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Doug Szenher
Arkansas Department of Environmental Quality
5301 Northshore Dr.
North Little Rock, AR 72118

Re: Public Comment- Reg. 5 and Reg. 6 Rulemakings

Mr. Szenher:

Please apply this comment to the rulemaking dockets, 14-002-R and 14-003-R, proposing changes to APCEC Reg. 5 and Reg. 6 (“the rulemakings”) to prohibit the Director of the Arkansas Department of Environmental Quality from issuing permits for certain confined animal operations and certain concentrated animal feeding operations, in the Buffalo National River Watershed. This comment is in support of the rulemakings.

The science is clear that medium and large confined or concentrated swine feeding operations pose immense economic, environmental, social, and public health risks. States such as Nebraska and North Carolina have experienced immense degradation from CAFOs and a trend to pass laws providing greater protection to sensitive areas and requiring best management practices is well underway.¹ Even when all regulations are followed and no legal violations occur a CAFO will negatively impact surrounding communities and ecosystems. There is always the potential for engineering failures, human error, or natural disasters that can have catastrophic consequences to areas surrounding CAFOs. No location is safe from the risks posed by CAFOs, however putting the Nation’s first national river and the crown jewel of Arkansas out as an offering to large corporations to operate these risky facilities is a reckless and short sighted decision that could lead to similar devastation as seen in other states. The following highlights a few cases from other states where swine CAFOs have caused extensive negative impacts on the wellbeing of families, wildlife, businesses, and communities as a whole. The Buffalo National River Watershed should not be exposed to these dangers.

¹ Nebraska Admin. Code Title 130, Ch.9 (003), prohibiting certain animal agricultural operations in “a watershed that feeds directly or indirectly into a cold water class stream. North Carolina prohibits issuance of permits for swine farms that use anaerobic lagoons and land application to manage swine manure. Ex. 10, N.C. Gen. Stat. § 143-215.10I(b).

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Iowa

In 2000 in a settlement agreement with the state of Iowa one company paid \$150,000 in fines and agreed to build additional manure storage facilities for violating environmental laws. At that time the fine was the largest ever assessed against a livestock producer for violating environmental laws.²

Iowa State University found that over 50 percent of the lagoons studied had seepage losses that exceeded current standards.³

“There is no fail-safe method of waste storage and treatment. In Iowa and other states, mismanagement of lagoons and extreme weather events has created animal waste overflows and spills.”⁴

One Iowa study found “that CAFOs are causing measurable harm across a broad range of environmental, biological, and economic parameters” including...

- *significant amounts of toxic animal waste are released into water and air without environmental controls in place, causing pollution to air, soil, and the water supply.*
- *This pollution, in turn, appears to be a causative factor in the increased illness rates observed among people who live near CAFO facilities.*
- *The widespread, routine administration of antibiotics to confined hogs increases bacterial drug resistance and thereby endangers public health.*
- *land values and quality of life in areas near CAFOs have been shown to decrease markedly and consistently.*
- *The local economy suffers rather than improves, and small-scale farming declines.*⁵

Residents living within 2 miles of a 4,000 hog confinement reported significantly more respiratory problems than other residents.⁶

One Iowa study found that more than half of the manure storage structures tested leaked at rates above the legal limit. The legal limit authorized is a leakage rate for 7-acre manure lagoon of up to 16 million gallons annually. The Environmental Integrity Project report documented 329 manure spills in Iowa between 1992 and 2002. Out of the 329, 307 of the spills had a known cause. Failure or overflow of manure storage structures accounted for 24% of the spills, another 24% was from equipment failure, uncontrolled runoff accounted for 18%, 14% from improper application, 6% from deliberate actions, and 14% from other causes such as transportation accidents.⁷

A joint study from Iowa State University and University of Iowa found evidence that for neighbors “CAFO air emissions may constitute a public health hazard.”⁸

² Marks Robbin. Cesspools of Shame- How Factory Farm Lagoons and Sprayfields Threaten Environmental and Public Health. Natural Resource Defense Council and the Clean Water Network. July 2001.

<http://www.nrdc.org/water/pollution/cesspools/cesspools.pdf>

³ <http://www.nrdc.org/water/pollution/cesspools/cesspools.pdf>

⁴ Flora, Jan; Chen, Qiaoli; Bastian, Stacy; Hartmann, Rick. Hog CAFOs and Sustainability, The Impact on Local Development and Water Quality in Iowa. The Iowa Policy Project. October 2007.

<http://www.iowapolicyproject.org/2007docs/071018-cafos.pdf>

⁵ Institute of Science, Technology and public Policy at Maharishi University of Management entitled *CAFOs Assessment of Impacts on Health, Local Economies, and the Environment*

⁶ Institute for Rural and Environmental Health, Univ. of Iowa, 1997

⁷ Merkel M. 13 Data are from 3 Iowa Department of Natural Resources (IDNR) database: IDNR Fish Kill Database; IDNR Enforcement Database, and IDNR Emergency Response Database. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1448520/>

⁸ Merchant JA, Ross RF. *Iowa Concentrated Animal Feeding Operations Air Quality Study*. Iowa City, Iowa: Environmental Health Sciences Research Center of the University of Iowa; 2002.

The Centers for Disease Control found chemical pollutants and pathogens, metals, bacteria, nitrates, and parasites in lagoons and other sites including agricultural drainage wells, tile line inlets, tile line outlets, lagoon monitoring wells, underground water, and a river.⁹

Illinois

In 2011 an Illinois hog farm spilled 200,000 gallons of manure into a creek, killing over 110,000 fish.¹⁰

A study conducted over a decade revealed the negative impacts of swine CAFOs on economic growth in rural Illinois counties, as indicated by sales tax receipts. Finding that purchases from small businesses declined as concentration of CAFOs intensified.¹¹

An Illinois graduate student last year found evidence suggesting that “a large portion of karst groundwater systems in Midwestern regions was co-contaminated with human and livestock feces....”¹²

Minnesota

A home-based daycare center suffered hydrogen sulfide poisoning when winds blew from the south after two factory-scale hog farms opened less than a mile and half away. 17 children experienced diarrhea, nausea, headaches, vomiting, teary eyes, and stuffy noses.¹³

In 1998 100,000 gallons of manure spilled into Beaver Creek killing close to 700,000 fish.¹⁴

North Carolina

In 1995 North Carolina an eight-acre hog-waste lagoon burst spilling 25 million gallons of manure into the New River, killing more than 10 million fish and closing 364,000 acres of coastal wetlands to shellfishing.¹⁵

In 1999, Hurricane Floyd dropped as much as 15-20 inches of rain in eastern North Carolina killing between 30,000- 100,000 hogs and flooding nearly 50 liquid manure lagoons causing five more to fail completely.¹⁶

⁹ Rubin Carol, DVM, MPH, Chief Health Studies Branch, *Report to the State of Iowa Department of Public Health on the investigation of the Chemical and Microbial constituents of Ground and Surface Water Proximal to Large-Scale Swine Operations*. National Center for Environmental Health, Centers for Disease Control and Prevention (October-December 1998).

¹⁰ <http://www.nrdc.org/water/pollution/ffarms.asp>

¹¹ Flora Jan, Hodne Carol, Goudy Willis, Osterberg David, Kliebenstein James, Thu Kendall, Marquez Shannon. Social and Community Impacts. http://cph.uiowa.edu/ehsrc/pubs/cafo-report-docs/CAFO_7.pdf

¹² <https://www.ideals.illinois.edu/handle/2142/34261>

¹³ Marks Robbin. Cesspools of Shame- How Factory Farm Lagoons and Sprayfields Threaten Environmental and Public Health. Natural Resource Defense Council and the Clean Water Network. July 2001.

<http://www.nrdc.org/water/pollution/cesspools/cesspools.pdf>

¹⁴ Marks Robbin. Cesspools of Shame- How Factory Farm Lagoons and Sprayfields Threaten Environmental and Public Health. Natural Resource Defense Council and the Clean Water Network. July 2001.

<http://www.nrdc.org/water/pollution/cesspools/cesspools.pdf>

¹⁵ <http://www.nrdc.org/water/pollution/ffarms.asp>

¹⁶Wing, Steve, Freedman Stephanie, Band Lawrence. The Potential impact of flooding on confined animal feeding operations in eastern North Carolina. *Environ Health Perspect*. Apr. 2002; 110(4): 387-391. Pressley, Sue Anne. In North Carolina, Floyd leaves a toxic legacy. *Washington Post*. September 22, 1999.

The North Carolina Department of Health and Human Services found that the results of the well testing program “... illustrate a potentially serious groundwater problem to the people utilizing wells near Industrial Livestock Operations in five counties in eastern North Carolina.”¹⁷

A North Carolina study of 58,196 children found a 23% higher prevalence of asthma symptoms among students attending school where staff noticed livestock odors indoors twice a month or more.¹⁸

Residents in the vicinity of an approximately 6,000-head hog confinement reported increased occurrences of headaches, runny nose, sore throat, excessive coughing, diarrhea, and burning eyes as compared to residents of the community with no livestock operations.¹⁹

A study of residents in eastern North Carolina neighboring liquid waste management operations indicated that there was a decreased quality of life demonstrated by the comments that it is hard to plan social events in their homes because of the uncertainty of whether the air will be tolerable for guest and the burden of not being able to open window or go outside during nice weather due to CAFO odors.²⁰

Nutrient pollution which is linking with waste runoff and leakage can cause the growth of *Pfiesteria piscicida*, an algae that has been implicated in the death of more than one billion fish on the North Carolina coast.²¹

Oklahoma

In 2001 EPA Region 6 found nitrate contamination to the surficial aquifer from spraying waste and leaking waste lagoons to be threatening human health and the environment. The agency exercised rarely used emergency powers under the Safe Drinking Water Act to compel five hog operations to provide area residents with safe drinking water.²²

Pennsylvania

Link found between intensive hog farming and methicillin-resistant *Staphylococcus aureus*, or MRSA. Researchers from the John Hopkins Bloomberg School of Public Health found 3,000 patients with MRSA and 50,000 with skin and soft-tissue infections from 2005 through 2010 out of 446,000. The researchers concluded that 11 percent of the MRSA and soft-tissue infections could be attributed to living near farm fields treated with pig manure.²³

¹⁷ Rudo, Kenneth. Memo to Dennis McBride, State Health Director, RE: Nitrate Well Water Testing Program Adjacent to Intensive Livestock Operations. August 14, 1998.

¹⁸ Mirabelli, M.C., Wing, S. Marshall, S.W., Wilcosky, T.C. 2006. Asthma symptoms among adolescents who attend public schools that are located near confined swine feeding operations. *Pediatrics*, v. 118:66-75.

¹⁹ School of Public Health, University of North Carolina, 1999

²⁰ Flora Jan, Hodne Carol, Goudy Willis, Osterberg David, Kliebenstein James, Thu Kendall, Marquez Shannon. Social and Community Impacts. http://cph.uiowa.edu/ehsrc/pubs/cafo-report-docs/CAFO_7.pdf

²¹ Marks Robbin. Cesspools of Shame- How Factory Farm Lagoons and Sprayfields Threaten Environmental and Public Health. Natural Resource Defense Council and the Clean Water Network. July 2001. <http://www.nrdc.org/water/pollution/cesspools/cesspools.pdf>

²² In the matter of Seaboard Farms, Inc., Shawnee Funding Limited Partnership, PIC International Group, Inc. United States Environmental Protection Agency Region 6, Emergency Administrative Order, Docket Number: SDWA-06-02001-1239.

²³ High-density livestock operation, crop field application of manure, and risk of community-associated methicillin-resistant *Staphylococcus aureus* Infection in Pennsylvania. Joan A. Casey, MA; Frank Curriero, PhD, MA, Sara E. Cosgrove, MD, MS; Keeve E. Nachman, PhD, MHS, Brian S. Swartz, MD, MS. *JAMA Intern. Med.* 2013; 173(21):1980-1990. <http://archinte.jamanetwork.com/article.aspx?articleid=1738717&resultClick=3>

Wisconsin

In Brown County more than 100 private wells were contaminated by spring runoff in 2006. The contamination resulted in stomach cramps, nausea, diarrhea, and chills. A Department of Natural Resources investigation turned up a break in a manure-spreading pipe at a nearby factory farm.²⁴

In 1993, manure runoff contributing to Milwaukee's water supply was implicated in a *Cryptosporidium* outbreak, a parasite that can be found in swine lagoons, causing one of the nation's largest waterborne disease events, over 400,000 people fell ill with diarrhea, cramps, fever, and vomiting, and at least 54 died.^{25,26} This resulted in \$37 million in lost wages and productivity.²⁷

In March 2004, Kewanee County resident Judy Trembl's six-month daughter was rushed to the emergency room after manure polluted their drinking water. The farm that spread the manure was fined \$50,000 and paid the family \$80,000.²⁸

These incidents and impacts are a small sample of the devastating effects CAFOs have had on citizens, communities and the environment. The Buffalo National River watershed was established to preserve this unique scenic river for generations to come and should not be vulnerable to these risks. The proposed changes to Regulation 5 and 6 should be adopted to protect this area from a similar fate these other states have faced. Thank you for your acceptance and thoughtful consideration of these comments. Please accept the attached documents as part of this comment. I request that the Commission adopt the rulemakings.

Sincerely,
Anna Weeks
Environmental Policy Associate
Arkansas Public Policy Panel

²⁴ Seely Ron. Tracking a rising tide of waste- who's watching the farm? Wisconsin State Journal. February 28, 2010. http://host.madison.com/special-section/factory_farms/managing_manure/tracking-a-rising-tide-of-waste/article_df56a7f6-2255-11df-90a7-001cc4c03286.html

²⁵ Mac Kenzie WR, Hoxie NJ, Roctor Me, Gradus MS, Llair KA, Peterson DE, Kazmierczak JJ, Addiss DG, Fox KR, Rose JB, et al. *A massive outbreak in Milwaukee of cryptosporidium infection transmitted through the public water supply.* N Engl J Med. 1994 Jul 21; 331(3):161-7. <http://www.nejm.org/doi/full/10.1056/NEJM199407213310304>

²⁶ Jenkins, Michael; Janice, Liotta; Lucio-Forster, Araceli; Bowman, Dwight. *Concentrations, Viability, and Distribution of Cryptosporidium Genotypes in Lagoons of Swine Facilities in the Southern Piedmont and in the Coastal Plain Watershed of Georgia.* Appl Environ Microbiol. Sep. 2010; 76(17); 5757-5763. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2935074/>

²⁷ U.S. Environmental Protection Agency, Office of Water. *Environmental Assessment of Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Farming Operations*, EPA-821-B-01-001 (January 2001), p.2-7.

²⁸ <http://wisconsinwatch.org/2013/12/hormonal-wells-found-in-states-karst-region-dairy-farms-possible-source/>