

APPENDIX 16

ODOR

OVERVIEW OF ODOR CONTROL PROGRAM

Odorous emissions are controlled primarily by four regulations: **15A NCAC 2D .0528**, Total Reduced Sulfur from Kraft Pulp Mills, **2D .0539**, Odor Control of Feed Ingredient Manufacturing Plants, **2D .1802**, Control of Odors from Animal Operations Using Liquid Animal Waste Management System, and **2D .1806**, Control and Prohibition of Odorous Emissions. Rule **15A NCAC 2D .0524**, New Source Performance Standards, (40 CFR Part 60, Subpart BB, Kraft Pulp Mills) contains odor control requirements for total reduced sulfur compounds from new kraft pulp mills.

ODOR CONTROL FOR FEED INGREDIENT MANUFACTURING PLANTS: 15A NCAC 2D .0539

Overview

Rule **15A NCAC 2D .0539** controls odorous emissions from feed ingredient manufacturing plants (rendering). It applies to all facilities that produces feed-grade animal proteins or feed-grade animal fats and oils. It does not apply to any portions of such facilities engaged exclusively in the processing of food for human consumption, vegetable oil production, or facilities solely engaged in the processing of marine byproducts. The rule does not apply to facilities that mix feed-grade animal protein but do not render animal by-products to feed-grade animal protein. These facilities, however, still have to comply with **15A NCAC 2D .0522**, Control and Prohibition of Odorous Emissions.

Rule **15A NCAC 2D .0539** establishes operating requirements for the transporting, handling and treatment of renderable raw material. All material must pass through condensers to remove all steam and noncondensable material, which is then incinerated or treated in an equally effective manner. Facilities must install continuous measuring and recording devices to document proper equipment operations. “Housekeeping” activities are specified for the handling and transporting of raw material. These activities include the use of covered vehicles and containers and the use of hoods and fans to vent odorous emissions to odor control devices.

Equivalent Control Devices

Rule **15A NCAC 2D .0539(c)** requires all noncondensable to passing through the condensers to be incinerated at 1200°F for at least 0.3 seconds, or treated in an equally effective manner. Wet scrubbers, bio-filtration systems, and other control technologies may be used in place of incineration if the facility demonstrates that such control technology is at least as effective in reducing odorous emissions as incinerating at 1200°F for at least 0.3 seconds.

Storage and Handling of Raw Material

Rule **15A NCAC 2D .0539(f)** prohibits a person from causing or permitting material to be handled, transported, or stored and from undertaking the preparation of any raw material without taking reasonable precautions to prevent odorous emissions. It then lists reasonable precautions, which include enclosed areas, properly designed trucks, and the use of hoods and fans to vent storage areas to a control device. Material in storage is material unloaded at the facility **or** material located at the facility for at least 24 hours. The intent of this Paragraph is to control those odorous emissions from areas other than those that are part of the process equipment.

A typical facility unloads its material into a large underground pit where it is conveyed to the cookers. However, if a facility routinely unloads its material in the parking area where it is then transported to the pit, then that area is the area of concern. At most facilities the raw material is processed in less than 24 hours. The intent of this Paragraph is to encourage rapid turn around in the processing of the material. If a facility chooses to stockpile material, then it is required to have enclosed and properly vented areas in which to do it. However, if material is

immediately entering the process stream, the facility is not required to enclose the pit area to control emissions.*

Excess Emissions Reporting

Rule 15A NCAC 2D .0539(g) requires the owner or operator of the facility to notify the regional supervisor within two business days after conditions are encountered that cause or may cause release of excessive and malodorous gases or vapors. Rule 15A NCAC 2D .0535, Excess Emissions Reporting and Malfunctions, requires the owner or operator to report within 24 hours malfunctions or other abnormal conditions that cause excess emissions that last for more than four hours. (The 24-hour reporting requirement is proposed to be changed to the next business day in a future rulemaking.) These two rules need to be interpreted in such away as to eliminate possible conflict.

Both 15A NCAC 2D .0535 and .0539 provisions can be satisfied by the following. Under Rule 15A NCAC 2D .0535, the owner or operator of a facility covered under 15A NCAC 2D .0539 is to report excess emissions that result from malfunctions, breakdowns of processes or control equipment, or any other abnormal conditions if the excess emissions last for more than four hours. This report is required to be made within 24 hours. If this condition of excess emissions lasts less than four hours, the owner or operator is required to report it within two business days under 15A NCAC 2D .0539(g). Such excess emissions are considered a violation unless the excess emissions are demonstrated to result from a malfunction following the procedures in 15A NCAC 2D .0535. If a condition occurs that may cause, or is likely to cause, release of excessive and malodorous emissions, but does not cause such release, this information is also required to be reported within two business days. In summary, where 15A NCAC 2D .0535 requires reporting, the procedures in 15A NCAC 2D .0535 are followed. Where 15A NCAC 2D .0535 does not require reporting, the procedures in 15A NCAC 2D .0539 are followed.[†]

*Thomas Allen to Branch Supervisors, *et al.*, "Interpretation of 2D .0539(f), Odor Control of Feed Ingredient Manufacturing Plants," 30 Sep. 1996 (memorandum).

[†]Thomas Allen to Section chiefs, *et al.*, "The Relationship of 15A NCAC 2D .0539(g) to .0535," 30 Sept. 1996 (memorandum).

CONTROL OF ODORS FORM ANIMAL OPERATIONS USING LIQUID ANIMAL WASTE MANAGEMENT SYSTEMS: 15A NCAC 2D .1802

Requirement for Best Management Plans

If a farm does not submit a best management plan within 90 days, it bypasses the second best management plan and goes straight to control technology.*

DETERMINATION OF MAXIMUM FEASIBLE CONTROLS FOR ODOROUS EMISSIONS: 15A NCAC 2D .1807

Subparagraph **15A NCAC 2D .1807(b)(3)** contains provisions that allow for the consideration of the economic impacts of a proposed maximum feasible control technology when making the final selection of maximum feasible controls. The criteria for establishing economic hardship are delineated in **15A NCAC 2Q .0709(b)**, Demonstrations (for compliance with the air toxic rules). **15A NCAC 2Q .0709(b)** provides relief to facilities that can demonstrate compliance with the air toxic rules would result in serious economic hardship. To decide if serious economic hardship exists, the following factors are considered: market impact; impacts on local, regional and State economy; risk of closure; capital cost of compliance; annual incremental compliance cost; and environmental and health impacts.[†] These criteria are guidelines for performing the economic impact analysis for selecting maximum feasible controls.

*Thom Allen to Michael Pjetraj, "Re: Question regarding Animal Odor Rule implementation," 18 Sept. 2000 (e-mail).

[†]*Report of Proceedings of Public Hearing on Proposed Adoption of Rules 15A NCAC 2D .1806 and .1807, Proposed Amendments to Rule .0539 and Proposed Repeal of Rule .0522 (Adoption of New General Odor Rule) and Proposed Amendment to 15A NCAC 2D .0536 (Amendment of Opacity Standard for Duke Energy's Riverbend Power Plant)*, Aug. 16, 2000, p. I-5.