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DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

November 1, 2007

Ms. Mary Gade, Regional Administrator
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (R-19J)
Chicago, Illinois 60604-3590

Dear Ms. Gade:

SUBJECT: Final Report for Michigan's Environmental Council of the States (ECOS)
Regulatory Innovations Agreement, Alternative Permitting Approach for
Concentrated Animal Feeding Operations (CAFOs)

Enclosed you will find the Michigan Department of Environmental Quality (MDEQ), Water Bureau's (WB), Final Report for Michigan's ECOS Regulatory Innovations Agreement, Alternative Permitting Approach for CAFOs, otherwise referred to as the CAFO Project. This final report assesses the effectiveness of the accomplishments of the CAFO Project and the Michigan Agriculture Environmental Assurance Program (MAEAP) as an alternative program to the traditional National Pollutant Discharge Elimination System (NPDES) Permit Program for large CAFOs. In addition, the final report provides recommendations for improvement of the MAEAP based on the lessons learned from the CAFO Project. Also enclosed is the document file of the CAFO Project.

The ECOS Regulatory Innovations Agreement will expire December 21, 2007. In lieu of extending the CAFO Project, all large CAFOs are now required to obtain appropriate NPDES CAFO permit coverage, in accordance with our rules. Although our findings do not support the original hypothesis that the MAEAP can provide equal or better environmental protections to that of the NPDES Permit Program, the CAFO Project has provided a good transitional program for Michigan's large CAFOs. We also believe that the MAEAP, particularly with the appropriate program improvements, can serve as a valuable voluntary Pollution Prevention Program, particularly for small and medium CAFOs.

Should you have questions regarding the final report, please do not hesitate to contact Mr. Frank J. Baldwin, Chief, Field Operations Division, WB, at 517-335-4171; Ms. Ronda Wuycheck, Field Operations Division, WB, at 517-241-7832; or you may contact me. We thank you for your support of the CAFO Project over the past five years.

Sincerely,

Richard A. Powers, Chief
Water Bureau
517-335-4176

Enclosures

**Michigan Department of Environmental Quality
Water Bureau**

Environmental Council of the States (ECOS) Regulatory Innovations Agreement

**Alternative Permitting Approach for Concentrated Animal Feeding Operations
(CAFOs) Project**

Final Report

November 1, 2007

I. Executive Summary

The goal of the Alternative Permitting Approach for CAFOs (CAFO Project) was to determine if the Michigan Agriculture Environmental Assurance Program (MAEAP) would be able to demonstrate equivalent or better environmental protection to that of National Pollutant Discharge Elimination System (NPDES) CAFO general permit requirements. The comments on the MAEAP in this report specifically address the issue of utilizing the MAEAP in a regulatory context as a replacement for the NPDES Program for large CAFOs. The Michigan Department of Environmental Quality (MDEQ) supports the MAEAP for its originally intended purpose as a voluntary pollution prevention approach, particularly for small and medium CAFOs, intended to: raise the level of awareness about environmental issues, assist the facilities in identifying risks, assist the facilities in implementing measures to prevent pollution, and assist the facilities in complying with state and federal environmental laws.

The MDEQ concludes that the MAEAP does not provide equivalent environmental protections to that of the NPDES permit. Based on the extensive evaluation of the MAEAP conditions for verification, the administrative performance of the CAFO Project, and in-field evaluations of MAEAP-verified large CAFOs, the evaluation demonstrated that the NPDES permit program's performance standards, program management, and decision-making processes are far superior to that of the MAEAP. The MAEAP does not have clearly defined organizational structure or decision-making process, lacks compliance mechanisms, and lacks explicitly stated and enforceable performance standards. In addition, the MAEAP is not transparent to the public rather strives to keep records of farm specific verifications out of public hands.

One of the most significant deficiencies identified in the MAEAP is the failure to establish performance standards to meet the federal and state requirement for CAFO production areas to be designed, constructed, operated, and maintained to ensure a discharge resulting from a storm less than the 25-year, 24-hour event does not occur. This deficiency leads the MDEQ to conclude that there is a high probability that all MAEAP-verified CAFOs will eventually have discharges from the production area. This conclusion is supported by the fact that, over the course of the CAFOs Project, at least five MAEAP-verified CAFOs have unlawfully discharged animal waste to surface waters. The first documented MAEAP-verified CAFO that discharged occurred in 2006 and was a result of inadequate animal waste management practices resulting in an overflow from the storage structure and

discharges from land applications as attempts were made to lower the storage levels. The second MAEAP-verified CAFO discharge also occurred in 2006 and was a result of a spill during a transfer to a land application site causing the animal waste to be discharged to waters of the state. The third MAEAP-verified CAFO was discovered in 2007 by the MDEQ as part of a waste storage recon-inspection and was found to be discharging due to lack of adequate storage; specifically, no storage at this farm of the contaminated runoff from the feed bunker area. The fourth event from a MAEAP-verified CAFO also occurred in 2007 whose storage facility was full and on the verge of overflowing so to alleviate the situation the CAFO inappropriately pumped the manure into a gravel pit. Yet another discharge occurred in 2007 as the fifth event when a MAEAP verified poultry CAFO discharged from its production area due to improper storm water controls. In all five cases, the operations were required to apply for an NPDES permit but did not have their MAEAP verification status revoked by the Michigan Department of Agriculture (MDA). Evaluation of these incidents revealed a lack of acceptable practices in place to prevent discharges from occurring along with poor management choices contributing to why these operations discharged. Troubling is that other MAEAP-verified CAFOs practice similar methods of waste management as at the CAFOs unlawfully discharging mentioned above.

The MAEAP livestock system is primarily based on Generally Accepted Agricultural and Management Practices (GAAMPs) for establishing verification criteria. GAAMPs are a set of recommended conservation practices for farmers to gain protection from civil claims based upon nuisance and, if followed, can help to reduce the possibility of an illegal discharge. Generally, GAAMPs are recommended practices that are often broad statements of intent with no specific requirements that could be used to measure conformance. GAAMPs fall considerably short of the technical and legal NPDES permit requirements that CAFOs must meet. The NPDES permit approach establishes uniform and highly defined requirements that specify what is required of all permitted CAFOs. The NPDES permit takes the guess work out of what a farm must do to comply and creates a level playing field for all producers. The GAAMPs and the MAEAP are better suited to help identify environmental risks and lessen the chance of a discharge as voluntary approaches to pollution prevention and to gain Right to Farm protection from nuisance claims.

The voluntary MAEAP and regulatory NPDES programs serve distinct and separate purposes. The NPDES permit program is established by statute and governed by promulgated rules and regulations and has all the legal status, authority, and public protections associated there under. Its primary purpose is to protect public health and the environment. The MAEAP was formed for the purpose of bringing private and public interests together to encourage and support voluntary pollution prevention activities, reducing environmental risks, and promoting agricultural sustainability. It has no basis in law, is not enforceable, and has no transparency to the public.

The MDEQ's concerns with the MAEAP are also shared by the United States Environmental Protection Agency (USEPA). As part of the USEPA's review of Michigan's federal Clean Water Act, Section 319 funding, the MDEQ received an initial reaction on the MAEAP from the USEPA in an October 30, 2006, letter. The USEPA performed an independent review of the MAEAP Criteria and Structure binder dated June 2006, developed by the MDA. The review was conducted because the MDEQ provides a significant amount of Section 319 funding to support MAEAP implementation at small and medium animal feeding operations (AFOs). The USEPA expressed its opinion that "MAEAP can be a creative, voluntary,

collaborative program that can effectively help small and medium AFOs adequately manage their manure and wastewater. For large CAFOs, our review concludes that the Michigan NPDES protects Michigan's water resources to a far greater degree than MAEAP." The USEPA letter detailed specific deficiencies in the MAEAP that were not in conformance with the rigors of a regulatory permitting program.

Notwithstanding the documented concerns with all limitations of MAEAP, the MDEQ did encounter some MAEAP-verified CAFOs that at the time of inspection were being operated well from an environmental protection perspective and would meet or even exceed the NPDES CAFO Permit requirements. These producers are leaders within this agricultural sector and the MDEQ believes this type of excellence should be further recognized under a non-regulatory program, perhaps similar to the MDEQ's Clean Corporate Citizen Program.

The MAEAP, in fact, more closely approximates the Michigan Clean Corporate Citizen Program and, with improvements, could meet the conditions of an effective environmental management system. The MAEAP encourages, through voluntary actions, measures that can reduce pollution; but it does not ensure that state and federal environmental laws will be met.

In summary, in lieu of extending the CAFO Project, the MDEQ is taking appropriate steps to ensure that all large CAFOs obtain NPDES CAFO permit coverage in accordance with our rules. We would note, however, that the CAFO Project has provided a good transitional program for moving large CAFOs from their previous status of essentially no environmental regulation into the highly structured NPDES regulatory program.

II. Introduction

The CAFO Project was agreed to by the USEPA and the MDEQ in December 2002 under the Joint USEPA/State Agreement to Pursue Regulatory Innovation. The purpose of the CAFO Project was to test an alternative approach to federal and state permitting that would ensure environmental compliance at CAFOs in Michigan. The CAFO Project required appropriate NPDES permit coverage for CAFOs that had regulated discharges and provided an alternative approach (MAEAP) at CAFOs that have not had regulated discharges. This alternative approach allowed the MDEQ and the USEPA to exercise enforcement discretion regarding the NPDES permit requirement for CAFOs that were verified in the MAEAP Livestock System.

The CAFO Project began in December 2002 and extended through December 2007. The goal of the CAFO Project was to determine if MAEAP-verified CAFOs provide equal or better environmental protection as compared to the CAFOs covered under the NPDES CAFO general permit. This final report is a requirement of the CAFO Project.

III. Background

The USEPA and the MDEQ had been unable to reach agreement on the need to issue NPDES permits for all large CAFOs for several years prior to 2002. In response to this issue, environmental groups had petitioned the USEPA to revoke its acceptance of the Michigan permitting program under the federal Clean Water Act. In December 2002 the

USEPA and the MDEQ agreed to undertake the CAFO Project as a way of resolving their differences.

Eligibility requirements were established for CAFOs to participate in the CAFO Project. The first condition was that all CAFOs that had a regulated discharge to the surface waters since January 14, 2000, had to apply for NPDES permit coverage. Owners of operations that declared that they had not discharged since January 14, 2000, could choose to either become MAEAP-verified or be covered under the NPDES permit. Owners of CAFOs interested in the MAEAP option were required to submit a Letter of Intent (LOI) to the MDEQ by September 1, 2005, stating that their operation had not discharged since January 14, 2000, and that they intended to have their operation MAEAP-verified. This condition established the universe of CAFOs qualified to be MAEAP-verified in lieu of applying for permit coverage. Participating CAFOs were given one year from the date of their LOI submittal to become MAEAP-verified. No CAFO could be MAEAP-verified after September 1, 2006, and be part of the project. Operations that did not make the respective dates were required to apply for NPDES permit coverage.

The MAEAP was initiated by a recommendation made in the 1998 Michigan Agricultural Pollution Prevention Strategy Report between various governmental, agricultural, environmental interests. A partnership agreement between was written in 2000 to promote the implementation of the MAEAP. The MAEAP is a voluntary pollution prevention initiative for Michigan's agricultural industry that assists producers in identifying cost-effective pollution prevention practices and achieve a higher potential for compliance with environmental regulations. The program encompasses three systems – Livestock, Farmstead, and Cropping. The Livestock System of MAEAP was the focal point of the CAFO Project. The core of the Livestock System is the development and implementation of a Comprehensive Nutrient Management Plan (CNMP) by the producer. The CNMP is a set of decisions that describes livestock production practices as well as the equipment and structures used to implement those identified practices. It combines conservation practices with management activities to create a system to address animal production operations.

The process to become MAEAP-verified is initiated when a producer contacts the MDA to request verification. Once contacted, the MDA makes arrangements with the producer to obtain the CNMP for the operation so the MDA can review the document prior to making the prearranged site visit. The CNMP is returned to the producer following the site visit because, by Michigan law, information submitted to the MDA by the owner of an agricultural enterprise is be kept confidential and exempt from the Michigan Freedom of Information Act, 1976 PA 442, as amended. The MDA conducts a site visit using a verification checklist as a guide to make the determination on whether the operation qualifies for MAEAP verification. Before departing the farm, the MDA provides the checklist to the producer so this information is also kept confidential. The MDA provides a follow-up letter to the producer of the final determination with a courtesy copy sent to the MDEQ.

IV. Project Components and Work Products

The following were the major components of the CAFO Project:

- A. Implementation Action Plan
- B. The General Permit

- C. Inspection of CAFOs
- D. Notices to Apply for Coverage
- E. Certificates of Coverage Under the General Permit
- F. Verification of Completion of Livestock System of the MAEAP
- G. Compliance Tracking
- H. Annual Reports
- I. Ongoing Compliance Actions
- J. Project Evaluation Criteria
- K. Conclusion

A. Implementation Action Plan: The MDEQ was to take appropriate action to establish requirements for CAFOs to file applications for coverage under the NPDES permit or to file an LOI to participate in the MAEAP. A CAFO that the MDEQ determined to have had a regulated discharge to the surface water since January 14, 2000, was required to file an application for coverage under the NPDES permit within 60 days of being notified by the MDEQ.

Results: Twenty-four CAFOs that discharged after January 2000 were identified by the MDEQ and were directed to apply for permit coverage. All 24 CAFOs made application for NPDES permit coverage. Over the course of the CAFO Project, an additional 17 CAFOs were identified that had unlawfully discharged, and they were directed to apply for NPDES permit coverage. By August 2007, a total of 41 CAFOs had been directed by MDEQ to apply for coverage under an NPDES CAFO permit due to unlawful discharges.

CAFOs electing to participate in the MAEAP were to certify to the MDEQ by September 1, 2006, or within one-year of filing the LOI, whichever is sooner, that the operation had been verified by the MDA under the Livestock System of the MAEAP.

Results: By the September deadline, 126 CAFOs submitted LOIs to participate in MAEAP. The MDEQ was notified that 111 CAFOs had become verified by the MDA as completing the Livestock System of the MAEAP while 15 failed to become MAEAP-verified.

B. The General Permit: The NPDES General Permit for large CAFOs was to establish permit coverage requirements, final effluent limitations, CNMP standards, monitoring requirements, and other appropriate conditions.

Results: Over the past five years, the MDEQ worked to improve the clarity of permit requirements and establish effluent limits that are based on sound science, protect the public health and the environment, and comply with federal and state law. Since 2002, three general permits were issued. The first general permit, MIG440000, was issued in 2002 and expires at the end of 2007 concurrent with the CAFO Project. This first general permit aligned closely with the MAEAP process by requiring the CAFO to produce a CNMP that identified practices to be implemented.

The second general permit, MIG010000, was issued in June 2004 following the promulgation of the 2003 federal CAFO rules establishing requirements for new large CAFOs to apply for permit coverage 180 days prior to commencing operations.

The third general permit, MIG019000, was issued in November 2005 following promulgation of the state's CAFO rule in April 2005. The MIG019000 general permit reflects the current MDEQ approach of incorporating narrative effluent limitations within the permit to protect public health and the environment. The MIG019000 general permit clearly outlines the standards for storage structures, construction and volume requirements, proper land application practices, standard operation and maintenance programs, inspections, and record keeping. Copies of the three general permits are found in Attachment A.

C. Inspection of CAFOs: The MDEQ was to conduct inspections of CAFOs to determine whether they have 1000 or more animal units and, if so, whether there has been a regulated discharge since January 14, 2000. These inspections were referred to as proactive inspections because they were scheduled with the producer and were not a result of a citizen complaint. The proactive inspection checklist is found in Attachment B.

Results: Between 2002 and 2004, the MDEQ conducted 113 proactive inspections at CAFOs to determine if discharges were occurring. Twelve CAFOs (11%) were found to have evidence of a regulated discharge and were directed to apply for the NPDES permit.

D. Notices to Apply for Coverage: Based on the results of inspections, or other reliable information, the MDEQ was to provide notice to CAFOs of their obligation to apply for permit coverage.

Results: Notice was provided to all CAFOs that were determined to have had a discharge dating back to 2000.

E. Certificates of Coverage Under the General Permit: The MDEQ was to issue Certificates of Coverage in response to timely and sufficient applications received.

Results: As of April 2007, a total of 38 CAFOs have received coverage under an NPDES permit and 3 are pending. In addition, 11 CAFOs have received coverage under individual permits.

F. Verification of Completion of Livestock System of the MAEAP: The MDA, with assistance from the MDEQ as necessary, was to work with large CAFOs that filed LOIs to become MAEAP-verified in the Livestock System within the specified time frames.

Results: By September 1, 2006, the MDA verified a total of 111 CAFOs remaining in the CAFO Project as follows:

- a. 3 in 2002
- b. 5 in 2003
- c. 31 in 2004
- d. 24 in 2005
- e. 48 in 2006

G. Compliance Tracking: The MDEQ was to track compliance with the requirements to file applications for coverage under the general permit or LOIs to participate in the MAEAP, as specified in the notices issued by the MDEQ.

Results: All CAFOs directed by the MDEQ to apply for permit coverage did so. A total of 126 CAFOs submitted LOIs to participate in MAEAP, 111 become MAEAP-verified, and 15 CAFOs failed to become MAEAP-verified by the September 2006 deadline. The tracking spreadsheet is found in Attachment C.

H. Annual Reports: The MDEQ was to compile an annual report of inspections, notices, applications, and certificates issued under the General Permit, LOIs, and verifications of completion of the Livestock System of the MAEAP for the previous year.

Results: The MDEQ has submitted annual reports to the USEPA for each year of the CAFO Project.

I. Ongoing Compliance Actions: The MDEQ was to take timely and appropriate action under its compliance and enforcement program to address unauthorized discharges at AFOs and CAFOs, and address noncompliance with the requirements to apply for the General Permit or to participate in the MAEAP.

Results: Since 2000, the MDEQ has pursued 18 enforcement actions at CAFOs and 3 at AFOs.

J. Project Evaluation Criteria: The MDEQ identified three factors that would be used to evaluate the project, especially with respect to assessing whether the MAEAP provides a level of protection of the public health and environment that is equivalent to or exceeds that provided through a traditional permitting approach. These three factors were: (a) compare the performance standards for MAEAP verifications to what is required under the NPDES CAFO permit; (b) determine if time frames set forth in the agreement were met; and (c) conduct inspections at MAEAP-verified CAFOs to review how well CAFOs conformed to the MAEAP performance standards and document whether they voluntarily implemented the practices outlined in the CNMP. The scope of the inspections was subsequently expanded to better compare the MAEAP-verified CAFOs performance standards to the general permit requirements. Therefore, beginning in 2005, the focus of inspections changed from strictly inspecting to evaluate whether MAEAP-verified CAFOs were illegally discharging to a full evaluation of the MAEAP performance standards as compared to NPDES permit requirements. There were 48 inspections at MAEAP-verified CAFOs conducted from 2005 to 2006.

a. Comparing the MAEAP Livestock System performance standards for verifications to the NPDES MIG019000 general permit requirements.

One of the underlying problems identified in the MAEAP Livestock System stems from the use of practices recommended in the GAAMPs. The GAAMPs are a set of recommended practices for farmers that, if followed, provide a defense for nuisance lawsuit protection under the Michigan Right To Farm Act, 1981 PA 93. However, the MDEQ has identified several GAAMP practices that likely would result in or contribute to groundwater or surface discharges because the practices often are

very general and were not designed to protect public health and the environment. For an example, the Manure Management and Utilization GAAMP, Section II, Runoff Control and Wastewater Management, Point 4, states "Provisions should be made to control and/or treat leachate and runoff from stored manure, silage, food processing by-products, or other stored livestock feeds to protect groundwater and surface waters." In practice, the MDA allows the use of vegetative filter strips as a control for silage runoff and leachate as opposed to the more protective Natural Resource Conservation Service (NRCS) Wastewater Treatment Strip (No. 635) technical standard. Based on the MDEQ's experience, this GAAMP practice may result in groundwater contamination.

Agricultural producers who voluntarily follow the practices established within the GAAMPs are provided protection from public and/or private nuisance litigation; however, an MDA determination of conformance with any particular GAAMP is not a determination of compliance with the applicable requirements of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, or any rules promulgated hereunder. The MDEQ has recommended improvements to the environmental practices recommended in the GAAMPs with limited success.

The MDEQ is responsible for ensuring that operations that fail to adhere to permit conditions regain compliance and has clearly established compliance/enforcement methods to accomplish this. In contrast, there are no formal compliance/enforcement methods for the MAEAP. The only consequence to date when a MAEAP verified CAFO has discharged has been a letter from the MDA stating the operation may not be in "good standing" with its MAEAP verification conditions. The MDEQ is expected to deal with the noncompliance issues.

A comparison was also done between the conditions for MAEAP verification and what is required under the NPDES MIG019000 general permit. The elements compared include Waste Storage Structure Design and Volume, Waste Storage Structure Operation and Maintenance (O & M) Program, Clean Water Diversion, Direct Contact of Livestock to Waters of the State, Proper Livestock Mortalities Management, Proper Land Application Practices, and Recordkeeping. These are the key elements that the USEPA regulations require to be addressed in the NPDES permit. The "MAEAP Verification Evaluation Livestock System Performance Standards" are found in Attachment D.

i. Waste Storage Structure Design and Volume

The MAEAP does not specify the design volume of the Waste Storage Structures.

In comparison, the NPDES general permit requires that the volume for the Waste Storage Structures must include all wastes generated from the operation of the CAFO in a 6-month or greater time period, including the volume from a 25-year, 24-hour rainfall event at a minimum, with an additional design capacity of a minimum of 12 inches of freeboard for storage structures that are subject to precipitation. The NPDES permit requires that the 6-month volume be demonstrated to be available at some point in time during the period of November 1 to December 31 of each year.

A major deficiency identified in the MAEAP is the failure to require all CAFO production area wastewater to be collected and stored as required by federal and state regulations. Rather the MAEAP evaluates on a site-by-site basis if the installed conservation practice allowed in GAAMPs manages the contaminated runoff in a manner that prevents or minimizes discharges to waters of the state. GAAMPs allow contaminated runoff to flow to vegetated areas rather than being collected and stored. The efficacy of vegetated area to treat manure contaminated runoff on a year-round basis in Michigan has not been demonstrated.

In comparison, the NPDES general permit requires that all CAFO production area wastewater be collected and stored in storage structures that are designed, constructed, operated, and maintained in accordance with NRCS technical standards.

Additionally, the MAEAP suggests that “new” structures are to be installed according to current NRCS technical standard No. 313, Waste Storage Facility, without providing a definition of date certain when a structure would be considered to be “new.”

For existing storage structures, the MAEAP Livestock System developed guidance of what is needed to evaluate existing components. The MAEAP evaluation indicates aspects that should be reviewed and, in addition, a checklist was developed. The checklist is used as a guide for interviewing the producer to determine if components appear to be in good operating conditions. The MAEAP evaluation and checklist lack specificity on what is required and allows individuals to self-qualify.

In comparison, the NPDES general permit was based on the NRCS technical standard No. 313, Waste Storage Facility, and details the evaluation and appropriate technical analysis required to determine if the facility liner is constructed properly. The MDEQ technical analysis is to be completed by a professional engineer.

ii. Waste Storage Structure O & M Program

MAEAP does not have specific requirements for an O & M Program but relies on individuals to identify practices in the CNMP to provide direction on a farm-by-farm basis.

In comparison, the NPDES general permit provides the elements to be included in the O & M Program, such as practices that proactively review the storage structure’s waste levels, dike conditions, liner integrity, and volume levels.

An example of a gross mismanagement of animal waste because of the absence of an O & M Program was documented by the MDA in the spring of 2007 when the MDA confirmed a complaint that liquid dairy manure was transferred from the waste storage structure to a gravel pit for temporary

storage to prevent the structure from overflowing. The only consequence under the MAEAP for this mismanagement was an advisory letter from the MDA that their MAEAP verification was dependant upon the Right To Farm Act conformance with GAAMPs. The MDEQ is taking enforcement action against the CAFO.

iii. Practices to Ensure Clean Water is Diverted Away From the Production Area

The MAEAP does not set any requirements for contaminated storm water to be diverted away from the production area.

In comparison, the NPDES general permit requires the permittee to design and implement structures and management practices to divert clean storm water and flood waters to prevent contact with contaminated portions of the production areas.

iv. Practices to Prevent Direct Contact of Livestock to Waters of the State at the Production Area

The MAEAP allows direct animal access to surface waters in pasture areas during “flash grazing” or for livestock crossing areas as outlined by the GAAMPs practices.

In comparison, the NPDES general permit does not allow any animal access to waters of the state at the production area.

v. Practices to Ensure for Proper Livestock Mortalities Management

The MAEAP and MIG019000 general permit similarly require compliance with the Bodies of Dead Animals Act, 1982 PA 239, as amended (BODA).

vi. Proper Land Application Practices Including Rates, Timing, Agronomic Rates, and Winter Time Spreading

The MAEAP states that NRCS technical standard No. 590, Nutrient Management, and GAAMPs are to be used as guidance for CNMP development. The MAEAP provides the recommended practices for fields with tile drainage to prevent discharges and requires the Manure Application Risk Index (MARI) to be used when assessing fields appropriate for winter spreading as well as which fields should be avoided; however, it is not stated what rating of MARI is acceptable. The MAEAP relies on the GAAMP practices for 48-hour incorporation and a 150-foot setback. The MDA will provide exemptions to the setback if the animal waste is incorporated within 48 hours.

In comparison, the NPDES general permit provides specific requirements in the permit itself rather than insert references to NRCS technical standard No. 590. The main reason for this is because NRCS technical standard No. 590 makes references to several supporting documents, and the MDEQ eliminated the guesswork by putting the exact requirements for land application in the permit. In addition, the general permit prohibits land applications when there is a 70% likelihood of a storm producing a one-half

inch of rain 24 hours prior to land applications; requires a 24-hour incorporation following land applications, a technical standard for winter time spreading based on a maximum MARI rating; and specific setback requirements.

The MAEAP Livestock System and the NPDES general permit have similar sampling protocol for animal waste and soils. However, the NPDES general permit provides greater clarity to each of these sampling protocols by putting the exact requirements within the permit where the MAEAP standards simply reference specific bulletins without giving a specific date of the specific bulletins.

vii. Record Keeping

The MAEAP does not require any records to be kept but rather relies on the CNMP to determine what records to maintain and provides a list of recommended items to track. The MAEAP does not require any records to be submitted to any agency to ensure the operation is conforming to its verification requirements. The MAEAP records are not available to the public.

In comparison, the NPDES general permit explicitly lists which records must be kept and which records must be submitted to the MDEQ as part of their annual reporting requirements. All records submitted to the MDEQ are public information.

b. Compliance with the CAFO Project

This part of the assessment reviewed how well the CAFOs choosing to get MAEAP-verified complied with conditions of the project. One important condition was to comply with the one-year time frame (from the date of the LOI) to get MAEAP-verified but no later than September 1, 2006. Of the 126 LOIs received, 111 CAFOs were verified by the specified deadline date and 15 failed to become MAEAP-verified as intended. Of the 111 CAFOs that were verified, only 54 were verified within 1 year while 57 went past the allotted 1-year time frame. Expressed as a percentage, slightly over half (51%) of the CAFOs failed to be verified on time.

c. MAEAP Evaluation Inspections

MDEQ conducted inspections from 2005 until 2006 at 48 MAEAP verified large CAFOs to evaluate if the level of protection of the public health and environment was equivalent to or exceeded that provided under the NPDES CAFO permit. When the MAEAP inspections began in 2005, the majority of the farms inspected were verified as recently as 2004 which provided a reasonable expectation that these CAFOs represented the most recent conditions by which verification determinations are made. The intent of the inspections was to review how well CAFOs conformed to the MAEAP performance standards and document whether these operations voluntarily implemented the practices outlined in the approved CNMP. The CAFOs were also evaluated against the MDEQ permit standards for adequate storage, proper operation and maintenance, best management practices, proper land

application practices, and proper record keeping. The MAEAP evaluation checklist can be found in Attachment E.

The MDEQ completed MAEAP evaluation inspections at 48 of the 111 MAEAP-verified CAFOs (35 in 2006 and 13 in 2005). To help illuminate the difference and similarities at the MAEAP-verified CAFOs to those under permit, our standard inspection checklist was modified to eliminate the open-end style questions with all responses being "yes, no, or N/A" style questions to get to a clearer comparison between the MAEAP and the NPDES general permit performance standards. Additionally, all MAEAP evaluation inspections were conducted jointly with the MDA staff that are responsible for making the verification determinations.

After the initial set of inspections, it became evident that the MAEAP verification process is of such broad latitude that it is not possible to determine what the minimum acceptable conditions for verification are. What was most evident and surprising was the large number of CAFOs that were MAEAP-verified based on corrective action plans and schedules to implement future upgrades to complete the elements of the MAEAP verification process. These schedules were written into the CNMPs as self-imposed schedules that could be changed by the CAFO owner without notice or approval of any kind. With such a system, the MDEQ was not able to determine which elements of the verification were essential versus optional for becoming MAEAP-verified. In reviewing the CNMPs, the MDEQ noted that there was no consistent format or content. In addition, it was apparent that many CNMP providers were not aware of or considered state water pollution control requirements in drafting the CNMPs. Following is a listing of inspection findings of the 48 CAFOs inspected that the MDEQ found to be troublesome:

Thirty-five of the 48 CAFOs (73 %) were verified with a schedule of implementation for corrective actions. The fact that CAFOs can obtain MAEAP verification status with a schedule of implementation for corrective actions was a startling revelation to the MDEQ. In addition, the CAFOs are granted the freedom to adjust the schedules at any time without giving notice to or receiving approval from the MDA. Generally, one would assume that "verification" means a confirmation or determination that a set of conditions are being met. In the case of MAEAP, this is not true. In fact, most of the facilities that were verified were not meeting all of the pertinent conditions and, therefore, should not have received verification.

Twenty-one of the 48 CAFOs (44%) were determined to have inadequate storage volume as compared to the NPDES CAFO permit.

The MAEAP Livestock System has not established proper performance standards for collection of silage pad contaminated runoff. The MAEAP-verified CAFOs are allowed to discharge contaminated runoff to filter-strips, vegetative-grassy areas, or nearby fields. It appeared the test for determining if these conservation practices were effective is if the grassy areas taking the contaminated runoff showed any visual signs of erosion or burned out vegetation indicating high levels of toxicity from the contaminated runoff destroying the vegetation. Discharges resulting from contaminated runoff from silage pads can have detrimental effects on groundwater as well as surface waters.

None of the CNMPs were written with clearly outlined adequate O & M Programs to guide producers on practices for inspections of storage structures on a timely basis. Many of the producers stated during the evaluations that although the CNMPs did not direct them to inspect certain aspects of their operation, they did frequently check on the structure's integrity; unfortunately, they did not have any records to confirm this practice or how often they did check. Producers stated they relied on their emergency action plans to direct actions after a discharge occurred rather than take preventative actions to prevent a discharge from occurring.

Four of the 48 CAFOs (8%) were not operating in accordance with the current BODA requirements.

Four of the 48 CAFOs (8%) did not have proper diversion of clean storm water coming into contact with production area waste.

Seven out of the 48 CAFOs (15%) were not operating within the Winter Spreading Technical standards because they were land applying on frozen or snow-covered ground or on fields with a medium-risk MARI rating.

Eight of the 48 CAFOs (17%) had a high risk that a discharge would occur from a storm event of less than a 25-year, 24-hour because of a lack of proper storage, improper manure handling, or not observing appropriate manure application setbacks.

Generally, the inspections discovered that, in many cases, MAEAP-verified farms failed to follow their CNMPs as written, conduct a review and update the CNMP on an annual basis, possess proper O & M Programs, implement the corrective actions as outlined in the implementation schedule, and maintain the proper records. In one specific case, a MAEAP-verified CAFO doubled the size of its herd without updating its CNMP, notifying or seeking approval for the expansion as it related to its verification in the MAEAP.

K. Conclusion: In conclusion, based on the findings set forth above, the MAEAP Program does not provide the equivalent level of environmental and public health protections as the NPDES Permit Program. The CAFO Project, in accordance with our rules, will expire on December 31, 2007. The MDEQ is requiring all large CAFOs to be covered under NPDES permits in lieu of extending the CAFO Project.

