

**STATEMENT OF MICHELE M. MERKEL
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BEFORE THE
U.S. HOUSE SUBCOMMITTEE ON ENVIRONMENT & HAZARDOUS MATERIALS
OF THE COMMITTEE ON ENERGY AND COMMERCE**

November 16, 2005

Thank you Mr. Chairman and Members of the Subcommittee for the opportunity to testify today. My name is Michele Merkel, and I am senior counsel of the Environmental Integrity Project (EIP), a nonprofit organization that advocates for effective enforcement of environmental laws. I am testifying this morning on behalf of EIP, Center on Race, Poverty & the Environment, Clean Water Action Alliance of Minnesota, Conservation Council of North Carolina, Family Farms for the Future, Idaho Conservation League, Illinois Stewardship Alliance, Institute for Agriculture and Trade Policy, Iowa Citizens for Community Improvement, Iowa Environmental Council, Izaak Walton League of America, Land Stewardship Project, Natural Resources Defense Council, Northwest Environmental Defense Center, Savannah Riverkeeper, Inc., Sierra Club, Southern Environmental Law Center, Sustainable Agriculture Coalition, Waterkeeper Alliance, Melody Torrey on behalf of Missouri Stream Team #714, Rolf Christen, and Robert E. Rutkowski.

We are concerned about recent Congressional interest in exempting all hazardous releases associated with manure, including ammonia and hydrogen sulfide, from the notification and reporting requirements under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Emergency Reporting and Community Right to Know Act (EPCRA). We urge you to continue to require hazardous release reporting under these statutes from large agricultural operations that release ammonia or other hazardous substances at levels

that may jeopardize public health. In addition, we urge you to maintain authority under CERCLA to require livestock operations to clean up their unpermitted releases of hazardous waste to the environment. Without these statutes, the government is powerless to protect critical natural resources like public drinking water supplies, and the public is unwittingly exposed to potentially dangerous quantities of hazardous pollutants.

Structure of the Livestock Industry

The Animal Feeding Operation (AFO) industry is a multi-billion dollar business. Most AFOs do not resemble the livestock farms of years past. Instead, many AFOs are industrialized operations that confine thousands of animals at a single location, often generating the waste equivalent of a small city.¹ Unlike traditional livestock farms where the animals grazed on pastureland, AFOs confine thousands, or even millions, of the animals in closed buildings for most of their lives, where they are fed a regimented diet in a closely controlled indoor environment.²

In the swine industry, for example, large confinement operations dominate production.³ Hog AFOs typically confine approximately 5,000 hogs at any given time in totally closed buildings.⁴ Such large AFOs are highly specialized operations which do not resemble traditional farming. They are more akin to manufacturing processes, in which the operator closely regulates the animals' environment, food source, and water supply.⁵

Animal production is also becoming consolidated in the hands of a few giant agribusinesses. In the broiler industry, for example, production has shifted away from small family farms to industrial production facilities controlled by large agribusinesses. Between 1982 and 1992, roughly 20% of broiler operations across the country shut down, yet the number of

chickens raised increased considerably. Industrial-sized operations have replaced the traditional small producers that went out of business.⁶

Over 90% of all chickens are raised under a contractual relationship with “integrated” production and processing companies. Under this arrangement, the agribusiness “integrator” contracts with a “grower” to produce chickens for slaughter by the integrator. The integrator owns the chickens throughout the production process and supplies the bulk of the necessary inputs including feed and medication. The integrator also monitors the production operation and provides growers with detailed instructions regarding the day-to-day activities at the site.⁷

Consolidation and agribusiness control is not limited to the broiler industry. The trend in hog production is also toward fewer, larger confinement operations. In the last decade alone, the number of hog operations nationwide plummeted 50% while domestic hog production increased considerably. As with the broiler industry, the smaller, family-run hog farms have given way to large industrial-scale AFOs, where many of the hogs are raised under contract with an integrator. The dairy industry is becoming consolidated as well. Since 1998, over 40% of all dairies have vanished, but the number of larger operations has increased.⁸

The AFO industry is big business. The poultry industry alone generated over \$21 billion in on-farm revenue in 1997, with much of the production coming from corporate producers operating large AFOs.⁹ Similarly, the swine industry generates roughly \$10 billion per year at the production level; revenue from consumer sales often exceeds \$20 billion.¹⁰ Large agribusinesses realize the lion’s share of the profits. For instance, Tyson Foods, the world’s largest meat producer, enjoyed \$26.4 billion in sales and realized \$1.9 billion in gross profits in 2004.¹¹ Smithfield Foods, the nation’s largest hog producer, generated \$9.3 billion in sales and \$227 million in net income in the same year.¹² Revenues and profits continue to grow each year.

The face of animal agriculture has changed dramatically in recent years. The traditional practices of the independent farmer have yielded to an industrial paradigm that rests on economies of scale and externalization of pollution control costs. Large-scale “factory farms” are rapidly taking over the meat industry, and production practices that involve animals grazing on pasture are quickly disappearing. A new system of animal agriculture has taken hold, one that more closely resembles manufacturing than it does farming. Unless properly regulated, this new form of agriculture has the potential to do unthinkable damage to the environment.

Environmental and Human Health Impacts of AFO Pollution

Animal feeding operations present enormous threats to the environment. These operations produce about 500 million tons of manure annually or three times more waste than humans generate each year in the United States.¹³ The pollutants associated with AFO waste include: (1) nutrients such as nitrogen and phosphorous; (2) organic matter; (3) solids, including the manure itself and other elements mixed in with it such as spilled feed, bedding and litter materials, hair, feathers and corpses; (4) pathogens; (5) salts; (6) trace elements such as arsenic; (7) volatile compounds such as carbon dioxide, methane, hydrogen sulfide, and ammonia; (8) antibiotics; and (9) pesticides and hormones.¹⁴

These pollutants often impair water quality in the nation’s rivers and lakes when manure overflows from storage “lagoons” or when pollutants released to the air redeposit on waterways. For example, in 1995, approximately 25 million gallons of manure were discharged from a single hog AFO in North Carolina.¹⁵ Similarly, discharges of thousands of gallons of animal waste have been reported in Iowa, Illinois, Minnesota, Missouri, Ohio and New York.¹⁶ These

discharges wreak havoc on the receiving waters, often killing hundreds of thousands of fish per event.

Perhaps the most common way that pollutants reach surface waters or leach into groundwater is through improper land application. AFOs frequently overapply animal waste to nearby fields, where it mixes with rainwater and runs off into rivers and lakes. The nutrient-rich runoff alters the chemical composition of receiving waters, and triggers a surge in algae and other aquatic vegetative growth. This vegetative growth can choke out fish and other marine life, and lead to increased treatment requirements for drinking water supplies. According to the EPA, “over-enrichment of waters by nutrients (nitrogen and phosphorous) is the biggest overall source of impairment of the nation’s rivers and streams, lakes and reservoirs, and estuaries.”¹⁷

This contamination poses serious risks to human health. Manure-related microbes in water can cause severe gastrointestinal disease, complications and even death.¹⁸ In May 2000 in Walkerton, Ontario, an estimated 2,321 people became ill and seven died after drinking water from a municipal well contaminated with *E.coli* and *Campylobacter* from runoff resulting from manure spread onto fields by a nearby livestock operation.¹⁹ Manure can also carry arsenic and other toxic metal compounds, as well as antibiotics, into water contributing to antibiotic resistance.²⁰ Finally, pollution from animal confinements can cause nitrate contamination of drinking water supplies, which can result in significant human health problems including methemoglobinemia in infants (“blue baby syndrome”), spontaneous abortions and increased incidence of stomach and esophageal cancers.²¹

AFO air emissions also cause significant health problems in workers and in nearby residents. AFOs emit significant amounts of particulate matter (fecal matter, feed materials, skin cells, bioaerosols, etc.), ammonia, hydrogen sulfide, sulfur dioxide, volatile organic compounds,

and other harmful contaminants into the air.²² Adverse human health effects associated with air pollution from AFOs are manifold and may include respiratory diseases (asthma, hypersensitivity pneumonitis, industrial bronchitis), cardiovascular events (sudden death associated with particulate air pollution), and neuropsychiatric conditions (due to odor as well as delayed effects of toxic inhalations).²³ Other problems include increased headaches, sore throats, excessive coughing, diarrhea, burning eyes, and reduced quality of life for nearby residents.²⁴ AFO air pollution is especially problematic, because neighboring communities are exposed on a near constant basis.²⁵

Ammonia is a human toxin that EPA lists alongside arsenic, cyanide, and benzene as a hazardous substance under CERCLA. 40. C.F.R. § 302.4. The livestock sector produces roughly 73% of all ammonia emissions nationwide.²⁶ Some of the largest facilities produce staggering quantities of ammonia gas—comparable to pollution from the nation’s largest manufacturing plants.²⁷ For example, Threemile Canyon Farms in Boardman, Oregon, reported that its 52,300 dairy cow operation emits 15,500 pounds of ammonia per day, more than 5,675,000 pounds per year.²⁸ That is 75,000 pounds more than the nation’s number one manufacturing source of ammonia air pollution (CF Industries of Donaldson, Louisiana).²⁹ Buckeye Egg Farm’s facility in Croton, Ohio reported ammonia emissions of over 4,300 pounds per day – 43 times the reporting threshold under CERCLA and EPCRA.³⁰

Human exposure to ammonia triggers respiratory problems, causes nasal and eye irritation, and in extreme circumstances, is fatal.³¹ AFOs expose downwind neighbors are exposed to elevated ammonia levels, as well as other pollutants. For example, the Missouri Department of Health and Senior Services documented ambient ammonia levels downwind of a swine operation ranging from 153 to 875 ppb. The EPA submitted comments on the Missouri

study, comparing the ambient ammonia levels to recommended exposure limits and noted that “the conclusion could be drawn that a *public health hazard* did exist at the time the...data was acquired.”³²

Ammonia also contributes to the development of fine particulate matter. Fine particulate matter causes significant health problems, including aggravated asthma, difficult or painful breathing, chronic bronchitis, decreased lung function, and premature death.³³ Fine particulate matter has been linked to increased hospital emissions and emergency room visits for people with heart and lung disease, and decreased work and school attendance.³⁴

In addition to ammonia, EPA also lists hydrogen sulfide as a hazardous pollutant under CERCLA. High-level exposures of hydrogen sulfide, an asphyxiate, can cause loss of consciousness, coma and death. At least 19 AFO workers have died from sudden hydrogen sulfide exposure during liquid manure agitation.³⁵ Epidemiological studies of communities exposed to hydrogen sulfide reported symptoms such as asthma, chronic bronchitis, shortness of breath, eye irritation, nausea, headaches and loss of sleep.³⁶

These risks to public health led the American Public Health Association to call for a moratorium on new concentrated animal feeding operations “until scientific data on the attendant risks to public health have been collected and uncertainties resolved.”³⁷ The Michigan State Medical Society, the Canadian Medical Association, as well as local boards of health, have also called for moratoria on new concentrated animal feeding operation construction.³⁸

EPCRA and CERCLA Requirements

CERCLA has two main policy objectives. First, Congress intended to give the federal government the necessary tools for a prompt and effective response to problems of national

magnitude resulting from hazardous waste disposal.³⁹ Second, Congress intended that the polluters bear the costs and responsibility for remedying the harmful conditions that they created.⁴⁰

Specifically, section 103 of CERCLA provides that any person in charge of a facility from which a hazardous substance has been released in a reportable quantity (RQ) must immediately notify the National Response Center (“NRC”).⁴¹ For example, releases of ammonia and hydrogen sulfide that exceed 100 pounds per day must be reported under section 103.⁴² Section 103(f)(2) of CERCLA further provides for relaxed reporting requirements for substances that are classified as a continuous release.⁴³ If a reported release demands a response, the government may act, pursuant to section 104, to respond to that release.⁴⁴ And if the government acts, it may recoup the costs of the recovery action under CERCLA section 107.⁴⁵

In addition to the reporting requirements under CERCLA, owners and operators of facilities must also provide immediate notice of the release of an extremely hazardous substance under EPCRA. Section 304(a) requires an owner or operator of a facility to report the release of an extremely hazardous substance to designated state and local officials, if “such release requires notification of section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.”⁴⁶ The EPCRA emergency reporting requirements, therefore, track the CERCLA requirements and ensure that federal, state and local authorities are notified of potentially dangerous chemical releases.

The right-to know provisions of CERCLA and EPCRA not only empower government but also citizens. Information about chemical releases enables citizens to hold companies and local governments accountable in terms of how toxic chemicals are managed. Transparency also often spurs companies to focus on their chemical management practices since they are being

measured and made public. In addition, the data serves as a rough indicator of environmental progress over time.

Animal Production Operations Should Not Be Exempted from EPCRA/CERCLA

The AFO industry argues that Congress never intended to apply CERCLA and EPCRA requirements to animal agriculture. However, they cite to no authority for this claim. If Congress had intended such a result, it could have excluded animal production facilities, like hog or poultry facilities, from the reporting requirements of CERCLA.⁴⁷ Instead, Congress only chose to exempt “the normal application of fertilizer” from the CERCLA definition of release,⁴⁸ and provided an exemption under EPCRA for reporting releases when the regulated substance “is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the ultimate consumer.”⁴⁹

Both of these exemptions were considered by a federal district court in Kentucky which held that neither of the exemptions should apply to Tyson’s poultry production operations. Tyson did not qualify for the routine agricultural use exemption, because it did not store ammonia in the chicken houses for agricultural use, nor did it use the ammonia in an agricultural operation.⁵⁰ Rather, it used exhaust fans and vents to release the ammonia to the environment so that it would not kill the chickens. Tyson did not qualify for the normal application of fertilizer exemption, because they were not applying ammonia to farm fields as fertilizer when they vented it into the atmosphere.⁵¹

A federal court in Texas also considered the normal application of fertilizer exemption. The court ruled that the exemption does not apply if Plaintiffs prove that the Defendants

improperly stored and maintained large amounts of waste on their property, causing hazardous releases of phosphorous and other pollutants to nearby sources of drinking water.⁵²

Industry representatives also argue that the CERCLA exclusion for “naturally occurring substances” should apply to livestock operations. Section 104(a)(3)(A) of CERCLA prohibits the President [through EPA] from ordering a remedial or response action “in response to a release or threat of release...of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found...” Industry argues that CERCLA should not apply to farming operations because “[s]ubstances, such as orthophosphate, ammonia and hydrogen sulfide, occur naturally in the environment in the same forms as they occur as byproducts of biological processes on farming operations.” However, releases of hazardous substances from agribusinesses would not qualify for the exemption, because they occur as a result of activities associated with milk or meat production.⁵³ For example, as discussed below, in both of the response actions taken to date, the governments’ actions were not based on releases of naturally occurring phosphorous or orthophosphate undisturbed by human activity. Rather, the governments sought to remove hazardous substances that were added to the environment and disposed of by the operations during the improper storage and handling of waste.

CERCLA/EPCRA Fill Important Gaps in Permitting Statutes

CERCLA and EPCRA require the reporting of only non-federally permitted releases. Therefore, if a AFO’s emissions are authorized by a permit under another federal statute, they do not have to report these emissions. Releases that are federally permitted are exempt not only from CERCLA and EPCRA notification requirements but from CERCLA liability as well.⁵⁴

Although EPA and the States have permitted some AFOs under other federal statutes, CERCLA is still necessary to fill critical gaps. For example, under pressure from citizens and EPA, the California legislature overturned an exemption for agricultural operations and recently became the first state to require large animal operations to apply for Clean Air Act permits.⁵⁵ Although the Clean Water Act has required large livestock operations to obtain permits for more than 30 years, noncompliance has been widespread. In 2001, EPA estimated that at least 13,000 concentrated animal feeding operations were required to have Clean Water Act permits, but EPA and States had issued just 2,520 permits.⁵⁶

Even if a facility were to have a federal permit, the permit would not necessarily address all of the releases of hazardous chemicals. A Clean Water Act permit, for example, would not address releases of hazardous chemicals to the air and, conversely, a Clean Air Act permit would not address releases of hazardous chemicals to water. Furthermore, not all statutes regulate the same chemicals. For example, the Clean Air Act does not regulate ammonia or hydrogen sulfide as hazardous air pollutants. Although CERCLA's list of hazardous substances were first identified under other statutes, including the Clean Water Act, the Clean Air Act and the Resource Conservation and Recovery Act, CERCLA authorizes the Administrator of EPA to add to this list "substances [like ammonia and hydrogen sulfide] which, when released to the environment may present a substantial danger to public health or welfare or the environment..."⁵⁷ Thus, EPCRA and CERCLA are necessary complements to federal permitting statutes to address hazardous pollutants that would not otherwise be regulated.

CERCLA/EPCRA Cases Against Agribusinesses, Not Family Farms

There have only been a handful of cases filed against AFOs for violations of CERCLA and EPCRA. In most of the cases, the defendants have been large corporate agribusinesses, not family farmers, and the releases of hazardous chemicals have been significant. Courts have consistently held that CERCLA and EPCRA reporting requirements apply to agricultural operations if releases of regulated hazardous substances meet regulatory thresholds.

Premium Standard Farms – In November 2001, the United States and Citizens Legal Environmental Action Network, Inc. settled a case against Premium Standard Farms, Inc. (PSF), the nation's second largest pork producer and Continental Grain Company. PSF's and Continental's operations in Missouri consist of more than 1,000 hog barns, 163 animal waste lagoons and 1.25 million hogs, primarily located on 21 large-scale farms in five counties. The settlement resolved numerous claims of violations under the CWA,⁵⁸ CAA,⁵⁹ CERCLA and EPCRA.⁶⁰

PSF exposed downwind neighbors to elevated ammonia levels, as well as other pollutants.⁶¹ Recent measurements taken pursuant to the settlement agreement reveal that PSF releases 3 million pounds of ammonia annually from the cluster of barns and lagoons at its Somerset facility.⁶² These emissions make PSF the fifth largest industrial emitter of ammonia in the United States. This data does not include the ammonia gases released when liquid manure is sprayed on the company's nearby fields.

Seaboard Corporation – On January 7, 2003, the Sierra Club reached partial settlement of a lawsuit against the Seaboard Corporation, concerning pollution at one of the largest hog factories in North America. The settlement resolved all claims, except for Sierra Club's CERCLA and

EPCRA claims. CERCLA requires a person to report releases of a hazardous substance from a “facility.” In an effort to avoid regulation, Seaboard argued that each pit and building should be counted separately. An appellate court found Seaboard's arguments "unconvincing." The Court held that the entire 25,000-head hog operation was a single "facility" and that Seaboard must report the combined emissions from all its waste pits and confinement buildings.⁶³ Seaboard estimates that the total average daily emissions of ammonia are from its Dorman Sow Facility is 192 pounds per day, almost double the 100 pound per day reporting threshold under CERCLA.

Tyson Foods, Inc. – On January 26, 2005, the Sierra Club entered into a settlement agreement with Tyson Foods. Tyson is the number one poultry producer in the nation, and each of its four facilities that were involved in the case could confine approximately 600,000 chickens at one time. Under the decree, Tyson agreed to study and report on emissions from its chicken operations and mitigate ammonia emissions that have been plaguing rural residents for years. The settlement came in the wake of a court decision in 2003, when a federal judge ruled that the term “facility” should be interpreted broadly, including facilities operated together for a single purpose at one site, and that the whole farm site is the proper regulated entity for purposes of the CERCLA and EPCRA reporting requirements.⁶⁴

City of Tulsa – The City of Tulsa filed suit against some of the largest poultry producers in the nation including Tyson, Simmons and Cargill.⁶⁵ The City alleged that the Defendants’ growers polluted Lakes Eucha and Spavinaw, from which Tulsa draws its water supply, by applying excess litter to land application areas. As of September 1, 2002, just one of the Defendant’s growers produced approximately 40,715,200 birds and an estimated 39,859 tons of litter in the affected watershed.⁶⁶ The City’s complaint included claims for cost recovery and contribution

under CERCLA. A federal court ruled that phosphorous contained in the poultry litter in the form of phosphate is a hazardous substance under CERCLA.⁶⁷

City of Waco – In 2004, the City of Waco filed suit against fourteen commercial dairies for failure to properly manage and dispose of waste. The complaint alleges that hazardous pollution from these dairies contaminated Lake Waco, which is the sole source of drinking water for the City of Waco and a significant source of drinking water for surrounding communities.⁶⁸ The City's complaint includes claims for cost recovery and contribution costs under CERCLA. The Court denied the dairies' Motion to Dismiss and held, among other things, that the type of phosphorous that was released by the dairies was a hazardous substance under CERCLA.⁶⁹ The Court also held that the normal application of fertilizer exemption would not apply if Plaintiffs could prove that the releases of hazardous substances were caused by the dairies' improper handling of animal waste.⁷⁰

State of Oklahoma – On June 18, 2005, the Oklahoma Attorney General's Office filed a lawsuit against some of the nation's largest producers of chickens, turkeys and eggs for water pollution in the Illinois River watershed caused by the improper dumping and storage of poultry waste.⁷¹ The watershed contains elevated levels of a number of pollutants found in poultry waste. For example, the phosphorous from the poultry waste dumped into the Illinois River watershed is equivalent to the waste that would be generated by 10.7 million people, a population greater than the states of Arkansas, Kansas and Oklahoma combined.⁷² The watershed also serves as the source of drinking water for 22 public water supplies in eastern Oklahoma.⁷³

The Attorney General's complaint alleges violations of state and federal nuisance laws, trespass, as well as other violations of state environmental regulations. The State also seeks to

recover the costs that it has had to incur, and will incur, to respond to the pollution. These costs include “the costs of monitoring, assessing and evaluating water quality, wildlife and biota in the [Illinois River Watershed].”⁷⁴ The State also seeks to recover Natural Resource Damages for the injury to, destruction of, and loss of natural resources.⁷⁵

Citizens Cannot Recover Natural Resources Damages or Penalties

Under the Response Sections of CERCLA

Industry representatives have incorrectly asserted that citizen suits threaten to impose natural resource damage liability under CERCLA.⁷⁶ In fact, natural resource damages may only be recovered by a designated federal, state or tribal trustee.⁷⁷

Industry has also raised alarms about high penalties from citizen suits and cases brought by municipal and state governments. Again, there is no rational basis for this assertion. Tyson and Seaboard did not pay a single penny in their cases brought by Sierra Club for failure to report their hazardous air emissions under CERCLA and EPCRA. Furthermore, penalties are unavailable under CERCLA for removal or remedial actions, regardless of whether they are initiated by government or by a private party.⁷⁸

Finally, citizens are even limited in their cost recovery actions. A private party must prove as part of its prima facie case that the cleanup activities for which it incurred response costs were consistent with the National Contingency Plan.⁷⁹

Exempting Agribusinesses from EPCRA/CERCLA Requirements

Would Prevent EPA from Gathering Critical Data

The National Academy of Sciences (NAS) issued a report in 2003 in which it expressed concern over AFO air pollution and criticized EPA and USDA for not devoting the necessary technical or financial resources to estimate air emissions and to develop mitigation technologies.⁸⁰ In response to NAS concerns, EPA negotiated an Air Compliance Agreement with industry that establishes an emissions monitoring program.⁸¹ 2,700 participants have signed up for this agreement.⁸² The stated purpose of the Agreement is to ensure that AFOs comply with applicable environmental requirements--including CERCLA and EPCRA requirements--and to gather scientific data that the Agency needs to make informed regulatory and policy determinations. Exempting AFOs from CERCLA/EPCRA liability will not only remove incentives for facilities to participate in the monitoring study, but will also prevent government and citizens from having access to critical information about potentially dangerous releases that could affect communities.

Conclusion

CERCLA and EPCRA provide an essential safety net for protecting water supplies and for protecting the air that we breathe. There is no compelling reason to exempt livestock facilities from these statutes when communities have been exposed to potentially dangerous quantities of hazardous pollutants from some large operations. Before you consider any amendments to current law, we urge you to hold field hearings so that citizens who are affected by pollution from livestock operations have an opportunity to testify.

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- ¹ EPA, Environmental Assessment of Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations, EPA-821-B-01-001 at 2-2 (2001) (“Environmental Assessment”), <http://epa.gov/ost/guide/cafo/envir.html>.
- ² EPA, Development Document for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations, EPA-821-R-03-001 at 4-3 (2002) (“Development Document”), <http://cfpub2.epa.gov/npdes/afo/cafodocs.cfm>.
- ³ Development Document at 4-3.
- ⁴ Development Document at 4-3.
- ⁵ Development Document at 4-13.
- ⁶ See Development Document at 4-37.
- ⁷ See Development Document at 4-36; see also 70 Fed. Reg. 4960.
- ⁸ See generally Development Document.
- ⁹ Development Document at 4-35.
- ¹⁰ Development Document at 4-2.
- ¹¹ Tyson, Annual Report 2004, http://media.corporate-ir.net/media_files/irol/65/65476/reports/ar04.pdf.
- ¹² Smithfield, Annual Report 2004, <http://www.rkconline.net/AR/SmithfieldAR2004/>.
- ¹³ USEPA, National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations (CAFOs), 68 Fed. Reg. 7176, 7180 (2003) [hereinafter USEPA, *CAFO Final Rule*].
- ¹⁴ Preamble to USEPA, *CAFO Final Rule* at 7181.
- ¹⁵ Environmental Assessment at 2-17.
- ¹⁶ *Id.* at 2-18; see also The New York Times, *How to Poison a River*, (Aug. 19, 2005) (commenting on a 3 million gallon spill from a 3,000 head dairy in New York)
- ¹⁷ USEPA and USDA, *Clean Water Action Plan: Restoring and Protecting America’s Waters* at 56 (Feb. 1998).
- ¹⁸ David Wallinga, M.D., Institute for Agriculture and Trade Policy, *Concentrated Animal Feeding Operations: Health Risks from Water Pollution* (Aug, 2004).
- ¹⁹ *Id.*
- ²⁰ *Id.*; see e.g., Chapin et al., Airborne Multidrug-Resistant Bacteria Isolated from a Concentrated Swine Feeding Operation, 113 Environmental Health Perspectives 137 (2005).
- ²¹ EPA, *CAFO Final Rule*, at 7238. See also, U.S. Environmental Protection Agency, Office of Children’s Health Protection, *Drinking Water Contaminants—America’s Children and the Environment: A First View of Available Measures*, <http://yosemite.epa.gov/ochp/ochpweb.nsf/content/drinking-water-contam.htm>; Centers for Disease Control and Prevention, *Spontaneous Abortions Possibly Related to Ingestion of Nitrate- Contaminated Well Water-La Grange County, Indiana 1991-1994*, Morbidity and Mortality Weekly, Report 45 (26) (1996), at 569-571 (linking high nitrate levels in Indiana well water near confinement operations to spontaneous abortions in humans), <http://www.cdc.gov/mmwr/preview/mmwrhtml/0042839.htm>.
- ²² Iowa State University and The University of Iowa Study Group, Iowa Concentrated Animal Feeding Operations, Air Quality Study, Final Report (2002) (“Iowa Air Quality Study”), <http://www.public-health.uiowa.edu/ehsrc/CAFOstudy.htm>.
- ²³ Iowa Air Quality Study at 122; see also Minnesota Planning Agency Environmental Quality Board, Final Animal Agriculture Generic Environmental Impact Statement (2002), (“Minnesota EIS for Animal Agriculture”), <http://www.eqb.state.mn.us/geis/> for information concerning health impacts of particular AFO air pollutants.
- ²⁴ S. Wing & S. Wolf, Intensive Livestock Operations, Health, and Quality of Life Among Eastern North Carolina Residents, 108 Env’tl. Health Persp. 223-38 (2000); see also K. Thu et al., A Control Study of the Physical and Mental Health of Residents Living Near a Large-Scale Swine Operation, 3 J. Agric. Safety & Health 1, 13-26 (1997).
- ²⁵ Iowa Air Quality Study at 122.

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- ²⁶ EPA, *Ammonia Emission Factors from Swine Finishing Operations*, <http://www.epa.gov/ttn/chief/conference/ei10/ammonia/harris.pdf>.
- ²⁷ EPA, *National Emission Inventory – Ammonia Emissions from Animal Husbandry Operations, Draft Report*, http://www.epa.gov/ttn/chief/ap42/ch09/related/nh3inventorydraft_jan2004.pdf.
- ²⁸ Letter from Tom Lindley on behalf of Threemile Canyon Farms to EPA Region X, April 18, 2005.
- ²⁹ U.S. EPA, Toxics Release Inventory, 2003. Search performed at: < <http://www.epa.gov/triexplorer/>>.
- ³⁰ U.S. Department of Justice, *Ohio’s Largest Egg Producer Agrees to Dramatic Air Pollution Reductions from Three Giant Facilities*, http://www.usdoj/opa/pr/2004/February/04_enrd_105.htm.
- ³¹ Schiffman, S.S., et al., *Health Effects of Aerial Emissions from Animal Production and Waste Management Systems*, http://www.cals.ncsu.edu/waste_mgt/natlcenter/summary.pdf.
- ³² Memo from Mario Jorquera to Scott Clardy (December 2, 2002).
- ³³ EPA, *Health and Environmental Impact of PM*, <http://www.epa.gov/air/urbanair/pm/hlthl.html>.
- ³⁴ EPA, *Chief Causes for Concern*, <http://www.epa.gov/air/urbanair/pm/chf.html>.
- ³⁵ Iowa State University and The University of Iowa Study Group, *Iowa Concentrated Animal Feeding Operations Air Quality Study* (February 2002), at 132.
- ³⁶ United States Public Health Service (1964).
- ³⁷ American Public Health Association, *Precautionary Moratorium on New Concentrated Animal Feed Operations*, 2003-7, <http://www.apha.org/legislative/policy/2003/2003-007.pdf>.
- ³⁸ *Id.*
- ³⁹ *U.S. v. Reilly Tar & Chemical Corp.*, 546 F. Supp. 1100, 1112 (D. Minn. 1982); see also *Walls v. Waste Resource Corp.*, 823 F. 2d 977, 980 (6th Cir. 1987); *Dedham Water Co. v. Cumberland Farms Dairy, Inc.* 805 F.2d 1074, 1081 (1st Cir. 1986).
- ⁴⁰ *Id.*
- ⁴¹ 42 U.S.C. § 9603(a).
- ⁴² 42 U.S.C. § 9603; 40 C.F.R. § 302.4.
- ⁴³ 42 U.S.C. § 9603(f).
- ⁴⁴ 42 U.S.C. § 9604(a).
- ⁴⁵ 42 U.S.C. § 9607(a)(4)(A).
- ⁴⁶ 42 U.S.C. § 11004(a); 40 C.F.R. § 355.40(b)(1).
- ⁴⁷ *Sierra Club v. Tyson Foods, et al*, 299 F. Supp. 2d 693, 706 (W.D.Ky. 2003).
- ⁴⁸ 42 U.S.C. § 9601(22)(D).
- ⁴⁹ 42 U.S.C. § 11021(e)(5).
- ⁵⁰ *Sierra Club v. Tyson Foods, et al*, 299 F. Supp. 2d 693, 714 (W.D.Ky. 2003).
- ⁵¹ *Id.*
- ⁵² *City of Waco v. Dennis Schouten, et. al.*, No. W-04-CA-118, slip op. at 9 (W.D. Tx. 2005).
- ⁵³ See, e.g., *U.S. v. Iron Mountain Mines, et.al.*, 987 F. Supp. 1244 (E.D. Cal. 1997). (exemption held not apply to releases of metals altered by mining); *U.S. v W.R. Grace and Co.-Conn.*, 280 F. Supp. 2d 1149 (D. Mont. 2003) (exemption held not to apply to releases of asbestos and asbestos-contaminated vermiculite that was a by-product of vermiculite processing).
- ⁵⁴ USEPA, Office of Solid Waste and Emergency Response, *Questions and Answers on Release Notification Requirements and Reportable Quantity Adjustments*, EPA/540/R-94/005 (Jan. 1995).
- ⁵⁵ Congressional Research Service, *Air Quality Issues and Animal Agriculture: A Primer* (June 10, 2005).
- ⁵⁶ USEPA, National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitation Guidelines and Standards for Concentrated Animal Feeding Operations, Proposed Rule (CAFOs), 66 Fed. Reg. 2960, 2968 (2001) [hereinafter USEPA, *CAFO Proposed Rule*].
- ⁵⁷ 42 U.S.C. § 9602 (a).
- ⁵⁸ Department of Justice, News Release, *Nation’s Second Largest Hog Producer Reaches Settlement with U.S. and Citizen’s Group* (Nov. 20, 2001),

<http://yosemite.epa.gov/opa/admpress.nsf/bf92f4e7d755207d8525701c005e38d7/db8bd3f214a2406d85256b0a0079a7ee!OpenDocument>.

⁵⁹ Id., see also EPA, *Notice of Violation* issued to Premium Standard Farms (April 2000); EPA, *Clarification of Notice of Violation* (September 2000).

⁶⁰ Id., see also EPA, *Finding of Violation* issued to Premium Standard Farms (May 2000).

⁶¹ Memo from Mario Jorquera to Scott Clardy (December 2, 2002).

⁶² Premium Standard Farms, *Air Emissions Monitoring Completion Report* (Nov. 17, 2004).

⁶³ Sierra Club v. Seaboard Farms, 387 F. 3d 167 (10th Cir. 2004).

⁶⁴ Sierra Club v. Tyson Foods, et al., 299 F. Supp. 2d 693 (W.D.Ky. 2003).

⁶⁵ City of Tulsa v. Tyson Food Inc., et. al., 258 F. Supp. 2d 1263 (N.D. Okla. 2003).

⁶⁶ Id. at 1272.

⁶⁷ Id. at 1285. Although the Court's ruling was vacated as part of a settlement agreement, the Court's reasoning may still be persuasive to other Courts.

⁶⁸ City of Waco v. Dennis Schouten et. al., Civil Action No. W-04-CA-118 (W.D. Texas), First Amended Complaint (May 27, 2004).

⁶⁹ City of Waco v. Dennis Schouten et. al., Civil Action No. W-04-CA-118 (W.D. Texas), Memorandum Opinion and Order at 8 (March 29, 2005).

⁷⁰ Id. at 9.

⁷¹ State of Oklahoma v. Tysons Foods, Inc. et.al., Civil Action No. 05CV0329 JOE-SAJ (N.D. Okla.), Complaint (June 18, 2005).

⁷² Oklahoma Attorney General's Office, News Release, *AG Sues Poultry Industry for Polluting Oklahoma Waters* (June 13, 2005).

⁷³ Id.

⁷⁴ Complaint at ¶ 76.

⁷⁵ Complaint at ¶ 89.

⁷⁶ Southern Association of State Departments of Agriculture, *Clarifying CERCLA and EPCRA Do Not Apply to Animal Agriculture*.

⁷⁷ 42 U.S.C. § 9607 (f)(1).

⁷⁸ See 42 U.S.C. § 9607.

⁷⁹ 42 U.S.C. § 9607 (a)(4)(B).

⁸⁰ National Academy of Sciences, *Air Emissions from Animal Feeding Operations: Current Knowledge, Future Needs* (2003).

⁸¹ USEPA, *Animal Feeding Operations Consent Agreement and Final Order*; Notice 70 Fed. Reg. 4958 (Jan. 31, 2005).

⁸² USEPA, *Proposed Amendment to Section 118 of Superfund Amendments* (Oct. 2005) (Not Official Agency Position—Technical Assistance Only).