

**SECTION .1800 - CONTROL OF ODORS****.1801 DEFINITIONS**

For the purpose of this Section, the following definitions apply:

- (1) "Animal operation" means animal operation as defined in G.S. 143-215.10B.
- (2) "Child care center" means child care centers as defined in G.S. 110-86 licensed under Article 7 of Chapter 110 of the General Statutes.
- (3) "Construction" means any physical change (including fabrication, erection, installation, replacement, demolition, excavation, or other modification) at any contiguous area under common control.
- (4) "Control technology" means economically feasible control devices installed to effectively reduce objectionable odors from animal operations.
- (5) "Existing animal operation" means an animal operation that is in operation or commences construction on or before February 28, 1999.
- (6) "Historic properties" means historic properties acquired by the State pursuant to G.S. 121-9 or listed in the North Carolina Register of Historic Places pursuant to G.S. 121-4.1.
- (7) "Modified animal operation" means an animal operation that commences construction after February 28, 1999, to increase the steady state live weight that can be housed at that animal operation. Modified animal operation does not include renovating existing barns, relocating barns, or replacing existing lagoons or barns if the new barn or lagoon is no closer to the nearest property and if the new barn or lagoon does not increase the steady state live weight that can be housed at that animal operation.
- (8) "New animal operation" means an animal operation that commences construction after February 28, 1999.
- (9) "Objectionable odor" means any odor present in the ambient air that by itself, or in combination with other odors, is or may be harmful or injurious to human health or welfare, or may unreasonably interfere with the comfortable use and enjoyment of life or property. Odors are harmful or injurious to human health if they tend to lessen human food and water intake, interfere with sleep, upset appetite, produce irritation of the upper respiratory tract, or cause symptoms of nausea, or if their chemical or physical nature is, or may be, detrimental or dangerous to human health.
- (10) "Occupied residence" means occupied residence as defined in G.S. 106-802.
- (11) "State Parks" means State Parks as defined in G.S. 113-44.9.
- (12) "Technologically feasible" means that an odor control device or a proposed solution to an odor problem has previously been demonstrated to accomplish its intended

objective, and is generally accepted within the technical community. It is possible for technologically feasible solutions to have demonstrated their suitability on similar, but not identical, sources for which they are proposed to control.

*NCDAQ History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(11); 143-213; Temporary Adoption Eff. April 27, 1999; March 1, 1999; Eff. July 1, 2000.*

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#### **.1802 CONTROL OF ODORS FROM ANIMAL OPERATIONS USING LIQUID ANIMAL WASTE MANAGEMENT SYSTEMS**

- (a) Purpose. The purpose of this Rule is to control objectionable odors from animal operations beyond the boundaries of animal operations.
- (b) Applicability. This Rule shall apply to all animal operations.
- (c) Required management practices. All animal operations shall be required to implement applicable management practices for the control of odors as follows:
  - (1) The carcasses of dead animals shall be disposed of within 24 hours after becoming aware of the death of the animal according to the methods approved by the State Veterinarian for disposal of dead domesticated animals under G. S. 106-403;
  - (2) Waste from animal wastewater application spray systems shall be applied in such a manner and under such conditions to prevent drift from the irrigation field of the wastewater spray beyond the boundary of the animal operation, except waste from application spray systems may be applied in an emergency to maintain safe lagoon freeboard if the owner or operator notifies the Agency and resolves the emergency with the Agency as written in Section III.6 of the Swine Waste Operation General Permit;
  - (3) Animal wastewater application spray system intakes shall be located near the liquid surface of the animal wastewater lagoon;
  - (4) Ventilation fans shall be maintained according to the manufacturer's specifications; and
  - (5) Animal feed storage containers located outside of animal containment buildings shall be covered except when necessary to remove or add feed; this Subparagraph does not apply to the storage of silage or hay or to commodity boxes with roofs.

All animal operations shall be in compliance with this Paragraph by June 1, 1999.

(d) Odor management plan for existing animal operations for swine. Animal operations for swine that meet the criteria in the table in this Paragraph shall submit an odor management plan to the Director according to the schedule in the table in this Paragraph. The odor management plan shall describe how odors are currently being controlled and how these odors will be controlled in the future. The odor management plan shall contain the elements described in Rule .1803(a) of this Section. The animal operation shall only be required to submit its odor management plan only once.

100 pounds steady state live weight of swine		Distance in feet to the boundary of the nearest neighboring occupied property with an inhabitable structure, business, school, hospital, church, outdoor recreational facility, national park, State Park, historic property, or child care center	Date by when the odor management plan is to be submitted
at least	but less than		
10,000	20,000	less than or equal to 3,000	January 15, 2002
20,000	40,000	less than or equal to 4,000	July 15, 2001
40,000		less than or equal to 5,000	January 15, 2001

For the purposes of this Rule, the distance shall be measured from the edge of the barn or lagoon, whichever is closer, to the boundary of the neighboring occupied property with an inhabitable structure, business, school, hospital, church, outdoor recreational facility, national park, State Park, historic property, or child care center. All animal operations for swine that are of the size in the table in this Paragraph shall submit by the date specified in this table either an odor management plan or documentation that no neighboring occupied property with an inhabitable structure, business, school, hospital, church, outdoor recreational facility, national park, State Park, historic property, or child care center are within the distances specified in the table as of the date that the submittal is due. After July 15, 2002, the Director may require existing animal operations for swine with a steady state live weight of swine between 1,000 to 10,000 hundred weights to submit an odor management plan if the Director determines that these animal operations may cause or contribute to an objectionable odor. The Director may require an existing animal operation to submit a best management plan under Paragraph (h) of this Rule if the existing animal operation fails to submit an odor management plan by the schedule in this Paragraph of this Rule.

(e) Location of objectionable odor determinations.

(1) For an existing animal operation that does not meet the following siting requirements:

- (A) at least 1500 feet from any occupied residence not owned by the owner of the animal operation;
- (B) at least 2500 feet from the property boundary of any school, hospital, church, outdoor recreation facility, national park, state park, historic property, or child care center; and
- (C) at least 500 feet from the boundary of any other property not owned by the owner of the animal operation;

objectionable odors shall be determined at neighboring occupied property not owned by the owner of the animal operation, businesses, schools, hospitals, churches, outdoor recreation facilities, national parks, State Parks historic properties, or child care centers that are affected.

- (2) For a new animal operation or existing animal operation that meets the siting requirements in Subparagraph (1) of this Paragraph, objectionable odors shall be determined beyond the boundary of the animal operation.

(f) Complaints. The Director shall respond to complaints about objectionable odors from animal operations as follows:

- (1) Complaints shall be investigated to the extent practicable.
- (2) Complaints may be used to assist in determination of a best management plan failure or a control technology failure.
- (3) The Director shall respond to complaints within 30 days.
- (4) Complaint response shall at least include a written response of the Director's evaluation of the complaint.
- (5) The investigation of a complaint shall be completed as expeditiously as possible considering the meteorology, activities at the animal operation, and other conditions occurring at the time of the complaint.

(g) Determination of the existence of an objectionable odor. In deciding if an animal operation is causing or contributing to an objectionable odor, the Director may consider one or more of the following:

- (1) the nature, intensity, frequency, pervasiveness, and duration of the odors from the animal operation;
- (2) complaints received about objectionable odors from the animal operation;
- (3) emissions from the animal operation of known odor causing compounds, such as ammonia, total volatile organics, hydrogen sulfide or other sulfur compounds at levels that could cause or contribute to an objectionable odor;
- (4) any epidemiological studies associating health problems with odors from the animal operation or documented health problems associated with odors from the animal operation provided by the State Health Director; or

- (5) any other evidence, including records maintained by neighbors, that show that the animal operation is causing or contributing to an objectionable odor.
- (h) Requirement for a best management plan for controlling odors from existing animal operations. If the Director finds that an existing animal operation is causing or contributing to an objectionable odor, the owner or operator of the animal operation shall:
  - (1) submit to the Director as soon as practical, but not to exceed 90 days after receipt of written notification from the Director that the animal operation is causing or contributing to an objectionable odor, a best management plan for odor control as described in Rule .1803 of this Section; and
  - (2) be in compliance with the terms of the plan within 30 days after the Director approves the best management plan (compliance with an approved compliance schedule in the best management plan is deemed to be in compliance with the plan).
- (i) Requirement for amendment to best management plan. No later than 60 days from completion of a compliance schedule in an approved best management plan or if the best management plan contains no compliance schedule, no later than 60 days from the implementation date of the best management plan, the Director shall determine whether the plan has been properly implemented. If the Director determines that a plan submitted under Paragraph (h) of this Rule does not control objectionable odors from the animal operation, the Director shall require the owner or operator of the animal operation to amend the plan to incorporate additional or alternative measures to control objectionable odors from the animal operation. The owner or operator shall
  - (1) submit a revised best management plan to the Director as soon as practical but not later than 60 days after receipt of written notification from the Director that the plan is inadequate; and
  - (2) be in compliance with the revised plan within 30 days after the Director approves the revisions to the best management plan (compliance with an approved compliance schedule in the best management plan is deemed to be in compliance with the plan).
- (j) Plan failure. Any of the following conditions shall constitute failure of a best management plan:
  - (1) failing to submit the initial best management plan required under Paragraph (h) of this Rule within 90 days of receipt of written notification from the Director that the animal operation is causing or contributing to an objectionable odor;
  - (2) failing to submit a revised best management plan required under Paragraph (i) of this Rule within 60 days of receipt of written notification from the Director that the animal operation is causing or contributing to an objectionable odor;

- (3) failing to correct all deficiencies in a submitted best management plan under Rule .1803(c) of this Section within 30 days of receipt of written notification from the Director to correct these deficiencies;
- (4) failing to implement the best management plan after it has been approved; or
- (5) finding by the Director, using the criteria under Paragraph (g) of this Rule, that, after the best management plan has been implemented and revised no more than one time (voluntary revisions and revisions made pursuant to Chapter 4 .1803(c) shall not be counted as revisions under this Subparagraph), the best management plan does not adequately control objectionable odors from the animal operation and will not adequately control objectionable odors even with further amendments.

(k) Requirements for control technology. If a plan failure occurs, the Director shall require the owner or operator of the animal operation to install control technology to control odor from the animal operation. The owner or operator shall submit within 90 days from receipt of written notification from the Director of a plan failure, a permit application for control technology and an installation schedule. If the owner or operator demonstrates to the Director that a permit application cannot be submitted within 90 days, the Director may extend the time for submittal up to an additional 90 days. Control technology shall be determined according to Subparagraph (1) of this Paragraph. The installation schedule shall contain the increments of progress described in Subparagraph (2) of this Paragraph. The owner or operator may at any time request adjustments in the installation schedule and shall in his request explain why the schedule cannot be met. If the Director finds that the reason for not meeting the schedule is valid, the Director shall revise the installation schedule as requested; however, the Director shall not extend the final compliance date beyond 24 months from the date that the permit was first issued for the control technology. The owner or operator shall certify to the Director within five days after the deadline for each increment of progress described in Subparagraph (2) of this Paragraph whether the required increment of progress has been met.

- (1) Control technology. The owner or operator of an animal operation shall identify control technologies that are technologically feasible for his animal operation and shall select the control technology or control technologies that results in the greatest reduction of odors considering human health, energy, environmental, and economic impacts and other costs. The owner or operator shall explain the reasons for selecting the control technology or control technologies. If the Director finds that the selected control technology or control technologies will effectively control odors following the procedures in Chapter 17 .0300 or .0500, he shall approve the installation of the control technology or control technologies for this animal operation. The owner or operator of the animal operation shall comply with all terms and conditions in the permit.

- (2) Installation schedule. The installation schedule for control technology shall contain the following increments of progress:
  - (A) a date by which contracts for odor control technology shall be awarded or orders shall be issued for purchase of component parts;
  - (B) a date by which on-site construction or installation of the odor control technology shall begin;
  - (C) a date by which on-site construction or installation of the odor control technology shall be completed; and
  - (D) a date by which final compliance shall be achieved.

Control technology shall be in place and operating as soon as practical but not to exceed 12 months from the date that the permit is issued for control technology.

(l) New or modified animal operations. This Paragraph does not apply to activities exempted from the moratorium on construction or expansion of swine farms in S.L. 1997, c. 458, s. 1.1 provided that the owner or operator demonstrates to the Director that the activity will not result in an objectionable odor.

- (1) Before beginning construction, the owner or operator of a new or modified animal operation raising or producing swine shall submit and have an approved best management plan and shall meet the following: A house or lagoon that is a component of an animal operation shall be constructed:
  - (A) at least 1500 feet from any occupied residence not owned by the owner of the animal operation;
  - (B) at least 2500 feet from any school, hospital, church, outdoor recreation facility, national park, State Park, historic property, or child care center; and
  - (C) at least 500 feet from any property boundary;
- (2) Before beginning construction, the owner or operator of a new or modified animal operation other than swine shall submit and have an approved best management plan.
- (3) For new or modified animal operations raising or producing swine, the outer perimeter of the land area onto which waste is applied that is a component of an animal operation shall be:
  - (A) at least 75 feet from any boundary of property on which an occupied residence not owned by the owner of the animal operation is located, and
  - (B) at least 200 feet from any occupied residence not owned by the owner of the animal operation.
- (4) The Director shall either approve or disapprove the best management plan submitted under this Paragraph within 90 days after receipt of the plan. If the Director disapproves the plan, he shall identify the plan's deficiency.

*NCDAQ History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(11); 143-215.108(a);  
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**.1803 BEST MANAGEMENT PLANS FOR ANIMAL OPERATIONS**

(a) Contents of a best management plan. The best management plan for animal operations shall:

- (1) identify the name, location, and owner of the animal operation;
- (2) identify the name, title, address, and telephone number of the person filing the plan;
- (3) identify the sources of odor within the animal operation;
- (4) describe how odor will be controlled from:
  - (A) the animal houses;
  - (B) the animal wastewater lagoon, if used;
  - (C) the animal wastewater application lands, if used;
  - (D) waste conveyances and temporary accumulation points; and
  - (E) other possible sources of odor within the animal operation;
- (5) contain a diagram showing all structures and lagoons at the animal operation, forced air directions, and approximate distances to structures or groups of structures within 3000 feet of the property line of the animal operation; a recent or updated aerial photograph may be submitted in place of a diagram provided the items required under this Subparagraph of this Rule are shown;
- (6) for existing animal operations, contain a schedule not to exceed six months by which the plan will be implemented (a new animal operation is to have and be in compliance with its best management plan when it begins operation); for an amended best management plan, the implementation schedule shall not exceed six months;
- (7) describe how the plan will be implemented, including training of personnel;
- (8) describe inspection and maintenance procedures; and
- (9) describe methods of monitoring and recordkeeping to verify compliance with the plan.

(b) The Agency shall review all best management plan submittals within 30 days of receipt of the submittal to determine if the submittal is complete or incomplete for processing purposes. To



be complete, the submittal shall contain all the elements listed in Paragraph (a) of this Rule. The Agency shall notify the person submitting the plan by letter stating that:

- (1) the submittal is complete,
  - (2) the submittal is incomplete and identifying the missing elements and a date by which the missing elements need to be submitted to the Agency, or
  - (3) the best management plan is incomplete and requesting that the person rewrite and resubmit the plan.
- (c) Approval of the best management plan. The Director shall approve the plan if he finds that:
- (1) the plan contains all the required elements in Paragraph (a) of this Rule;
  - (2) the proposed schedule contained in the plan will reduce objectionable odors in a timely manner;
  - (3) the methods used to control objectionable odors are likely to prevent objectionable odors beyond the property lines of the animal operation (the Director shall not consider impacts of objectionable odors on neighboring property if the owner of the neighboring property agrees in writing that he does not object to objectionable odors on his property and this written statement is included with the proposed best management plan; this agreement becomes void if the neighboring property changes ownership. If the neighboring property changes ownership, the plan shall be revised, if necessary, to prevent objectionable odors on this property unless the new owner agrees in writing that he does not object to objectionable odors on his property); and
  - (4) the described compliance verification methods are sufficient to verify compliance with the plan.

Within 90 days after receipt of a plan, the Director shall determine whether the proposed plan meets the requirements of this Paragraph of this Rule. If the Director finds that the proposed plan does not meet the requirements of this Paragraph, he shall notify the owner or operator of the animal operation in writing of the deficiencies in the proposed plan. The owner or operator shall have 30 days after receiving written notification from the Director to correct the deficiencies. If the Director finds that the proposed plan is acceptable, he shall notify the owner or operator in writing that the proposed plan has been approved.

*NCDQA History Note:* Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215-215.107(a)(11);  
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**.1804 REPORTING REQUIREMENTS FOR ANIMAL OPERATIONS**

If the Agency receives an odor complaint about an animal operation, the Agency may require the owner or operator of the animal operation to submit the following information:

- (1) the name and location of the animal operation;
- (2) the name, title, address, and telephone number of the person filing the report;
- (3) the type and number of animals at the animal operation;
- (4) potential sources of odors, such as animal housing structures, lagoons, collection and handling devices, and storage containers, with a physical description of these sources;
- (5) waste water land application procedures; and
- (6) measures taken to reduce odors.

This information shall be submitted to the Agency within 15 days after receipt of the request.

*NCDQA History Note: Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215-215.107(a)(11);  
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**.1805 NOT USED**

**.1806 CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

- (a) Purpose. The purpose of this Rule is to provide for the control and prohibition of objectionable odorous emissions.
- (b) Definitions. For the purpose of this Rule the following definitions shall apply:
  - (1) Commercial purposes means activities that require a state or local business license to operate.
  - (2) Temporary activities or operations means activities or operations that are less than 30 days in duration during the course of a calendar year and do not require an air quality permit.
- (c) Applicability. With the exceptions in Paragraph (d) of this Rule, this Rule shall apply to all operations that may produce odorous emissions that can cause or contribute to objectionable odors beyond the facility's boundaries.

- (d) Exemptions. The requirements of this Rule do not apply to:
- (1) processes at kraft pulp mills identified in Rule .0528 of this Section, and covered under Rule .0524 or .0528 of this Section,
  - (2) processes at facilities that produce feed-grade animal proteins or feed-grade animal fats and oils identified in and covered under Rule .0539,
  - (3) motor vehicles and transportation facilities,
  - (4) all on-farm animal and agricultural operations, including dry litter operations and operations covered under Rule .1804 of this Section,
  - (5) municipal wastewater treatment plants and municipal wastewater handling systems,
  - (6) restaurants and food preparation facilities that prepare and serve food on site,
  - (7) single family dwellings not used for commercial purposes,
  - (8) materials odorized for safety purposes,
  - (9) painting operations that do not require a business license, or
  - (10) all temporary activities or operations.

(e) Control Requirements. The owner or operator of a facility subject to this Rule shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

(f) Maximum feasible controls. If the Director determines that a source or facility subject to this Rule is emitting an objectionable odor by the procedures described in Paragraph (g) of this Rule, the Director shall require the owner or operator to implement maximum feasible controls for the control of odorous emissions. (Maximum feasible controls shall be determined according to the procedures in Rule .1807 of this Section.) The owner or operator shall:

- (1) within 180 days of receipt of written notification from the Director of the requirement to implement maximum feasible controls, complete the determination process outlined in 4.1807 and submit the completed maximum feasible control determination process along with a permit application for maximum feasible controls and a compliance schedule to the Agency; the compliance schedule shall contain the following increments of progress:
  - (A) a date by which contracts for the odorous emission control systems and equipment shall be awarded or orders shall be issued for purchase of component parts;
  - (B) a date by which on-site construction or installation of the odorous emission control systems and equipment shall begin;
  - (C) a date by which on-site construction or installation of the odorous emission control systems and equipment shall be completed; and
  - (D) a date by which final compliance shall be achieved.

- (2) within 18 months after receiving written notification from the Director of the requirement to implement maximum feasible controls, have installed and begun operating maximum feasible controls.

The owner or operator shall certify to the Director within five days after the deadline for each increment of progress in this Paragraph whether the required increment of progress has been met.

(g) Determination of the existence of an objectionable odor. A source or facility is causing or contributing to an objectionable odor when:

- (1) A member of the Agency staff determines by field investigation that an objectionable odor is present by taking into account nature, intensity, pervasiveness, duration, and source of the odor and other pertinent factors;
- (2) The source or facility emits known odor causing compounds such as ammonia, total volatile organics, hydrogen sulfide, or other sulfur compounds at levels that cause objectionable odors beyond the property line of that source or facility; or
- (3) The Agency receives epidemiological studies associating health problems with odors from the source or facility or evidence of documented health problems associated with odors from the source or facility provided by the State Health Director.

*NCDQA History Note:*                    *Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
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#### **.1807 DETERMINATION OF MAXIMUM FEASIBLE CONTROLS FOR ODOROUS EMISSIONS**

(a) Scope. This Rule sets out procedures for determining maximum feasible controls for odorous emissions. The owner or operator of the facility shall be responsible for providing the maximum feasible control determination.

(b) Process for maximum feasible control determinations. The following sequential process shall be used on a case-by-case basis to determine maximum feasible controls:

- (1) Identify all available control technologies. In the first step, all available options for the control of odorous emissions shall be listed. Available options include all possible control technologies or techniques with a practical potential to control, reduce, or minimize odorous emissions. For the purposes of this document, in some specific cases a comprehensive, effective odor control plan can be listed among the possible odor control technologies as a viable and satisfactory maximum feasible control technology option. All available control technologies shall be included on this list

regardless of their technical feasibility or potential energy, human health, economic, or environmental impacts.

- (2) Eliminate technically infeasible options. In the second step, the technical feasibility of all the control options identified under Subparagraph (b)(1) of this Rule shall be evaluated with respect to source specific factors. A demonstration of technical infeasibility shall be clearly documented and shall show, based on physical, chemical, or engineering principles, that technical difficulties preclude the successful use of the control option under review. Technically infeasible control options shall then be eliminated from further consideration as maximum feasible controls.
- (3) Rank remaining control technologies by control effectiveness. All the remaining control technologies, which have not been eliminated under Subparagraph (b)(2) of this Rule, shall be ranked and then listed in order of their ability to control odorous emissions, with the most effective control option at the top of the list. The list shall present all the control technologies that have not been previously eliminated and shall include the following information:
  - (A) control effectiveness,
  - (B) economic impacts (cost effectiveness),
  - (C) environmental impacts: this shall include any significant or unusual other media impacts (for example, water or solid waste), and, at a minimum, the impact of each control alternative on emissions of toxic or hazardous air pollutants;
  - (D) human health impacts,
  - (E) energy impacts.

However, an owner or operator proposing to implement the most stringent alternative, in terms of control effectiveness, need not provide detailed information concerning the other control options. In such cases, the owner or operator shall only document, to the satisfaction of the Director, that the proposed control option is indeed the most efficient, in terms of control effectiveness, and provide a review of collateral environmental impacts.

- (4) Evaluate most effective controls and document results. Following the delineation of all available and technically feasible control technology options under Subparagraph (b)(3) of this Rule, the energy, human health, environmental, and economic impacts shall be considered in order to arrive at the maximum feasible controls. An analysis of the associated impacts for each option shall be conducted. The owner or operator shall present an objective evaluation of the impacts of each alternative. Beneficial and adverse impacts shall be analyzed and, if possible, quantified. If the owner or operator has proposed to select the most stringent alternative, in terms of control

effectiveness, as maximum feasible controls, he shall evaluate whether impacts of unregulated air pollutants or environmental impacts in other media would justify selection of an alternative control technology. If there are no concerns regarding collateral environmental impacts, the analysis is ended and this proposed option is selected as maximum feasible controls. In the event the most stringent alternative is inappropriate, due to energy, human health, environmental, or economic impacts, the justification for this conclusion shall be fully documented; and the next most stringent option, in terms of control effectiveness, becomes the primary alternative and is similarly evaluated. This process shall continue until the control technology evaluated can not be eliminated due to source-specific environmental, human health, energy, or economic impacts.

- (5) Select maximum feasible controls. The most stringent option, in terms of control effectiveness, not eliminated under Subparagraph (b)(4) of this Rule shall be selected as maximum feasible controls.

*NCDAQ History Note:*                    *Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);  
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#### **.1808 EVALUATION OF NEW OR MODIFIED SWINE FARMS**

(a) Purpose. The purpose of this Rule is to specify the methods for evaluating new or modified swine farms for compliance with the performance standard in G.S. 143-215.101 (b)(3).

(b) Applicability. This Rule applies to new or modified swine farms required by G.S. 143-215.101 to meet the performance standard in G.S. 143-215.101 (b)(3).

(c) Requirements. New or modified swine farms subject to this rule shall comply with the requirements in this Section.

(d) Evaluation of new or modified swine farms. For the purpose of evaluating odor at new or modified swine farms for compliance with the performance standard in G.S. 143-215.101 (b)(3), the following shall apply:

- (1) When a field olfactometry method and instrumentation is used to determine odor intensity at the designated evaluation location, as specified in Rule .1802(e) of this Section, the measured dilution-to-threshold ratio shall be less than or equal to 7:1 as determined using the manufacturer's instrument procedures and instructions; or
- (2) When odor intensity is determined using an Odor Intensity Referencing Scale (OIRS) as specified in ASTM 544-99, the instantaneous observed level shall be less than the equivalent of 225 parts per million n-butanol in air. In addition, the average of 30

consecutive observations conducted over a minimum of 30-minutes at designated evaluation locations shall be less than the equivalent of 75 parts per million n-butanol in air and a minimum of four readings out of the minimum 30 readings shall be less than or equal to the equivalent 25 parts per million n-butanol in air.

*NCDQA History Note:* Authority G.S. 143-215.10I; 143-215.3(a)(1); 143-215.107(a)(11);  
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