

Rule Summary and Fiscal Analysis (Part A)**Department of Agriculture**

Agency Name

Livestock Environmental Permitting

Division

Howard Henry

Contact

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901:10-2-03

Rule Number

AMENDMENT

TYPE of rule filing

Rule Title/Tag Line

Geological explorations.**RULE SUMMARY**

1. Is the rule being filed consistent with the requirements of the RC 119.032 review? **Yes**

2. Are you proposing this rule as a result of recent legislation? **No**

3. Statute prescribing the procedure in accordance with the agency is required to adopt the rule: **119.03**

4. Statute(s) authorizing agency to adopt the rule: **903.08, 903.10**

5. Statute(s) the rule, as filed, amplifies or implements: **903.01, 903.02, 903.04, 903.08, 903.082, 903.09, 903.10**

6. State the reason(s) for proposing (i.e., why are you filing,) this rule:

To clarify geological exploration requirements.

7. If the rule is an AMENDMENT, then summarize the changes and the content of the proposed rule; If the rule type is RESCISSION, NEW or NO CHANGE, then summarize the content of the rule:

To clearly state what the geological exploration requirements are for the facilities that are regulated by the program.

8. If the rule incorporates a text or other material by reference and the agency claims the incorporation by reference is exempt from compliance with sections 121.71 to 121.74 of the Revised Code because the text or other material is **generally available** to persons who reasonably can be expected to be affected by the rule, provide an explanation of how the text or other material is generally available to those persons:

This response left blank because filer specified online that the rule does not incorporate a text or other material by reference.

9. If the rule incorporates a text or other material by reference, and it was **infeasible** for the agency to file the text or other material electronically, provide an explanation of why filing the text or other material electronically was infeasible:

This response left blank because filer specified online that the rule does not incorporate a text or other material by reference.

10. If the rule is being **rescinded** and incorporates a text or other material by reference, and it was **infeasible** for the agency to file the text or other material, provide an explanation of why filing the text or other material was infeasible:

Not Applicable.

11. If **revising** or **refiling** this rule, identify changes made from the previously filed version of this rule; if none, please state so:

Not Applicable.

12. 119.032 Rule Review Date: **5/10/2011**

(If the rule is not exempt and you answered NO to question No. 1, provide the scheduled review date. If you answered YES to No. 1, the review date for this rule is the filing date.)

NOTE: If the rule is not exempt at the time of final filing, two dates are required: the current review date plus a date not to exceed 5 years from the effective date for Amended rules or a date not to exceed 5 years from the review date for No Change rules.

FISCAL ANALYSIS

13. Estimate the total amount by which *this proposed rule* would **increase /**

decrease either **revenues / expenditures** for the agency during the current biennium (in dollars): Explain the net impact of the proposed changes to the budget of your agency/department.

This will have no impact on revenues or expenditures.

0.0

No fiscal impact.

14. Identify the appropriation (by line item etc.) that authorizes each expenditure necessitated by the proposed rule:

Not applicable.

15. Provide a summary of the estimated cost of compliance with the rule to all directly affected persons. When appropriate, please include the source for your information/estimated costs, e.g. industry, CFR, internal/agency:

The amendments require one additional boring or test pit for fabricated structures storing liquid manure, which is estimated to cost directly affected persons who seek to install such structures between \$500 and \$2000 depending on the depth of the pit or boring and the design of the fabricated structure. Otherwise, no new costs to directly affected persons are anticipated.

16. Does this rule have a fiscal effect on school districts, counties, townships, or municipal corporations? **No**

17. Does this rule deal with environmental protection or contain a component dealing with environmental protection as defined in R. C. 121.39? **Yes**

You must complete the Environmental rule Adoption/Amendment Form in order to comply with Am. Sub. 106 of the 121st General Assembly.

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Rule Number: 901:10-2-03

Environmental Rule Adoption/Amendment Form

Pursuant to Am. Sub. H.B. 106 of the 121st General Assembly, prior to adopting a rule or an amendment to a rule dealing with environmental protection, or containing a component dealing with environmental protection, a state agency shall:

- (1) Consult with organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by the proposed rule or amendment.
 - (2) Consider documentation relevant to the need for, the environmental benefits or consequences of, other benefits of, and the technological feasibility of the proposed rule or rule amendment.
 - (3) Specifically identify whether the proposed rule or rule amendment is being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal environmental law or to participate in a federal environmental program, whether the proposed rule or rule amendment is more stringent than its federal counterpart, and, if the proposed rule or rule amendment is more stringent, the rationale for not incorporating its federal counterpart.
 - (4) Include with the proposed rule or rule amendment and rule summary and fiscal analysis required to be filed with the Joint Committee on Agency Rule Review information relevant to the previously listed requirements.
-

(A) Were organizations that represent political subdivisions, environmental interests, business interests, and other persons affected by the proposed rule or amendment consulted ? **Yes**

Please list each contact.

Environmental Rule Adoption/Amendment Form

Attachment 1

Contact List:

Cathy Alexander, Ohio EPA, ODA CAFF Advisory Committee

Tony Anderson, County Commissioners Association of Ohio, ODA CAFF Advisory Committee

Carl Ayers, Ohio Dairy Producers Association

Patrick Bailey, ODA

Steve Baker, NRCS

Brad Biggs, Ohio Department of Development

Jon Bernstein, Ohio EPA

Gerald Boynton, Public Representative, ODA CAFF Advisory Committee

Dr. Beverly Byrum, ODA

Jim Chakeres, Ohio Poultry Association

Karen Chapman, Environmental Defense Fund

Matt Detemple, Ohio Township Association

Chuck Divelbiss, Public Representative, ODA CAFF Advisory Committee

Eric Dresbach, Midwest Professional Manure Applicators Association

Trent Dougherty, Ohio Environmental Council, ODA CAFF Advisory Committee

Rod Dunn, Water Management Association of Ohio

Dr. Maurice Eastridge, The Ohio State University, ODA CAFF Advisory Committee

Kevin Elder, ODA

Andy Ety, ODA

Glen Feichtner, Ohio Cattlemens Association, ODA CAFF Advisory Committee

Dr. Tony Forshey, ODA

Heidi Fought, Ohio Township Association

Mark Fritz, ODA

Larry Gearhardt, Ohio Farm Bureau

Elizabeth Harsh, Ohio Cattlemens Association

Josh Hahn, County Commissioners Association of Ohio

Kelly Harvey, ODA

Bernard Heisner, Central Ohio Breeders Association/Select Sires, Inc.

Tom Hertzfeld, Sr., Ohio Poultry Association

Scott Higgins, Ohio Dairy Producers Association

Roger High, Ohio Sheep Improvement Association, ODA CAFF Advisory Committee

Kirk Hines, Ohio Department of Natural Resources, ODA CAFF Advisory Committee

Bill Hopper, ODA

Pat Hord, Swine Producer

Dick Isler, Ohio Pork Producers Council

Rob Hamilton, Ohio Department of Natural Resources

Carl Link, Ohio Pork Producers Council, ODA CAFF Advisory Committee

Joe Logan, Ohio Farmers Union, Ohio Environmental Council, ODA CAFF Advisory Committee

Dick Lorenz, Westerville Water Division, Water Management Association of Ohio, ODA CAFF Advisory Committee

Russell Ludwig, Public Representative, ODA CAFF Advisory Committee

Bruce Macleod, Ohio Water Environment Association, ODA CAFF Advisory Committee

Jason Menchhofer, Ohio Environmental Health Association, ODA CAFF Advisory Committee

Andy Miedema, Ohio Dairy Producers Association, ODA CAFF Advisory Committee

Dr. Michael Mull, Ohio Veterinary Medical Association, ODA CAFF Advisory Committee

Christine Pence, ODA

Marsha Perge, ODA

Todd Price, DVM

John Rausch, OSU-Extension

Chris Rodabaugh, ODA

Mark Scarpitti, NRCS

Bill Schwaderer, ODA

Ryan Sekenge, Ohio Environmental Health Association

George Slater, Public Representative, ODA CAFF Advisory Committee

Keith Stimpert, Ohio Farm Bureau

Roger Tedrick, ODA

Kristina Tonn, ODA

Tim Weaver, Ohio Poultry Association, ODA CAFF Advisory Committee

Dave White, Ohio Farm Bureau

Mark Wilson, Land Stewards, LLC

Ron Wyss, Hardin County Commissioner

Jim Young, ODA

Gary Zwolinski, ODA

- (B) Was documentation that is relevant to the need for, the environmental benefits or consequences of, other benefits of, and the technological feasibility of the proposed rule or amendment considered ? **Yes**

Please list the information provided and attach a copy of each piece of documentation to this form. (A SUMMARY OR INDEX MAY BE ATTACHED IN LIEU OF THE ACTUAL DOCUMENTATION.)

Environmental Rule Adoption/Amendment Form

Attachment 2

Index List:

APHA (1992) Standard methods for examination of water and wastewater (18th edition). New York, NY.

American Concrete Institute. 2010. 360R. Design of Slabs on Grade. Farmington Hills, MI.

American Concrete Institute. 2008. 318. Building Code Requirements for Structural

Concrete. Farmington Hills, MI.

American Concrete Institute. 2005. 530. Building Code Requirements for Masonry Structures. Farmington Hills, MI.

American Society of Agricultural Engineers (2007). Standards Engineering Practices Data. EP379.4 Management of Manure Odors. St. Joseph, MI.

American Society of Agricultural Engineers Standards (2004). Standards Engineering Practices Data. EP378.3 Floor and Suspended Loads on Agricultural Structures Due to Use. St. Joseph, MI.

American Society of Agricultural Engineers Standards (2004). Standards Engineering Practices Data. EP393.3 Manure Storages. St. Joseph, MI.

American Society of Civil Engineers Standard 7 (2010). Minimum Design Loads for Buildings and Other Structures.

American Society For Testing and Materials (2009) Practice D2488-09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). West Conshohocken, PA.

American Society For Testing and Materials (2009) Terminology D653-09 Standard Terminology Relating to Soil, Rock, and Contained Fluids. West Conshohocken, PA.

Andraski, T.W., L.G. Bundy and K.R. Brye. (2000) Crop management and corn nitrogen rate effects on nitrate leaching. Journal of Environmental Quarterly 29: 1095-1103.

Araji, A.A., and Z.O. Abdo, and P. Joyce (2001). Efficient use of animal manure on cropland: economic analysis. Biosource Technology 79: 179-191.

Arnold, G.J., R. Stowell and B. Strobel (1998). Manure Pit Ventilation Systems for Swine Operating Principles. AEX-150-98. Ohio State University Extension: Columbus, OH.

Barth, Clyde (1987) Operation and Maintenance of Livestock Waste Lagoons, Agricultural Manure Utilization and Management, American Society of Agricultural Engineers. St. Joseph, MI.

Barth, Clyde and Jelle Kroes (1985) Livestock Manure Lagoon Sludge Characterization. Agricultural Manure Utilization and Management, Proceedings of the Fifth International Symposium on Agricultural Manure. American Society of Agricultural Engineers. St. Joseph, MI, pp. 660-671.

Barth, Clyde (1985) The Rational Design Standard for Anaerobic Livestock Lagoons, Agricultural Manure Utilization and Management, Proceedings of the

Fifth International Symposium on Agricultural Manure. American Society of Agricultural Engineers. St. Joseph, MI, p. 638-647.

Chapman, S.L., G. Huitink, L. Barton, C.S. Snyder, and B.J. Hankins (1992). Best management guidelines for land application of dry poultry litter. Water Quality Information Article I-92. University of Arkansas, Cooperative Extension Service Bulletin, Little Rock, AR.

Chapman, S.L. (1995) Soil and solid poultry waste nutrient management and water quality. Poultry Science 75: 862-866.

Cornell and Penn State Cooperative Extension, Pest Management Recommendations for Dairy Cattle, Donald A. Rutz and Christopher J. Geden, Department of Entomology, Cornell University, and Charles W. Pitts, Department of Entomology, Penn State.

Cornell University, Cornell Cooperative Extension, Department of Entomology, Integrated Management of Flies in and around Dairy and Livestock Barns, D. Wes Watson, J. Keith Waldron, and Donald A. Rutz, June 1994.

David, M.B., L.E. Gentry, D.A. Kovacic, and K.M. Smith (1997). Nitrogen balance in and export from an agricultural watershed. Journal of Environmental Quality 26: 1038-1048.

Eastridge, M.L. and S. Steele (2001). Questions Pertaining to Large Dairy Enterprises in Ohio: Regulations. AS-0008-01. Ohio State University Extension: Columbus, OH.

M.L. Eastridge and S. Steele (2001). Questions Pertaining to Large Dairy Enterprises in Ohio: Regulations. AS-0009-01. Ohio State University Extension: Columbus, OH.

M.L. Eastridge and S. Steele (2001). Questions Pertaining to Large Dairy Enterprises in Ohio: Regulations. AS-0010-01. Ohio State University Extension: Columbus, OH.

M.L. Eastridge and S. Steele (2001). Questions Pertaining to Large Dairy Enterprises in Ohio: Regulations. AS-0011-01. Ohio State University Extension: Columbus, OH.

Eghball, B., J.E. Gilley, L.A. Kramer, and T.B. Moorman (2000). Narrow grass hedge effects on phosphorus and nitrogen in runoff following manure and fertilizer application. Journal of Soil and Water Conservation 55(2): 172-176.

Eghball, B., G.D. Binford, and D.D. Baltensperger (1996). Phosphorus movement and adsorption in a soil receiving long-term manure and fertilizer application. Journal of Environmental Quality 25: 1339-1343.

Gilley, J.E. and L.M. Risse (2000). Runoff and soil loss as affected by the application of manure. American Society of Agricultural Engineers Vol. 43(6): 1583-1588.

Godwin, D.C. and J.R. Miner (1996). The potential of off-stream livestock watering to reduce water quality impacts. Biosource Technology 58: 285-290.

Govindasamy, R., M. J. Cochran and E. Buchberger (1994). Economic implications of phosphorus loading policies for pasture land applications of poultry litter. Water Resources Bulletin Paper Number 93116 Vol. 30, No. 5: 901-910.

Henry, G.M., M.A. DeLorenzo, D.K. Beede, H.H. Van Horn, C.B. Moss and W.G. Boggess (1995). Determining optimal nutrient management strategies for dairy farms. Journal of Dairy Science 78: 693-703.

Janzen, R.A., W.B. McGill, J.J. Leonard and S.R. Jeffery (1999). Manure as a resource ecological and economic considerations in balance. American Society of Agricultural Engineers Vol. 42(5): 1261-1273.

Kohn, R.A., Z. Dou, J.D. Ferguson and R.C. Boston (1997). A sensitivity analysis of nitrogen losses from dairy farms. Journal of Environmental Management 50: 417-428.

Kudva, I.T., K. Blanch and C.J. Hovde (1998). Analysis of escherichia coli O157:H7 survival in ovine or bovine manure and manure slurry. Applied and Environmental Microbiology 64: 3166-3174.

Lanyon, L.E. (1994). Dairy manure and plant nutrient management issues affecting water quality and the dairy industry. Journal of Dairy Science 77: 1999-2007.

Leeds, R., L.C. Brown, M.R. Sulc, and L. VanLieshout (1994). Vegetative Filter Strips: Application, Installation and Maintenance. AEX-467-94. Ohio State University Extension: Columbus, OH.

Mancl, K. and M.A. Veenhuizen (1991). Avoiding Stream Pollution from Animal Manure. AEX-708-91. Ohio State University Extension: Columbus, OH.

Manual of Steel Construction. 1991. American Institute of Steel Construction. Chicago, IL.

MidWest Plan Service. 2005. Rectangular Concrete Manure Storages, MWPS-36. Iowa State University, Ames, IA.

MidWest Plan Service. 1994. Concrete Manure Storage Handbook, MWPS-36. Iowa State University, Ames, IA.

MidWest Plan Service. 1987. Beef Housing and Equipment Handbook, MWPS-6. Iowa State University, Ames, IA.

MidWest Plan Service. 2000. Manure Characteristics Manure Management Systems Series, MWPS-18 Section 1. Iowa State University, Ames, IA.

MidWest Plan Service. 2001. Manure Storages, MWPS-18 Section 2. Iowa State University, Ames, Iowa.

MidWest Plan Service. 2000. Dairy Freestall Housing and Equipment, MWPS-7. Iowa State University, Ames, IA.

MidWest Plan Service. 1993. Livestock Waste Facilities Handbook, MWPS-18, all chapters. Iowa State University, Ames, IA.

Midwest Plan Service, TR-9: Circular Concrete Manure Tanks, March 1998, Iowa State University, Ames, IA.

Midwest Plan Service, 1983, Swine Housing and Equipment Handbook, MWPS-08. Iowa State University, Ames, IA.

Miner, J.R. (1997) Nuisance concerns and odor control. Journal of Dairy Science 80: 2667-2672.

Miner, J.R. (1999). Alternatives to minimize the environmental impact of large swine production units. Journal of Animal Sciences 77:440-444.

Mississippi State University, Mississippi State Extension Service, Control Commensal Rodents In Poultry Houses, December 2, 1999.

Moore, P.A. Jr., T.C. Daniel, A.N. Sharpley and C.W. Wood (1995). Poultry manure management: Environmentally sound options. Journal of Soil and Water Conservation 50(3): 321-327.

Mueller, D.H., R.C. Wendt and T.C. Daniel (1984). Journal of the Soil Science Society of America 48:901-905.

National Design Specifications for Wood Construction (2005), American Forest and Paper Association in 2005 National Design Specifications. American National Standards Institute, Leesburg, VA.

North Central Regional Research Publication No. 284, Manure Digestion, Runoff, Refeeding, Odors, MWPS-25 (1982), Iowa State University, Ames, IA.

North Dakota Agricultural Experiment Station. Recommended Chemical Soil Test Procedures for the North Central Region, North Central Region Committee on Soil Testing and Plant Analysis (NCR#13).

USDA Natural Resources Conservation Service. 1992. National Engineering Handbook, Part 651, Agricultural Waste Management Field Handbook, all chapters, USDA, Washington, DC.

Northeast Regional Agricultural Engineering Service, Dairy Free Stall Housing, NRAES-24 (1986), Harrisburg, PA.

Northeast Regional Agricultural Engineering Service, Dairy Manure Management, NRAES-31 (1989), Syracuse, NY.

Northeast Regional Agricultural Engineering Service, Dairy Manure Management from Barn to Storage. NRAES-108 (1998), Ithaca, NY.

Northeast Regional Agricultural Engineering Service, Dairy Reference Manual, 3rd Edition, NRAES-63, Pennsylvania State University.

Northeast Regional Agricultural Engineering Service, Designing a Modern Milking Center, NRAES-73, Rochester, NY.

Northeast Regional Agricultural Engineering Service, Animal Behavior and the Design of Livestock and Poultry Systems (1995), Indianapolis, IN.

Northeast Regional Agricultural Engineering Service, On Farm Composting Handbook, NRAES-54, Ithaca, NY.

Northeast Regional Agricultural Engineering Service, Earthen Manure Storage Design Considerations (1999), Ithaca, NY.

Northeast Regional Agricultural Engineering Service, Guideline for Milking Center Wastewater (1998), Ithaca, NY.

Northeast Regional Agricultural Engineering Service. Liquid Manure Application Systems Design Manual (1998), Ithaca, NY.

Northeast Regional Agricultural Engineering Service, Post-Frame Building Handbook, Materials, Design Considerations, Construction Procedures (1997).

Northeast Regional Agricultural Engineering Service, Poultry Waste Management Handbook, NRAES-32 (1999), Ithaca, NY.

Northeast Regional Agricultural Engineering Service, Private Drinking Water Supplies, NRAES-47 (1991), Ithaca, NY.

Ohio Department of Natural Resources (2010). Rainwater and Land Development: Ohio Standards. Columbus, OH.

Ohio Department of Natural Resources. Evaluating Ground Water Pollution Potential in Ohio (Drastic).

Ohio Livestock Manure And Wastewater Management Guide - Bulletin 604 (2006). Columbus, OH: Ohio State University.

The Ohio State University, College of Veterinary Medicine, Rodent Control,

Grasso M. Ebako, DVM, MS, MS.

The Ohio State University, Ohio State University Extension, Livestock and Livestock Building Pest Management, Using Fly Parasites with Chemicals, Bulletin 473.

The Ohio State University, Ohio State University Extension, Poultry Pest Management Bulletin 853, William R. Lyon, 1995.

The Ohio State University, Ohio State University Extension, Pet Pest Management Bulletin 586, William R. Lyon, 1997.

Parsons, R.L., J.W. Pease, and D.J. Bosh (1995) Simulating nitrogen losses from agricultural land: Implications for water quality and protection policy. Water Resources Bulletin, American Water Resources Association 31(6): 1079-1087.

Pest Management Recommendations for Poultry (2000) , Department of Entomology, Penn State.

Purdue University, Department of Entomology, Ralph E. Williams, Focus on Flies: The Integrated Pest Management Approach.

Purdue University Extension, Using the Presidedress Nitrate Soil Test (PSNT) to Predict N Needs for Corn, David Mengel, Extension Agronomist, AGRY 96-09 Purdue University, West Lafayette, IN.

Sauer, T.J., T.C. Daniel, P.A. Moore, Jr., K.P. Coffey, D.J. Nichols, and C.P. West (1999). Poultry litter and grazing animal waste effects on runoff water quality. Journal of Environmental Quality 28: 860-865.

Sharpley, A. and B. Moyer (2000). Phosphorus forms in manure and compost and their release during simulated rainfall. Journal of Environmental Quality 29: 1462-1469.

Simeral, K.D. (1998). Using Constructed Wetlands for Removing Contaminants from Livestock Wastewater. A-5-98. Ohio State University Extension: Columbus, OH.

Tri-State Fertilizer Recommendations for Corn, Soybeans, Wheat and Alfalfa. Bulletin E-2567. East Lansing Michigan; Michigan State University. M.L. Vitosh (Michigan State University), J.W. Johnson (The Ohio State University), and D.B. Mengel (Purdue University). 1995.

The University of Florida, Book of Insect Records, Department of Entomology and Nematology, University of Florida, Gainesville, 2002.

The University of Georgia-Department of Entomology, Fly Control in Livestock Facilities, Dairy Barns, Swine Barns, Livestock Sheds, Other Animal Buildings,

Craig Sheppard, Entomologist, March 6, 2001.

The University of Nebraska, Institute of Agriculture and Natural Resources, Insects and Pests, 2001.

USDA-Natural Resources Conservation Service. Field Office Technical Guide: Section IV. Washington, DC/Columbus, OH.

USDA-Natural Resources Conservation Service (2006). Field Office Technical Guide: Section IV. Conservation Practice Standard, Waste Treatment Lagoon, Code 359. Washington DC/Columbus, OH.

USDA-Natural Resources Conservation Service (2003). Field Office Technical Guide: Section IV. Conservation Practice Standard, Practice Nutrient Management Code 590. Columbus, OH.

USDA-Natural Resources Conservation Service (2003). Field Office Technical Guide: Section IV. Conservation Practice Standard, Waste Utilization Code 633. Columbus, OH.

USDA-Natural Resources Conservation Service (2000). National Engineering Handbook-Part 651: Agricultural Waste Management Field Handbook. Washington, DC.

USDA-Natural Resources Conservation Service (2001). National Soil Survey Handbook. Washington, DC.

USDA-Natural Resources Conservation Service (1997). Engineering Field Manual: Chapters 1-19. Washington, DC.

USDA-Natural Resources Conservation Service (2002). National Engineering Handbook-Code 393 Filter Strip Field Handbook. Washington, DC.

USDA-Natural Resources Conservation Service (2008). National Engineering Handbook-Code 412: Grass Waterways Field Handbook. Washington, DC.

USDA-Natural Resources Conservation Service (2000). National Engineering Handbook-Code 521A, 521B, 521C, 521D: Pond Sealing and Lining Field Handbook. Washington, DC.

USDA-Natural Resources Conservation Service (2000). National Engineering Handbook-Part 561: Filter Strips Field Handbook. Washington, DC.

USDA-Natural Resources Conservation Service, Concrete Construction Specification 210-VI-EFH, Amend OH-17, 2005.

USDA Soil Conservation Service, 1989, Technical Release 74, Lateral Earth Pressures.

Van Horn, H.H., A.C. Wilkie, W.J. Powers and R.A. Nordstedt (1993). Components of dairy manure management systems. *Journal of Dairy Science* 77: 2008-2030.

Wilkerson, V.A., D.R. Mertens, and D.P. Casper (1997). Prediction of excretion of manure and nitrogen by Holstein dairy cattle. *Journal of Dairy Science* 80: 3193-3204.

Zahn, J.A., J.L. Hatfield, Y.S. Do, A.A. DiSpirito D.A. Laird, and R.L. Pfeiffer (1997). Characterization of volatile organic emissions and wastes from a swine production facility. *Journal of Environmental Quality* 26: 1687-1696.

Zahn, J.A., J.L. Hatfield, D.A. Laird, T.T. Hart, Y.S. Do, and A.A. DiSpirito (2001). Functional classification of swine manure management systems based on effluent and gas emission characteristics. *Journal of Environmental Quality* 30: 635-647.

Zublena, J.P., J.C. Barker, J.W. Parker, and C.M. Stanislaw (1993). Soil facts: swine manure as fertilizer source. North Carolina Cooperative Extension Service, Statesville, NC.

- (C) Is the proposed rule or rule amendment being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal environmental law or to participate in a federal environmental program ?
Yes

Is the proposed rule or rule amendment more stringent than its federal counterpart ? **Yes**

What is the rationale for not incorporating the federal counterpart?

The federal counterpart has been incorporated into the rule.

- (D) If this is a rule amendment that is being adopted under a state statute that establishes standards with which the amendment is to comply, is the proposed rule amendment more stringent than the rule that it is proposing to amend? **Yes**

Please explain why?

To comply with the federal regulations for NPDES delegation.