STATEMENT OF ED HOPKINS
SIERRA CLUB
BEFORE THE
U.S. HOUSE SUBCOMMITEE ON ENVIRONMENT & HAZARDOUS MATERIALS
OF THE COMMITTEE ON ENERGY AND COMMERCE
JUNE 27, 2012

Summary

Production of livestock and poultry has concentrated greatly in the last several decades, and this has concentrated large amounts of animal waste. While manure is not a hazardous waste, improper handling can release phosphorus into water supplies, and its degradation can release large amounts of ammonia and hydrogen sulfide into the air. These are hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and the Emergency Planning and Community Right to Know Act (EPCRA). Some large livestock and poultry operations release more of these chemicals than major industrial facilities.

Phosphorus can contaminate communities' drinking water supplies, burdening ratepayers and taxpayers with cleanup costs. At least 29 states have reported damage to lakes, rivers and streams from large animal feeding operations. Air releases of ammonia and hydrogen sulfide – manure degradation products – trigger respiratory problems, eye and nose irritation, and in some extreme cases, death. Many university reports, peer-reviewed literature and government-sponsored studies have documented the adverse public health and environmental effects of animal feeding operations.

The Sierra Club opposes H.R. 2997, which would create a special exemption for livestock manure from CERCLA and EPCRA. If Congress creates this exemption, communities whose waterways or drinking water has been damaged by hazardous substances will lose a vital tool for recovering cleanup costs. The cost of cleaning up water damaged by excess phosphorus and other hazardous substances in manure would fall on communities and ratepayers rather than those responsible for causing the contamination. Communities would remain in the dark about toxic chemicals these facilities release into the air. Poultry and livestock operators will also lose a powerful incentive to manage their waste responsibly.

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to testify today. My name is Ed Hopkins, and I am Director of the Sierra Club's Environmental Quality Program. Sierra Club is a grassroots environmental organization with 1.4 million members and supporters. For more than decade, we have advocated at the local, state and federal level for more effective protection from public health and environmental problems caused by large factory farms.

We support the provisions of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Emergency Reporting and Community Right to Know Act (EPCRA) that hold polluting industries accountable for the damage they cause and require reporting of hazardous releases associated with manure, including ammonia and hydrogen sulfide. 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.

We oppose legislation, such as H.R. 2997, that would create special exemptions from environmental laws for the vast quantities of manure and other waste created by factory farms. If Congress creates this exemption, communities whose drinking water has been damaged by hazardous substances will lose a vital tool for recovering cleanup costs. Poultry and livestock operators will also lose a powerful incentive to manage their waste responsibly. The cost of cleaning up water damaged by excess phosphorus and other hazardous substances in manure would fall on communities and ratepayers rather than those responsible for causing the contamination.

Modern Livestock Operations Concentrate Large Amounts of Animal Waste

Most animal feeding operations do not resemble the livestock farms of years past. Instead, many 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, these

facilities 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]

A General Accountability Office study estimated that between1982 and 2002, the number of large farms that raise animals increased by 234 percent and that almost half of all animals were raised on large farms.[3] These large operations produce about 300 million tons of manure annually or three times more waste than humans generate each year in the United States.[4] Depending on the type and number of animals, the GAO estimated that individual farms can produce from over 2,800 tons to more than 1.6 million tons of manure each year. The GAO estimated that one large hog farm could generate 1.6 million tons of manure a year, which is one and one-half times the amount of sanitary waste generated by the 1.5 million residents of Philadelphia in a year.[5] An important difference: the City of Philadelphia treats its wastewater, the large hog operation does not.

Livestock Waste Threatens Public Health and the Environment

With so much manure concentrated in small areas come threats to public health, water and air. According to the most recent National Water Quality Inventory, 29 states specifically identified animal feeding operations as contributing to water quality impairments.[6] Waste pits full of manure fail, inundating rivers and killing fish. In 1995, approximately 25 million gallons of manure were discharged from a single hog operation in North Carolina.[7] Similarly, discharges of thousands of gallons of animal waste have been reported in Iowa, Illinois, Minnesota, Missouri, Ohio and New York.[8]

Waste applied to fields in large quantities can run off into lakes and rivers. 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 phosphorus) is the biggest overall source of impairment of the nation's rivers and streams, lakes and reservoirs, and estuaries."[9]

When large farms are clustered in a region for easy access to processing facilities, the GAO reported that: "According to agricultural experts and government officials that we spoke to, such clustering of operations raises concerns that the amount of manure produced could result in the overapplication of manure to croplands in these areas and the release of excessive levels of some pollutants that could potentially damage water quality."[10] According to a U.S. Department of Agriculture report, the numbers of counties with excess manure nitrogen increased by 103 percent, from 36 counties in 1982 to 73 counties in 1997. Similarly, the number of counties with excess manure phosphorus increased by 57 percent, from 102 counties in 1982 to 160 counties in 1997.[11]

This contamination poses serious risks to human health. Manure-related microbes in water can cause severe gastrointestinal disease, complications and even death.[12] 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 *Camplyobacter* from runoff resulting from manure spread onto fields by a nearby livestock operation.[13] Manure can also carry arsenic and other toxic metal compounds, as well as antibiotics, into water contributing to antibiotic resistance.[14] 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.[15]

Air emissions also cause significant health problems in workers and in nearby residents. Livestock and poultry operations 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.[16] Many adverse human health effects associated with air pollution from these operations, including 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.).[17] Other problems include increased headaches, sore throats, excessive coughing, diarrhea, burning eyes, and reduced quality of life for nearby residents.[18] This air pollution is especially problematic, because neighboring communities are exposed on a near constant basis.[19]

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.[20] Human exposure to ammonia triggers respiratory problems, causes nasal and eye irritation, and in extreme circumstances, is fatal.[21] 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.[22] 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.[23]

Animal feeding operations expose downwind neighbors 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."[24] Some of the largest facilities produce staggering quantities of ammonia gas—comparable to pollution from the nation's largest manufacturing plants.[25] 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.[26] That is 75,000 pounds more than the nation's number one manufacturing source of ammonia air pollution (CF Industries of Donaldson, Louisiana) reported releasing

that year.[27] 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.[28]

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 workers have died from sudden hydrogen sulfide exposure during liquid manure agitation. [29] 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.[30]

The GAO study found that that "Since 2002, at least 68 government-sponsored or peer-reviewed studies have been completed on air and water pollutants from animal feeding operations. Of these 68 studies, 15 have directly linked pollutants from animal waste generated by these operations to specific health or environmental impacts, 7 have found no impacts, and 12 have made indirect linkages between these pollutants and health and environmental impacts. In addition, 34 of the studies have focused on measuring the amount of certain pollutants emitted by animal feeding operations that are known to cause human health or environmental impacts at certain concentrations."[31]

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."[32]

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.[33] Second, Congress intended that the polluters bear the costs and responsibility for remedying the harmful conditions that they created.[34]

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").[35] 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.[36] If a reported release demands a response, the government may act, pursuant to section 104, to respond to that release.[37] And if the government acts, it may recoup the costs of the recovery action under CERCLA section 107.[38]

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."[39] 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 serve as a rough indicator of environmental progress over time.

CERCLA/EPCRA Fill Important Gaps in Permitting Statutes

CERCLA and EPCRA require the reporting of only non-federally permitted releases. Therefore, if a facility'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.[40] Although EPA and the States have permitted some feeding operations under other federal statutes, CERCLA is still necessary to fill critical gaps. Although the Clean Water Act has required large livestock operations to obtain permits for almost 40 years, noncompliance has been widespread. As EPA indicates in a proposed information collection rule, only about 8,000 concentrated animal feeding operations out of a universe of about 20,000 facilities – about 40 percent – have obtained Clean Water Act NPDES permits.[41]

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…"[42]

Thus, EPCRA and CERCLA are necessary complements to federal permitting statutes to address hazardous pollutants that would not otherwise be regulated. They do not duplicate other federal laws.

Animal Production Operations Should Not Be Exempted from EPCRA/CERCLA

The poultry and livestock 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.[43] Instead, Congress only chose to exempt "the normal application of fertilizer" from the CERCLA definition of release,[44] 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."[45]

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.[46] 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.[47]

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 phosphorus and other pollutants to nearby sources of drinking water.[48] 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.[49] 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 phosphorus 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 Cases against Agribusinesses, Not Family Farms

There have only been a handful of cases filed against poultry and livestock operations 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,[50] CAA,[51] CERCLA and EPCRA.[52]

PSF exposed downwind neighbors to elevated ammonia levels, as well as other pollutants.[53] 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.[54] At the time, these emissions made 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.[55] 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.[56]

City of Tulsa – The City of Tulsa filed suit against some of the largest poultry producers in the nation including Tyson, Simmons and Cargill.[57] 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.[58] The City’s complaint included claims for cost recovery and contribution under CERCLA. A federal court ruled that phosphorus contained in the poultry litter in the form of phosphate is a hazardous substance under CERCLA.[59]

The City of Tulsa continues to experience water quality problems as a result of pollution from animal feeding operations. The following comment, submitted in response to the EPA’s proposed information collection request for large animal feeding operations, supports the need for more regulation of these operations, not

less: "The City of Tulsa used a significant amount of financial resources in an attempt to coordinate with the poultry industry on ways to promote environmental stewardship, improve nutrient management practices and stakeholder communication, but with no success. Success only came from subsequent court order directives."[60]

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.[61] 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 phosphorus that was released by the dairies was a hazardous substance under CERCLA.[62] 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.[63] The City subsequently settled its case. To address taste and odor problems caused by excessive phosphorus in its water supply, the City is spending more than $54 million in upgrades to its drinking water treatment system.[64] The City also opposed legislation similar to H.R. 2977 in a previous session of Congress.

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.[65] The watershed contains elevated levels of a number of pollutants found in poultry waste. For example, the phosphorus 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.[66] The watershed also serves as the source of drinking water for 22 public water supplies in eastern Oklahoma.[67] 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]."[68] The State also seeks to recover Natural Resource Damages for the injury to, destruction of, and loss of natural resources.[69] This case remains unresolved.

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.[70] In fact, natural resource damages may only be recovered by a designated federal, state or tribal trustee.[71] 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.[72] 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.[73]

Exempting Agribusinesses from EPCRA/CERLA Requirements Would Prevent EPA from Gathering Critical Data

By exempting reporting requirements for poultry and livestock waste emissions, the EPA would be prevented from even knowing the scope or consequences of this pollution. Ignoring this problem will not make it go away; virtually every study that has been done on this subject emphasizes the need for more information.

The National Academy of Sciences (NAS) issued a report in 2003 in which it expressed concern over air pollution from animal feeding operations and criticized EPA and USDA for not devoting the necessary technical or financial resources to estimate air emissions and to develop mitigation technologies.[74] The 2008 GAO report underscored the need for more information: "Although EPA is aware of the potential impacts of air and water pollutants from animal feeding operations, it lacks data on the number of animal feeding operations and the amount of discharges actually occurring. Without such data, according to EPA officials, the agency is unable to assess the extent to which these pollutants are harming human health and the environment." [75]

Failing to require reporting may impede responses to acute health threats. Emissions of hydrogen sulfide from the Excel Dairy in Marshall County, Minnesota, illustrate the importance of retaining the reporting requirements so that health officials can respond to emergencies. According to a September, 2008, Exposure Investigation by the Agency for Toxic Substances and Disease Registry, high and persistent emissions of hydrogen sulfide from the dairy prompted a finding of a "public health hazard associated with community exposures." With concentrations of hydrogen sulfide exceeding the measuring capability of the Minnesota Pollution Control Agency's monitoring equipment, ATSDR recommended immediate action to reduce emissions from the dairy, more sophisticated air monitoring, and restricted access to the dairy property to reduce exposures.[76]

In conclusion, because of the demonstrable public health and environmental threats that animal feeding operations pose, CERCLA and EPCRA provide critical safeguards complementing other statutes. Sierra Club strongly opposes legislation like H.R. 2997 that would create special exemptions for hazardous substances released from poultry and livestock operations. This bill serves only to shift cleanup costs to taxpayers and ratepayers and keep regulatory agencies and the public in the dark about exposures to chemicals that these facilities release. Thank you for considering our views.

[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").

[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").

[3] GAO*, Concentrated Animal Feeding Operations: EPA Needs More Information and a Clearly Defined Strategy to Protect Air and Water Quality from Pollutants of Concern*. September, 2008. Pp. 4-5. [hereinafter GAO]

[4] EPA, 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*].

[5] GAO at 5.

[6] U.S. EPA, *National Water Quality Inventory: Report to Congress: -- 2004 Reporting Cycle*, January, 2009.

[7] Environmental Assessment at 2-17.

[8] 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

[9] USEPA and USDA, *Clean Water Action Plan: Restoring and Protecting America's Waters* at 56 (Feb. 1998).

[10] Id.

[11] R. L. Kellogg, C.H. Lander, D. C. Moffitt, and N. Gollehon. *Manure Nutrients Relative to the Capacity of Cropland and Pastureland to Assimilate Nutrients: Spatial and Temporal Trends for the United States*. (Washington, D.C.: December 2000).

[12] David Wallinga, M.D., Institute for Agriculture and Trade Policy, *Concentrated Animal Feeding Operations: Health Risks from Water Pollution* (Aug, 2004).

[13] Id.

[14] Id.; see e.g., Chapin et al., Airborne Multidrug-Resistant Bacteria Isolated from a Concentrated Swine Feeding Operation, 113 Environmental Health Perspectives 137 (2005).

[15] 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

[16] 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

[17] 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.

[18] S. Wing & S. Wolf, Intensive Livestock Operations, Health, and Quality of Life Among Eastern North Carolina Residents, 108 Envtl. 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).

[19] Iowa Air Quality Study at 122.

[20] EPA, *Ammonia Emission Factors from Swine Finishing Operations*, http://www.epa.gov/ttn/chief/conference/ei10/ammonia/harris.pdf.

[21] 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

[22] EPA, *Health and Environmental Impact of PM*, http://www.epa.gov/air/urbanair/pm/hlthl.html.

[23] EPA, *Chief Causes for Concern*, http://www.epa.gov/air/urbanair/pm/chf.html.

[24] Memo from Mario Jorquera to Scott Clardy (December 2, 2002).

[25] EPA, *National Emission Inventory – Ammonia Emissions from Animal Husbandry Operations,Draft Report*, http://www.epa.gov/ttn/chief/ap42/ch09/related/nh3inventorydraft_jan2004.pdf.

[26] Letter from Tom Lindley on behalf of Threemile Canyon Farms to EPA Region X, April 18, 2005.

[27] U.S. EPA, Toxics Release Inventory, 2003. Search performed at: <http://www.epa.gov/triexplorer/>.

[28] 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.

[29] EPA, *Health and Environmental Impact of PM*, http://www.epa.gov/air/urbanair/pm/hlthl.html.
[30] United States Public Health Service (1964).
[31] GAO at 23.
[32] American Public Health Association, *Precautionary Moratorium on New Concentrated Animal Feed Operations*, 2003-7, http://www.apha.org/legislative/policy/2003/2003-007.pdf.
[33] 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).
[34] Id.
[35] 42 U.S.C. § 9603(a).
[36] 42 U.S.C. § 9603(f).
[37] 42 U.S.C. § 9604(a).
[38] 42 U.S.C. § 9607(a)(4)(A).
[39] 42 U.S.C. § 11004(a); 40 C.F.R. § 355.40(b)(1).
[40] 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).
[41] National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) Reporting Rule, 76 Fed. Reg. 65445 (Oct. 21, 2011).
[42] 42 U.S.C. § 9602 (a).
[43] Sierra Club v. Tyson Foods, et al, 299 F. Supp. 2d 693, 706 (W.D.Ky. 2003).
[44] 42 U.S.C. § 9601(22)(D).
[45] 42 U.S.C. § 11021(e)(5).
[46] Sierra Club v. Tyson Foods, et al, 299 F. Supp. 2d 693, 714 (W.D.Ky. 2003).
[47] Id.
[48] City of Waco v. Dennis Schouten, et. al., No. W-04-CA-118, slip op. at 9 (W.D. Tx. 2005).
[49] 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).
[50] Department of Justice, News Release, *Nation's Second Largest Hog Producer Reaches Settlement with U.S. and Citizen's Group* (Nov. 20, 2001).
[51] Id., see also EPA, *Notice of Violation* issued to Premium Standard Farms (April 2000); EPA, *Clarification of Notice of Violation* (September 2000).
[52] Id., see also EPA, *Finding of Violation* issued to Premium Standard Farms (May 2000).
[53] Memo from Mario Jorquera to Scott Clardy (December 2, 2002).
[54] Premium Standard Farms, *Air Emissions Monitoring Completion Report* (Nov. 17, 2004).
[55] Sierra Club v. Seaboard Farms, 387 F. 3d 167 (10th Cir. 2004).
[56] Sierra Club v. Tyson Foods, et al, 299 F. Supp. 2d 693 (W.D.Ky. 2003).
[57] City of Tulsa v. Tyson Food Inc., et. al., 258 F. Supp. 2d 1263 (N.D. Okla. 2003).
[58] Id. at1272.
[59] 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.
[60] City of Tulsa, Comment on EPA's proposed NPDES CAFO Reporting Rule Docket ID No. EPA-HG-OW-2-11-0188. Oct. 24, 2011.
[61] City of Waco v. Dennis Schouten et. al., Civil Action No. W-04-CA-118 (W.D. Texas), First Amended Complaint (May 27, 2004).
[62] 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).
[63] Id. at 9.
[64] Letter from Larry Groth, Waco City Manager to Senators Inhofe and Jeffords, June 2, 2006.
[65] State of Oklahoma v. Tysons Foods, Inc. et.al., Civil Action No. 05CV0329 JOE-SAJ (N.D. Okla.), Complaint (June 18, 2005).
[66] Oklahoma Attorney General's Office, News Release, *AG Sues Poultry Industry for Polluting Oklahoma Waters* (June 13, 2005).
[67] Id.
[68] Complaint at ¶ 76.

[69] Complaint at ¶ 89

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

[71] 42 U.S.C. § 9607 (f)(1).

[72] See 42 U.S.C. § 9607.

[73] 42 U.S.C. § 9607 (a)(4)(B).

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

[75] GAO at 23.

[76] Letter to Cheryl Newton (EPA) and Gaylen Reetz (MN Pollution Control Agency) from Department of Health and Human Services and Minnesota Department of Public Health, September 19, 2008.