

Before The Mississippi Environmental Quality Permit Board

In Re: Evidentiary Hearing Regarding Issuance Of The State Of Mississippi Facility Multimedia Pollution Control Operating Permit No. MS0052710 To Bill Cook Swine Facility, Oktibbeha County, Mississippi

Findings Of Fact And Conclusions Of Law

Pursuant to Miss. Code Ann. § 49-17-29(b), the Mississippi Environmental Quality Permit Board (“Permit Board”) makes its findings of fact and conclusions of law regarding the issuance of State of Mississippi facility multimedia pollution control operating permit No. MS0052710 to Bill Cook Swine Facility, Oktibbeha County, Mississippi. These specific findings and conclusions support the decision of the Permit Board, after a full evidentiary hearing on this matter, to issue Permit No. MS0052710 without further modification from the form of the permit initially issued by the Permit Board on March 12, 2002. The Permit Board finds and concludes as follows:

I. Procedural History

1. Bill Cook is the owner and operator of a swine concentrated animal feeding operation (“CAFO”) near the Oktoc community in Oktibbeha County, Mississippi. On December 17, 1996, the Permit Board first issued a National Pollutant Discharge Elimination System (“NPDES”) permit to the Bill Cook facility. CAFOs of any type in Mississippi, including swine CAFOs, are required to obtain an NPDES permit under the state water pollution control regulations adopted by the Mississippi Commission on Environmental Quality (“Commission”), WPC-1, and by the regulations adopted by the United States Environmental Protection Agency (“EPA”) under the federal Clean Water Act, 33 U.S.C. § 1251 et seq. *See* WPC-1, Chapter One, § IV.C(3); 40 C.F.R. § 122.23. Mississippi’s water pollution control program operates as the federally-delegated Clean Water Act program in the State, so that a permit obtained from the Permit Board under WPC-1 satisfies both state and federal permitting requirements.

2. Cook’s facility, as permitted, includes eight barns that house swine as they are being grown from approximately forty to fifty pounds each to approximately 250 pounds each. The total number of swine that can be housed at the facility at one time under Cook’s permit is 7040. The barn floors are slatted so that the swine waste falls through the floors into a holding area below. The waste is flushed from the holding areas into an anaerobic lagoon that, in Mississippi, is required to meet exacting engineering standards. Liquid is drawn from the top of the lagoon from time to time for application onto hay fields located on the property. *See* First Affidavit of Willie Carroll Cook, Paragraphs 10-15. Cook’s permit does not allow for the discharge of waste from the lagoon except for the controlled spray onto the spray fields, which must meet agronomic rates of application, or for an overflow discharge occurring even though the lagoon is

designed and operated so as to contain the rainfall included in a twenty-five year, twenty-four hour storm event, which is calculated by the Natural Resource Conservation Service as a seven inch rainfall within twenty-four hours in this area. Cook's permit does not allow the application of waste when the moisture condition of the soil is above field capacity. Application cannot be made prior to predicted heavy rainfall or immediately after large rains. Cook's lagoon must have enough freeboard by November 1 of each year to capture and hold all waste and rainfall entering the lagoon until the next growing season begins (usually March). Cook's permit also does not allow the application of liquid waste onto the spray fields in a manner or amount that would cause runoff from Cook's property. Cook's permit does not authorize the land application of sludge onto Cook's fields. See Cook Multimedia Facility Permit Chapter One, Part I.A(6), Part II.A(8), Part III.D.

3. After the Permit Board issued the first Cook permit in December 1996, David M. Kennard and other objectors to the issuance of the permit requested an evidentiary hearing before the Permit Board pursuant to Miss. Code Ann. § 49-17-29 arguing, among other issues, that a swine CAFO in Mississippi should be required to obtain an air pollution control permit pursuant to state law along with its federally and state mandated NPDES permit. The Permit Board conducted that evidentiary hearing on March 25, 1997. At the conclusion of the evidentiary hearing, the Permit Board voted under the statutes that existed at that time to affirm its issuance of the Cook NPDES permit without requiring the issuance of a companion air permit.¹

4. David M. Kennard and others then appealed that permit decision to the Chancery Court of Oktibbeha County. The Chancery Court reversed and remanded the Permit Board's decision, holding that Cook's facility was required by § 49-17-29 to obtain an air pollution control permit. The Permit Board disagreed with the Chancery Court's reasoning and appealed that decision to the Mississippi Supreme Court. Bill Cook also appealed the decision.

5. While the case was pending before the supreme court, the Mississippi Legislature amended Miss. Code Ann. § 49-17-29 (1)(b) and (2)(b) to make clear that the Commission could, by regulation, create categories of air emission sources within the state that are not required to obtain a state air pollution control permit. The amendment also allows the Permit Board to issue permits that consolidate air and water pollution control requirements into one permit. See Miss. Code Ann. § 49-17-29(3)(e); 1998 Miss. Laws ch. 537.

6. The Commission did adopt regulatory exclusions on June 24, 1999 by amending its *Permit Regulations for the Construction and/or Operation of Air Emissions Equipment*,² APC-S-2, § XII, but chose not to exclude CAFOs from the air permitting requirement. The regulations allow the Permit Board to issue CAFO air permits as a separate permit or as a consolidated multimedia permit.

7. After the amendment to the Permit Board statute in 1998 and the Commission's

¹At that time, §49-17-29 did not require the preparation by the Permit Board of a formal findings of fact and conclusions of law document.

regulatory revisions in 1999, the parties before the supreme court in the appeal of the first Cook facility permit reached a settlement agreement whereby the supreme court remanded the issue to the Permit Board for further action consistent with the new statute and the new regulations. The agreement between the parties required Cook to submit an application to the Permit Board for the issuance of an air permit or a multimedia permit with air requirements.

8. Cook submitted his application for the air portion of the permit on December 13, 1999. The Mississippi Department of Environmental Quality (“MDEQ”), acting as technical staff for the Permit Board, required that additional information be submitted to support this application. MDEQ deemed the application complete on July 20, 2000. After creating a draft permit, MDEQ, again on behalf of the Permit Board, published a public notice on October 18, 2000 inviting public comment on the draft permit. MDEQ received many written comments and requests that a public hearing be conducted regarding the permit. On May 1, 2001, MDEQ published a notice announcing that a public hearing would be conducted in Starkville on May 31, 2001. MDEQ conducted the hearing on that date, and objectors to the permit requested additional time to submit comments. MDEQ extended the comment period to July 30, 2001. As is reflected in the transcript of the May 31, 2001 public hearing and related documents in the MDEQ file on this matter, MDEQ received a large number of verbal and written comments regarding the proposed permit.

9. After taking this large volume of public comment (both pro and con) into consideration, on March 12, 2002 MDEQ staff recommended to the Permit Board that an air pollution control chapter be added to the existing Cook facility NPDES permit to transform the existing permit into a multimedia facility permit. The permit recommendations made to the Permit Board included modifications from the draft permit made in response to public comment concerning required record keeping and the dates by which certain plans and studies would be required of the permittee. The existing elements of the NPDES permit were not up for modification. The air requirements of the permit are explained in more detail below. After review of the issue, the Permit Board accepted staff’s recommendation and issued the multimedia facility permit that is the focus of these findings of fact and conclusions of law, after directing the addition of more specific language to the permit’s reopener clause.

10. On March 19, 2002 and March 22, 2002, both objectors to the issuance of the permit (the Mississippi Chapter of the Sierra Club, Everett Kennard, and Boswell Kennard), and the permit applicant, Bill Cook Swine Facility, requested an evidentiary hearing before the Permit Board regarding the multimedia facility permit. Following its customary procedure, the Permit Board required the filing of written direct and rebuttal testimony from the witnesses of all parties prior to the evidentiary hearing. In general, the objectors to the permit have argued that the permit requires too little and is therefore an arbitrary and capricious action, while Cook argues that the permit requires too much and is therefore an action beyond the authority of the Permit Board.

11. The Permit Board conducted the evidentiary hearing regarding the multimedia facility permit on September 10, 2002. As is reflected by the transcript of that hearing, all parties

were allowed to make opening statements and closing arguments, and all parties were given the opportunity to cross-examine the witnesses of each other party that had presented prefiled written testimony. At the agreement of the parties, many of these witnesses were not cross-examined. At the conclusion of the evidentiary hearing, the Permit Board deliberated and then voted to affirm its previous issuance of the Cook facility multimedia permit.

II. The Swine CAFO Issue and the Context of Swine CAFO Regulation

12. The federal government has no air pollution control regulations specifically applicable to CAFOs. The federal CAFO regulations focus on water pollution control by requiring the facilities to obtain an NPDES permit. *See* 40 C.F.R. § 122.23.² NPDES CAFO permit issues in Mississippi have, in turn, focused on requiring proper management of the animal waste produced so as to protect water quality. WPC-1 requires the development of waste management or pollution prevention plans that, in Mississippi, have translated into permits requiring permeability, siting, and construction standards for lagoons (for example, to keep lagoons from leaking into surface waters or ground water and to keep them from being built in sandy soils), guidelines for how and when waste can be applied onto farm lands to prevent runoff, guidelines for how and when waste can be applied onto farm lands for agronomic purposes (preventing nutrient overloading in soils), and requirements for proper dead animal disposal. Mississippi's CAFO program is an evolving regulatory program. The program continues to mature. On both the federal and state level, CAFO management and design continues to evolve, and information regarding effects of CAFOs on neighbors and the surrounding environment continues to evolve.

13. In recent years, air emissions from CAFOs have garnered more attention. Federal authorities have applied and/or attempted to apply Title V of the federal Clean Air Act to some very large CAFOs in the midwest whose air emissions, by volume, arguably trigger the generally-applicable regulations promulgated under that Title, but as explained by Jerry Cain³ during the evidentiary hearing, CAFOs the size of Cook's are relatively minor sources of air emissions (when compared to other sources required to have permits) that do not have emissions large enough to trigger Title V. *See* Transcript at 24. No federal air pollution control regulations, therefore, apply to the Cook facility; no specific regulatory parameters control any specific pollutant emitted into the air by the Cook facility. There is not, for instance, a limit of *X* parts per million for the particulate matter emitted from Cook's barns or of *Y* parts per million for the ammonia emitted from Cook's waste lagoon. Similarly, no specific state pollutant parameters

²Some states and CAFO operators argue that the language of 40 C.F.R. § 122.23 does not require an NPDES permit as long as the facility discharges *only* in the event of a twenty-five year, twenty-four hour storm event. The Commission, however, has chosen to follow the reading of that regulation that requires an NPDES permit in order even to demonstrate that a discharge will only occur in those circumstances, as expressed in WPC-1.

³ Cain is Chief of MDEQ's Environmental Permits Division.

apply to the facility. But the Cook facility is now required to obtain a state air pollution control permit under APC-S-2, and the crux of the matter regarding air permitting in Mississippi is the control of unreasonable odor and associated emissions.

14. The federal government's environmental programs delegated to the State do not attempt to regulate odor. EPA has no applicable odor regulations, and it is questionable whether any federal statutory authority exists for the promulgation of odor regulations by EPA. EPA's continuing efforts at CAFO regulation and at coordinated CAFO control, such as the March 9, 1999 Unified National Strategy for Animal Feeding Operations issued jointly by the United States Department of Agriculture and EPA (attached as Exhibit 3 to Jerry Cain's affidavit) hardly mention odor. Thus, the problem of odor is largely left to the states.

15. The Commission has adopted an ambient air quality standard for odor. This is now the only air quality standard in Mississippi that differs from or is additional to air quality standards adopted by EPA under the Clean Air Act and then adopted by the Commission by reference. See Mississippi Commission on Environmental Quality, *Ambient Air Quality Standards*, APC-S-4; 40 C.F.R. pt. 50. The Mississippi air quality standard for odor states:

There shall be no odorous substances in the ambient air in concentrations sufficient to adversely and unreasonably: (1) affect human health and well-being; (2) interfere with the use or enjoyment of property; or (3) affect plant or animal life. In determining that concentrations of such substances in the ambient air are adversely and unreasonably affecting human well-being or the use or enjoyment of property of plant or animal life, the factors to be considered by the Commission will include, without limiting the generality of the foregoing, the number of complaints or petitioners alleging that such a condition exists, the frequency of the occurrence of such substances in the ambient air as confirmed by the Department of Environmental Quality staff, and the land use of the affected area.

This is the regulatory basis for the air pollution and odor control requirements placed in Cook's multimedia permit.

III. Evidence Regarding the Need for an Air/Odor Pollution Control Permit

16. In reviewing the facility multimedia permit initially issued for Cook's facility, the Permit Board is faced with an issue unusual in its subjectivity. The Permit Board is more accustomed to dealing with environmental policy choices that are based on the interpretation of "hard data" - numbers, calculations, geology, and engineering data. Here, by contrast, the Permit Board is faced with deciding where the odors, if any, caused by air emissions from the Cook facility fall between "acceptable" and "not acceptable" on a sliding scale and what, if any, preventative or remedial measures should be required at the facility to prevent or abate the creation of odors and any health effects that may be connected with the emissions. Both the expert testimony and the lay testimony presented to the Permit Board on this issue vary greatly, leaving the Permit Board to choose between credible witnesses.

17. The lay testimony of people involved with this facility, either by operating the facility or by working or living near the facility, displays a broad range of reactions to offsite odors produced by the facility. The objectors to the permit present thirteen affidavits from neighbors to the facility and people who work near the facility stating that the offsite odors caused by the facility are often strong enough to impair their enjoyment of their own property or to cause them discomfort in being outside. A few examples will suffice to explain the tenor of this testimony, all of which is included in the administrative record. Mr. R. L. Stevenson testified that he owns rental property near the Cook facility. He states:

This year my renter vacated my rental property because of the hog farm smell. It is very hard for me to occupy my rental property with renters because they cannot tolerate the odor from the hog farm. . . . When the wind is blowing I have to stay in the house and I cannot do my yard work such as mowing the grass. I try not to open the doors because of the smell. I do not open the windows at all. I am no longer able to take walks in the morning with my granddaughter due to the smell.

Direct Testimony of R. L. Stevenson, Paragraph 4. Henri Sue Kennard, who lives near the facility, states:

At our home the odor comes in strongly generally at least several days a week. Sometimes it will disappear for a week or so, and then other times it will be there every day for a week or so. Sometimes it will be strong in one part of the yard, but not in other parts. Visitors have often asked "What is that smell?"

Direct Testimony of Henri Sue Kennard, Paragraph 4. Robin Rice, who is postal carrier in the area of the Cook facility, states:

When I am in the area of the farm though it is very hard not to notice the scent. I am glad I do not live near the farm. . . . The smell makes me nauseated. . . . The odor smells like I am driving with a skunk in my car. Prior to Cook Farms, the area smelled like trees, grass, fresh cut hay and now it smells like stinky pigs.

Direct Testimony of Robin Rice, Paragraphs 2-3. Obviously, each of these quotes are excerpted from longer statements and should be taken in context. They are meant to be representative of the objector's complaints but are not meant to be taken as a full explanation of their complaints. For instance, several of the objectors' witnesses' affidavits also attribute physical symptoms such as sinus trouble or a sore throat to emissions from the Cook facility.

18. The evidence presented by Cook is similarly persuasive, if not as voluminous. W. W. "Pete" Oakley farms 192 acres near to the Cook lagoon. He states:

I am on the 192 acres described above on an almost daily basis and at almost every time of the day from morning to night. I believe my property is closer to Bill Cook's barns and lagoon than any residence in the area is. . . I smell it only occasionally. It is not an every day smell. I may smell it two or three times a month. It is not a regularly offensive smell. Every once and a while it is a fairly strong smell. . . On the few occasions I smell odors from Bill Cook's farm, the odors are only rarely what I would describe as strong. Usually, the smell is just noticeable. . . From my experience farming directly across the road from Bill Cook's hog farm, I do not believe that anyone is smelling Bill Cook's farm on a daily basis, or that anyone regularly smells a strong odor from the farm.

Affidavit of W. W. "Pete" Oakley, Paragraphs 3-4, 6. David D. Carson, Ph.D., took a class from Mississippi University for Women on a field trip to the Cook facility in the Spring of 2001. He states:

There was a fairly strong odor directly behind the fans of the barns. I rated it a 3 on a scale of five, with five being the worst smell. When I moved away from the barns, I could scarcely smell any odor at all. By the time we were twenty five yards or more from the barns, the odor was not noticeable. Driving to and from the Cook Hog farm we stopped along the road on the south side of the farm to see if we could detect any odor. I could not smell any hog odor on the road off the Cook property.

Affidavit of David Dean Carson, Ph.D., Paragraph 4.

19. The testimony of Mr. Oakley and Dr. Carson is generally consistent with testimony elicited from MDEQ employees concerning the agency's experiences at the Cook facility and at swine CAFOs in Mississippi in general. Jerry Cain's affidavit details the results of MDEQ's most extensive attempt to determine the prevalence of strong odors surrounding swine CAFOs. *See* Affidavit of Jerry W. Cain, Paragraph 13. Cain stated:

MDEQ performed odor patrols during a three (3) week period of May 1998 and unannounced inspections at 34 operating swine facilities in seven (7) different counties during a two-day period in May 1998. The inspections found major problems at four (4) facilities and minor problems at nine (9) facilities. The odor patrols found no odor off-site approximately 60% of the time and strong odors approximately 8% of the time. The inspections suggested the odors resulted from three primary activities occurring at the farms. In order of declining contribution to off site odor, barn ventilation exhaust, land application of lagoon effluent, and emissions from the lagoon surface make up the majority of observed odors from swine operations. This intensive monitoring episode, combined with the general

experience of MDEQ staff, leads MDEQ to believe that the most important aspect of improved odor control at the Cook facility will be a mechanism to reduce the offsite transmission of odor from the barn exhaust fans. This is what the windbreak wall requirement in the modified permit is intended to accomplish.

Cain Affidavit, Paragraph 13. When asked at the evidentiary hearing whether offsite odors had ever been experienced by MDEQ personnel responding to complaints about the Cook facility, Cain stated: "Looking at the data, most of the time, there has not been odor measured off-site. I think there were a couple of times in which there were mild odors listed off-site."

Transcript at 30. Cain clarified the MDEQ position regarding offsite odor on redirect:

Mr. Barlow: Mr. Cain, you've said that to your knowledge, DEQ personnel have not registered strong odors at the Kennard - - Everett Kennard property, for instance. In your professional opinion, does that mean that there are never odors at the Kennard property?

Mr. Cain: No, it doesn't mean that at all.

Mr. Barlow: Well, could you explain your answer?

Mr. Cain: Okay. Well, odor - - first thing, odor is a subjective thing. So what someone might determine is a severe odor, it varies from individual to individual. But more importantly, odor is - - the transmission of odor, the movement of odor, if you will, is a complex thing. It's a combination of meteorological conditions, the activities going on in the facilities generating the odor, that sort of thing. So we may not have been there at a circumstance in which the activities and meteorological conditions were best, if you will, for odor transmission.

Transcript at 32. Cook also elicited similar testimony from an MDEQ inspector, Clift Jeter, who had conducted odor inspections at various locations around the Cook facility on five occasions over the last three to four years. Jeter explained the "odor patrol" inspections as follows:

Mr. Jeter: The odor patrol, of course, is when we go out, spend time at different locations within a half-mile radius of the facility in question, and we GPS the site so we can mark it on the map to know how far we are, and spend time outside of the vehicle walking the area, contained area, to see if there's any odor being emitted that distance from the facility.

Transcript at 70-71. Jeter testified that he had never detected odors from the Cook facility at a half-mile radius or near the Kennard home. Jeter's inspection reports are contained in the administrative record.

20. It is chiefly in response to the complaints of offsite odors registered by the Kennard

family and other Cook neighbors that MDEQ suggested several odor control features to be included in the Cook facility multimedia permit, as discussed below. Put bluntly, if the Permit Board accepts only the testimony of Kennard's witnesses, then the permit recommendations of MDEQ are not sufficient. But if the Permit Board accepts only the testimony of Cook's witnesses, then the Permit Board has no justification for requiring the additional odor and emission control elements of the multimedia permit. The Permit Board finds that the objective truth, if such a state exists with odor, is somewhere in the middle. MDEQ clearly believes that at least some measure of objectionable odor is created by the facility, based on the number of complaints received, but MDEQ is not able to testify that its staff has experienced these odors or can quantify or qualify these odor episodes with the resources and data available to it at this time, and the Permit Board has serious doubts that the final outcome of a odor monitoring program around this or other swine CAFO facilities will result in an outcome any more satisfactory to the entrenched opponents in this case than MDEQ's current recommendation, although that is no reason to abandon the attempt. The fact remains that even though MDEQ has dedicated a substantial amount of time and effort to the cause of swine CAFO regulation, a much more thorough odor/air monitoring regime, including a significant investment of agency time and money (thousands of dollars for each facility or group of facilities to be monitored in a minimal monitoring program, as described in Dr. Williams' testimony at the evidentiary hearing; *see* Transcript at 65) would be required to obtain a more objective odor level determination.

21. MDEQ's recommendation, as it was explained to the Permit Board during the hearing, is based on the implementation of cost-efficient odor control and housekeeping measures that MDEQ and MDEQ's expert consultant, Dr. Mike Williams, believe will have a significant impact on the prevention and reduction of offsite emissions and odors. The chief element of the new permit chapter recommended by MDEQ is the installation of a "windbreak wall" or "air dam" at a certain distance beyond the exhaust fans of Cook's barns. The purpose of the wall is to deflect the air flow from the barns and to cause particulate matter carried with the exhaust to drop out of the emissions, thus reducing the offsite transmission of both the particulate matter itself and the odor that attaches to the particulate matter. The *Iowa Concentrated Animal Feeding Operations Air Quality Study, Final Report* (Iowa State University and The University of Iowa Study Group, February 2002) ("Iowa Study"), a document included in the MDEQ file in this matter and so included in Exhibit 1 to Jerry Cain's Affidavit, defines a windbreak wall as follows:

Windbreak walls are a type of wall that has been tested in the Southeast US to deflect exhaust air upward from tunnel ventilated building [sic] so it mixes with clean air, which dilutes odors and gases. Windbreak walls can be constructed of various materials such as metal, straw, or wood. Without a wall, exhaust air moves along the ground and is not diluted. A [w]indbreak wall helps to direct barn exhaust air upward for better dispersion/dilution.

Iowa Study at 205-206. Although most of the testimony concerning the new permit centered on the windbreak wall, the air and odor emissions control portion of the new permit is much more comprehensive than just the windbreak wall and is by no means "cosmetic." The entire air emission and odor control regime included in the new permit is explained in Jerry Cain's

affidavit, Paragraphs 9-12, as follows:

9. The Permit Board first issued an individual NPDES wastewater permit to the Bill Cook Swine Facility on December 17, 1996. The modification approved on March 12, 2002 did not change any of the existing NPDES requirements. The modification included the addition of an air requirements chapter.

a. The air requirements chapter requires the following best management practices:

1. Operators of the facility shall practice odor control methods during the course of manure removal and field application. Odor control methods shall be those methods identified in the Comprehensive Nutrient Management Plan (CNMP) created for the facility. Odor reduction and control shall be obtained through chemical, biological, or mechanical means where deemed appropriate.

2. Operators shall consider wind direction and other relevant conditions before spray application occurs.

3. Low pressure systems shall be used and spray head orientation such to minimize aerosol drift and stripping of volatile compounds.

4. Influent pipes shall not be designed such that a free fall of wastes occurs from the influent pipe to the lagoon or from the houses to the lagoon surface. Influent pipes shall be designed for below-water discharge into the lagoons.

5. Dead animals shall be stored in closed containers. These "dead boxes" shall be completely closed and sealed at all times except when depositing carcasses. Containers with damaged lids are prohibited. The Pollution Prevention Plan shall include an approvable method of treatment and/or disposal of contaminated soils around the dead animal handling and storage areas.

6. Facilities shall not expand operations, either in size or numbers of animals, prior to amending or enlarging the waste handling procedures and structures to accommodate any additional wastes that will be generated by the expanded operations. The facility shall not be expanded without Permit Board approval.

quote from Cain affidavit, cont'd

7. Waste handling, treatment, and management shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or contribute to the taking of endangered or threatened species of plant, fish, or wildlife.
8. Solids, sludges, manure, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent significant degradation of ambient air quality.
9. Dead animals shall be properly disposed of off-site within three (3) days unless otherwise provided for by the State Board of Animal Health. Animals shall be disposed of in a manner to prevent significant degradation of ambient air quality. Incinerators require additional permit coverage from the Department and are not allowed by the issuance of this permit.
10. Collection, storage, and disposal of liquid and solid waste should be managed in accordance with recognized practices of good agricultural management. The economic benefits derived from agricultural operations carried out at the land disposal site shall be secondary to the proper disposal of waste .

b. The air requirements chapter requires the permittee to submit a study plan to the Permit Board to determine the optimum barn flushing frequency in order to minimize odors associated with barn flushing by April 12, 2002 and begin implementation of the study plan by April 26, 2002. Although Cook submitted a plan to MDEQ, MDEQ has not approved this plan and believes that a more thorough plan must be developed. If this permit is affirmed, Cook will be required to submit and implement an approvable plan. Documents regarding this plan are attached to this affidavit as Exhibit 2.

c. The air requirements chapter requires the permittee to construct a dust control barrier (commonly known as an air dam or windbreak wall, or the equivalent) at a suitable distance behind the exhaust fans of each housing unit. The barrier shall extend from the ground to a height exceeding the tallest exhaust fan mounted in the housing unit and shall be as wide as the housing unit. Alternately, mechanical dust collection devices may be installed on the individual exhaust fans.

quote from Cain affidavit, cont'd

d. The multimedia permit includes the broad reopener provision, as follows:

This permit shall also be modified, or alternately, revoked and reissued, for the inclusion of new Best Management Practices (BMPs) and technology requirements if the BMPs and technology requirements so approved:

- (a) Contain different conditions or are otherwise more stringent than any BMP or technology requirement in the permit; or
control any pollutant not limited in the permit.
- (b) The Air Pollution Control Requirements established in this permit are subject to revision if and when more stringent regulatory requirements become applicable.

10. As stated previously, the Cook permit requires the development and submission on a Comprehensive Nutrient Management Plan (CNMP). The idea of the CNMP is the product of President Clinton's February 1998 Clean Water Action Plan (CWAP) and the Unified National AFO Strategy issued jointly by the U.S. Department of Agriculture (USDA) and the U.S. Environmental Protection Agency (EPA). A copy of the Unified National AFO Strategy is attached as Exhibit 3 to this affidavit. The executive summary of the strategy explains that while the strategy and the CNMP are primarily directed at water quality issues, the steps taken to address water quality also should help address issues such as odor. Executive Summary at 2. A copy of the Executive Summary is attached to this affidavit as Exhibit 4. MDEQ considers the development of a CNMP as part of both water pollution control and air pollution or odor control at the Cook facility. The Executive Summary explains the concept of the CNMP in this way:

To minimize water quality and public health impacts from AFOs and land application of animal waste, this Strategy is based on a national performance expectation that all AFO owners and operators develop and implement technically sound and economically feasible site-specific Comprehensive Nutrient Management Plans (CNMPs). A CNMP identifies actions that will be implemented to meet clearly-defined nutrient management goals at an agricultural operation. The following components may be contained in a CNMP:

Feed Management -Animal diets and feed may be modified to reduce the amounts of nutrients in manure.

quote from Cain affidavit, cont'd

Manure Handling and Storage -Manure needs to be handled and stored properly to prevent water pollution from AFOs.

Land Application of Manure -Land application is the most common, and usually most desirable method, of utilizing manure because of the value of the nutrients and organic matter. Land application in accordance with the CNMP should minimize water quality and public health risk.

Land Management -Tillage, crop residue management, grazing management, and other conservation practices should be utilized to minimize movement to surface and ground water of soil, organic materials, nutrients, and pathogens from lands where manure is applied.

Record Keeping -AFO operators should keep records that indicate the quantity of manure produced and how the manure was utilized, including where, when, and amount of nutrients applied.

Other Utilization Options -Where the potential for environmentally sound land application is limited, alternative uses of manure, such as the sale of manure to other farmers, composting and sale of compost to home owners, and using manure for power generation may also be appropriate.

Executive Summary at 2-3. The Cook facility has submitted documents to MDEQ that make up its CNMP. These documents are collected and attached as Exhibit 5 to this affidavit.

11. The provisions of the Cook facility CNMP are enforceable provisions of the Cook multimedia permit. For example, the CNMP Best Management Practices Plan includes a commitment that spray application will occur only during daylight hours and that “application should not occur when wind speed and direction could cause drift toward residences, public use areas and roads.”

12. *Wastewater Regulations for National Pollutant Discharge Elimination System (NPDES) Permits, Underground Injection Control (UIC) Permits, State Permits, Water Quality Based Effluent Limitations and Water Quality Certification (WPC-1)* places specific requirements on the design and construction of all wastewater treatment systems. Chapter 1, Section VI.B.9. reads as follows:

quote from Cain affidavit, cont'd

Plans and specifications shall be developed utilizing fundamental engineering principles and approved engineering practices from acceptable engineering guidance sources including, but not limited to, Recommended Standards for Sewage Works, (“Ten States Standards” and all amendments), text books, manuals of practice, technical publications, or other appropriate publications.

The “Ten States Standards” were developed by the Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers and is recognized as one of the first comprehensive publications of design standards for wastewater facilities. These standards apply to the waste lagoons permitted by the State of Mississippi and require, for example, that lagoon construction materials meet certain standards of permeability, the lagoon levees be of acceptable safe dimensions, and that a certain amount of freeboard be maintained from the top of the levees. The implementation of the Ten-State Standards in lagoon construction and maintenance helps to insure that lagoons operate properly in their designed and intended anaerobic state. Properly functioning anaerobic lagoons generally produce less odor than improperly functioning lagoons.

Cain Affidavit, Paragraphs 9-12.

22. The Permit Board also has been presented with the opposing opinions of two highly respected experts in the field of animal waste management as to whether the windbreak wall will make any difference. The opponents to permit issuance presented the testimony of Dr. Ronald Miner, Ph.D., a professor in the Bioengineering Department of Oregon State University. MDEQ presented as its expert witness and consultant Mr. Charles Michael (“Mike”) Williams, Ph.D., an associate professor of the Departments of Animal Science and Poultry Science at North Carolina State University and Director of that university’s Animal and Poultry Waste Management Center. Dr. Williams acted as a consultant with MDEQ in developing the recommendations for permitting presented to the Permit Board and also acted as an external peer reviewer for the Iowa Study.

23. The expert testimony of most interest to the Permit Board is the two witnesses’ opinions as to whether the windbreak wall requirement proposed by MDEQ for inclusion in the permit will have a significant effect in reducing offsite odors produced by the facility. Dr. Miner states that his task was to “offer an opinion on whether there are *any* control measures not included in the Bill Cook permit that would cut down on air pollutant outputs, including odors.” Direct Testimony of Ronald Miner, Ph.D, Paragraph 4 (emphasis added). The Permit Board could have answered that question without any expert testimony; there is always a higher level of pollution control that can be applied to a given facility. This approach to permitting, seeking the *highest possible* level of pollution control that could be applied to a facility, is not by law the Permit Board’s starting or ending place except in the

few instances where applicable federal regulations require that the lowest achievable emission rate (“LAER”), a maximum air control technology (“MACT”), or a similar standard be met. Such standards are not required even for most emitters of industrial pollutants, and are not required here by state or federal law. To the contrary, the Legislature’s charge to this Permit Board and to the Commission is as follows:

It is further the intent of the Legislature that environmental rules and regulations be developed which are protective of the environment and can be implemented *on a least-cost basis and in a least-intrusive manner.*

1994 Miss. Laws ch. 598 § 1(2) (emphasis added). Regardless of whether this is the view that any environmental agency would prefer to take, this language creates our starting point. When left without a federal standard to impose by proxy, the legislative mandate to the Commission and the Permit Board is to implement the least-cost, least-intrusive program of environmental protection *that will work.*

24. The context of Dr. Miner’s testimony, therefore, is not an exact fit for the Permit Board’s statutory charge. Bearing that in mind, his testimony is still relevant in many ways. Dr. Miner states that on the day he visited the area of the facility, “the odors were quite strong on the road to the south of the facility.” Miner, Paragraph 6. Miner states: “In addition to odor, the discharge of ammonia into the atmosphere has a very definite impact on air quality in the area, contributes to the acid rain problem and results in a highly inefficient nutrient management system.” Miner, Paragraph 8. Miner’s professional opinion is that the type of waste management system in place at the Cook facility should be used only “for much smaller operations or for operations that have a much larger separation distance between the pig barns and the surrounding residences.” Miner, Paragraph 15. Miner suggests that alternate technologies be used for the Cook facility, such as closed anaerobic digesters, the aeration of effluent, more frequent holding pit flushing, lagoon covers, and the injection or tilling of effluent. Miner, Paragraph 16. Miner describes the windbreak wall as a “relatively minor cosmetic change” that is “not likely to be effective in reducing odors impacting the neighboring residents.” Miner, Paragraph 17.

25. Dr. Williams’ testimony agrees with Dr. Miner’s in the overall description of the swine CAFO situation in the United States, but, stemming from Dr. Williams’ extensive experience with the swine CAFO situation in North Carolina, a state famous for its swine problems, Dr. Williams’ describes Mississippi’s swine CAFO program as operating at a relatively high level of resources and expertise.⁴ Dr. Williams states:

⁴Dr. Williams stated that Mississippi’s swine population density is much lower than that of large swine producing states like North Carolina, where approximately five million swine are housed in two adjacent counties and the total daily population of swine within the state is nine million, and Missouri’s, where “there are several multiple units of 8 finishing

houses on the same company owned farm complex (see Premium Standard Farms, Inc. 1999 Environmental Work Plan). By contrast, Mississippi's total pig crop production is estimated at approximately 0.56 million (2001) per year (see Mississippi Agricultural Statistics Service. Available at www.nass.usda.gov/ms/livst9.pdf), and the Cook facility itself is approximately an order of magnitude smaller than most of the Missouri Premium Standard Farms complexes referenced above." Williams, Page 5.

In 1999 MDEQ requested that I review and provide comment on their proposed wastewater regulations for NPDES permits and facility multimedia pollution control permit. In general my critical review indicated that the documents were comprehensive and reasonable as compared to existing regulations in other swine producing states.

Dr. Williams even described an experience very different from Dr. Miner's in his one visit to the Cook facility, stating:

Collectively, the animal production and manure management system observed is very common for many current swine production facilities in the US, especially areas with similar climatic conditions as Mississippi. . . . In general, the Cook facility appeared to be well managed. The farm grounds were tidy, the building ventilation fans were operational and the inside of the buildings and the animals observed were reasonably clean. There was no observed animal mortality. The lagoon coloration indicated an active microbial population. The spray-fields for the application of lagoon effluent appeared to be well maintained. . . Swine odor was detectable in the vicinity of the buildings and the lagoon. In my opinion, the odor quantification (on this particular day at the particular time interval) in these areas would likely be characterized by an odor panel (professionally trained) sensory analysis as moderately offensive (immediate fan exhaust area) and slightly offensive (immediate lagoon area furthest away from the buildings). It is unlikely that the measured odor concentrations would have exceeded a 15:1 dilution (see description of method below) .25 mile in any direction from the buildings or lagoon). (NOTE: This subjective observation is based on 6 years of personal field and laboratory research experience involving the collection of experimental samples from swine facilities and subsequent collaborative analysis for odor variables by the Taste and Smell Laboratory at Duke University).

Williams, Pages 4-6.

Dr. Williams' view, as stated above, is that Mississippi's program, and the Cook permit in particular, are reasonable approaches to the current issues given the current amount of reliable data (available both in Mississippi and across the nation) on swine CAFO air emissions. He states:

Specifically regarding the Cook facility, it is my professional opinion that a windbreak wall will reduce offsite emissions of particulate matter and volatile organic compounds from this facility. The

of magnitude [of the study].” Transcript at 65.⁵

26. Other evidence in the record also contradicts Dr. Miner’s opinions, or at least indicates that Dr. Miner has taken a worst-case view of the situation for purposes of his testimony here. Dr. Miner cites discharge of ammonia from swine CAFO lagoons as problematic, even contributing to acid rain. Miner, Paragraph 8. But Dwight Wylie, Chief of MDEQ’s Air Division and a professional environmental engineer who has worked on MDEQ’s staff in various capacities for thirty-one years, replied:

Ammonia is not a criteria pollutant under the Federal Clean Air Act. Routine or continuous air emissions of ammonia are not even regulated under the Federal Clean Air Act. Ammonia is only regulated under Section 112(r), which deals with accidents and spills, usually of substantial quantities. The Clean Air Act Title IV “acid rain program” places limits on the sulfur dioxide and nitrogen oxides emissions of certain large sources (such as coal-burning power plants). *See* 40 C.F.R. § 72.2. Ammonia could only contribute to acid rain through a complicated atmospheric oxidation process to convert it to nitrogen oxides. The likelihood of this occurring is extremely low, if it is even possible in this situation. . . . Also, current air monitoring in north Mississippi has created no indication that ambient standards for fine particulates [possibly caused by large ammonia concentrations] are threatened in Oktibbeha County or the other counties in northeast Mississippi where swine CAFOs exist.

Affidavit of Dwight Wylie, Paragraph 3. In his affidavit and on cross-examination, Mr. Wylie did not dispute Dr. Miner’s statement that significant ammonia emissions could contribute to the acidification of soils, but maintained his position that ammonia is not a regulated air pollutant except under § 112(r) of the Clean Air Act. On redirect, the following colloquy occurred:

⁵In a separate action of the Permit Board, not included or reviewed in this document, the Permit Board has requested that MDEQ design and conduct specific air/odor emissions studies around the Cook facility and report back to the Permit Board. This can only be accomplished within the funding constraints of the agency and under the overall direction of the Commission.

Q: Well, is there a connection between ammonia and what you talk of as acid rain as it's regulated in the Clean Air Act?

A. No, there would be no connection. Because, in effect, ammonia -- ammonia, when it -- in a water stream, is -- actually tends to neutralize the acid somewhat, and may even form solids. And quite frankly, we would look at -- we would look it from an air quality standpoint more from the formation of those salts or solids than we would from acid rain.

Transcript at 38-39.

27. The Permit Board understands Dr. Miner's opinion that the Cook facility utilizes a "a highly inefficient nutrient management system," Miner, Paragraph 8, as an opinion given in the context of a range of options, but it is an opinion with which the Permit Board disagrees. Since its creation Cook's facility has been required to operate pursuant to a state-issued, federally-enforceable NPDES permit including a waste management/pollution prevention plan, and the facility is now going to be required to translate those provision into a Comprehensive Nutrient Management Plan ("CNMP") in accordance with the USDA/EPA Unified National AFO Strategy. The Executive Summary of this document states that the CNMP "identifies actions that will be implemented to meet clearly-defined nutrient management goals at an agricultural operation." See Cain, Paragraph 10. Cook is required under the multimedia facility permit and his CNMP to apply lagoon effluent to no less than a prescribed number of acres of a specific crop, bermuda hay grass, at specific times of the year. Measures are included to protect the acreage's soil from becoming overburdened with the chief nutrients contained in the waste, phosphorus and nitrogen.

28. We now turn to a discussion of the arguably more protective options listed in Dr. Miner's testimony. As we stated above, there is no dispute here that higher and more expensive levels of technology could be applied to a swine CAFO in Mississippi to reduce or eliminate air emissions. But we view Dr. Miner's suggestions through the more refined lens of Dr. Williams' testimony on the subject. Dr. Williams agreed on cross-examination that the alternatives listed by Dr. Miner - soil injection of waste, closed anaerobic digestion systems, lagoon covers, and the aeration of waste -likely would reduce offsite odors. But Dr. Williams limited the applicability of injection systems to areas where the soil would work with this type of system. Evidence submitted by Cook and not rebutted by either MDEQ or the objectors to the permit indicates that the soil at his facility is not suitable for an injection system. See Affidavit (Rebuttal) of Ronald William Prestage, Paragraph 13; Transcript at 86-88 (testimony of Prestage). Dr. Williams testified that closed anaerobic digesters are in use at some sites in the U.S. but more commonly in Europe and Asia. Dr. Williams testified that the data concerning the reduction of offsite odors and emission with the use of lagoon covers is similar to the data representing the benefits of using windbreak walls. Transcript at 44-47. The costs for these technologies range from 10 cents per square foot for a straw

lagoon cover to 20 to 40 cents per square foot for a geotextile cover, to \$1 - \$2 per square foot of lagoon for a plastic cover, to \$2 to \$5 per square foot for a cover of clay balls. For a lagoon of five acres, such as Cooks, these costs would range from \$22,000 per year for straw to \$44,000 to \$1,000,000 per cover for the other materials.⁶ See Transcript at 50-56; Iowa Study at 207. Dr. Williams states that lagoon covers have faced structural stability problems in the past, but that the technology is improving. See Transcript at 50-56. The cost for digesters is stated in the Iowa Study as \$100 per pig for the construction of the facility, but no information is given regarding operating and maintenance costs. The Iowa Study concludes that “without higher energy prices or large government grants anaerobic digesters are not economically viable.” Iowa Study at 208. The cost of creating an aerated water system ranges from \$2 per finishing animal to \$11 per finishing animal per year. For Cook’s facility, these costs would range from \$14,080 to \$77,440 per facility round of swine. See Transcript at 50-56. Since Cook’s facility is designed to finish three rounds of 7040 swine per year, see First Affidavit of Willie Carroll Cook, Paragraph 10, the total cost *per year* would range from \$42,240 to \$232,320. The cost of a windbreak wall can vary depending on the materials used to construct the wall, which can in turn vary from hay bales to concrete blocks to a frame supporting polyurethane or similar sheeting, but the Permit Board believes that the cost of construction and operation and maintenance of a windbreak wall will be one of the lower cost options for the Cook facility. Cook has estimated the initial capital cost of a windbreak wall for his facility to be \$2555.20 (Letter of Jim McCafferty to Bryan D. Collins, April 10, 2002, contained in Exhibit 1 to Jerry Cain’s Affidavit (now Bates numbered 001663-001667)). Another source, *Outdoor Air Quality, Manure Management Systems Series*, MWPS-18 Section 3 (MidWest Plan Service 2002), admitted into evidence as the objectors’ exhibit 15 and now Bates stamped beginning with page number 000564, states: “Installation of windbreak walls is estimated to cost at least \$1.50 per pig space (e.g., \$1,500 for a building that houses 1,000 pigs). *Id.* at 36. Under this estimate, the windbreak wall for Cook’s facility would cost \$10,560 (7040 swine spaces multiplied by \$1.50).

29. Dr. Williams’ opinion of Dr. Miner’s suggested alternatives is summarized in his

⁶In developing alternative per animal costs, the Iowa Study assumes that the covers mentioned other than straw would last for ten years and also assumes an interest rate of 10%. Although the study is not clear on this point, the researchers seem to be saying that the \$44,000 to \$1,000,000 cost would be expected to recur approximately every ten years or whenever the cover needed to be replaced, and that the \$22,000 cost for a straw cover would recur each year. The Iowa Study gives no basis for the assumption that a cover would last for ten years. There is some evidence to the contrary in this record, see Affidavit (Rebuttal) of Ronald William Prestage, Paragraph 12; *but see* Transcript at 83-86 (testimony of Prestage), and Dr. Williams’ comments on the structural stability or life expectancy of various covers was not conclusive. See Transcript at 50-51. The Permit Board does not make a finding as to the life expectancy of the different types of lagoon covers, but notes this as an additional cost issue.

second affidavit filed in this matter. He states:

[I]t is my professional opinion that while efforts are currently underway in some research institutions to develop comprehensive costs and cost-benefit data for many technologies that would have potential application at the Cook facility, economic feasibility for many of these technologies has not, to date, been thoroughly demonstrated. Some researchers have concluded that some of these technologies are not economically feasible (see page 203 of the *Iowa Concentrated Animal Feeding Operations Air Quality Study, February 2002*). Further, the performance and operational efficacy for many of the technologies has also not been thoroughly demonstrated on commercial scale operations. . . . Until such objective comparative data is available it is, in my professional opinion, difficult to compare these systems for all environmental variables of concern such as aerial (including odor) emissions and water quality emissions (e.g. biological oxygen demand, nitrogen and phosphorus).

Williams, Second Affidavit, Paragraph 3. Williams then reiterates that his experience and expertise indicates that the windbreak wall alternative for the Cook facility will reduce offsite odors and air emissions. *Id.*, Paragraph 4.

IV. The Application of APC-S-4

30. The Permit Board agrees with MDEQ's interpretation of APC-S-4's ambient odor standard. APC-S-4 creates a subjective standard that is similar to a legal standard of nuisance that might be applied in a lawsuit between parties such as the objectors and Cook, by stating: "There shall be no odorous substances in the ambient air in concentrations sufficient to adversely and unreasonably: (1) affect human health and well-being; (2) interfere with the use or enjoyment of property; or (3) affect plant or animal life." But that is where the similarity between the function of APC-S-4 and the function of a nuisance standard ends. APC-S-4 continues to state:

In determining that concentrations of such substances in the ambient air are adversely and unreasonably affecting human well-being or the use or enjoyment of property of plant or animal life, the factors to be considered by the Commission will include, without limiting the generality of the foregoing, the number of complaints or petitioners alleging that such a condition exists, the frequency of the occurrence of such substances in the ambient air as confirmed by the Department of Environmental Quality staff, and the land use of the affected area.

The factors required to be considered by the Commission limit the applicability of the section in recognition that APC-S-4 is a subjective standard, the application of which by the

Commission or Permit Board must rely in chief on the expertise of the agency and the evidence gathered by its staff. Thus, the Commission built into the regulation the requirement that violations of the standard be judged not only by the land use of the area and the number of complaints received from the public, but also by the number of times that MDEQ staff can confirm these occurrences. That part of the standard will almost always work to limit the Commission's and the Permit Board's involvement with odor issues to those cases where MDEQ staff can verify the nature, frequency, and severity of the complaints. It keeps the Commission and the Permit Board out of trying to determine cases for which a judge and jury are much more suited - cases in which the subjective evidence on the question of whether something smells bad enough often enough to cause a nuisance is hotly disputed and basically impossible for the governmental agency involved to verify.

31. This is not a limitation on nuisance suits or on the power of the civil law to make things right if one neighbor is affecting the property and rights of another. Instead, this is a limitation on the scope of authority of the Commission and the Permit Board, the state's environmental authorities, over largely non-environmental odor issues. This interpretation of APC-S-4 complies with the history of odor regulation in Mississippi and with more recent Legislative direction as to how the Commission and the Permit Board are to operate.

32. The only reported case in Mississippi concerning the application of a regulatory odor standard is *Mississippi Air & Water Pollution Control Permit Board v. Pets & Such Foods, Inc.*, 394 So. 2d 1353 (Miss. 1981). In that case the predecessor agency of this Permit Board had revoked an operating permit for a processor of rotten eggs. There seems to have been no argument about the fact that the facility caused significant odors. The court explained: "In an attempt to rectify the problem, Pets & Such purchased equipment at great costs from Hormel, Inc., which guaranteed the odor would be eliminated. However, the equipment, when installed, failed to eliminate the odor and on July 25, 1978, the Permit Board revoked the operating license of Pets & Such." 394 So. 2d at 1354. The supreme court reversed the Board's action, even though there was no factual issue as to the prevalence of the odors from the facility, because the only state regulation that could be used to control odor at that time, Section 5(2) of the Air Quality Regulations, did not include objective standards. The court found objective standards to be a requirement under the legislative direction to the Permit Board existing at that time. *Id.* at 1354-55.

33. The Legislature responded to this decision during the next Legislative session by amending Miss. Code Ann. § 49-17-19 to state in part:

In establishing ambient air quality standards for odor, the commission shall adopt recognized objective standards if they exist. In the absence of a recognized objective ambient air quality standard for odor, the commission may adopt such subjective standards as may be appropriate.

See 1982 Miss. Laws ch. 411 § 9. This language remains the same today. The Commission, in turn, responded to the Legislature's new grant of authority by adopting the current version of APC-S-4's ambient odor standard in February 1983. The current regulation mirrors much of old section 5(2) of the Air Quality Regulations, which prohibited emissions "sufficient to affect human health and well-being, or unreasonably interfere with the enjoyment of property or unreasonably and adversely affect plant or animal life beyond the boundaries of the property containing the air pollution source." 394 So. 2d at 1354-55. What the Commission added in the new APC-S-4 standard were the facts that are required to be considered by the Commission in dealing with odor, which the Permit Board now views in the context of this history as the Commission's way of saying, in the aftermath of *Pets & Such* (where the extent of the odor was assumed and the State still lost) that the regulatory power and administrative environmental resources of the state will be brought to bear only on odor problems that are consistent enough - objective enough - to allow at least for MDEQ verification. This is an important difference between the Permit Board's role and the role of a judge or jury in a lawsuit filed over an alleged odor nuisance. The Permit Board must take the more limited view of evidence and authority allowed an administrative agency when dealing with an ambient air quality standard.

34. The Permit Board finds that MDEQ has expended significant time, effort, and resources in trying to deal with this problem and in trying to assess the situation around the Cook facility. As Jerry Cain testified on cross-examination, even if the total number of MDEQ odor inspections around the Cook facility has been seventeen, and even though that is a small number of days compared to the total number of days the Cook facility has operated, "that would be an unusually large amount of time looking at an individual facility." Transcript at 28. This Permit Board issues hundreds of permits and permit coverages each year, many to facilities that produce emissions and wastes orders of magnitude more dangerous to human health and the environment than anything on or emanating from the Cook facility. At the same time, no one can deny that state agency budgets have been falling precipitously in recent history. If MDEQ says that seventeen inspections of one swine CAFO is a large commitment of resources within the scale of what MDEQ must deal with on a daily basis, we find that to be a reasonable statement. The lack of verification of odor episodes by MDEQ staff, therefore, is not for the lack of trying.

35. This interpretation of APC-S-4, and our action in this matter, also comport with the following unmistakable direction of the legislature to the Commission and the Permit Board:

It is the intent of the Legislature to provide protection for the public health and safety and the environment for the citizens of Mississippi. In providing for such protection, the Legislature recognizes that environmental rules and regulations should have an identifiable scientific basis and should be adopted after consideration of the costs to the regulated community of implementing the rule or regulation.

1994 Miss. Laws ch. 598 §2(1). This statement followed by one year the adoption of Miss. Code Ann. §§ 49-17-34(2) and (4), which require that Commission regulations cannot be more stringent than parallel federal regulations and that, except with the agreement of the permit applicant, “no provision or condition imposing any duty, responsibility or liability on the permittee shall be included in such permit, the direct basis for which has not been first promulgated as a regulation by the commission in accordance with the requirements of the Mississippi Administrative Procedures Act.” Cost of implementation and the state of the scientific basis for a regulation or permit condition are crucial issues when no default standard applies.

36. In the context of this history and interpretation, the Permit Board cannot say in this matter that current violations of APC-S-4 exist to a degree that authorizes the Permit Board to place conditions in Cook’s permit that would place a large, possibly unsurmountable economic burden on the facility. The Permit Board instead is requiring the permittee to take legitimate cost-effective steps to avoid or prevent violations of APC-S-4.

V. Conclusion

37. Having reviewed all of the evidence presented to it, the Permit Board concludes that the multimedia facility permit issued to the Bill Cook Swine Farm should be affirmed. The Permit Board finds that some level of offsite odor and air emission is created by the Cook facility and that the odor and emissions likely are objectionable to the average person from time to time, but finds it impossible to determine how objectionable the problem is on a daily basis, due to the conflicting credible testimony presented to the Board. The Board finds that the appropriate measure to take in this instance is to issue a permit that includes cost-effective measures meant to protect against any violation of APC-S-4’s ambient odor standard. The Board concludes that the multimedia permit initially issued by the Board serves this purpose while remaining within the Permit Board’s statutory and regulatory authority. The Permit Board accepts Dr. Williams’ candid statements indicating that we cannot know beforehand the precise amount of odor or offsite emission reduction that will occur due to the installation of a windbreak wall and the other air emission control and housekeeping measures required by the permit. But, the Board also accepts Dr. Williams’ conclusion that the measures should create a beneficial reduction of offsite odors and emissions in Mississippi as they have in North Carolina. The Board rejects Cook’s arguments that the windbreak wall and other odor control measures should be removed from the permit as unnecessary.

38. In this context, we understand that this may not be the last time the Permit Board must deal with this facility’s permit requirements. Two issues stand out in this regard. First, in a separate vote from this permit review, the Permit Board has directed the MDEQ staff to develop a monitoring program around the Cook facility to try to determine with some degree

of accuracy the strength and frequency of occurrence of offsite odors. The Permit Board also has directed staff to report back to the Board with its findings. We understand that the implementation of this directive will depend on the provision of resources from the Legislature or on the Commission's decision either to divert resources from some other program into this program or to require CAFOs in the state to pay for the collection of this information. Second, the permit being issued today has a very broad reopener provision that makes clear the Permit Board's authority to revisit this permit before its expiration date, if necessary. The collection of additional data in this case may require that the permit be reopened.

WHEREFORE, PREMISES CONSIDERED, the Mississippi Environmental Quality Permit Board, by affirmative vote cast in open session and recorded in the minutes of this body, adopts these findings of fact and conclusions of law in support of its September 10, 2002 decision to affirm the issuance of Mississippi Facility Multimedia Pollution Control Operating Permit No. MS0052710 to Bill Cook Swine Facility, Oktibbeha County, Mississippi. The cost bond for appeal of this matter is set at \$500.

S. Cragin Knox

Chairman

Date