

**VIA FIRST CLASS MAIL AND EMAIL (Water-Draft-Permit-Comment@adeq.state.ar.us.)**

March 20, 2014

Ms. Teresa Marks  
Water Division  
Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317

**Re: C & H Farms  
Modified Draft Permit ARG590001 AFIN 51-00164**

Dear Director Marks:

The comments below pertain to the modified portion of the permit as revised by C & H Hog Farm (hereinafter referred to as C & H) on February 17, 2014 in Section M - Plan for Pumping Waste Storage Ponds.

C & H's request to use a vac tanker to apply wastes from Waste Storage Pond #1 to fields 7, 8 and 9 is considered a major modification to the permit. However, it is not the only significant change that warrants consideration and subsequent approval by ADEQ. Additionally, the Plan states "the land application rate should be calculated based on (1) nutrient content of the wastewater, and (2) current soil tests." (Attachment A)

No calculations have been made which address the nutrient contents to be contained within the vac tanker or current soil tests of field 7 and 8.

NPDES Permit Section 3.2.5 states the NMP "must include the field available for land application; field specific rates of application properly developed as specified in Parts 3.2.5.1 through Parts 3.2.5.2 of this section, to ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater; and any timing limitations identified in the NMP concerning land application on the field suitable for land application." (Attachment B)

C & H has not provided any new information which would support the application of waste from Waste Storage Pond #1 to fields 7 and 8.

The data contained in the NMP and NOI is outdated, incomplete and inappropriate. The application of waste from Waste Storage Pond #1 to fields 7 and 8 is not a methodology listed in C & H's original NMP. The existing NMP does not support or provide a properly developed basis for C & H's request for modification to apply waste from Waste Storage Pond #1 to fields 7 and 8. (Attachment C)

ADEQ's Inspection Report (January 28, 2014) states, "Per Section M of your NMP please ensure you only use a vac tanker on fields 1-4 and 10-17, and only use the pipeline/sprinkler system on Fields 5-9. Your NMP will need to be revised if you wish to use both practices to apply on a given field." (Attachment D)

The modification requested designates fields 7, 8 and 9 to receive waste from Waste Storage Pond #1. When properly agitated, this waste will be significantly higher in nitrogen and phosphorus than Waste Storage Pond #2. Waste Storage Pond #1 should not be used without recalculating application rates. If Waste Storage Pond #1 is not agitated, then provision for the accumulation of biosolids in Waste Storage Pond #1 must be addressed before waste applications are applied to fields 7, 8 and 9.

An ADEQ report entitled "Land Application of Accumulated Solids From Liquid Waste Systems Demonstration Project" issued in September 2002 addresses this issue. The report states, "In order to land apply liquid manure in a way that will result in the least amount of nutrients being transported to lakes and streams as nonpoint source pollution every effort must be made to control the pertinent variables. Land application variables can best be controlled by accurately estimating the nutrient load contained within storage structures and then proceeding through a thoughtful, careful planning process in which an easily followed course of action is outlined and implemented." (Attachment E) Fields 7 and 9 are among the fields with the highest soil test P of any of the fields. Field 7 has a soil test P of 356 pounds/acre. This value is so high that application of P as either manure or fertilizer should be

discontinued. (Attachment F)

The above-mentioned ADEQ report also states, "Another nutrient management related concern identified in the Swine Project was the build up of phosphorus in the soil, generally described by soil test phosphorous (STP), on certain application sites. STP concentrations in the soils of the most convenient fields for land application, typically, those fields immediately adjacent to the LAWMS, commonly exceeded 300 pounds per acre. This value exceeds the concentration considered by many professionals in the field of non-point source pollution to be an upper cut off level for additional applications of the nutrient. Values approaching or exceeding the upper limit of the Melich III test method are not uncommon in areas with high densities of confined animal production facilities. The high STP issue created additional difficulties when attempting to address solids and nutrient accumulation problems in LAWMS. Pastures exceeding the 300 pounds per acre concentration could not be recommended for land application of accumulated swine manure solids during the Swine Project."

The Swine Manure Demo Project (Karl Vandevender, et al) August 2013 report states, "The first concern in swine manure management is related to the phosphorus content of the manure. Typically the manure is applied based on the receiving crop's nitrogen requirements. As a result, more phosphorus is applied than the crop will normally utilize (around five fold), thereby resulting in a phosphorus buildup in the soil. The phosphorus content of surface soil directly influences the loss of phosphorus in runoff (Daniel et al., 1994), which can reduce surface water quality." (Attachment G)

Field 7 is in the floodplain of Big Creek and is also listed as the field available for land application of wastewater in an emergency. (Attachment H)

Wastes from WSP #1 applied to floodplain fields pose environmental risk as wastes from WSP#1 are too rich for use on fields with already existing very high soil test P. Surface to groundwater nutrient runoff can be expected now and for a long time into the future. Indeed, there is no discussion at all of the karst terrain underlying these fields which is a pathway for pollution wholly overlooked in the NMP and ignored by ADEQ. (Attachment I)

C & H's NMP does not contain P index calculations for fields 7 and 9. (Attachment J)

The Swine Demo Project states, "... application rates greater than crop needs has been shown to result in nitrate (NO<sub>3</sub>) movement through the soil into ground water and can result in an excessive rise in soil test P levels leading to increased phosphorus runoff concerns. This can be a problem, since phosphorus is normally the limiting nutrient for eutrophication in freshwater systems."

Field 7, perhaps the most problematic of all 17 fields, is "off limits" to the University of Arkansas Big Creek Research team and will not be monitored for any environmental harm related to the C & H operation. (Attachment K)

Per the U of A and ADEQ Memorandum of Agreement, ADEQ agreed to: Assist U of A with obtaining access to conduct the study if access is denied by any property owner. (Attachment L) Given the extraordinarily high existing P levels in the soils of Field 7, and the high nutrient values in the waste proposed to be spread, ADEQ should not approve the modification unless the landowner agrees to monitoring. If the landowner does not wish to have the field monitored, then this field should be removed from the NMP.

Governor Beebe has spoken succinctly and pointedly with regard to the U of A and ADEQ's role in the land access matter. (Attachment M) Field 7 lies at the heart of this issue.

Due to the close proximity of field 7 to the Mt Judea school and community and due to the known health risks of chronic exposure to swine waste (ammonia, hydrogen sulfide, airborne particulates and other components of swine waste known to be hazardous to human health) particularly among children and the elderly, ADEQ must consider the effects to the public health and impacts on the local community. (Attachment N)

C & H developed their NMP using a narrative rate approach. NMP's that are developed using a narrative approach must contain an essential term described as "the outcome to the field-specific assessment of the potential for nitrogen and phosphorus transport from each field." C & H's NMP does not contain this essential term for proposed Land Application Fields 7 or 9. Any such spraying of waste on fields 7 or 9 is a violation of the permit and the Clean Water Act.

Buffalo River Watershed Alliance respectfully submits these comments and requests that ADEQ, as the state agency charged with preventing, controlling and abating pollution that could harm Arkansas's valuable natural resources, deny C & H's request to spread manure on fields 7, 8 and 9 by vac-tanker.

In addition, BRWA requests that ADEQ reopen the permit in its entirety.

Respectfully Submitted,

Dane Schumacher

Jack Stewart  
Gordon Watkins  
Buffalo River Watershed Alliance

Cc:

Governor Mike Beebe

Lynn Sichel, Chair, Arkansas Pollution Control and Ecology Commission (PC&E Comm'n)

William Thompson, Vice Chair, PC&E Comm'n

Stan Jorgensen, PC&E Comm'n

John Chamberlin, PC&E Comm'n

Joseph Bates, PC&E Comm'n

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Ann Henry, PC&E Comm'n

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John Simpson, PC&E Comm'n

Bekki White, PC&E Comm'n

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Attachments (A-N)