groundwater and surface water, under-protective on-site manure handling and application restrictions, failure to appropriately track and manage off-site handling of manure, and complete disregard for harmful emissions of air pollutants are all common elements of problematic large CAFO siting decisions made in other states. The Department has direct *and indirect* legal authority to appropriately address and remedy each and every one of these concerns.

In considering this application to register under the Oregon General CAFO NPDES Permit, the Oregon Department of Agriculture (ODA) has failed to adequately protect the public health and welfare of local citizens, as well as Oregon's natural resource base for present and future generations, prime components of the agency's mission. The Department retains considerably more authority under state law to fulfill these essential components of its mission than it implied during public meetings on this permit application, and it is incumbent upon the agency to exert that authority.

I. Large CAFOs are a known danger to human health and welfare.

In the United States, CAFOs produce an estimated 500 million tons of manure annually, an amount which is more than three times that which is generated by humans. *See* "Threatening Iowa's Future: Iowa's Failure to Implement and Enforce the Clean Water Act for Livestock Operations," Environmental Integrity Project (May 2004) at v. This is an incredible amount of waste that is all too often discharged untreated into the surface and ground waters of the United States.

The problems associated with this massive volume of CAFO waste are well documented. CAFOs endanger public health by releasing untreated animal excrement that contains pathogens dangerous to people and wildlife, including a number of known human viral, bacterial, and parasitic pathogens, such as influenza, salmonella, E.coli, yersinia, leptospora, cryptosporidium parvum, giardia lamblia, among others. Runoff and leachate from land application areas and from seepage from manure storage facilities contribute to excessive levels of nitrate and pathogens in drinking water supplies, including surface waters and groundwater aquifers. *See, e.g.,* EPA, "Preamble to Final CAFO Rule," 68 Fed. Reg. 7176, 7180-81. In fact, animal agriculture is recognized as the leading agricultural source of water contamination throughout the United States. *EPA, National Water Quality Inventory: 2002 report to Congress.* It is simply too great of a threat to public health to allow a CAFO of this size to be sited within such close proximity to the local communities of Hermiston, Stanfield and Echo.

II. A new large CAFO should not be allowed in a critical groundwater area.

The Premier Dairy should not be allowed to move onto the Oregon Herefords feedlot property because it is located in a critical groundwater area. It is undisputable that CAFOs endanger public health by contaminating groundwater with nitrates, fecal coliform and E.coli. Research has documented that people living near large hog facilities, for instance, suffer significantly higher levels of upper respiratory and gastrointestinal ailments than people living in non-livestock areas. A study of four dairy lagoons performed by the Washington Department of Ecology found that three of the four lagoons leaked, and that groundwater downgradient of the lagoon systems "often exceeded drinking water standards and ground water quality standards." *See* Effects of Leakage from Four Dairy Waste Storage Ponds on Ground Water Quality, attached.

Two groundwater studies that were recently completed in the Lower Yakima Valley in Washington state provide strong evidence that CAFOs are contributing to groundwater contamination. These studies, conducted by the Valley Institute for Research and Education as well as Heritage College, provide documented evidence of a geographical connection between large dairies and groundwater contamination due to nitrates and fecal bacteria. See “Quality of Ground Water in Private Wells in the Lower Yakima Valley, 2001-2002,” Ron Sell and L. Knutson, Valley Institute for Research and Education; “Sunnyside Groundwater Study Final Report,” Heritage College (August 13, 2003).

Even if the Premier Dairy were to line its lagoons with a geosynthetic clay liner, as proposed, it is not a question of if the lagoons will leak, but a question of how much untreated waste will escape into the groundwater. An evaluation of Liberty and Hank Bosma Dairies in the Yakima Valley revealed that lagoons allowed staggering amounts of leakage into the groundwater. See *CARE v. Henry Bosma Dairy*, 2001 WL 1704240 (E.D. Wa. 2001) (Alan Gay, an engineer with the firm of TechCon, Inc., conducted the evaluations of these two dairies for purposes of a Clean Water Act lawsuit). With respect to the lagoons at the Liberty Dairy, “[m]odeling indicates that the permeability is actually between 0.001 and 0.01 inches per hour. This is equivalent to an annual volume of between 2.0 million gallons and 17 million gallons of seepage from the *Liberty Dairy Lagoons* alone.” *CARE v. Henry Bosma Dairy*, Civ. No. CY-98-3011-EFS E.D. Wa.) (expert report of Alan Gay, dated February 24, 1999 at 8).

Other independent studies have similarly demonstrated that CAFO lagoons routinely leach untreated wastes into the groundwater. The Center for Disease Control and Prevention (“CDC”) tested groundwater samples for contamination from nine large hog CAFOs in Iowa. The CDC’s “findings suggest that chemical pollutants and microbial pathogens from waste generated by animal confinements contaminate groundwater by seeping from earthen lagoons . . .” See *Threatening Iowa’s Future* at 10, attached. Other scientists from Iowa State University have similarly found that manure storage structures often leak into groundwater. *Id.* Researchers in Kansas found that the four clay-lined swine lagoons studied leaked between 0.05 and 0.08 inches per day, which translates to between 0.99 million and 4.35 million gallons per year, or 19.8 to 87.1 million gallons of waste over the twenty-year life of the lagoons. See Craig Volland, QEP, “Critique of the Kansas State University Lagoon Research Project,” Spectrum Technologies, Kansas City, Kansas (August 7, 1998), at <http://www.ukansas.edu/~hazards/lagoon/lagcrit.html>.

Even other state agencies have come to accept the science that indicates that CAFOs are significant sources of groundwater contamination. In an attempt to keep track of and control the amount of waste that is discharged to groundwater, the California Regional Water Quality Control Board, Central Valley Region, has issued a draft National Pollution Discharge Elimination System (“NPDES”) Permit that mandates that “facilities with 1,300 or more mature dairy cows will be required to conduct groundwater monitoring. Facilities with 700 to 1,299 mature dairy cows will be required to conduct groundwater monitoring during the second five-year renewal of this permit.” California

Regional Water Quality Control Board Central Valley Region, Waste Discharge Requirements General Order, Existing Concentrated Animal Feeding Operations (Milk Cow Dairies) at 1.

Seepage from waste storage structures, such as the liquid manure lagoons proposed at the Premier Dairy, can contribute elevated levels of nitrites and nitrates to groundwater. Excess nitrate flows have been linked to incidents of “blue baby syndrome” in several states. *See Cesspools of Shame* at 23, attached.

Available data and scientific research provides unquestionable evidence that CAFOs, even those with lined lagoons, are currently contaminating the groundwater. In addition, there are issues associated with CAFOs over-appropriating scarce groundwater resources since CAFOs need such a large amount of water for their operations. Because many Oregonians rely on groundwater to supply their domestic needs, the Department needs to do more to protect the health of these residents. Therefore, the Premier Dairy should not be sited in a critical groundwater area.

III. Risk of lagoon breach

Overflows from CAFO lagoons are not an infrequent occurrence. On April 2, 2002, “[h]og manure overflowed from a 770,000-gallon pit at a Fulton County, Pa. farm and coursed into a stream 150 yards away, turning it black.” Tom Avril, “Flood of hog manure gushes into stream,” *Philadelphia Inquirer*, April 3, 2002. The common thread in all lagoon overflow or failure incidents is the immediate contamination of local surface waters, with obvious adverse impacts on water quality, aquatic habitat, and long term ecosystem dynamics.

Concerns related to the use of soils local to the proposed Premier Dairy site to construct lagoons are significant. The Simplot lagoon, 5 miles southwest of Hermiston, catastrophically failed just last year, resulting in the release of approximately 95 million gallons of polluted wastewater. In its investigative report discussing the failure, the Oregon Water Resources Department specifically stated “the underlying foundation soils are poorly suited for impounding water, regardless of how well or how carefully the project was initially constructed.” *See attached Summary Report on the Failure of Simplot Wastewater Lagoon #1* at 10.

Given the very real potential for a lagoon breach, the Department should mandate a full assessment of potential downgradient harm, including mapping of downgradient domestic-use wells, ownership of downgradient property, road inventory and a comprehensive list of other public and private resources likely to be adversely affected by a lagoon breach.

IV. Because the technology is available, the Premier Dairy should be required to implement Best Available Technology.

Since the technology is currently available, all new CAFOs in Oregon, including the Premier Dairy, should be required to adopt sustainable animal production systems that protect air, surface and ground water resources. Given the permeability of local soils and the fact that local groundwater is already contaminated, for purposes of limiting the off-site movement of pollutants into the local groundwater, surface water and air, ODA should require that the Premier Dairy be constructed and managed as a scrape dairy rather than as a flush dairy. NEDC specifically requests that ODA mandate, or, in the alternative, that Mr. DeHaan, in a show of good faith towards the local communities of Hermiston, Stanfield and Echo, voluntarily implement a dry scrape system, coupled with a dry composting operation. A well-managed dry scrape system will dramatically reduce water use, will more fully protect sensitive local groundwater, will reduce the likelihood of surface water contamination from catastrophic lagoon failure, and will have the added benefit of reducing the volatilization of air pollutants that local communities are understandably concerned about. Volatilization of ammonia has been directly implicated in harmful levels of acid rain and fog deposition in the Columbia Gorge, and it is incumbent upon Mr. DeHaan and the Department to become a part of the solution to this problem.

If lagoons are to be used, they must be synthetically lined (with a lining material more protective than a geo-synthetic clay liner) and covered. The Water Resources Department report concerning the Hermiston lagoon spill last year specifically recommends that a lagoon dependent upon a thin liner to prevent saturation of the lagoon embankment or foundation soils “should incorporate an underdrain and a leak detection system for monitoring seepage.” *See* WRD Report at 13. As the Dec. 22, 2005 report by Fazio Engineering recognizes, the “Quincy loamy fine sand in the vicinity of the lagoon location is an “excessively drained soil” *See* Fazio report at pg. 2. When coupled with the fact that groundwater depth is perhaps only 20 feet below the surface, additional mitigating measures are absolutely necessary. Should this project move forward as proposed, NEDC specifically requests that ODA mandate the installation of an underdrain, a leak detection system and the installation of additional lagoon-specific groundwater monitoring wells in order to detect inevitable lagoon seepage.

Some monitoring wells are already on the property given the property’s previous use by Simplot and there is no reason not to put these wells to good use. There is, however, no reference to the existing groundwater monitoring wells in the AWMP. These simple improvements are technologically feasible and in use elsewhere across the country. In addition, these practices should be mandated given the close proximity of the Premier Dairy to Hermiston. The citizens of the surrounding communities should not have to bear the burden of cost-cutting measures intended solely to enrich the operator.

V. Inadequate restrictions on manure application in Animal Waste Management Plan

The Animal Waste Management Plan (“AWMP”) for the Premier Dairy states that “[n]o tangible limitations exist to the application of nutrients from manure . . .” AWMP at 4. This statement contravenes the express requirements of Oregon’s general

CAFO NPDES permit, as well as state and federal regulations governing the application and monitoring of land-applied manure.

Soil tests must be conducted on-site to ascertain whether or not applicable agronomic rates are being met. Rates of land application must be based on the most limiting factor for the site: phosphorus, nitrogen, salts, and/or heavy metals and other pollutants of concern. Rates of land application must be calculated using all sources of nutrient inputs for the site, crops grown on the site, and realistic crop yields. Soil and waste tests must be conducted regularly to ensure that application rates are appropriate. Waste should also be injected or incorporated directly into the soil in order to prevent ammonia volatilization. *See* Environmental Quality Board, “Generic Environmental Impact Statement on Animal Agriculture: A Summary of the Literature Related to the Effects of Animal Agriculture on Water Resources,” University of Minnesota, College of Agricultural, Food and Environmental Sciences (November 1999) at G-145 (reporting that several studies have found that if manure is not incorporated into the soil, more than half of the manure is lost, presumably to volatilization); Pennsylvania State University, “Atmospheric Disposal of Manure Nitrogen” (October 1993) available at [http://www.inform.um.../ATMOSPHERIC DISPOSAL OF MANURE NITROGEN.htm](http://www.inform.um.../ATMOSPHERIC_DISPOSAL_OF_MANURE_NITROGEN.htm) (finding that soil-incorporated manure may release as little as one-tenth of the ammonia emitted from surface-spread manure, other factors being equal).

Oregon’s General CAFO NPDES Permit expressly requires that a manure application protocol be developed based on “actual test data”. *See* Condition S3.c.3(h). It appears that the entire basis of the AWMP’s wholly inadequate testing protocol is conjecture rather than actual data. In fact, it appears that no soil testing will be required at all, despite the fact that it is mandated by condition S3.c.3(i) of Oregon’s General CAFO NPDES permit, and is a component of ODA’s AWMP minimum requirements guidance document.

The AWMP also generally errs on the side of sample homogenization, thereby eliminating the ability to ascertain whether there are certain “hot spots” of over-application on any particular field, or improperly functioning steps in the manure handling and disposal chain of events.

Given that the Quincy and Wanser soils underlying the proposed Premier Dairy site have extremely high infiltration and percolation rates, it is particularly important that the Premier Dairy AWMP be more closely tailored to consider site-specific conditions, and redrafted to include tangible limitations on manure application.

VI. Improper accounting for and regulation of off-site manure transfer

The fact sheet accompanying Oregon’s CAFO General NPDES permit specifically states that basic AWMP elements include an inventory of lands “available for land application, whether on or off-site.” *See* Fact Sheet at page 11. The AWMP neither inventories potential off-site property to be used for land application, nor even discusses

who might be the likely recipients of off-site manure transfers. The public has a right to know where the 30,000 tons of manure/year noted in Mr. DeHaan's ATR will be sent.

In addition to an appropriate inventory of off-site transfer property, the AWMP should expressly state the requirement that Mr. DeHaan annually submit the date and amount of each transfer and the name and address of each recipient. Finally, the plan should mandate that manure leaving the facility only be applied at agronomic rates identified in the AWMP.

VII. Conclusion

The Premier Dairy proposal has garnered the greatest degree of public controversy of any CAFO ever to seek coverage under Oregon's CAFO General NPDES permit. ODA has exacerbated the compelling environmental and public health concerns associated with this proposal by making several missteps in the public notification process along the way. Citizens who specifically requested that they be notified about the proposal via e-mail were not notified. Only very late in the public comment period were local governments notified of the proposal. Although ODA took the helpful step of extending the public comment period when requested to do so, it failed to post notification of the extension on its website until a very late date. It is essential that these kinks in the CAFO NPDES permitting process be ironed out, as they undermine the integrity of the program.

Due to the considerable environmental and public health concerns associated with siting this facility in a groundwater protection area, the inadequacies of the AWMP, the under-protectiveness of the permit conditions with respect to site-specific concerns, and the considerable public controversy generated by this application, NEDC specifically requests that the Department take one of the following three steps: 1) Deny the application as proposed; 2) Conditionally approve the application coupled with a departmental order specifically addressing all the concerns raised above; or, perhaps most appropriately 3) Require that Mr. DeHaan submit an application for coverage under an individual NPDES permit that would be more closely tailored to incorporate site-specific considerations.

Sincerely,



Mark Riskedahl
Executive Director NEDC

Cc: David Domingo, U.S. EPA, Region X