

# ADEQ

ARKANSAS  
Department of Environmental Quality

CERTIFIED MAIL RETURN RECEIPT REQUESTED: (91 7199 9991 7030 4938 2877)

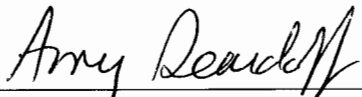
Nan House  
5795 E. Huntsville Rd.  
Fayetteville, AR 72701

RE: AFIN: 51-00164; Permit Tracking No.: ARG590001

Dear Ms. House:

This letter constitutes notice of the Department's final permit coverage decision and a copy of the revised Notice of Coverage (NOC) is enclosed. The attached response to comments describes any substantial changes from the draft permit.

I, Amy Deardoff, hereby certify that a copy of this permit has been mailed by first class mail to Nan House, 5795 E. Huntsville Rd. , Fayetteville, AR, 72701.



Amy Deardoff  
Administrative Specialist, Office of Water Quality

3-25-16

Date Mailed

# ADEQ

ARKANSAS  
Department of Environmental Quality

**MAR 25 2016**

Jason Henson  
C & H Hog Farms  
Hc 72 PO Box 10  
Mount Judea, AR 72655

Re: Concentrated Animal Feeding Operations General Permit  
(Tracking Number ARG590001 – AFIN 51-00164)

Dear Mr. Henson:

The Notice of Intent (NOI) package for a substantial change of coverage under the General Permit No. ARG590000, for a concentrated animal feeding operation, was received on July 7, 2015. The substantial change will be effective on the date that the revised Notice of Coverage (NOC) is signed. A copy of the General Permit ARG590000 is available from the Department or at the website below.

[http://www.adeq.state.ar.us/water/branch\\_permits/individual\\_permits/pdfs\\_forms/arg590000\\_draft.pdf](http://www.adeq.state.ar.us/water/branch_permits/individual_permits/pdfs_forms/arg590000_draft.pdf)

The Department responded to comments received during the public comment period and at the public hearing in accordance with General Permit No. ARG590000 Part 5.1, and no changes to the construction plans are required based on the comments received. Therefore, the Department is issuing modification coverage as submitted. Construction shall commence within one year of the modification coverage, or the facility will need to resubmit plans if the facility pursues the requested modification after one year.

The Department requests that you read and familiarize yourself with the terms and conditions of the permit. Compliance with all conditions and limitations therein is required. Any permit-related correspondence must include the Tracking Number shown above.

Thank you for your cooperation in this matter. Please contact the Permits Section of the Office of Water Quality at (501) 682-0650, if you have any questions.

Sincerely,



John Bailey  
Senior Operations Manager, Office of Water Quality

Enclosures

JB:km

cc: Electronic Filing (ARG590001)  
Jason Bolenbaugh, Branch Manager, Inspection Branch  
Jim Purvis, Administrative Analyst, Fiscal Division  
David Ramsey, ICIS Program Coordinator, Enforcement Branch

**NOTICE OF COVERAGE (NOC)  
FOR CONCENTRATED ANIMAL FEEDING OPERATIONS GENERAL PERMIT, ARG590000**

The discharge of an overflow of manure, litter, or process wastewater caused by precipitation into all receiving waters shall be in accordance with all limitations, monitoring requirements, and other conditions set forth in the Concentrated Animal feeding operations General Permit, ARG590000. Coverage under this General Permit is issued to:

C & H Hog Farms  
Hc 72 PO Box 10  
Mount Judea, AR 72655

C & H Hog Farms are located as follows: Hc 72 PO Box 10, Mount Judea, in Newton County, Arkansas. The facility's treatment system consists of in house shallow pits with a capacity of 759,542 gallons, a Settling Basin with a capacity of 831,193 gallons, and a Holding Pond with a capacity of 1,904,730 gallons. All wastes are land applied on 630.7 acres.

Response to comments is attached.

Coverage Date:	August 3, 2012
1 <sup>st</sup> Substantial Change Effective Date:	June 6, 2014
2 <sup>nd</sup> Substantial Change Effective Date:	May 5, 2015
Expiration Date:	October 31, 2016

  
\_\_\_\_\_  
John Bailey  
Senior Operations Manager, Office of Water Quality  
Arkansas Department of Environmental Quality

3/21/16  
3<sup>rd</sup> Substantial Change Date

**RESPONSE TO COMMENTS  
FINAL PERMITTING DECISION**

Permit Tracking No.: ARG590001  
Applicant: C & H Hog Farms, Inc.  
Prepared by: Katherine McWilliams

The following are responses to comments received regarding the modification of the construction plans for Waste Storage Ponds 1 and 2 for the above referenced facility and are developed in accordance with regulations promulgated at 40 C.F.R. § 124.17, 40 C.F.R. §122.62 as incorporated by reference in Arkansas Pollution Control and Ecology Commission's (hereinafter "APC&EC") Regulation 6, Regulations for State Administration of the National Pollution Discharge Elimination System (NPDES), and APC&EC Regulation No. 8, Administrative Procedures.

**Introduction**

The modification to the referenced facility's construction plans was submitted for public comment on July 8, 2015. The public comment period ended August 7, 2015. The Arkansas Department of Environmental Quality (hereinafter "ADEQ") conducted one (1) public hearing on the proposed modification on September 29, 2015.

Due to public interest in this facility and the narrowness of the modification, a separate document, not part of the Department's decision, is available at the following web address:

[http://www2.adeq.state.ar.us/water/branch\\_permits/general\\_permits/pdfs/arg590001\\_frequently\\_asked\\_questions\\_20140605.pdf](http://www2.adeq.state.ar.us/water/branch_permits/general_permits/pdfs/arg590001_frequently_asked_questions_20140605.pdf)

This document contains a summary of the comments that the ADEQ received during the public comment period. There were several similar issues raised throughout the comments; those are grouped together with one response from the ADEQ. The modification requested by C & H Hog Farms, Inc. (hereinafter "C & H Hog Farms") is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

The following people or organizations sent comments to the ADEQ during the public comment period and public hearing. A total of 31 comments were raised by 116 separate commenters. Three (3) commenters submitted comments after the public notice period ended or not during the public hearing and are not included in the response to comments.

Commenter	# of comments raised
1. Gene Pharr	1
2. Anna Weeks	0
3. Gordon Watkins	8
4. Steven D. Hignight	1
5. Ross Lockhart	1
6. Ginny Masullo	5
7. Lin Wellford	3
8. Joe T. Stroub	1

9. James McPherson	2
10. Lolly Tindol	4
11. Susan Anglin	1
12. Linda Lewis	1
13. Judi Nail	1
14. Keith Collins	1
15. Nancy Deisch	1
16. Richard Armstrong	1
17. Kirk Lanier	5
18. Vicki Bergman Lanier	5
19. Art Hobson	5
20. Randy Bayliss	5
21. Francis Millett	5
22. Randy Clemens	5
23. Julie Clemens	5
24. Stef Bright	5
25. Melody DeVere	5
26. Joseph Chidiac	5
27. Nancy Kahanak	5
28. Carol Small	5
29. Nicholas Lawson	5
30. Katy L. Kane	5
31. Madison Hinojosa	5
32. Konrad Siemek	5
33. Marquette Bruce	5
34. Rachel McDonald	5
35. Diane L. Knight	5
36. Shawn Bennett	5
37. Barbara Jaquish	5
38. James Onellette	5
39. Matthew Lyon	5
40. Amy B. Peeples	5
41. Phyllis Head	5
42. Frank Head	5
43. Rebecca Vockroth	5
44. Theresa Wolf	5
45. Roberto Sangalli	5
46. Nan Yarnelle	5
47. Eunice Millett	5
48. Jerusha White	5
49. Patricia E. Wyatt	5
50. Jeannine Wagar	5
51. Jessica Williams	5
52. Kent Bard	5
53. Deborah Coley	5
54. Nan House	5
55. Judi Walker	5
56. Wendy Florick	5
57. Paul D. Cromwell	5
58. Patti Kent	5

59. Jeff Ingram	5
60. David Martinson	7
61. Glenda Allison	3
62. Brian A. Thompson	5
63. National Park Service	2
64. Alice B. Andrews	7
65. Stephen Farar	2
66. Diana Rose Angelo	1
67. Beth Barham	2
68. Juliana Mannon	1
69. Robert Charles Kramer	1
70. Gene Dunaway	2
71. Lucien Gilham	4
72. Patricia Studer	1
73. Luis Contreras	2
74. Don House	3
75. Pam Stewart	3
76. Terry Dabbs	1
77. Nan Johnson	4
78. Dave Spencer	4
79. Carol Bitting	5
80. Stan Taylor	1
81. Allen Moore	1
82. Paul Hinson	5
83. Fay Knox	5
84. Jan Schaper	3
85. Dan Wright	1
86. Evan A. Teague	1
87. Richard McFadden	4
88. Jane E. Darr	1
89. Susan Watkins	4
90. Marti Olesen	10
91. Frank Reuter	6
92. Mary Reuter	6
93. Laura Timby	5
94. Mike Freeze	1
95. Marjorie Palmer Hudson	5
96. Mary Michelle Trost	1
97. John Murdoch	6
98. Charles J. Bitting	14
99. Bill Pettit	3
100. Sam Cooke	4
101. R. Ellen Corley	5
102. Teresa A. Turk	3
103. Randy Veach	1
104. Marilyn Shoffit	1
105. Melinda Harmon	1
106. Bob Hotchkiss	2
107. Margaret Lonadier	2
108. Dennis Larson	2

109. Jack Stewart	6
110. Jim Westbrook	6
111. Jerry Masters	1
112. Kathy Downs	3
113. Kent Bonar	3
114. Bill Lord	1
115. Bill Cronin	4
116. Bill Dark	0

**Comment 1** Liquid and solid waste must be removed from the ponds before liners can be installed. Sludge removal will inevitably disturb the existing clay liner. That clay is now permeated with solids and disturbing it may cause waste to seep through the clay and into the ground and groundwater. When the Big Creek Research and Extension team (BCRET) built their monitoring trenches they initially detected very high E. coli levels, which they attributed to soil disturbance during construction. The same may occur, but on a much larger scale, when the clay liner is disturbed. Is there precedence for retrofitting synthetic liners in existing waste storage ponds perched atop karst substrata? Have those performing the installation had experience under these conditions? Has ADEQ? Until proper measures are taken to eliminate and monitor for any groundwater contamination that may result due to construction and installation of the liners, this request should be denied.

Original Commenter: Gordon Watkins

Similar comments were received from: Ginny Masullo, Lin Wellford, Kirk Lanier, Vicki Bergman Lanier, Art Hobson, Randy Bayliss, Francis Millett, Randy Clemens, Julie Clemens, Stef Bright, Melody DeVere, Joseph Chidiac, Nancy Kahanak, Carol Small, Nicholas Lawson, Katy L. Kane, Madison Hinojosa, Konrad Siemek, Marquette Bruce, Rachel McDonald, Diane L. Knight, Shawn Bennett, Barbara Jaquish, James Onellette, Matthew Lyon, Amy B. Peeples, Phyllis Head, Frank Head, Rebecca Vockroth, Theresa Wolf, Roberto Sangalli, Nan Yarnelle, Eunice Millett, Jerusha White, Patricia E. Wyatt, Jeannine Wagar, Jessica Williams, Kent Bard, Deborah Coley, Nan House, Judi Walker, Wendy Florick, Paul D. Cromwell, Patti Kent, Jeff Ingram, Lucien Gilham, James McPherson, Pam Stewart, Nan Johnson, Dave Spencer, Carol Bitting, Fay Knox, Jan Schaper, Richard McFadden, Marjorie Palmer Hudson, Sam Cooke, Susan Watkins, Laura Timby, Teresa A. Turk, Bill Pettit, Frank Reuter, Mary Reuter, Charles J. Bitting; Don House, Jane E. Darr; Lolly Tindol, Stephen Farar, David Martinson, R. Ellen Corley, Jack Stewart, Jim Westbrook, Marti Olesen, Alice B. Andrews

**Response:** Limited disturbance of the existing clay liners is expected when removing solids from the waste storage ponds to prepare for installing the liners. The addition of the 60-mil HDPE liner will reduce existing seepage rates. In addition the seams of the liner will be tested in accordance with the manufacturer's specifications and APC&EC Reg. 22, and upon completion of the installation, the liner must be certified to have been installed in accordance with the approved construction plans. The liners will be installed by individuals with experience installing liners. The Big Creek Research and Extension Team (BCRET) will continue monitoring the house well and interceptor trench for parameters to determine leakage from the storage ponds as part of their study.

**Comment 2** Swine waste has permeated the clay liner and residual waste could remain after surface sludge is removed. When the liners are installed over the clay which contains residual organic waste, decomposition may produce methane and other gasses. This gas

accumulation can cause the protective barrier and membrane liner to become displaced and float to the surface of the pond. Until proper measures are taken to prevent this from occurring this modification should be denied.

Original Commenter: Gordon Watkins

Similar comments were received from: Ginny Masullo, Lin Wellford, Kirk Lanier, Vicki Bergman Lanier, Art Hobson, Randy Bayliss, Francis Millett, Randy Clemens, Julie Clemens, Stef Bright, Melody DeVere, Joseph Chidiac, Nancy Kahanak, Carol Small, Nicholas Lawson, Katy L. Kane, Madison Hinojosa, Konrad Siemek, Marquette Bruce, Rachel McDonald, Diane L. Knight, Shawn Bennett, Barbara Jaquish, James Onellette, Matthew Lyon, Amy B. Peeples, Phyllis Head, Frank Head, Rebecca Vockroth, Theresa Wolf, Roberto Sangalli, Nan Yarnelle, Eunice Millett, Jerusha White, Patricia E. Wyatt, Jeannine Wagar, Jessica Williams, Kent Bard, Deborah Coley, Nan House, Judi Walker, Wendy Florick, Paul D. Cromwell, Jeff Ingram, Alice B. Andrews, Lucien Gilham, Nan Johnson, Dave Spencer, Fay Knox, Richard McFadden, Marjorie Palmer Hudson, Sam Cooke, Susan Watkins, Teresa A. Turk, Frank Reuter, Mary Reuter; Don House, Jack Stewart, Jim Westbrook, John Murdoch

**Response:** As much of the residual waste as possible will be removed without damaging the integrity of the existing clay liners. The HDPE liner will then be installed above the current clay liners. To prevent gas buildup between the synthetic liner and clay liner, two vents designed using either Transnet geocomposite with geonet or an equivalent product will be installed. As shown in the submitted design documents, the vents will be 2.5 feet wide and 40.5 feet apart to create a channel for gases to escape from between two liners to the atmosphere. The design plans were signed and stamped by an engineer registered in the State of Arkansas. An engineer registered in the State of Arkansas will sign and stamp the as-built plans.

**Comment 3** Seam failure, punctures, mechanical damage can cause membrane liners to fail and leak. Leak detection technology is available to determine when such accidents occur. Until such technology is incorporated, this modification request should be denied.

Original Commenter: Gordon Watkins

Similar comments were received from: Ginny Masullo, Kirk Lanier, Vicki Bergman Lanier, Art Hobson, Randy Bayliss, Francis Millett, Randy Clemens, Julie Clemens, Stef Bright, Melody DeVere, Joseph Chidiac, Nancy Kahanak, Carol Small, Nicholas Lawson, Katy L. Kane, Madison Hinojosa, Konrad Siemek, Marquette Bruce, Rachel McDonald, Diane L. Knight, Shawn Bennett, Barbara Jaquish, James Onellette, Matthew Lyon, Amy B. Peeples, Phyllis Head, Frank Head, Rebecca Vockroth, Theresa Wolf, Roberto Sangalli, Nan Yarnelle, Eunice Millett, Jerusha White, Patricia E. Wyatt, Jeannine Wagar, Jessica Williams, Kent Bard, Deborah Coley, Nan House, Judi Walker, Wendy Florick, Paul D. Cromwell, Patti Kent, Jeff Ingram, Lucien Gilham, Pam Stewart, Nan Johnson, Dave Spencer, Fay Knox, Jan Schaper, Richard McFadden, Marjorie Palmer Hudson, Sam Cooke, Susan Watkins, Frank Reuter, Mary Reuter, Charles J. Bitting, David Martinson, Jack Stewart, Jim Westbrook, Kathy Downs, Alice B. Andrews, Marti Olesen, Paul Hinson, R. Ellen Corley, National Park Service, John Murdoch, Kent Bonar

**Response:** A geotextile base material (16 oz or greater) will be installed over the current subgrade for padding before installing the synthetic liners. This padding is to prevent



damage from stones or any other material that may result in damage to the liner. The existing clay liner will remain in place beneath the 60-mil HDPE liner. Solids removal in Waste Storage Pond 1 will be via sludge drawoff pipes to prevent damage to both the liner and cover. Solids removal in Waste Storage Pond 2 will be using agitators at locations where the 60-mil HDPE liner is reinforced.

The facility will test the liners in accordance with APC&EC Reg. 22 before operation recommences in the waste storage ponds. The liners will be installed and tested by individuals with experience installing liners. Any necessary repairs to the liner required during installation will be performed.

The design plans were signed and stamped by an engineer registered in the State of Arkansas. An engineer registered in the State of Arkansas will sign and stamp the as-built plans. A leak detection system is not required by NRCS practice standards in the State of Arkansas and will not be required as part of this modification.

**Comment 4** The gas flare may impact air quality at the nearby Mt. Judea school, town and nearby residences. Until an air permit is issued to monitor and regulate discharge this modification should be denied.

Original Commenter: Gordon Watkins

Similar comments were received from: Kirk Lanier, Vicki Bergman Lanier, Art Hobson, Randy Bayliss, Francis Millett, Randy Clemens, Julie Clemens, Stef Bright, Melody DeVere, Joseph Chidiac, Nancy Kahanak, Carol Small, Nicholas Lawson, Katy L. Kane, Madison Hinojosa, Konrad Siemek, Marquette Bruce, Rachel McDonald, Diane L. Knight, Shawn Bennett, Barbara Jaquish, James Onellette, Matthew Lyon, Amy B. Peeples, Phyllis Head, Frank Head, Rebecca Vockroth, Theresa Wolf, Roberto Sangalli, Nan Yarnelle, Eunice Millett, Jerusha White, Patricia E. Wyatt, Jeannine Wagar, Jessica Williams, Kent Bard, Deborah Coley, Nan House, Judi Walker, Wendy Florick, Paul D. Cromwell, Patti Kent, Jeff Ingram, Alice B. Andrews, Diana Rose Angelo, Lucien Gilham, James McPherson, David Martinson, Glenda Allison, Pam Stewart, Nan Johnson, Dave Spencer, Carol Bitting, Fay Knox, Jan Schaper, Richard McFadden, Marjorie Palmer Hudson, Sam Cooke, R. Ellen Corley, Bill Pettit, Frank Reuter, Mary Reuter, Charles J. Bitting, Paul Hinson, Laura Timby, Lolly Tindol, John Murdoch, Kent Bonar, Marti Olesen, Don House

**Response:** The Department thanks the commenters for their comments. This permit does not regulate gas emissions from the flare and is outside the scope of this modification.

**Comment 5** The fact remains that this facility should never have been permitted in the highly sensitive karst terrain of the Buffalo National River watershed and that numerous questions regarding C&H facility and its nutrient management plan remain unanswered by ADEQ.

Original Commenter: Gordon Watkins

Similar comments were received from: Ginny Masullo, Kirk Lanier, Vicki Bergman Lanier, Art Hobson, Randy Bayliss, Francis Millett, Randy Clemens, Julie Clemens, Stef Bright, Melody DeVere, Joseph Chidiac, Nancy Kahanak, Carol Small, Nicholas Lawson, Katy L. Kane, Madison Hinojosa, Konrad Siemek, Marquette Bruce, Rachel

McDonald, Diane L. Knight, Shawn Bennett, Barbara Jaquish, James Onellette, Matthew Lyon, Amy B. Peeples, Phyllis Head, Frank Head, Rebecca Vockroth, Theresa Wolf, Roberto Sangalli, Nan Yarnelle, Eunice Millett, Jerusha White, Patricia E. Wyatt, Jeannine Wagar, Jessica Williams, Kent Bard, Deborah Coley, Nan House, Judi Walker, Wendy Florick, Paul D. Cromwell, Patti Kent, Jeff Ingram, Fay Knox, Marjorie Palmer Hudson, Susan Watkins, Frank Reuter, Mary Reuter, Brian A. Thompson, Carol Bitting, Mary Michelle Trost, Patricia Studer, Charles J. Bitting, Lolly Tindol, Stephen Farar, Laura Timby, Linda Lewis, Nancy Deisch, Keith Collins, Juliana Mannon, Marti Olesen, Bill Cronin, Gene Dunaway

**Response:** The Department thanks the commenters for their comments. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 6** CARGILL/ C&H have said repeatedly that, “the clay liners are state of the art and overbuilt.” Now that Cargill wants to install membrane liners, is there reason to suspect that the clay liners are not adequate or not performing as expected?

Original Commenter: Ginny Masullo

Similar comments were received from: Lin Wellford, Patti Kent, Gordon Watkins, David Martinson, Carol Bitting, Teresa A. Turk, R. Ellen Corley, Luis Contreras, Frank Reuter, Mary Reuter, Glenda Allison, Margaret Lonadier, Bob Hotchkiss, Charles J. Bitting, Marti Olesen, Bill Cronin, Laura Timby, Jack Stewart, Jim Westbrook, Lolly Tindol

**Response:** The decision to install the HDPE liners over the current clay liners in Waste Storage Ponds 1 and 2 is a voluntary measure by the facility. The modification was not required by ADEQ. The existing clay liners met NRCS’s *Agricultural Management Field Handbook* Part 651 as shown by testing performed after the construction of the clay liners was completed and before the facility began operation.

**Comment 7** This is to reply to the issue of whether a permit should be given to C and H Hog Farm so they can empty to Hog Waste Lagoons to put liners in. I am very concerned with what will happen to the Hog Waste in the lagoons, I suppose it will be sprayed on more fields? I think it is a terrible idea to spray hog waste on fields to begin with and especially in the Mt. Judea area where it will end up endangering the waterways of that area, including the Buffalo River. This year has been especially wet and it seems like a disaster waiting to happen. I think the hog waste should be shipped to Cargill's headquarters so they can find a hog waste solution. This is a terrible problem and the citizens and state of Arkansas should not be the ones dealing with hog waste. It is time to empty the lagoons but not on or in our state.

Original Commenter: Judi Nail

Similar comments were received from: David Martinson, Glenda Allison, Alice B. Andrews, R. Ellen Corley, Beth Barham, Melinda Harmon, Charles J. Bitting, Bill Cronin, Marti Olesen, Bob Hotchkiss, Luis Contreras, Paul Hinson

**Response:** The system for waste storage includes shallow pits underneath the barns that are emptied via pull-plugs. These shallow pits allow for three (3) weeks of storage before being emptied to Waste Storage Pond 1; therefore, waste will be stored in pits while

liners are installed in Waste Storage Pond 1. Waste will be stored in Waste Storage Pond 1 as installation is occurring in Waste Storage Pond 2.

In order to empty the ponds to allow for installation of the synthetic liners, waste from the waste storage ponds will be land applied on permitted fields in accordance with the conditions and requirements of the general permit and approved Nutrient Management Plan. In order to maintain the integrity of the existing clay liners minimal soil is expected to be disturbed or removed prior to the installation of the synthetic liners. The installation of 60-mil HDPE liners will significantly reduce seepage rates. Any necessary repairs to the existing liners may be completed prior to the installation of the 60-mil HDPE liners. The facility will analyze waste removed in accordance with NPDES General Permit ARG590000 Part 4.2.1.3. In accordance with NPDES General Permit ARG590000 Part 4.2.1.6, waste shall not be land applied to soils that are saturated, frozen, covered with snow, during rain, or when precipitation is imminent (>50% chance of rain).

The BCRET will continue monitoring the impact of land application of swine waste from this facility as part of their study. Regular inspections by the Department will continue to be performed to ensure that the facility is in compliance with the conditions and requirements of the general permit and approved NMP.

**Comment 8** What is the life expectancy of the liner materials including seams and anchors?

Original Commenter: David Martinson

**Response:** The life expectancy of the liner materials including seams and anchors is dependent on conditions that they are exposed to during storage, installation, and use.

**Comment 9** What is the ongoing maintenance and surveillance program to insure proper function of the modified lagoons?

Original Commenter: David Martinson

**Response:** The facility must visually inspect the waste storage ponds weekly in accordance with NPDES General Permit ARG590000 Part 4.4.1.1.c. Any deficiencies found as a result of the inspections must be corrected as soon as possible in accordance with NPDES General Permit ARG590000 Part 4.4.1.3.

**Comment 10** The permit was approved without sufficient communication to the public. The news of the approved permit resulted in public alarm, backlash, and distrust of all parties involved in the approval process, including ADEQ. Not only was the public surprised by this permit approval, the following agencies also expressed surprise or concern regarding its surreptitious implementation: The National Park Service, Arkansas Department of Health, U.S. Fish and Wildlife Service, and the Department of Arkansas Heritage. In order to address public outcry, Governor Beebe approved the release of \$340,000.00 from the rainy day fund to monitor water quality in the Big Creek watershed. The fact that taxpayer money is being applied to ensure this single permit does no harm is a serious problem in and of itself. Not to mention that its continued funding under the new administration is in doubt. Former Governor Beebe has expressed deep regret that this permit was ever allowed to go through.

Original Commenter: Brian A. Thompson

Similar comments were received from: Marilyn Shoffit, Bill Pettit, Beth Barham, Kathy Downs, Laura Timby, Robert Charles Kramer, Marti Olesen

**Response:** The Department thanks the commenters for their comments. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 11** In the late summer of 2014, dissolved oxygen levels in Big Creek as measured by the National Park Service Engineers, fell below 5 mg/l for 19 of 21 days. Measurements from the Buffalo above the entrance of the Big Creek tributary were higher in oxygen and lower in E. Coli. Big Creek was shown to be decreasing oxygen levels and increasing in E. Coli where it joins the Buffalo. Procedures around how to manage river closures as may be needed for public safety are now being considered.

Original Commenter: Brian A. Thompson

**Response:** The Department thanks the commenter for their comment. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 12** In response to a lawsuit filed by an alliance of Arkansas environmental interests, U.S. District Court Judge D.P. Marshall characterized the environmental assessments as “flawed” and “cursory” and ordered them to be redone within a year, while ordering injunctive relief on the federal loan guarantees that enabled the original capitalization of C&H.

Original Commenter: Brian A. Thompson

**Response:** The Department thanks the commenter for their comment. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 13** With the installation of a synthetic liner over a clay liner, a common problem that has resulted in other installations is the buildup of water between the two impermeable barriers. This has been a particular problem in installations in Arkansas where the annual rainfall typically exceeds 50 inches per year. The proposed construction plan provides several pathways for water to encroach between liners (ie pipe penetrations and concrete structures). Encroachment could also occur if the clay liner is breached at higher levels of the ponds. The encroaching water will become trapped and reduce the effective storage volume and could stress the liner to a point of failure. All such pathways should be provided with water stops constructed with a high quality clay material.

Original Commenter: Alice B. Andrews

**Response:** The designs include a pipe boot around pipe penetrations to prevent leaks at these locations. The liner above and below the boot will remain in contact with the layer

of material beneath. The boot itself will consist of 60-mil HDPE liner to be consistent with the liner below and above the boot. A flexible silicone gasket material will be applied as a sealant before placing the pipe boot. Stainless steel straps or bands will be used to clamp the boot to the pipe. Extrusion welds will be used where the boot contacts the liner as well as the end of the boot on the pipe.

At concrete structures, the 60-mil HDPE liner will be laid over the concrete slabs associated with pipe penetration. In Waste Storage Pond 2, the existing concrete spillway will have 60-mil HDPE liner over the surface. Crossover pipes will be installed at the spillway from Waste Storage Pond 1 to allow effluent from Waste Storage Pond 1 to flow to Waste Storage Pond 2 without affecting the integrity of the liner in Waste Storage Pond 1.

**Comment 14** The NOI states that the Nutrient Plan was modified in May 2015. The changes to the Nutrient Plan should be included for public comment.

Original Commenter: Alice B. Andrews

**Response:** The Department thanks the commenter for their comment. A public comment period for the changes to the Nutrient Management Plan was open from March 18, 2015 to April 17, 2015 with a public hearing held April 20, 2015. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 15** Because they should be considered a hazardous waste, where will the contaminated soils be taken and by whom? Please show who is doing that work and their qualifications. If the soils are not considered hazardous waste, please provide documentation on how that determination was made and the qualifications on who and how that determination was made.

Original Commenter: Paul Hinson

**Response:** The Department thanks the commenter for their comment. Animal waste is not considered a hazardous waste in accordance with APC&EC Regulation 23 §261.4(b)(2). Waste will be removed from the waste storage ponds and land applied on permitted fields in accordance with NPDES General Permit ARG590000 and the approved NMP.

**Comment 16** Verification thru taking water samples before, during and after work in suitable locations to make sure the processes have not negatively impacted the water quality. If temporary wells are to be installed, please pinpoint their locations, depth and other details and methodology of selected locations. Please identify the qualifications of those taking samples. Please provide the sampling frequency and locations of where the samples are to be taken. Please provide the sample testing results for review.

Original Commenter: Paul Hinson

Similar comments were received from: John Murdoch

**Response:** Groundwater monitoring is not required for CAFO operations in the State of Arkansas; therefore, no temporary or permanent wells will be installed as part of the

requested modification. The BCRET is sampling an interceptor trench and the house well as part of their independent study.

**Comment 17** We are concerned about this facility and others, in addition to non-point source pollution of the tributaries to the Buffalo River. We have not seen an Antidegradation Review, as may be required under 40 CFR 131.12(a)(2) for this facility. We respectfully request that this information regarding the Antidegradation Review for this facility so we may understand if it meets the requirements set forth in the federal regulation implementing the Clean Water Act.

Original Commenter: National Park Service  
Similar comments were received from: Charles J. Bitting

**Response:** The Department thanks the commenters for their comments. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 18** There does not appear to be any discussion of using a bond to ensure that if pollution of the Waters of the State occurs as part of this operation that cleanup will be paid for. This needs to be considered an important part of the overall operation.

Original Commenter: Charles J. Bitting

**Response:** The Department thanks the commenter for their comment. There are currently no statutory requirements, and it is not ADEQ's policy to require financial assurance for CAFOs. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 19** Will engineers with ADEQ be on site daily to inspect the work being done? This seems like a reasonable measure to ensure ADEQ is doing its upmost to protect the water quality of the Buffalo River for Arkansans, and all Americans, since a huge portion of your budget comes from the US Government, and the Buffalo River is a national resource.

Original Commenter: Charles J. Bitting  
Similar comments were received from: Dennis Larson

**Response:** ADEQ policy does not require personnel associated with the Department to be onsite during construction. Personnel may be present at the site to observe during the process of installing the liners. A professional engineer, registered in the State of Arkansas, is required to sign and stamp the as-built plans.

**Comment 20** Notice of CH transferring waste slurry by a tanker truck to a certified application place that is not specified on C&H permitted places should be put on your website should it occur.

Original Commenter: Dennis Larson

Similar comments were received from: Bill Cronin

**Response:** NPDES General Permit ARG590000 Part 3.2.3 allows for transfer of manure to other persons. The facility must provide to the recipient of the manure the most current nutrient analysis that is consistent with the requirements of 40 CFR 412. The facility must retain records for five years with the date of transfer, name and address of recipient, and approximate amount of manure transferred. The recipient(s) must be permitted to receive swine waste from other sources, which includes a public notification process outlined in APC&EC's Regulation 5 and Regulation 8.

**Comment 21** This liner will still not address the fact that soil phosphorus levels will eventually be too high on land applied fields. What happens then?

Original Commenter: Margaret Lonadier

**Response:** The Department thanks the commenter for their comment. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 22** USDA experts at the recent water conference at the U of A brought up the problems with the phosphorus index and especially the fact that it can't be accurately measured without adding a topographical component. Even now the SWAT Topo instrument is being developed by Agri researchers to try to correct for this acute problem in measuring phosphorus pollution. If our measuring tools for particulates are unreliable, perhaps ADEQ needs to look at multiple factors such as algal blooms and macroinvertebrate indices when determining water quality.

Original Commenter: Marti Olesen

**Response:** The Department thanks the commenter for their comment. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 23** This appears to be another request to modify this "state-of-the-art" facility. This system might provide a reduction in some gas emissions, but it does not address the emission of exhaust gasses and particulate matter from the large exhaust fans of the two industrial swine buildings, nor does it address the issues of the fate of those bi-products concerning the health of the residents and nearby school through the risk pathway of inhalation. I feel there are already serious airborne health issues that are not being monitored. The design appears to lack any air quality monitoring. Potential health risk to the people of all ages that are impacted by this hog factory is ongoing. So adding additional "unknown" emission(s) is only another weak link in this "state-of-the-art-make-it-up-as-you-go facility".

Original Commenter: John Murdoch

Similar comments were received from: Carol Bitting, Charles J. Bitting

**Response:** The Department thanks the commenters for their comments. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 24** The commenters submitted oral and written comments of behalf of Tom Aley regarding the proposed modifications. Mr. Aley recommended that liner installation commence after all waste is removed from the pond and the pond is dry. Secondly, he recommended that the emptied ponds be inspected by a qualified person, preferably an experience geologist licensed in Arkansas for evidence of subsidence or small collapses on the floors and sides. Thirdly, he recommended that sediments on floors and sides be properly compacted prior to installation of the liner and underlying cushion materials. Fourthly, all tears or other damage to the liners be repaired before liners are placed in service. Lastly, after liner installation, the ponds should be filled with water or manure to prevent any portion of liner from floating on any water that builds up between the top of the compacted sediments and liners to prevent damage from unequal stresses on the liners. Mr. Aley discussed his qualifications and professional work in karst areas.

Original Commenters: Marti Olesen and Gordon Watkins  
Similar comments were received from: Charles J. Bitting

**Response:** The Department acknowledges the recommendations. The Department acknowledges the recommendation that a professional geologist with experience in and knowledge of karst be present to inspect the ponds after waste is removed and the ponds have dried for evidence of subsidence or small collapses. Installation of the 60-mil HDPE liner will not begin until the waste storage pond is dry. If compaction of sides and floors is necessary, it will be performed before liner installation begins. Any repairs required by the synthetic liner will occur before the operations in the waste storage pond commence. The installation will be performed by individuals with experience installing liners. A Professional Engineer registered in the State of Arkansas must sign and stamp that the liners were installed in accordance with the approved plans and specifications.

**Comment 25** The commenters on behalf of Mr. Tom Aley included comments submitted for the draft Environmental Assessment to be included in the public record for the proposed modifications.

Original Commenters: Marti Olesen and Gordon Watkins

**Response:** The Department acknowledges the comment; however, the draft Environmental Assessment is not prepared by the Department. The addition of the liners is a voluntary measure by the facility and is not a requirement by the Department for liquid animal waste storage ponds.

**Comment 26** The commenters submitted oral and written comment on behalf of the Buffalo River Watershed Alliance. The submitted comment included a list of concerns regarding the location and operation of the facility and its negative impact. The facility is located on an area of karst, which is characterized by rapid groundwater flow and interactions between surface and ground water. Adding polyethylene liners will not stop seepage. The current permit allows for up to 5,000 gal/acre per day leakage of waste from the ponds, which



could be funneled directly to the river. The original borings prior to pond construction to ascertain geotechnical soil properties for construction is thoroughly inadequate to delineate karst features. The subsurface investigations and on-site materials used for liners originally may be adequate for a minor facility in an area where values of off-site resources are minimal, but they are not adequate in view of the potential to adversely impact the waters of the Buffalo National River. Electrical Resistivity Tomography tests revealed epikarst features on spray fields. No geophysical studies or related investigations were conducted to delineate any karst features, subsidence, and/or sinkholes under the waste lagoons. Both ponds are situated on the side of a steep slope. The second pond has no stabilized emergency outlet. If the ponds were to overtop, there would be a danger of catastrophic failure of the embankment, which could release as much as 2 million gallons of waste into the Buffalo River. In high risk areas, it is standard practice to include a stabilized outlet to allow discharge without failure of the embankment. In light of expected climate instability, the 25-year, 24-hour storm that the ponds are designed to withstand is projected to occur more frequently with a similar increase in higher storm events.

Original Commenters: Jack Stewart and Jim Westbrook

Similar comments were received from: Kathy Downs, Brian A. Thompson, John Murdoch, Charles J. Bitting

**Response:** The Department thanks the commenters for their comments. The addition of liners will reduce seepage rates. However, this comment does not further address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 27** The proposed modification does not address odor from land application of waste, which is the major source of air emissions associated with CAFOs. The odors and air pollutants emitted by CAFOs have negative effects on the health and wellbeing of surrounding communities.

Original Commenters: Jack Stewart and Jim Westbrook

Similar comments were received from: Charles J. Bitting

**Response:** The Department thanks the commenter for their comments. ADEQ Water Division does not regulate air quality concerns. This comment is outside the scope of the permit.

**Comment 28** The commenter summarized the numerous species and the threat that a flare could have on the biota. Bats, birds and insects can be burned if flying near or over the flare when it is in operation. Songbirds may suffer from temporary blindness due to the sudden light of the flare in low levels of ambient light, such as foggy conditions, and fly into structures. The location of the flare and farm is positioned such that it is in the flyway of numerous species. If one species is negatively affected, it can affect the stability of the biota.

Original Commenter: Kent Bonar

**Response:** The Department acknowledges the position of the commenter; however, the Water Division of ADEQ does not have the authority to regulate the operation of the methane flare. Any recommendations provided by the U.S. Fish and Wildlife Service will be taken under consideration.

**Comment 29** The waste storage ponds are not properly designed for synthetic liner installation. Flat bottom ponds cause bubbles to form when the liner starts to leak, and the liners will leak at some point.

Original Commenter: Charles J. Bitting

**Response:** The liners were designed and stamped by a professional engineer, registered in the State of Arkansas. Repairs to the liners will be performed as necessary to ensure that the liners are properly functioning, including repairing liners if bubbles occur due to water or wastewater underneath the liner. Vents are included in the design to prevent the gas buildup between the synthetic liner and the existing clay liner, which can also cause bubbles.

**Comment 30** Everybody generates waste of some sort. The responsibility that we have is to see that the waste does not affect the environment in the long run. Cities collect their waste and treat it. Facilities in the solid waste industry have to collect their water and treat it to drinking water standards. There are laws and standards to release that water that meets drinking water standards. Why does this industry, a point source pollutant, not have to treat water to drinking water standards? The technology is there. All industries of that type should have to meet those drinking water standards.

Original Commenter: Bill Lord

Similar comments were received from: Gene Dunaway

**Response:** The Department thanks the commenter for their comment. However, this comment does not address the modification under consideration, which is to install synthetic liners to Waste Storage Ponds 1 and 2 as well as install a methane flare system and cover on Waste Storage Pond 1.

**Comment 31** Citizens in favor of the permit and modification.

The following people commented on the issue: Gene Pharr, Steven D. Hignight, Ross Lockhart, Joe T. Stroub, Susan Anglin, Richard Armstrong, Terry Dabbs, Stan Taylor, Allen Moore, Dan Wright, Evan A. Teague, Mike Freeze, Randy Veach, Jerry Masters

**Response:** The Department acknowledges this comment.