Final Report of the

Small Business Advocacy Review Panel

on EPA's Planned Proposed Rule

On

National Pollutant Discharge Elimination System (NPDES)

And

Effluent Limitation Guideline (ELG) Regulations

For

Concentrated Animal Feeding Operations

("CAFO Rule")

April 7, 2000

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Report of the Small Business Advocacy Review Panel on the U.S. Environmental Protection Agency's Potential Revisions to the National Pollutant Discharge Elimination System and the Effluent Limitation Guideline Regulations for Concentrated Animal Feeding Operations ("CAFO Rules")

1.0 INTRODUCTION

This report is presented by the Small Business Advocacy Review (SBAR) Panel (the Panel) to the U.S. Environmental Protection Agency (EPA) to consider potential revisions to two regulations that address concentrated animal feeding operations (CAFOs). These two regulations are the National Pollutant Discharge Elimination System (NPDES) CAFO Regulations (40 C.F.R. §122.23, and Part 122, Appendix B), and the Effluent Limitation Guidelines (ELG) for Feedlots (40 C.F.R. Part 412), which includes two parts (Beef & Dairy, Pork & Poultry).

On December 16, 1999 EPA's Small Business Advocacy Chairperson (SBAC) convened this Panel under section 609(b) of the Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA). Section 609(b) requires that the responsible agency convene a review panel prior to publication of any Initial Regulatory Flexibility Analysis (IRFA) that an agency may be required to prepare under the RFA. In addition to its chairperson, the Panel consists of the Director of the Office of Wastewater Management's Permit Division of EPA, the Director of the Office of Science and Technology's Engineering and Analysis Division of EPA, the Deputy Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget, and the Chief Counsel for Advocacy of the Small Business Administration.

As part of the process to meet the requirements of 609(b), outreach efforts (i.e., mailings and meetings) are made by the Panel to obtain the advice and recommendations of representatives of small entities that may be subject to the proposed rule. Section 609(b) of the RFA also directs the Panel to report on the comments provided by these Small Entity Representatives (SERs) and its findings as to issues related to the elements of an IRFA under section 603 of the RFA. Those elements of an IRFA are as follows:

- A description of and, where feasible, an estimate of the number of small entities that the proposed rules will affect;

- A description of projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements and the type of professional skills necessary for preparation of the report or record;

- Identification of all relevant Federal rules, which may duplicate, overlap, or conflict with the proposed rule; and

- A description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities.

This report provides: background information on the proposed rule being developed; the types of small entities that would be subject to the proposed rule; a description of the efforts made to obtain the advice and recommendations of SERs; and a summary of the comments that have been received to date from those SERs. This report also presents the findings and recommendations of the Panel. The complete written comments of the SERs are attached to this report.

Once completed, the Panel will submit its report to the Administrator of EPA and will include it in the rulemaking record. The EPA will consider the recommendations of the Panel and where appropriate will make revisions to the draft proposed rule in order to reduce the burden on the small businesses who may be affected by this rulemaking. The EPA will also use the report to determine whether an IFRA is required.

It is important to note that the Panel's findings and discussion are based on the information available at the time the report was drafted. EPA is continuing to conduct analyses relevant to the proposed rules, and additional information may be developed or obtained during the remainder of the rule development process. The Panel makes its report at a preliminary stage of rule development in order to provide both the Panel and the Agency with an opportunity to identify and explore potential ways of shaping the proposed rule to minimize the burden of the rule on small entities while achieving the rule's statutory purposes. Any options the Panel identifies for reducing the rule's regulatory impact on small entities may require further analysis and/or data collection to ensure that the options are practicable, enforceable, environmentally sound, protective of public health, and consistent with the statute authorizing the proposed rule.

2.0 BACKGROUND AND REGULATORY HISTORY

2.1 CAFOs Subject to the CWA NPDES Program

The Clean Water Act (CWA) permitting program is called the "National Pollutant Discharge Elimination System" (NPDES) program. This program applies to "point sources" who are or may be dischargers of pollutants into waters of the U.S. The purpose of the NPDES program is to protect human health and the environment by controlling the types and amounts of pollutants that can be discharged into U.S. waters. EPA originally issued NPDES permit program regulations in the 1970s. These regulations, which apply to a broad range of industrial and municipal wastewater discharges, specify who must apply for an NPDES permit and what type of condition(s) must be included in a permit (e.g., technology and/or water quality-based effluent limits, monitoring and reporting requirements, special conditions and standard conditions). The NPDES regulations also provide that NPDES permits may be issued by U.S. EPA or those states, territories, and tribes authorized by EPA to implement the NPDES program. Currently, 43 states and the Virgin Islands are authorized to issue NPDES permits.[1]

Under both the CWA and the NPDES regulations, the term "point source" is defined as any discernible, confined and discrete conveyance, including but not limited to any confined animal feeding operation (CAFO) [CWA Section 502(14)]. As such, in the 1970s EPA promulgated two regulations that directly affect CAFOs. The first is the NPDES regulations for CAFOs which define which animal feeding operations (AFOs) are CAFOs (40 CFR 122.23, and Part 122, Appendix B). These regulations also state that CAFOs are point sources subject to the NPDES permit program. The second regulation is the effluent limitation guidelines (ELGs) for feedlots (40 C.F.R. § 412), which establishes the technology-based effluent standards that apply to certain CAFOs. Both of these regulations are briefly summarized below.

2.2 Overview of the NPDES Regulations for CAFOs (40 C.F.R. § 122.23)

The NPDES regulations for CAFOs first define the term "animal feeding operation" (AFO) and then the term "concentrated animal feeding operation" (CAFO). An operation must first be an AFO before it can be defined as a CAFO.

The term "animal feeding operation" is defined in EPA regulations as a "lot or facility" where animals "have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12 month period and crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility" [40 C.F.R. § 122.23].

[1] The seven states not authorized to issue NPDES permits are Alaska, Arizona, Idaho, Maine, Massachusetts, New Hampshire, and New Mexico.

Once a facility meets the AFO definition, its size, based upon the total numbers of animals confined, is a fundamental factor in determining whether it is a CAFO. The animal livestock industry is diverse and includes a number of different types of animals that are kept and raised in confined situations. To define these various livestock sectors, the concept of an "animal unit" (AU) was established in the EPA regulations [40 C.F.R. § 122 Appendix B]. An AU varies according to animal type; one animal is not necessarily equal to one AU. Each livestock type, except poultry, is assigned a multiplication factor [2] to facilitate the calculation of the total number of AUs at a given AFO. These factors were intended to facilitate rough equivalence among the different livestock sectors, in terms of approximated relative contributions to water pollution (e.g., under current regulations, one head of beef is equal to 30 or 100 layers or broilers, depending on the watering system). However, it should be noted that, under the current requirements of the current regulation, the threshold at which laying hen operations with liquid manure handling systems are automatically defined as CAFOs represents a significantly lower level of manure production than the corresponding thresholds in the other animal sectors.

An AFO is a CAFO if it meets the regulatory CAFO definition or if it is designated as a CAFO. (The concept of designation is explained in the next paragraph.) An AFO is defined as a CAFO where more than 1,000 AUs (as defined by the existing regulation) are confined at the facility; **or** where more than 300 animal units are confined at the facility and the following occurs:

- Pollutants are discharged into navigable waters through a manmade ditch, flushing system, or other similar man-made device; or
- Pollutants are discharged directly into waters that originate outside of and pass over, across, or through the facility or come into direct contact with the confined animals.

However, these conditions notwithstanding, an AFO that would otherwise be defined as a CAFO is not so defined if it does not discharge pollutants to waters of the U.S. except in the event of a 25-year, 24-hour storm event. Another way in which an AFO can become a CAFO is by being

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[2]These multiplication factors are as follows: Slaughter and feeder cattle — 1.0, Mature dairy cattle — 1.4, Swine weighing over 25 kilograms (approximately 55 pounds) — 0.4, Sheep — 0.1, Horses — 2.0. There are currently no animal unit conversions for poultry operations. However the regulations [40 C.F.R. 122, Appendix B] define the total number of animals (subject to waste handling technology restrictions) for specific poultry types that make these operations subject to the regulation. According to 40 C.F.R., Appendix B (a), when a poultry facility confines more than the following numbers of animals, it is considered a CAFO: 100,000 laying hens or broilers (if the facility has continuous flow watering), and 30,000 laying hens or broilers (if the facility has a liquid manure system). Under certain conditions a poultry operation may also be considered a CAFO when more than the following numbers of animals are confined: 30,000 laying hens or broilers (if the facility has continuous overflow watering),and 9,000 laying hens or broilers (if the facility has a liquid manure handling system).

designated as a CAFO. The NPDES permitting authority may, on a case-by-case basis, after conducting an on-site inspection, decide to designate any AFO as a CAFO based on a finding that the facility "is a significant contributor of pollution to the waters of the United States." A facility with 300 AUs or less, however, may not be designated as a CAFO unless pollutants are discharged into waters of the U.S. through a man-made ditch, flushing system, or other similar man-made device or are discharged directly into waters of the U.S. which originate outside of the facility and pass over, across or through the facility or otherwise come into direct contact with the animals confined in the operation.

2.3 Overview of Feedlot Effluent Limitation Guidelines (40 C.F.R. § 412)

The current feedlot Effluent Limitation Guidelines (ELG) apply to discharges of pollutants from feedlots (i.e., CAFOs) that have the capacity to hold 1,000 AUs or greater. This ELG allows no discharges of process wastewater pollutants to waters of the U.S. except when chronic or catastrophic storm events cause an overflow from a facility designed, constructed, and operated to hold process-generated wastewater plus runoff from a 25-year, 24-hour storm event. All NPDES permits for CAFOs with more than 1,000 AUs must include an equivalent or more stringent effluent limitation. In those cases where the feedlot ELG does not apply to a CAFO (e.g., the CAFO confines fewer than 1,000 AUs), the permit writer must develop, for inclusion in the NPDES permit, technology-based limitations based on best professional judgment (BPJ).

The ELGs for the Feedlots Point Source Category are codified at Title 40, Part 412 of the U.S. Code of Federal Regulations (40 CFR Part 412). The category has two subparts:

Subpart A — applies to feedlots with at least:

- 1,000 slaughter steers and heifers;
- 700 mature dairy cattle;
- 2,500 swine weighing more than 55 pounds;
- 10,000 sheep;
- 55,000 turkeys;
- 100,000 laying hens or broilers when facility has unlimited continuous flow watering systems;
- 30,000 laying hens or broilers when facility has a liquid manure handling system;
- 500 horses; or
- 1,000 animal units from a combination of slaughter steers and heifers, mature dairy cattle, swine more than 55 pounds, and sheep.

Subpart B — applies only to feedlots confining 5,000 or more ducks. [3]

[3]The ELG for Subpart B (ducks) is not currently being revised.

As noted above, the ELG for Subpart A prohibits the discharge of process wastewater pollutants to waters of the United States, except when chronic or catastrophic rainfall events cause an overflow from a facility designed, constructed, and operated to contain all process-generated wastewater plus the runoff from a 25-year, 24-hour rainfall event. The regulations specify animal wastes and other water that must be controlled include the following:

- spillage or overflow from:
  - animal or poultry watering systems;
  - washing, cleaning, or flushing pens, barns, manure pits, or other feedlot facilities;
  - direct contact swimming, washing, or spray cooling of animals; and
  - dust control

- precipitation (rain or snow) which comes into contact with any manure, litter, or bedding; or

- any other raw material or intermediate or final material or product used in or resulting from the production of animals or poultry or direct products (e.g., milk or eggs).

2.4 How the ELG and the NPDES Permit Program are Related

NPDES permits implement a multifaceted approach to protecting water quality. At the core of these permits is a two-pronged pollution control strategy that incorporates both technology-based limits and more stringent site-specific limits based on water quality considerations where necessary. The discharge limits imposed in a permit are thus derived through consideration of two factors:

1) the effluent quality that is both economically achievable and technologically attainable through operation of control technologies and process changes (i.e., ELG); and

2) regional or site-specific water quality conditions.

Generally, technology-based limits represent the level of pollutant reduction that a facility can attain at the point of discharge ("end-of-pipe"), by applying pollution control technologies, whereas the water quality-based limits reflect additional restrictions on pollutant discharges that are necessary to achieve or maintain water quality standards.

For many industries, minimum technology-based standards are established at a national level through ELGs. For industries not covered by ELGs, technology-based limits are developed by the permit writer on a site-specific basis using best professional judgement (BPJ). In the case of CAFOs, the ELG regulations [40 C.F.R. 412] apply to CAFO feedlots with more than 1,000 AUs. The current ELGs for CAFOs do not allow discharges of process wastewater pollutants to waters of the U.S. from feedlots, except when chronic or catastrophic storm events cause an overflow from a facility designed, constructed, and operated to hold process-generated wastewater plus runoff from a 25-year, 24-hour

storm event. In cases where the ELG does not apply (for CAFOs with fewer than 1,000 AUs), the permit writer needs to develop technology-based effluent limitations on a case-by-case basis for the feedlot by using BPJ. The regulations
[40 C.F.R. 122.44 (k)] also allow best management practices (BMPs) to be used where they are reasonably necessary to meet effluent limitations and standards or to carry out the purposes and intent of the CWA. Thus, whether a CAFO is subject to the ELG for feedlots or technology-based effluent limitations based on BPJ, it can also be required to develop and implement BMPs reasonably necessary to meet the ELG or BPJ technology-based limitations.

In cases where technology-based effluent limitations are not sufficient to meet water quality standards, the permit writer must develop more stringent water quality-based effluent requirements on a site-specific basis. NPDES permits for CAFOs may also include BMPs as water quality-based effluent limitations or use BMPs that are reasonably necessary to meet water quality standards [See, 40 C.F.R. 122.44 (k)].

2.5 Why EPA is Revising the Regulations for CAFOs and the ELG for Feedlots

As noted above, the regulations for CAFOs were originally promulgated in the mid-1970s. Since that time, significant progress has been made in implementing CWA programs and in reducing water pollution. Despite such progress, however, serious water quality problems persist throughout the country. Agriculture, municipal point sources, urban runoff, and industrial point sources are listed as some of the leading sources of these remaining problems. Although it is difficult to determine the exact contribution of any particular source, CAFOs that are not properly managed can pose a number of risks to water quality and public health. Improperly managed manure and wastewater from CAFOs have the potential to contribute large quantities of pollutants such as nutrients (e.g., nitrogen, phosphorus), organic matter, sediments, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment.

To mitigate water quality impacts posed by CAFOs, EPA is revising the regulations for CAFOs, with the following goals:

- Update the current regulations to reflect current industry characteristics and practices;
- Make the current regulations simpler and easier to understand; and
- Ensure that all CAFOs are permitted.

Under the CWA EPA will establish effluent limitations based on best available technology that is economically achievable. In developing regulatory options, EPA will carefully assess the costs and benefits of any proposed regulatory changes. Note that while information on the projected costs of various regulatory options was provided to SERs as part of the Panel's outreach, analysis of benefits was still at a preliminary stage and not yet ready for public review. A full evaluation of costs and benefits will be provided for public review and comment at the time the proposed rule is published.

3.0 OVERVIEW OF THE REGULATORY CHANGES UNDER CONSIDERATION

The discussion below summarizes the regulatory changes being considered for the NPDES regulations for CAFOs and for the ELG for feedlots. Although similar changes are being considered regarding both regulations, the effects of such changes are different under each. Proposed changes to the NPDES regulations for CAFOs affect which AFOs are considered CAFOs and are therefore subject to the NPDES permit program. Changes to the ELG for feedlots affect which CAFOs are subject to the ELG and the technology-based requirements that apply to these CAFOs.

The following potential regulatory changes are slightly different than those originally presented by EPA to potential SERs during a preliminary Small Business Consultation teleconference on the NPDES regulations for CAFOs and the ELG that was held September 17, 1999. Following the teleconference, at EPA's request, many of the participants provided written comments on the potential regulatory changes as presented in the call. In accordance with established procedures for selecting the best representative sample of SERs, not all participants in the call were subsequently selected to participate in the Panel's formal outreach to SERs. However, the Panel did review and consider comments from these participants during its deliberation. The complete set of written comments resulting from the September 17 call is provided in Appendix C.

Changes to the potential regulatory revisions resulted from a series of rule development discussions that occurred after that teleconference. The potential regulatory revisions presented below include revisions that reflect stakeholder comments, additional data analysis, and agency deliberations concerning the various options under consideration. The potential regulatory revisions described below do not necessarily include every option that EPA might eventually consider in revising these regulations. In addition, EPA may decide not to adopt any of the options described below in the revised regulations.

3.1 Potential Regulatory Changes to the Regulations for CAFOs

A. Alternative Scenarios for AFOs with between 300–1,000 AUs

One of the most significant issues involved in revising the NPDES regulations for CAFOs and ELGs involves how to address AFOs with between 300–1,000 AUs that currently may be defined as CAFOs under the existing regulations. Because any modification to the 300–1,000 AU category would impact other issues, EPA has developed three alternative scenarios for addressing this category of operations. EPA is also considering possible modifications to these scenarios. For example, alternatives 2 and 3 could include a lower threshold for ELG applicability.

Alternative 1:

- The size threshold at which all operations defined as CAFOs are set below 1,000 AUs. Potential thresholds being examined are 750, 500 and 300 AUs. Note that this would represent a simultaneous lowering of the current threshold and elimination of the current exemption for operations above the threshold that do not discharge in less than a 25-year, 24-hour storm event.

- All operations with a number of AUs over the ELG threshold would be required to comply with ELGs. However, EPA is examining the feasibility of developing tiered ELG requirements to address affordability issues for small entities.

- The current 300–1,000 AU category, would be eliminated. Thus, operations with fewer AUs than the ELG threshold would no longer be subject to being *defined* as CAFOs. However, they could still be designated as a CAFO(see next bullet).

- As in the existing CAFO regulations, any operation under the threshold could be designated as a CAFO if the NPDES permitting authority or EPA determines it to be a significant contributor of pollution to waters of the United States. Operations with less than 300 AUs may only be designated, after inspection, if it is found that pollutants are discharged either through a man-made conveyance or directly into waters that cross the property or come into direct contact with the animals [40 CFR 122.23(c)(2)]. Once designated, the operation would be required to comply with a permit incorporating effluent limits and/or best management practices (BMPs) developed by the permitting authority using best professional judgement (BPJ).

Alternative 2:

C All AFOs with between 300–1,000 AUs would be defined as CAFOs.

C A "check box" self-certification mechanism would be implemented, whereby each operation would *certify* to the permitting authority that it does not pose a risk to water quality and public health. Such operations would not have to apply for a permit.

C Operations that cannot certify that they do not pose risk to water quality would be required to *apply* for a permit. In the application, the operation would have the additional opportunity to demonstrate to the permit authority that:

  < Pollutants have not been discharged, are not being discharged, or have no potential to be discharged into waters of the U.S.; and

< Pollutants have not been discharged, are not being discharged, or have no potential to be discharged into waters of the U.S. due to improper land application of manure or wastewater.

- Operations unable to make this demonstration would be required to obtain a NPDES permit. The permit authority would develop technology-based requirements using BPJ.

- As in existing regulations, any operation with fewer than 300 AUs could be designated as a CAFO if the permitting authority or EPA determines it to be a significant contributor of pollution to waters of the United States. Operations with less than 300 animal units may only be designated, after inspection if it is found that pollutants are discharged either through a man-made conveyance or directly into waters that cross the property or come into direct contact with the animals [40 CFR 122.23(c)(2)]. Once designated, the operation would be required to comply with a permit incorporating effluent limits and/or BMPs developed by the permitting authority using BPJ.

Alternative 3:

C Any AFO with between 300–1,000 AUs that met any one of the following conditions would be defined as a CAFO and would be required to apply for an NPDES permit:

1. Operation has insufficient storage capacity to contain all manure, wastewater, storm water and process wastewater for up to a 25-year, 24-hour storm event, or contain dry manure during non-cropping periods or six months, whichever is shorter;
2. Operation is located in impaired watershed;
3. Distance from the feedlot area to the nearest waters of the U.S. is 100 feet or less; or
4. Operation is located in an area with excess nitrogen and/or phosphorus (N & P) (i.e., crop lands in that area have excessive amounts of N & P).
5. Pollutants have been discharged, are discharging, or have potential to discharge through a natural or man-made conveyance from feedlot into waters of the U.S.; or
6. Pollutants have been discharged, are discharging, or have potential to discharge into waters of the U.S. due to improper land application of manure or wastewater.

C An operation that meets any one of the first four criteria would not necessarily be required to actually obtain an NPDES permit. In the permit application, the operation would have the opportunity to demonstrate to the permitting authority that neither of the last two criteria are met, and thus would not be required to obtain a permit. Note that the fifth criterion is the same as one of the criteria for defining AFOs in the 300–1,000 AU size range as CAFOs currently, except that discharges through natural as well as man-made conveyances would be covered.

- Any operation that meets either of the last two criteria would be required to apply for and obtain an NPDES permit, incorporating effluent limits and/or BMPs developed by the permit authority using BPJ.

- As in existing regulations, any operation with less than 300 AUs could be designated as a CAFO if the permit authority or EPA determines that a discharge took place. Once designated, the operation would be required to comply with a permit incorporating effluent limits and/or BMPs developed by the permitting authority using BPJ.

Note that all three of these alternatives reflect a shift away from defining CAFOs based on whether they discharge more frequently than a 25-year, 24-hour storm event.

B. Other NPDES Issues

1. *Who must apply for a permit?*

a. Immature Animals. EPA is considering whether or not to include immature animals for all animal types in determining the total number of animals at a CAFO.

Immature animals in the dairy and swine industry sectors are not used to determine whether or not an AFO constitutes a CAFO under the current regulations. Rather only swine weighing more than 55 pounds and mature dairy cattle, excluding the number of calves and heifers, are counted when determining applicability. In contrast, all slaughter steers and heifers are counted when determining applicability for beef feedlots, and all ages of chickens and turkeys counted. Including immature animals for all animal types might more accurately reflect the concentrated nature of each operation. Furthermore, operations comprised solely of immature animals could then be covered by the NPDES requirements. This change could also affect applicability of the ELGs. The potentially affected sectors are discussed in more detail below.

Swine. Production at swine facilities includes breeding, farrowing, weaning, and grow-finishing phases. Most swine production facilities are farrow-to-finish or grow-finish farms, but some facilities may be farrow-wean, farrow-feeder, wean-finish, or nurseries only. EPA might establish a threshold that applies to standalone farrowing and nursery operations which confine large numbers of immature pigs. It is difficult to clearly identify how many swine operations would be affected by including immature animals within the applicability definition, but EPA estimates such facilities comprise a small percentage of the total swine facilities.

Dairies. Dairies are less likely than swine facilities to keep immature animals in total confinement until the animals reach maturity. Some dairies keep no heifers or calves onsite, while at others the numbers of heifers and calves equal the number of mature cows. Also, some dairies with calves and heifers keep them confined in drylots or barns, while many others keep immature animals in pastures.

Further complicating the matter, the industry and many permitting authorities typically measure the size of an operation by the size of the milking herd, rather than the total number of mature and immature animals. As a general matter, the size of the milking herd at a particular dairy is a fairly constant value, while the number of calves and heifers kept on a site may be allowed to vary depending on business conditions. As a result, it is difficult to clearly identify how many operations would be affected by including immature animals within the applicability definition. It is also unclear at present whether such a change would enhance implementation of the effluent guidelines.

b. Designation Criteria. At this time, EPA is not contemplating revising the conditions in the existing regulations that are used when designating an AFO below 300 AUs as a CAFO.

c. Dry Poultry Operations. EPA is considering revising the CAFO definition to include all poultry operations above a specified size threshold regardless of the watering or manure system used.

In the 20-plus years since the NPDES regulations for CAFOs were promulgated, continuous overflow watering in poultry operations has been largely discontinued and replaced by more efficient watering methods (e.g., on-demand watering). Moreover, liquid manure systems represent little more than approximately 25 percent of layer operations. Dry manure management systems are not covered under the current regulations, but can result in water pollution due to improper land application or poor on-site storage and handling. Therefore, EPA is considering revising the NPDES regulations for CAFOs in order to reflect these changes in industry practice and ensure proper management and land application of poultry litter.

d. 25-year, 24-hour storm event. EPA is considering removing the 25-year, 24-hour storm exemption from the NPDES CAFO definition (while maintaining the 25-year, 24-hour storm design standard in the ELG for feedlots). CAFOs would be required to apply for a permit even if they only discharge during a 25-year, 24-hour or larger storm event.

Both the existing NPDES regulations for CAFOs and the ELG for feedlots contain reference to a 25-year, 24-hour storm event. The ELG requires facilities subject to the

ELG to design storage structures to contain a 25-year, 24-hour storm event along with process wastewater. This is an integral part of the technology basis for the ELG regulations. Technology options currently under consideration maintain this design standard for liquid-based systems or systems that must rely on stormwater runoff impoundments such as are used at beef feedlots. EPA recognizes that liquid impoundments cannot be designed to achieve zero discharge without factoring in some volume of rainfall that would be introduced; thus EPA established the requirement to design and maintain the impoundments to hold the volume of stormwater from a 25-year, 24-hour storm event. EPA is considering separate zero discharge requirements that do not include a storm event component for dry manure systems where technology allows for animals and manure to be protected from stormwater. EPA is, however, considering removing the 25-year, 24-hour exemption that is currently included in the NPDES regulations for CAFOs. The NPDES regulations exempt certain AFOs from being defined as a CAFO if they discharge only in the event of a 25-year, 24-hour or larger storm event. EPA is considering removing this exemption to ensure that all AFOs above a specified size threshold are subject to enforceable permit conditions, including monitoring and reporting requirements, and to better address the potential risks to water quality and public health posed by facilities that meet or exceed the specified threshold(s).

e. Co-permitting. EPA is considering requiring corporate entities that exercise substantial operational control over a CAFO to be co-permitted.

Over the past few decades, segments of the livestock industry have been consolidating into fewer and larger business organizations. This consolidation has resulted in higher levels of vertical integration, with single companies being involved in essentially all stages of the production process. Under this potential revision, corporate entities that exercise substantial operational control over a CAFO would be explicitly recognized as "operators" of the CAFO for purposes of the NPDES program, and thus would be co-permitted along with the CAFO operator. EPA is currently evaluating factors which may constitute "substantial operational control."

2. What is in the permit?

a. Discharges from Land Application. EPA is considering revising the regulations to explicitly address discharges from improper land application areas under the control of the CAFO operator, along with discharges from the feedlot and storage and handling areas.

b. Comprehensive Nutrient Management Plans (CNMPs). EPA is considering requiring development and implementation of CNMPs as part of an NPDES permit.

c. CNMP Development. EPA is considering requiring permittees to have CNMPs developed by certified planners.

This potential revision would recognize that the most effective way for CAFOs to minimize risks to water quality and public health is to develop and implement technically sound, and site-specific CNMPs. These CNMPs should reflect and facilitate technical innovation, sustainable agricultural systems, and new approaches to proper manure and nutrient management. EPA is working with the United States Department of Agriculture and other organizations to promote access to certified planners at reasonable cost and to facilitate certification of operators to write their own plans.

d. Record Keeping and Reporting Related to Offsite Transfer of Manure. EPA is considering requiring CAFO operators that send manure off-site to maintain records of each transfer, including date, quantity transferred, and recipient name and address, and an analysis of the manure content. EPA is also considering requiring CAFO operators to provide any off-site recipient of manure with the analysis of manure content and a brochure (to be supplied by EPA) describing the recipient's responsibilities for appropriate manure management.

e. Monitoring, Record Keeping & Reporting. EPA is considering requirements for:

(1) CAFO permittees to keep on-site records of inspections, monitoring and other activities related to the implementation of the CNMP;
(2) CAFO permittees to conduct self-certifications and self-evaluations of CNMP implementation, and to maintain records of such evaluations onsite; and
(3) CAFO operators to provide additional explicit information needed by the permit authority as part of a permit application or notice of intent (NOI).

The monitoring, record keeping and reporting requirements included in CAFO permits should address the routine day-to-day operation of a facility and help ensure that CNMPs are effectively developed and implemented. In addition, permits should address the reporting of non-routine activities (e.g., overflows, leaks, structural failures, improper storage or handling of liquid or dry manure).

f. Facility Closure. EPA is considering requiring that permits issued to CAFOs include a special condition to require proper closure of the facility in order to minimize potential adverse impacts to water quality (i.e., through discharges to waters of the U.S.). Additionally, the regulations would stipulate that a permittee might remain subject to NPDES permitting requirements until the CAFO is properly closed in accordance with

requirements established by the authorized permitting authority. Specific closure requirements would be defined by the authorized permitting authority.

3. *What type of permit do you get?*

EPA currently encourages permitting authorities to use general permits for the majority of CAFOs. General permits offer a cost-effective approach for permitting, while providing the site-specific flexibility necessary for these facilities. General permits lessen compliance burden because they allow the applicant to simply submit a notice of intent (NOI) to be covered under a general permit rather than a full permit application. Under the proposed revised regulations, EPA would continue to encourage the use of general permits for most small entities. However, individual permits may be appropriate in certain instances, such as for extremely large CAFOs or facilities with historic compliance problems. EPA is considering whether any regulatory changes are needed to address these situations.

a. Public Involvement. EPA is considering requiring:

(1) Individual permits for CAFOs that meet certain criteria; and/or
(2) Increased level of public involvement in general permits for CAFOs.

Public involvement in the permitting process is a key component of the CWA and the NPDES regulatory program generally. The Agency is considering various options to ensure adequate public involvement in the permitting process for CAFOs. Alternatives being considered include making general permit NOIs available to the public and/or requiring individual permits for all large CAFOs that meet certain criteria. Individual NPDES permits currently afford a greater level of public involvement than general permits. EPA also recognizes the legitimate concerns of operators regarding protection of confidential business information and potential delays in processing of permit applications and NOIs. EPA will follow the procedures as established under the statute that address confidential business information and will balance the value of public involvement with the burden to the operator when considering regulatory options.

b. Permit Application Form. In addition, where individual permits are required, EPA is considering developing a revised individual permit application form.

3.2 Potential Regulatory Changes to the ELG for Feedlots (Beef & Dairy, Pork & Swine)

EPA is considering the following regulatory changes to the current ELG for feedlots. These revisions are the same as those originally presented to stakeholders.

A. **Lower the Threshold.** As described in the first scenario in Alternative 1 in Section 3.1.A, EPA is considering lowering the ELG threshold below 1,000 AUs. Options under consideration include 750, 500 and 300 AUs.

The current effluent guidelines apply only to those feedlots with a capacity of 1,000 AUs or greater. The effluent guidelines establish the technology-based limits that are to be included in permits for these facilities. If a facility is subject to permitting but the effluent guidelines do not apply to it, the permit writer develops technology-based limits for that facility's permit on a case-by-case basis using BPJ. Thus, expanding the coverage of the effluent guidelines to include smaller operations would increase the total number of CAFOs that receive technology-based limits specified in the ELG rule rather than on a case-by-case basis.

B. **Dry Poultry Operations.** As discussed in Section 3.1.B. 1 (c) above, EPA is considering expanding the scope of the regulations to apply to layers and broiler operations employing dry manure handling. This could also expand coverage under the ELGs.

The current effluent guidelines apply to layer or broiler operations employing continuous flow watering systems or liquid manure systems. Expanding coverage to include dry poultry operations would increase the total number of CAFOs covered by the ELG rule.

C. **Discharge Limits**. EPA is considering establishing numeric discharge limitations or zero discharge requirements for CAFOs with less than 1,000 AUs.

If the applicability threshold of the effluent guidelines is expanded to include operations smaller then 1,000 AUs, EPA will evaluate the technological feasibility and economic achievability of potential effluent guidelines for the newly-covered facilities. Due to the costs associated with runoff controls (e.g., runoff ponds and lagoons), and their significant contribution to the total costs of any new controls, alternative requirements to lessen the financial burden on small entities are being investigated.

D. **Land Application.** EPA is considering including requirements that apply to land application of manure and other CAFO wastewaters including the development and implementation of comprehensive nutrient management plans.

The current effluent guidelines do not specifically address discharges from land application of manure. Land application is an integral part of the CAFO waste management system, and over-applying manure may result in a discharge of nutrient-rich field runoff to surface waters. Some states have established good programs for managing land application of animal wastes; however, others lack the resources needed to implement an adequate level of control. USDA is preparing guidance for developing comprehensive nutrient management plans (CNMPs) on a voluntary basis. EPA is considering including requirements as part of the effluent guidelines, to

ensure that operations included in the regulatory program have CNMPs as part of their NPDES permit.

E. Best Management Practices. EPA is considering including requirements for CAFOs to implement best management practices at feedlot and manure storage areas to improve control of contaminated runoff and improve the structural integrity of waste storage structures.

Structural and operational practices EPA may include in the regulations include constructed diversions (diking, curbing, grading, or other means) to collect contaminated runoff from (and divert clean stormwater away from) areas where animals are confined or where manure or raw materials are stored; permanently-installed depth markers for ponds, lagoons, tanks, and other containment structures for runoff and liquid animal wastes; alternatives to burial of routine poultry mortality; and regular visual inspections of runoff controls and containment structures.

3.3. Regulatory Flexibility Alternatives

The basic premise of EPA's existing regulations is that the regulatory program should focus on large operations and on those posing the greatest risk to water quality and public health. EPA expects to maintain this focus in the revised regulations. This approach helps to reduce the burden of the CAFO regulations on small entities while striving to achieve the goals of the CWA.

The current CAFO regulatory program, which has been in place since the 1970s, only applies to those AFOs that meet the regulatory definition of a CAFO or have been designated as a CAFO by the NPDES permitting authority due to risks posed to water quality and public health. The result has been that most AFOs (including most of those meeting the SBA definition of a small business) have not so far been covered by the NPDES regulations and ELGs.

Further, it is EPA's intent to keep the revisions to the CAFO regulations as flexible as possible, allowing NPDES authorities to write site-specific permits that address the specific concerns for each CAFO in a manner appropriate and manageable for that business.

3.3.1 NPDES

As previously mentioned, the focus of EPA's potential regulatory revisions is primarily on large operations and thus most small entities (those below 300 AUs) would not be affected by the revised regulations. Of approximately 360,000 AFOs nationwide, the vast majority are small entities (more than 97 percent). All CAFOs over the upper regulatory threshold (currently 1,000 AUs) would be required to apply for a permit, while some small operations (those between 300 and 1,000 AUs) could also be required to apply.

Over the past 20 years only one AFO has been designated by a NPDES permitting authority to be a CAFO. EPA expects no more than 10 designations to be made. These designations will be aimed at operations contributing to significant water quality impairment.

A. Certification. EPA is considering an option whereby certain operations initially defined as CAFOs may not be required to have an NPDES permit. An operation in the 300–1,000 AU category would be able to *certify* to the permitting authority that it does not have a potential to discharge and thus does not pose a risk to water quality and public health. Such operations would not have to apply for a permit.

Operations that cannot certify that they do not pose risk to water quality would be required to *apply* for a permit. However, in the application, the operation would have the additional opportunity to demonstrate to the permit authority that pollutants have not been discharged and have no potential to be discharged into waters of the U.S. These operations would not be issued a permit if they could successfully demonstrate no potential to discharge.

B. Good Faith Incentive. EPA is considering explicitly incorporating a good faith incentive for small AFOs. In many cases, AFOs that fall below the upper regulatory threshold might be taking early voluntary actions in good faith to manage manure and wastewater in accordance with a Comprehensive Nutrient Management Plan (CNMP). In the event that such smaller AFOs have a discharge that would otherwise cause them to be designated as CAFOs, the revised regulations may provide an opportunity for these smaller AFOs to address the cause of the one-time discharge and avoid being designated as CAFOs.

C. Early Exit. EPA is considering a regulatory provision that would explicitly allow CAFOs that fall below the upper regulatory threshold to exit the regulatory program after five years of good performance. The regulations could allow such a smaller CAFO to exit the regulatory program if it demonstrates that it has successfully addressed the conditions that caused it to either be defined or designated as a CAFO, fully implements a site-specific CNMP, and certifies full compliance with permit requirements.

D. Facilities with Less Than 300 AUs. EPA is not considering revising the criteria [40 CFR Part 122.23(c)] for designating operations with less than 300 AUs. The majority of small AFOs are in this size range.

3.3.2 ELG

As mentioned above, NPDES permits for CAFOs below the upper regulatory threshold are written by permitting authorities using best professional judgement (BPJ). Thus, each permit is flexible enough to address site specific concerns without imposing unnecessary burden on small entities. The ELG currently applies only to those operations over 1,000 AU. EPA will give serious consideration to potential impacts on small entities as it considers whether to expand the scope of the (less flexible) ELGs to cover small operations.

EPA's primary focus is on operations with an imbalance between the amount of manure produced and the amount of available cropland or pasture. EPA believes that smaller operations typically have ample cropland compared with large operations. Thus, those likely to incur the largest per facility cost are those faced with exporting excess manure to off-site locations, which tend to be larger operations.

EPA anticipates that, for any regulatory option that would expand the scope of effluent guidelines to include operations with fewer animal units than the current 1,000 AU threshold, affordability could be a concern. Runoff controls (e.g., runoff ponds and lagoons) and manure storage structures (e.g., litter sheds) associated with "zero discharge" requirements are significant contributors to the total cost for beef and dairy operations less than 1,000 AU and dry poultry operations. Swine and wet poultry operations below 1,000 AUs are presumed to have lagoons in place and thus would not incur a cost for runoff controls. EPA is exploring alternative requirements to lessen the financial burden on small entities.

EPA is also reviewing monitoring, record keeping, and reporting requirements that may be imposed when revising the effluent guidelines to determine whether nutrient management objectives can be attained with a lesser set of requirements to ease the burden for small entities.

3.3.3 Additional Regulatory Flexibility Alternatives

In addition to the regulatory flexibility alternatives identified above, the Panel also requests consideration of the following alternatives:

- Based on environmental impacts, EPA would consider compliance date extensions for small business hardship cases.

- Consider a provision whereby no additional regulation will be promulgated for animal feeding operations with less than 1,000 animal units.

- Consider not requiring a CNMP in a permit unless sufficient resources are available to the permittee for development and implementation of CNMP requirements.

4.0 DEFINITIONS OF A SMALL BUSINESS

The Small Business Administration (SBA) defines a "small business" in the livestock sector in terms of an business's annual receipts or gross revenue. Table 4.1 summarizes SBA's "small business" definitions relating to the industries that may be affected by the rulemaking.

Table 4.1. SBA Size Definitions for "Small" Livestock and Poultry Operations

SIC Code	Industry Description	SBA Size Standard [a/]
SIC 0211	Beef Cattle Feedlots (Custom)	$1.5 million
SIC 0213	Hogs	$0.5 million
SIC 0241	Dairy Farms	$0.5 million
SIC 0251	Broiler, Fryer, Roaster Chickens	$0.5 million
SIC 0252	Chicken Eggs	$9.0 million
SIC 0253	Turkey and Turkey Eggs	$0.5 million

[a/] SBA Size Standards by SIC industry (13 CFR Part 121). USGPO, 1991 and USGPO, 1996.

SBA's size standards constitute the default definition of "small business" for these livestock and poultry categories. For the egg laying sector (SIC 0252), however, EPA is considering alternative small business thresholds for use in analyzing CAFOs under the CWA, as described below. The following describes EPA's approach to equate SBA's size standard with farm size based on the number of animals on-site.

For the purposes of conducting its IRFA for this rulemaking, and in the absence of business-level revenue data, EPA has estimated the number of "small businesses" by first equating SBA's annual revenue definition with the number of animals at an operation. The number of small entities is then estimated from USDA information on the distribution of farms by number of animals in each sector (Section 5).

Previously EPA had developed a model to estimate the numbers of animals at an operation that correspond with SBA's revenue-based definitions, accounting for a suite of market factors. Input data included the farm price received by producers and average yield, expressed either as animal weight at slaughter or the volume of milk or number of eggs produced annually. For meat animals, input data also included the number of "turnovers" or annual marketing cycles, representing the total number of meat animals produced and sold for slaughter in a full year cycle. To normalize financial differences between

independent operators and contract growers, the model assumed that all producers receive the USDA-reported farm price. The resultant small business estimates were based on farm revenue from livestock-related only (i.e., sales of meat animals, cows milk, and whole eggs, etc.). Revenues from other sources, such as income from crops sales, government payments and other farm-related income, were not considered.

Based on SER comments, the SBAR Panel recommended that EPA modify its approach. The revised approach uses SBA's annual revenue size standard and USDA-reported farm revenue data—derived on per animal per farm basis—to calculate the average animal inventory at a small business. This approach does not attempt to normalize conditions between independent operators and contract growers. This approach does account for total cash revenue from both livestock and non-livestock revenue.

The revised estimates are calculated using SBA's revenue standards as defined at 13 CFR 121.201, with the exception of laying hens. For layers, EPA is considering an alternative definition of "small business" for purposes of conducting its IRFA. EPA believes that an annual revenue of $1.5 million for an operation better reflects the agricultural community's sense of what constitutes a small business and more closely aligns with the small business definitions codified by SBA for other animal operations.

Aggregated farm financial data used by EPA are from the USDA's 1997 Agricultural Resources Management Study (ARMS) database. These data were obtained with the assistance of staff at USDA's Economic Research Service (ERS).[4] USDA's financial data report average total farm revenue for each sector. USDA's data also provide corresponding summary information that match the reported average revenue to the total number of farms and the total number of animals by sector. From these data, EPA calculated average revenue per head for the beef, dairy, pork, layer, broiler, and turkey sectors.

To equate SBA's size standard (in revenues) with farm size based on the number of animals, EPA used these derived revenue per head values to calculate the number of animals, as follows:

$$\#Animals = \frac{\text{SBA's Small Business Definition (\$ per year)}}{\text{Average Total Revenue per head (\$/animal)}}$$

[4] USDA periodically published aggregated data from this database. ERS also makes available customized analyses of the data to members of the public and other government agencies. In providing such analyses, ERS maintains a sufficient level of aggregation to ensure the confidentiality of individual farm level data.

The resultant number of animals is then used as a threshold for identifying a small business. Estimated "small business" thresholds for each sector are shown in Table 4.2. For the purpose of conducting its IRFA for this rulemaking, EPA is evaluating "small business" for these sectors as an operation that house or confine less than: 1,400 fed beef cattle; 200 mature dairy cattle; 1,400 market hogs; 25,000 turkeys; 61,000 layers; or 260,000 broilers. Table 4.2 shows the estimated number of small animal feeding operations based on these size estimates.

Table 4.2. Number of Animals On-site at "Small" Livestock and Poultry Farms

Sector	Total Annual Revenue [a/] (a)	Revenue per head[b/] (b)	#Animals (Avg U.S.) (c=a/b)	Estimated Total Number of AFOs	Small AFOs as % Total
Fed Cattle	$1.5 million	$1,060	1,400	106,930 [c/]	98%
Dairy	$0.5 million	$2,573	200	118,130	93%
Hogs	$0.5 million	$363	1,400	117,860	93%
Broilers	$0.5 million	$2	260,000	34,860	>99%
Layers	$9.0 million $1.5 million	$25	365,000 ($9m) 61,000 ($1.5m)	75,170 [c/]	>99% 98%
Turkeys	$0.5 million	$20	25,000	13,720	89%
All AFOs	**NA**	**NA**	**NA**	**375,740**	**95%**

[a/] SBA Size Standards by SIC industry (13 CFR Part 121). USGPO, 1991 and USGPO, 1996.
An alternative definition of $1.5 million in annual revenues is also analyzed for Chicken Eggs (SIC 0252) .
[b/] Revenue per head derived from data obtained from USDA's Agricultural Resources Management Study (ARMS) database for 1997. ARMS financial data include average total farm cash income by sector and data corresponding to the total number of farms and total number of animals for the income data's sample set.For each sector, data reflect average U.S. values and are rounded to the nearest dollar.
[c/] Total shows operations with mixed animal types. Beef include veal. Layers includes wet and dry systems.

5.0 SMALL ENTITIES THAT MAY BE SUBJECT TO THE PROPOSED REGULATION

Section 4 describes how EPA equated SBA's annual revenue definition with the number of animals at an operation. This section discusses EPA's estimates of the number of small entities based on farm size distribution information from USDA.

For the purposes of conducting its IRFA, EPA is evaluating "small business" for these sectors as an animal feeding operation that house or confine less than:

1,400 beef cattle;
200 mature dairy;
1,400 marketed swine;
25,000 turkeys;
61,000 layers; and
260,000 broilers.

EPA estimates that there are about 376,000 AFOs.[5] Based on the animal inventory thresholds shown above, approximately 95 percent of all AFOs are small entities.

Not all of these operations, however, would be subject to the revised regulations. EPA's regulations only apply to those AFOs that meet the regulatory definition of a CAFO or those that have been designated as a CAFO by the NPDES permitting authority due to risks posed to water quality and public health, as discussed in Section 2. EPA estimates that about 22,000 small AFOs may be subject to the proposed regulations. This estimate adjusts for operations with more than a single animal type.

5.1 Estimated Number of AFO "Small Businesses" Affected by the Regulations

[5] For many of the animal sectors, it is not possible to estimate from available data what proportion of the total livestock operations have feedlots and what proportion are grazing operations only. For these sectors (dairy, hog and poultry), EPA assumed for analytical purposes that all livestock operations are potentially AFOs. The estimate of 376,000 AFOs is thus likely an upper bound estimate of the total number of AFOs. In the cattle feeding industry, however, EPA used data from USDA that strictly identifies the number of beef cattle feedlots for select size categories based on annual marketings.

Table 5.1 presents the estimated number of AFOs and the estimated number of AFOs that are "small businesses" under SBA's size definition in each of the three size categories: more than 1,000 AUs; between 300 and 1,000 AUs; and 300 AUs or less. Sources of data for EPA's small business estimates include published data and information from the U.S. Department of Agriculture (USDA), industry, State agriculture extension agencies and the land grant universities. (For more information on how these estimates were derived, see supporting information in Appendix G.)

As shown in Table 5.1, there were an estimated 4,370 AFOs with more than 1,000 AUs that meet the "small business" definition. Most of these operations are in the poultry sector. This estimate does not adjust for operations with more than a single animal type and so is likely overstated. These small AFOs would be subject to the revised ELG and NPDES permit requirements.

Table 5.1 Total Number of AFOs and Number of "Small" AFOs, 1997

	Total AFOs[a/] (all farm sizes)				"Small" AFOs			
Sector	Total AFOs	>1,000 AU	300AU–1,000AU	<300AU	>1,000 AU	300AU-1,000AU	<300 AU	Total
Beef: cattle	106,080	2,080	2,000	102,000	400	2,000	102,000	104,400
Beef: veal	850	10	200	640	10	200	640	850
Dairy: milk	116,880	1,450	5,690	109,740	0	0	109,740	109,740
Dairy: heifers	1,250	400	750	100	0	0	100	100
Hogs: FF	64,240	2,420	9,240	52,580	0	6,190	52,580	58,770
Hogs: GF	53,620	1,670	3,250	48,700	0	2,170	48,700	50,870
Broilers	34,860	3,940	10,200	20,720	3,900	10,200	20,720	34,820
Layers: wet	3,110	360	800	1,950	60	800	1,950	2,810
Layers: dry	72,060	360	1,330	70,370	0	670	70,370	71,040
Turkeys	13,720	370	1,730	11,620	0	530	11,620	12,150
Sum Total	466,670	13,060	35,190	418,420	4,370	22,760	418,420	445,550
Total AFOs	**375,740**	**12,850**	**28,150**	**334,740**	**NA[b/]**	**NA[b/]**	**334,740**	**356,000**

[a/]"Total AFOs" eliminates double counting of operations with mixed animal types. Based on survey level Census data, operations with mixed animal types account for roughly 25 percent of total AFOs. FF= farrow-finish (includes breeder and nursery pigs); GF=grower-finish. APHIS/NAHMS data indicate approximately 40 percent of swine farms are grow-finish; the other 60 percent are facilities with farrowing. "Layers: wet" are defined at 1,000AU for operations with 30,000 birds since there are no operations with continuous watering systems as defined under the existing regulations. "Layers: dry" are defined at 1,000AU for operations with 100,000 birds.
Source: Values presented in the table are EPA estimates, derived from published USDA data, including 1997 Census of Agriculture; Cattle: Final Estimates 1994–1998; Milking Cows and Production: Final Estimates 1993–1997; Chickens and Eggs: Final Estimates 1994–1997; and Swine '95 reports. Other sources include industry-supplied data and information, and also information from EPA site visits to AFOs.
[b/] Not Applicable

Among AFOs with between 300 and 1,000 AUs, there are an estimated 22,760 small entities. Note, however, that this estimate double counts those operations with more than a single animal type.

The majority of small AFOs have 300 AUs or less. All of these are small entities. EPA expects that roughly 10 AFOs with 300 AUs or less will be designated as CAFOs and thus may be affected by the revised regulations. In the past 20 years, only one AFO has been designated as a CAFO. EPA expects that designation may be limited to small dairy and hog confinement operations that are located in more traditional farming regions near or in impaired watersheds. Such operations are likely to be significant contributors to water quality impairment.

In summary, EPA estimates that roughly 22,600 small entities [6] may be affected by the revised regulations (after eliminating double counting of operations with mixed animal types). Not all of these operations would incur costs under the revised regulation since some of these operations are already in compliance with existing federal and state discharge and permitting requirements.

5.2 Number of CAFOs (300–1,000 AU) by NPDES Regulatory Option

The previous section identified the number of small (300 AU or less), medium (between 300–1,000 AU), and large (greater than1,000 AU) operations that are defined as small entities and may be impacted by the proposed CAFO permitting regulation (Table 5.1). This section provides estimates of the number of AFOs with between 300 and 1,000 AUs that may be covered under the various NPDES regulatory options.

Table 5.2 provides estimates of the number of these operations by sector in the 300–1,000 AU size range that may be covered under various permitting options. Seven criteria were evaluated:

[6] This is estimated as the sum of 4,370 AFOs (>1,000AUs) + 22,760 AFOs (300–1,000AUs) + 10 AFOs designated as CAFOs (<300 AUs), less 20 percent.

any conveyance from feedlot,
improper land application,
insufficient storage,
operations in watersheds with waters impaired by pathogens or nutrients,
operations with greater than 2 AUs per acre,
operations within 100 feet of U.S. waters,
operations located in areas where nutrients (nitrogen and phosphorus) from manure exceed the nutrient requirements of crops and pasture.

The method used to derive these estimates is discussed in Appendix G.

Table 5.2. Number of Small Entities (301–1,000 AU) that may require an NPDES Permit

Sector	Any conveyance from feedlot (incl discharges)	Improper land application	Insufficient Storage[1]	Impaired watershed[1]	>2 AU per acre[1]	Within 100' of a waterway[1]	Located in a manure shed[1]
Beef	320	820	2000	1680	320	400	410
Veal	3	8	20	16	4	4	4
Dairy	0	0	0	0	0	0	0
Hogs	905	1,152	1646	1646	3622	1646	576
Broilers	0	4,858	1056	1900	20064	1478	2428
Layers-wet	0	368	80	976	816	112	184
Layers-dry	0	304	118	818	1042	92	152
Turkeys	0	363	80	584	1200	110	182
National	**1,229**	**7,873**	**5000**	**7622**	**27068**	**3844**	**3936**

Note: Estimates shown above have not been updated to reflect more recent total farm count estimates.
[1] EPA estimates that 50% of operations in this category could still demonstrate no potential to discharge and thus would not need a permit under some regulatory options.

6.0 SUMMARY OF SMALL BUSINESS OUTREACH

6.1 EPA Outreach Prior to Convening the Panel

To facilitate regulation development, EPA has actively involved interested parties in the development of the proposed rule. As part of these efforts, EPA has provided many opportunities for input in this rulemaking process, including eleven public outreach meetings on the Draft Unified AFO Strategy and a stakeholder conference call, including small entities. In addition, EPA meets with various members of the stakeholder community on a continuing basis through meeting requests and invitations when a meetings, conferences, and site visits. These meetings with environmental organizations, producer groups, and producers representing various agricultural sectors allows EPA the opportunity to interact with and receive input from stakeholders about the Unified Strategy and the NPDES and effluent limitations regulatory revisions. While most of these outreach activities have not targeted small entities explicitly, many have included small business participation.

6.1.1 Joint USDA/EPA Unified AFO Strategy Listening Sessions

In the fall of 1998, EPA and USDA announced eleven public outreach meetings designed to allow public comment on the Draft Unified National AFO Strategy. The meetings were held in the following cities: Tulsa, Oklahoma; Harrisburg, Pennsylvania; Ontario, California; Madison, Wisconsin; Seattle, Washington; Des Moines, Iowa; Chattanooga, Tennessee; Indianapolis, Indiana; Fort Worth, Texas; Denver, Colorado; and Annapolis, Maryland. Each meeting included a pre-meeting between state and regional officials, EPA, and USDA representatives to discuss the draft strategy and the issues posed by CAFOs in general. All participants in the public sessions, including numerous small entities, were given the opportunity to sign up and provide their comments to a panel consisting of EPA, USDA, and local representatives. Many of the commenters made points or raised issues germane to small entities. A transcript of these comments was used by EPA and USDA in developing the final Unified National AFO Strategy. These comments and concerns are also being considered by EPA in the development of the revised NPDES CAFO regulations. The transcripts of these meetings are available on the OWM Web Site (www.epa.gov/owm/afo.htm).

6.1.2 Advisory Committee Meeting

EPA was invited to meet with the Local Government Advisory Committee, Small Community Advisory Subcommittee on September 8, 1999. At this Federal Advisory Committee Act meeting, EPA described the CAFO regulatory revisions being considered, and responded to questions concerning the effect of EPA's regulatory actions on small communities. While the CAFO regulations do not directly affect small communities, AFOs do have an effect on local economies and on the local environment. Thus, how they are regulated (or not regulated) has implications for local governments. EPA is keeping local government concerns in mind as it proceeds with the CAFO regulatory revisions and general public outreach activities.

6.1.3 Site Visits

EPA conducted over 50 site visits to collect information about swine and poultry animal feeding operations and waste management practices. EPA visited six broiler, 12 layer, and six turkey facilities in Georgia, Arkansas, North Carolina, Virginia, West Virginia, Maryland, Delaware, Pennsylvania, Ohio, Indiana, and Wisconsin. EPA visited approximately 30 swine facilities in North Carolina, Pennsylvania, Ohio, Iowa, Minnesota, Texas, Oklahoma, and Utah. These facilities were chosen with the assistance of the National Pork Producers Council, United Egg Producers, United Egg Association, National Turkey Federation, National Resources Defense Council, the Clean Water Network, university experts, State Co-op and extension, and state and EPA regional representatives. During these site visits, EPA also visited locations demonstrating centralized treatment or new and innovative technologies. EPA has also attended USDA-sponsored farm tours, as well as tours offered at industry, academic, and government conferences.

In addition, EPA visited approximately 60 sites to collect information about beef and dairy animal feeding operations and waste management practices. EPA visited approximately 30 beef feedlots in Texas, Oklahoma, Kansas, Colorado, California, Indiana, Nebraska, and Iowa, and three veal operations in Indiana. The capacities of the beef feedlots varied from 500 to 120,000 head. EPA also visited approximately 25 dairies in Pennsylvania, Florida, California, Wisconsin, and Colorado, with the total mature dairy cattle at the operations ranging from 40 to 4,000 cows. EPA chose these facilities with the assistance of the National Cattlemen's Beef Association, National Milk Producers Federation, Western United Dairymen, and state and EPA regional representatives.

6.1.4 Industry Associations

The National Pork Producers Council (NPPC), United Egg Producers and the United Egg Association (UEP/UEA), National Turkey Federation (NTF), and the National Chicken Council are trade associations that represent the swine and poultry industries. NPPC is a marketing organization and trade association made up of 44 affiliated state pork producer associations. The NPPC's purpose is to increase the quality, production, distribution, and sales of pork and pork products. The NPPC also organizes the research, advertising, and educational programs that are funded by the National Legislative Pork Checkoff program. The UEP/UEA undertakes programs in the following areas: price discovery; production and marketing information; unified industry leadership; USDA relationships; Washington presence, and; promotional efforts. The NTF is the national advocate for all segments of the turkey industry, providing services and conducting activities which increase demand for its members' products. The National Chicken Council represents the vertically integrated companies which produce and process about 95 percent of the chicken market in the U.S. They provide consumer education, public relations, public affairs, and are working to seek a positive regulatory, legislative and economic environment for the broiler industry.

All of these organizations have actively participated in developing revisions to the swine and poultry effluent guidelines by assisting in site visit selection, submitting supplemental data, reviewing EPA's draft descriptions of the industry and waste management practices, and participating in or hosting industry meetings with EPA. For example, the NPPC has provided its biennial report Pork Facts that summarizes productivity, production, and economic information. Industry also invited EPA to participate in the environmental frameworks developed by the NPPC and the National Chicken Council.

The National Cattlemen's Beef Association (NCBA) and the National Milk Producers Federation (NMPF) are two trade associations that represent the beef and dairy industries. NCBA is a marketing organization and trade association for cattle farmers and ranchers. NMPF deals with milk quality and standards, animal health and food safety issues, dairy product labeling and standards, and legislation affecting the dairy industry. Both organizations have actively participated in developing the beef and dairy effluent guideline by assisting in site visit selection, submitting supplemental data, reviewing EPA's draft documents presenting descriptions of the industry and waste management practices, and participating in/hosting industry meetings with EPA.

Other beef and dairy organizations have also provided assistance to EPA. For example, the Western United Dairymen, a dairy organization in California, organized and participated in site visits and a conference call meeting with EPA. In addition, EPA contacted the American Veal Association to obtain further information on veal operations.

6.1.5 CAFO Regulation Workgroup

Other outreach includes collaboration with USDA and States agencies. EPA established a workgroup that includes representatives from USDA and seven states, as well as EPA Regions and headquarters' offices. The workgroup was established to advise EPA as it develops its regulatory options.

6.1.6 Small Business Conference Call

EPA distributed background information and materials to small business representatives on two separate dates — September 3, 1999 and September 9, 1999. On September 17, 1999, EPA held a conference call from Washington, D.C. to provide a pre-panel forum for small business representatives to provide input on key issues relating to the proposed regulatory changes to the "CAFO Rule." Twenty-seven small business representatives from the beef, dairy, swine, poultry, and exotic animal livestock industries participated in the call. A summary of the conference call is included in Appendix B. Following the conference call, at EPA request, 19 of the 41 small business advisors and national organizations invited to participate provided written comments. Written comments are included in Appendix C. The complete set of these comments were also provided to members of the Panel.

6.2 Panel Outreach

The SBAR Panel for the "CAFO Rule" was convened on December 16, 1999. On December 28, 1999, the Panel distributed an outreach package to the final group of SERs, which included many of the participants in EPA's September 17, 1999 outreach conference call. The package included: a SER outreach document, which explained the definition of a small business and those entities most likely to be impacted by the rule; an executive summary of EPA's cost methodology; regulatory flexibility alternatives; a cost methodology overview for the swine, poultry, beef, and dairy sectors; a cost annualization approach; and, a list of questions for SERs. Additional modeling information was also sent to SERs on January 7, 2000 and January 10, 2000. A complete list of these documents can be found in Appendix D.

The SERs were asked to review the information package and provide verbal comments to the Panel during a January 5, 2000 conference call, which included participation by 22 SERs. During this conference call, SERs were also encouraged to submit written comments. SERs were given an additional opportunity to make verbal comments during a second conference call which was held on January 11, 2000 and included participation by 20 SERs. During both conference calls, SERs were asked to comment on the costs and viability of the proposed alternatives under consideration by EPA. A summary of the both conference calls can be found in Appendix E. Following the calls, the Panel received 20 sets of written comments from 14 SERs. The complete set of these comments is included in Appendix F, and an extensive summary of them is provided in Section 8 of this Report.

7.0 SMALL ENTITY REPRESENTATIVES

EPA, in consultation with SBA, invited the following thirty-four SERs to participate in its SBREFA consultation process. Twenty-two SERs participated in at least one of the conference calls sponsored by the Panel. Fifteen SERs provided written comments to the Panel. The complete list of SERs is provided below.

SER	Region	1/5/00 Conf. Call	1/11/00 Conf. Call	Written Comments
MULTI-SECTOR REPRESENTATIVES				
Nancy Danielson Government Relations Representative National Farmers' Union Washington, D.C.	National	T		
Tom VanArsdall Vice President, Environmental Policy National Council of Farmers' Cooperatives Washington, D.C.	National	T		
Katherine Ozer Executive Director National Family Farmers Coalition Washington, D.C.	National	T		
Don Parrish Environmental Policy Specialist American Farm Bureau Federation Park Ridge, IL	National	T	T	T
BEEF				
John Pemberton National Cattlemen's Beef Association Washington, D.C.	National		T	T
Terry Handke Muscopah, KS	Central (Kansas)		T	T
Irvin Carlson Browning, MT	Central (Montana)			
Reg Clause Jefferson, IA	Midwest (Iowa)	T	T	T

SER	Region	1/5/00 Conf. Call	1/11/00 Conf. Call	Written Comments
Sue Jarrett Wray, CO	Central (Colorado)	T	T	T
Galen Frenzen Fullerton, NE	Midwest (Nebraska)	T	T	
DAIRY				
Carissa Itle National Milk Producers Federation Arlington, VA	National	T	T	T
Scott Mason North Stratford, NH	Mid-Atlantic (New Hampshire)	T	T	T
Bruce Roos Cloverdale, Oregon	Pacific (Oregon)	T		T
Allen Voortman Granger, WA	Pacific (Washington)		T	
Norman Jordan Silver City, NC	South (North Carolina)		T	
SWINE				
Deb Atwood National Pork Producers Council Washington, DC	National		T	T
Paul Willis Niman Ranch Thornton, IA	Midwest (Iowa)	T	T	
Chris Petersen Clear Lake, IA	Midwest (Iowa)	T	T	T
Donna Reifschneider Smithton, IL	Midwest (Illinois)	T	T	T
Jay Foushee Foushee Farms Roxboro, NC	South (North Carolina)		T	T
POULTRY				
Judy Morrison	National	T	T	

SER	Region	1/5/00 Conf. Call	1/11/00 Conf. Call	Written Comments
Broilers				
V.O. Campbell Collins, MS	South (Mississippi)	T	T	T
James Anderson Hindsville, AK	South (Arkansas)	T	T	
Gerald Johnson Perryville, Arkansas	South (Arkansas)	T		
Layers				
Randy Johnson Jefferson, GA	South (Georgia)	T	T	T
George Ulmer Orangeburg, SC	South (South Carolina)	T	T	
Earl Wetta Garden Plain, KS	Midwest (Kansas)			
Dennis Bowden East Waldosboro, ME	Mid-Atlantic (Maine)			
Turkeys				
Marion Atkinson Columbus, KS	Midwest (Kansas)			
Tony Helfter Osage, IA	Midwest (Iowa)			
Ken Mitchell Elk Grove, CA	Pacific (California)			
Craig Miller Harrisonburg, VA	Mid-Atlantic (Virginia)		T	
OTHER SECTORS/EXOTIC ANIMALS				
BISON: Del Hensel Commerce City, CO	Midwest (Colorado)		T	
SHEEP: Pat O'Toole Savery, WY	Midwest (Wyoming)	T	T	

8.0 SUMMARY OF COMMENTS FROM SERS

In addition to the comments made by the SERs during the January 5, 2000 and January 11, 2000 conference calls, the Panel received 20 written comments from 15 SERs. This Section summarizes the main issues raised by the SERs in their oral and written comments. Under each main issue, the SERs' comments have been organized by the following sectors: multi-sector representatives; swine; beef, dairy, and exotic animals; and, poultry. Table 8.1 provides a record of the written comments (no written comments were provided by SERs in the exotic animal category). The complete written comments are provided in Appendix F and the minutes of the conference calls are in Appendix E.

Table 8.1 List of SER Written Comments

Name	Organization/Individual	Date(s) Received	Number of Total Pages
Multi-Sector Representatives:			
Don Parrish (3 comments letters were received from Mr. Parrish)	American Farm Bureau Federation	1/24/00 (1st letter) 1/27/00 (2nd letter) 1/28/00 (3rd letter)	17
Swine:			
Chris Petersen	Individual	1/20/00	5
Deb Atwood	National Pork Producers Council	1/24/00	11
Jay Foushee	Individual	1/24/00	11
Donna Reifshneider	Individual	1/24/00	11
Beef:			
Terry Handke	Individual	1/19/00	2
Galen Frenzen	Individual	1/20/00	2 (Attachments included with comment letter.)
Sue Jarrett (1 comment letter, plus references were received from Ms. Jarrett)	Individual	1/21/00 (Letter) 1/11/00 (References)	4

Table 8.1 List of SER Written Comments

Name	Organization/Individual	Date(s) Received	Number of Total Pages
John Pemberton	National Cattlemen's Beef Association	1/24/00	36 (Attachments included with comment letter.)
Reg Clause	Individual	2/10/00	4
Dairy:			
Scott Mason	Individual	1/21/00	2
Carissa Itle (1comment letter, plus references were received from Ms. Itle)	National Milk Producers Federation	1/24/00 (Letter) 2/4/00 (References)	6
Bruce Roos	Individual	1/24/00	4 (Attachments included with comment letter.)
Poultry (Broilers):			
V.O. Campbell (2 comments letters were received from Mr. Campbell)	Individual	1/18/00 (1st Letter) 2/1/00 (2nd Letter)	4 (Attachments included with comment letter.)
Poultry (Layers):			
Randy Johnson	Individual	1/18/00	1 (Attachments included with comment letter.)

8.1 Number and Type of Small Entities Affected

Beef, Dairy, and Exotic Animals

Two SERs provided written comments on this issue. Mr. Pemberton questioned the analysis presented in Table 4–2 (found in the third SER Outreach Mailing, dated December 28, 1999) that indicates no beef operations above 1,000 AUs would be considered small entities, and requested to review the data used. This SER stated that a feedlot with 1,000 AUs will gross approximately $700,000–800,000 per turn of cattle, and will average two turns per year. However, this SER did not agree that the average turnover rate of cattle should always be used in estimating the number of small entities, because it does not account for variations in corn prices, types of cattle feeding, location to corn, calve market, occupation relative to capacity, region, and the placement weight in feedlot. This SER expressed support for a methodology that is based instead on supplemental income (not generated from selling cattle). For example, sometimes the feedlot generates the majority of its revenue by selling feed to customer cattle.

Ms. Itle stated that 96 percent of the Nation's dairy farms have herds smaller than 300 AUs (200 mature dairy cows). In her written comments she noted that the analysis of the small business impacts of the proposed CAFO rule focuses on those operations that have more than 300 AUs and meet the SBA small business definition (receiving less than $500,000 in annual gross revenue). She further stated that in the case of dairy, these 2 categories are practically mutually exclusive and a modern producer with 300 AUs is grossing more than this amount. Ms. Itle noted that inclusion of immature animals in determining the number of AUs could potentially mean producers who have approximately 125 mature cows will become regulated as CAFOs. Ms. Itle also urged EPA to refine its cost analysis and consider the results accordingly.

Mr. Clause said that 1,000 AUs is really not a large business in terms of the economics; however, it is small enough in terms of what EPA wants to accomplish. Another beef SER agreed.

Swine

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider also commented on the use of the average turnover rate in developing small business estimates in the swine sector. They indicated that EPA used turnover rates and animal values that do not coincide with the actual pork production turnover rate for the various production operations. All three SERs agreed that the swine industry is unique because each phase of production produces an animal at different turnover rates and value. They urged EPA to account for this in their models.

One SER indicated her need for a better, clearer definition of a small business. This SER further remarked that the definition of a small business should account for differences between contract growers and independents.

Poultry

In terms of revenue calculations, one poultry SER commented that while he only makes $0.07 per dozen eggs, EPA used $0.65 per dozen in its calculations.

8.2 Potential Reporting, Record Keeping, and Compliance Requirements

8.2.1 General Requirements

Multi-Sector Representatives

Mr. Parrish provided a written comment on this issue. He stated that EPA may only include monitoring, record keeping, and reporting requirements in NPDES permits for CAFOs to the extent that such requirements are reasonable in relation to controlling the discharge of pollutants from discrete "end-of-pipe" outlets. However, Mr. Parrish also stated that he thinks EPA is not

authorized to require comprehensive nutrient management plans (CNMPs) and, therefore, he recommended not including any of the associated monitoring, record keeping, and reporting requirements in NPDES permits.

Swine
One SER expressed concern about the CAFO owner/operator (not any outside party) being required to monitor for discharges. This SER also suggested that the CAFO owner/operator needs to record discharges.

Beef, Dairy, and Exotic Animals
In his written comment, Mr. Frenzen recommended not requiring unnecessary, time consuming, EPA-designed paperwork with CNMPs. (He felt that nutrient management should be left to the farmer, who is better positioned to evaluate his operation as it affects water quality.)

As a SER and a neighbor of a large swine CAFO, Ms. Jarrett stated that she thinks a permit system based on self-monitoring does not work and that there is a need for EPA and the States to do more inspections and enforcement. She also stated that she thinks EPA needs to include in the rule monitoring requirements on swine operations with 1,000 AUs or more.

Ms. Jarrett also submitted written comments on this issue. This SER stated that the permitting system should not be a self-implementing, self-monitoring, complaint driven system. She indicated that it should not be an operator's decision to evaluate or make a self-determination as to whether their facility is a zero discharge operation. (However, she also indicated that she did not support expanding the scope of the permitting system to include facilities with less than 1,000 AUs, because it would create an undue burden on such operations.)

Poultry
In his written comment, Mr. Campbell indicated that record keeping should be kept to a minimum. He stated that many farmers will be unable to comply if for every field, regardless of size, they must identify and keep accurate records of which nutrients were applied and the amount, when and how they were applied and who applied them. He also indicated that soil tests of every field were also infeasible.

8.2.2 Offsite Transfer of Manure

Swine
Ms. Atwood, Mr. Foushee, and Ms. Reifshneider stated in written comments their belief that EPA lacks the legal authority to require offsite controls of CAFO-generated manure. Restrictions such as requiring a CAFO operator to get a signed certification of CNMP compliance from those who would buy or take as a gift CAFO-generated manure would also serve only to threaten the market for CAFO-generated manure and drive farmers toward the

use of commercial fertilizer instead of manure. However, all three of these SERs supported requiring the CAFO to maintain records of off-site manure transfers, including the name and address of the hauler, the date of removal, and volume of removed manure and wastewater. These SERs also agreed that, when the removed manure and wastewater are to be land applied, the operation should make available to the hauler the most recent manure nutrient analysis.

Beef, Dairy, and Exotic Animals

Two written SER comments were received on this issue. Ms. Itle, a dairy SER, indicated that keeping records of off-site transfer of waste must not be burdensome because small producers who face agronomic rates may need an outlet for the extra manure and burdensome requirements would discourage third parties from using that extra manure.

Mr. Pemberton noted that EPA is not considering an option to require manure recipients to sign a document of compliance with a CNMP.[7] The National Cattlemen's Beef Association (NCBA) strongly supports this decision. This SER would be concerned with such requirements because offsite land application is not under the control of the operator or the jurisdiction of an AFO's permit and thus should not be included in the permit or the CNMP. EPA's attempt to place liability upon the CAFO operator for third party actions would clearly be outside the jurisdiction of EPA and should not be considered. (Mr. Pemberton thinks that any attempts to strictly link the offsite land application practices of third parties to beef feedlot operators' NPDES permits could destroy the market for dry manure.)

8.2.3 Manure and Soil Testing Requirements

Beef, Dairy, and Exotic Animals

Ms. Jarrett recommended that, if the establishment of the discharge standard (for operations under 1,000 AUs) and control of land application is left to the discretion of local permitting authorities and its best professional judgement, EPA must set minimum requirements applicable to every permit, including waste and soil analysis. Mr. Handke stated that he thinks most farmers test soil for nutrients. (He noted this in written comments in opposition to a strong enforcement program on manure application.)

Swine

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider supported requiring permitted swine operations to conduct soil tests and manure nutrient tests every two years.

[7]EPA is no longer considering this option.

8.3 Related Rules

8.3.1 Total Maximum Daily Loads

Several SERs provided comments on Total Maximum Daily Loads (TMDL) regulation as it relates to CAFO regulations. These comments are summarized below.

Multi-Sector Representatives
Mr. Parrish suggested that EPA consider that CAFOs in an impaired watershed whose technology-based limits are not sufficient to meet water quality-based standards might incur greater costs, and possibly have to shut down.

Beef, Dairy, and Exotic Animals
Ms. Itle commented that dairies with less than 300 AUs may be impacted by potential regulatory changes to CAFO rules as well, due to discharge situations or designation as CAFOs as a result of location in a TMDL impaired watershed. This SER echoed this comment in her written comments.

In his written comments, Mr. Pemberton included NCBA's comments on EPA's Draft Manual and NPDES Permit for CAFOs where they noted that EPA stated it would coordinate Phase 1 of NPDES permitting with the TMDL program. NCBA questioned how this was possible, considering that NPDES permits do not allow CAFOs (with 1,000 AUs or more) to add any loads to the waters of the U.S. and thus could not be expected to further reduce its loadings as required under the TMDL program. For this reason, NCBA recommended that CAFO NPDES permits should be excluded form the TMDL requirements due to the zero discharge nature of the permit.

Poultry
Mr. Campbell stated that most 303(d) listed watersheds were listed by the State of Mississippi without supporting scientific evidence of water impairment. He provided reports, which contradict information contained in EPA's TMDL database. One of these reports indicates that water quality problems of the 1970s are linked more to municipal waste and unenforced industrial standards than to agriculture and that remarkable improvement in the quality of their waters over the past 30 years should be recognized. (This SER thus recommended that EPA not designate AFOs as CAFOs because they are located in a 303(d) listed watershed.)

8.3.2 Related State Programs

Swine
One SER suggested that EPA consider the various State CAFO requirements when considering revising CAFO regulations.

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider provided written comments about swine CAFO operators, who do not now have NPDES permits, but have adequate management measures to prevent water pollution. These SERs suggested that States have implemented regulations over the last ten years equal to or exceeding NPDES permits and strongly encouraged EPA to consider and analyze these programs accordingly.

Beef, Dairy, and Exotic Animals

Many beef SERs also suggested that EPA consider state programs when revising CAFO regulations. Several of them provided examples of State programs that implemented regulations that may equal or exceed requirements of the current NPDES program. Mr. Roos noted that Oregon's State Department of Agriculture has a CAFO program that seems very similar to the NPDES program, except that all confined animal feeders are required to have a permit, regardless of size. Mr. Clause noted that Iowa already has substantial state environmental regulations in place, including requirements for certified nutrient management plans and formal certification of manure applicators. Another beef SER commented that the majority of farms are already under some kind of state CAFO nutrient management regulation.

Several SERs also commented that States and local agencies are better positioned than the federal government to regulate CAFOs. Mr. Handke stated that state and local agencies can better serve the environment than EPA or national programs, and new or existing regulations should be considered on a regional basis. Mr. Clause had a similar written comment, except he stated that states are is better positioned than local or federal agencies to address concerns and issues regarding CAFOs.

Poultry

Mr. Brock noted that the state of Alabama recently completed a broad-based stakeholder process to revise its regulations governing the poultry industry.

8.4 Regulatory Alternatives

8.4.1 Revising the Thresholds

Multi-Sector Representatives

Mr. Parrish provided a written comment in opposition to lowering the NPDES threshold. He stated that EPA's regulation of smaller operations should be based on factors that indicate such operations have a similar polluting potential to larger operations and be narrowly tailored to address direct discharges to waters of the US. Mr. Parrish was not opposed to lowering the ELG threshold, provided that the standards applicable to smaller operations (under 1,000 AUs) are reasonable and affordable to these operations, including alternatives such as nonzero discharge limits and/or lesser design standards up to a 20-year, 24-hour storm. Mr. Parrish was concerned

that local permit writers may look to guidelines designed for larger operations for guidance in determining best professional judgement (BPJ), even though these guidelines may be overly stringent for smaller operations. To the extent it would avoid this situation and assuming all AFOs in the intermediate size category (300-1,000 AUs) are going to be included in the NPDES program, such tiered requirements are preferable to the current BPJ approach.

Swine

Mr. Petersen provided written comments objecting to lowering the NPDES threshold, because that would result in a disproportionate economic effect on small swine producers. However, this SER noted that in his area approximately 70 percent of new facilities have been built individually, but adjacent to each other, in order to avoid the size threshold and thus an automatic need for a permit.

Beef, Dairy, and Exotic Animals

None of the SERs that commented in outreach meetings supported lowering the NPDES or ELG threshold below 1,000 AUs. (However, two of them supported permitting all operations with greater than 1,000 AUs.)

Six SERs provided written comments on this issue – all in opposition to lowering the NPDES threshold. Mr. Handke, Frenzen, and Clause recommended against lowering the NPDES threshold because it would place undue burden on facilities with fewer than 1,000 AUs. These SERs also expressed concerns with lowering the ELG threshold.

Mr. Pemberton opposed lowering the NPDES threshold, because this size range of operations (300–1,000 AUs) has not been proven by EPA to cause any immediate environmental concern and also because lowering it would not go any farther to accomplish EPA's stated goals. He noted that EPA already has jurisdiction to permit any size animal feeding operation that falls into the many environmental concern areas that are listed in the current regulations and suggested that EPA does not need to change regulations but merely implement the current regulations. (Mr. Pemberton also expressed concern that EPA is shifting its regulatory focus from larger CAFOs (1,000 AUs or more), as premised under the USDA/EPA Unified Strategy for AFOs, to smaller CAFOs (300 –1,000 AUs), and that EPA is failing to separate proposed changes to NPDES and ELG and, in documents and discussions, is confusing lowering the threshold for NPDES and ELG.)

However, Mr. Pemberton did not necessarily oppose lowering the ELG threshold. He noted that NCBA is very interested in exploring with EPA alternative requirements, to lessen the financial burden on small entities, and requested any information that EPA has on the alternatives under consideration.

Ms. Jarrett could not support either lowering the NPDES or ELG threshold at this time, because operations with more than 1,000 AUs pose potential and immediate danger far exceeding that of

smaller operations and have not yet been successfully addressed. Nor should resources be diverted from them.

Ms. Itle also expressed opposition to lowering the NPDES and ELG threshold. This SER stated that it is appropriate to permit facilities smaller than 1,000 AUs only when intentional, repeated direct discharges are occurring. This SER objected to lowering the ELG threshold because zero discharge for operations less than 1,000 AUs could have significant economic impacts on small producers, especially considering that 68 percent of respondents to the 1996 National Animal Health Monitoring System's *Dairy '96* study had no storage tank or lagoon in place. [The she also urged EPA to consider as an alternative to lagoons, the use of BMPs such as filter strips and buffers to help control runoff from smaller facilities in place of costly containment structures (see Section 8.4.13)].

Poultry

One SER remarked that he does not want the threshold to be lowered for the NPDES threshold because this would include just about every operation in his area. He also wondered why the threshold could not be raised. He noted that Alabama raised its broiler threshold to 125,000.

One written poultry SER comment was received on this issue. Mr. Campbell recommended raising the threshold to 150,000 birds at which broilers would be considered CAFOs, since many farms have that capacity. This number reflects the minimum capacity required to support the average farm family.

8.4.2 Revising Criteria for Defining or Designating a CAFO with 300–1,000 AUs

Multi-Sector Representatives

Mr. Parrish recommended in his written comment that EPA not change the criteria for defining a CAFO, located at 40 C.F.R., Part 122, Appendix B. Mr. Parrish is concerned with EPA's consideration of options to expand the definition of a CAFO to include runoff from agricultural fields where manure from CAFOs has been applied. Mr. Parrish stated that runoff from land application and any other activity in which a CAFO is not collecting and concentrating waste for discharge through a discernible, confined and discrete conveyance is a nonpoint source and thus properly not within the scope of the NPDES program. However, Mr. Parrish did not necessarily oppose alternatives in which criteria for defining CAFOs in the 300–1,000 AU category are modified. If EPA can devise an approach where a facility can know and/or demonstrate it does not meet the primary criteria, relating to past discharges of pollutants, an alternative that includes secondary criteria may not be overly inclusive. It would depend on the breadth of interpretation of "discharge." It is the American Farm Bureau Federation's (AFBA) position that a CAFO does not become a permittable CAFO without an "end-of-pipe" release or "discharge."

Beef, Dairy, and Exotic Animals

Mr. Voortman preferred that EPA consider permitting operations based on number of animals relative to acres rather than upon number of AUs. This SER stated that this approach would provide a more accurate indicator of water pollution.

Mr. Pemberton suggested that EPA not define "man-made conveyances" to include any device in which human action was involved in its creation or maintenance, even if natural materials were used to form the conveyance. He suggested that defining man-made conveyances to include man-made channels or ditches that were not created specifically to carry animal waste but nonetheless do so during storm events would define AFOs as CAFOs that use buffer strips, riparian zones, field tile lines and other practices and thus discourage the voluntary use of such technologies. [8]

Two written comments were received on this issue. Ms. Itle commented that it is inappropriate to establish numeric AUs per acre in federal regulations because this limit does not take into account the manure characteristics of different animals, varying crop yields, varying soils, or off-site manure transfer. It also does not account for the potential future development of new manure management technologies (and might discourage innovation). Ms. Itle also recommended against changing the criteria to include immature animals in the dairy sector, because this would redefine many AFOs into higher size categories, even though young stock are often not raised in confinement situations or in a manner that contributes significantly to an operation's potential to discharge. Also, she stated that the number of immature dairy cows at a given operation varies significantly relative to mature milking cows and, therefore, would make size for purposes of NPDES permitting more difficult to determine. She further stated that the percentage of designated operations will increase as a result of heightened regulatory focus on CAFOs.

Mr. Pemberton also provided written comment in opposition to alternatives in which criteria were modified because, under current regulations, the permitting authority can already designate AFOs with between 300–1,000 AUs as CAFOs, for failure to meet the criteria as modified, with one exception — i.e., the criteria related to land application. And Mr. Pemberton recommended against including on-site land application in any determination of which AFOs are CAFOs (by definition or otherwise) without properly accounting for the agricultural storm water exemption from the definition of a point source (e.g., issuing a permit because an AFO does not land apply in accordance with a CNMP). Mr. Pemberton referred the Panel to comments, appended to his own, in which NCBA also opposed expanding the scope of the NPDES program to include off-site land application, in any form, because it is geographically outside the definition of an AFO (only an AFO can be a CAFO). NCBA also stated its belief that simply being located in an impaired watershed is not justification for an AFO to be designated as a CAFO.

[8]EPA noted that it intends to clarify its interpretation so as not to discourage the voluntary use of such best management practices.

Mr. Pemberton also requested that EPA clarify if the two animal units per acre criterion would include grazing operations, since they by definition are not considered as animal feeding operations, and requested that EPA more clearly differentiate between on-site and off-site land applications in discussions and documents.

Swine

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider provided written comments in opposition to revising the definition of a CAFO at 40 CFR 122, Appendix B to restrict eligibility for the 25-year, 24-hour storm permit exemption to facilities that prove they have not or will not discharge.

Poultry

One written poultry SER comment was received on this issue. Mr. Campbell stated that 303(d) listed watersheds should not be used as criteria for designating CAFOs. He suspects that in Mississippi, and perhaps elsewhere, scientific evidence of impairment was not properly considered during the listing of waters. He contends that storage capacity should not be a factor in determining what is a CAFO, at least until affected operations have time to build adequate storage with the assistance of cost-share and cooperation from federal and State agencies.

8.4.3 Certification for AFOs with between 300–1,000 AUs

Multi-Sector Representatives

Mr. Parrish stated that the "check a box" approach to self-certification is not feasible because it would create a legal liability for producers in that it would be impossible to certify that an operation posed no threat to water quality. Every operation would be required to apply for a permit and assume the burden of proof that they are not doing something wrong whereas, under current regulations, the burden lies with the permitting authority to identify wrongdoing before issuing permits. However, if EPA includes land application in the determination of a CAFO, Mr. Parrish could support an approach that would allow any AFO that can certify (by soil testing or other monitoring methodology) that nutrient levels in its soils are not excessive to avoid a permit.

Beef, Dairy, and Exotic Animals

Mr. Pemberton also opposed checkbox certification because it would add confusion by adding legally significant but vague terms ("certify" and "pose a risk to water quality") to a list of terms already in need of clarification as EPA interprets them (e.g., "discharge"). He added that the major flaw with such an approach is that it shifts the burden of proof of whether a permit is required to the citizen. The SER questioned EPA's authority under the CWA to place the burden on the citizen to prove to the government that an event did not happen. The SER stated that it is NCBA's understanding that the government has the obligation to enforce the regulations and has the burden of proving all violations of the CWA. This SER also did not support an alternative where a

producer is unable to prove that a discharge did not occur and thus is assumed to have violated the CWA and require a permit, without any evidence offered by the government.

Ms. Itle noted that an alternative based on a checkbox approach would change the burden of proof for affected facilities. It would change the assumption from facilities who are not discharging unless proven otherwise by the permitting authority to facilities who are discharging unless they certify otherwise. This SER stated that facilities under 1,000 AUs should be permitted only when intentional, repeated direct discharges are occurring. She also remarked that the process CAFOs with 300–1,000 AUs would use to certify that they do not pose a threat to water quality or public health is unclear.

Ms. Itle also expressed concern with the potential legal ramifications to producers of certification approach.

Swine
Ms. Atwood, Mr. Foushee, and Ms. Reifshneider indicated that it is improper for EPA to instruct states to require facilities that believe they have not or will not discharge to: 1) apply for a permit, and 2) submit technical documentation of "no discharge" with the permit application. However, these SERs noted that National Pork Producer Council's policy is that all pork operations should be required to have permits.

8.4.4 Immature Animals

Multi-Sector Representatives
Mr. Parrish provided a written comment in opposition to considering immature animals in determining the total number of animals at AFOs. Mr. Parrish stated that, according to the 1997 Census of Agriculture, this would result in an additional 12,602 farms that would qualify as CAFOs and this is a conservative estimate.

Swine
One SER asked EPA whether or not it had looked at different scenarios for different operations (i.e., farming, nursery, grow-to-finish). Because different operations can include all of these phases, she suggested looking at an average between 10–55 pounds.

Mr. Petersen's written comment was in favor of the inclusion of immature animals for all animal types because in the swine industry immature animals are most likely to receive antibiotics and growth promoters.

Beef, Dairy, and Exotic Animals
Ms. Itle did not support considering immature animals in determining the number of animals at an AFO for purpose of NPDES permit because it would make size determinations very difficult, both

for the operator and the permit writer, because numerous dairies constantly relocate young among different AFOs.

One exotic animal SER suggested that EPA prove the viability of its proposals on large operations before they are imposed on smaller operations.

Three SERs provided written comments to this issue. Ms. Itle is concerned that if young stock were included in AU counts for the dairy industry, producers who have approximately 125 mature cows could potentially find themselves subject to regulatory provisions. Since there are twice as many dairy operations in the U.S. with 100–199 head as there are with more than 200 head of dairy cattle, this SER anticipates a dramatic increase in the number of dairies potentially subject to NPDES permits, with little justification. Often, young stock are not raised in confinement situations, and heifer barns are seldom flushed with water for cleaning, so discharge potential from these practices is not significant. In addition, young stock numbers experience more variance than do milking cow numbers. This would make permitting size more difficult to determine.

Mr. Mason commented that including immature animals (i.e., heifers) would bring his operation into the greater than 300 AU category.

As a neighbor of a large swine operation, Ms. Jarrett commented on this issue. In this sector where immature animals are currently not considered, she indicated that they should be included in the total number of AUs. (Source materials are included with the comment letter in Appendix F.)

8.4.6 Dry Poultry Operations

Multi-Sector Representatives

Mr. Parrish commented that dry operations should not be included in the regulations because of the absence of water or other liquids and thus dry manure management systems do not result in pollutants that can be discharged through a discrete point source. The current NPDES CAFO definition correctly includes only layer and broiler operations that use continuous overflow watering or liquid manure systems because of their possibility to discharge pollutants.

Poultry

One written comment was received on whether or not to include dry poultry operations in the regulations. Mr. Campbell viewed continuous overflow also as an unsuitable condition for designating a CAFO, partially because the term is no longer used by the poultry industry. Instead EPA should use the terminology the industry uses within each animal sector.

8.4.7 Removal of the 25-Year, 24-Hour Storm Event Permit Exemption

Multi-Sector Representatives

Mr. Parrish provided written comments in opposition to removal of the 25-year, 24-hour storm event permit exemption. Mr. Parrish noted that the permit exemption represents the least cost approach to small entities to federal CAFO regulations. Mr. Parrish also stated his belief that removing this provision would not only be unreasonable but also unlawful. He argued that, although EPA has authority under CWA to regulate point sources and CAFOs are deemed to be point sources, this authority is limited by the congressional intent underlying it, and that there is substantial evidence in the legislative history of the CWA that Congress intended to control only "end-of-pipe" discharges of effluents from CAFOs. Mr. Parrish also indicated that the legislative history of CWA requires that the CAFO regulations retain some type of severe storm event exception. He also stated that no permit conditions should be included for discharges so long as the CAFO maintains structures that are designed and constructed to contain a 25-year, 24-hour storm event.

Swine

One swine SER commented that this provision should be clearer and easier to understand.

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider provided written comments in opposition to restricting eligibility to the 25-year, 24-hour storm permit exemption to facilities that prove they have not or will not discharge. These SERs stated that the States and EPA should grant the catastrophic storm exemption unless records chronicle a previous discharge to waters of the United States.

Beef, Dairy, and Exotic Animals

Mr. Pemberton noted that EPA has estimated the number of CAFOs without an NPDES permit, but has not yet identified how many of these do not have a permit because they properly qualify for the exemption and he suggested that EPA do so. The same SER also requested that EPA explain why a NPDES permit was needed if the operation already has sufficient engineering to protect against discharges. Several SERs agreed that the motivation is unclear for removing this provision in situations where the operation is already sufficiently engineered.

Two beef SERs indicated that they are concerned about removing this provision but that what is needed to qualify may be unclear and that EPA could clarify this by including design specifications.

Ms. Jarrett supported removal of this exemption for operations with 1,000 AUs or more. She added that her operation has been engineered enough so that there are no discharges; however, she suspects there are large swine operations in her State that do not have adequate engineering, are discharging, and are not permitted.

Another beef SER stated a concern that removal of this exemption could put people out of business.

A dairy SER also indicated that he is concerned about the removal of this exemption and supported this type of limit because otherwise all operations would be permitted.

Five written SER comments were received on this issue. Two beef SERs and three dairy SERs stated that EPA should not remove the provision. One of these SERs, Mr. Pemberton, is concerned that EPA has not provided any scientific research or analysis of why the provision needs to be removed. He continued by stating that, without this provision, there would no longer be any incentive for non-permitted operations to "over engineer" their facilities to contain a 25-year, 24-hour storm event, in order to avoid a permit. Mr. Pemberton also requested that EPA justify a decision to remove this provision and provide environmental reasons and scientific analysis upon which such a decision is based. NCBA is not persuaded that all AFOs with 1,000+ AU probably have discharged in the past or have a reasonable likelihood to discharge in the future, under conditions of less rainfall than a 25-year, 24-hour event.

Mr. Clause, who operates a 1,000+ AU facility, also opposed removing this provision, because he would be required to obtain a permit when he otherwise would not need one. Mr. Clause is concerned that the permitting authority would require him to add measures such as expanding his facility's containment, which would require massive expenditures without any resulting improvements to water quality. This SER noted that neither manure nor wastewater from his operation reached the nearest stream during the very large storms of 1993 and that this was not necessarily because of his facility's design. Although he has containment and other manure-management measures (e.g., buffer strips) in place, he noted that there are other significant factors working against discharge, such as his operation's location relative to the nearest surface water body and the slope of the land in-between. Mr. Clause indicated that he is better positioned than a permit writer is to manage his operation (and the manure it generates) so that it does not contribute to water pollution. Mr. Clause also indicated that obtaining a permit would not offer him any legal protection from citizen suits; if it had, and it was important for him to have such protection, he would have already applied for one.

Ms. Itle added that removal of this existing storm exemption would require CAFOs to apply for a permit even if they discharge only during a 25-year, 24-hour storm event. The marginal environmental benefit received from eliminating inevitable severe storm discharges does not warrant the additional cost or regulatory burden of eliminating this exemption.

Mr. Mason requested that EPA explain why it would lift this provision. He stated his belief that, if it is removed, every farm will have to have a permit and the associated construction and compliance costs would be tremendous.

Mr. Roos indicated that most operations in his rainy region would be unable to comply with a requirement to contain a 25-year, 24-hour storm event because they would need dikes around their property. He added that this could be costly.

Poultry

One written poultry SER comment was received on this issue. Mr. Campbell stated that a single discharge in 25 years should not be a significant factor in designating CAFOs because the impact would be small in his geographic area and it would not justify the large amount of paperwork.

8.4.8 Co-permitting

Multi-Sector Representatives

Mr. Parrish commented that growers are at a disadvantage in that they are responsible for all the risks. He provided a written comment in opposition to co-permitting. He stated that co-permitting would have the following adverse consequences: affect the rights of farmers; result in massive structural re-organization of the domestic poultry industry; and place additional financial burden of environmental compliance on the farmer/grower. He noted that, when integrators have been faced with sharing the grower's compliance costs, it has resulted in contractual indemnification clauses or other means of shifting the cost away from the integrator to the grower. He added that, even if the integrator assumes some of the responsibility initially, he thinks that most, if not all, of the costs would eventually be passed on to the grower.

He also suggested that EPA not use the term, "independent contractor," as this term is used by the Internal Revenue Service (IRS) but not necessarily with exactly the same meaning. Use of this term by EPA could thus effect the contractual relationship between producers and contractors as well as their tax status.

The same SER provided a written comment in opposition to co-permitting. He stated that co-permitting will do the following:

- Affect the rights of farmers;
- Result in massive structural re-organization of the domestic poultry industry; and
- Place additional financial burden of environmental compliance on the farmer/grower.

The same SER indicated that EPA should not use the same term, "independent contractor," used by the IRS because farmers who grow agricultural commodities under the contract fall under the definition of an "independent contractor." According to the SER, use of this term by EPA could effect the contractual relationship between producers and contractors.

Swine

Several SERs provided comments about co-permitting. One SER commented that the grower would have to take some responsibility. Another SER expanded the responsibility concept and added that the owners of animals should share the same responsibility as the growers. This viewpoint was countered by two other SERs who indicated that co-permitting is not a good idea

because it could result in the closure of some operations due to the strict compliance requirements by the integrator.

One SER added that while he is in favor of co-permitting, the integrator has all of the power.

Four SERs provided written comments on this issue. While Ms. Atwood, Mr. Foushee, and Ms. Reifshneider stated that they do not support co-permitting, they do believe in the shared responsibility between owners and operators. In their view, EPA does not have the legal authority to consider corporate entities as "operators" of a CAFO under the CWA. They stated that a contractual arrangement is embodied in contract law not CWA authority.

Mr. Petersen stated that even though there should be a provision for co-permitting, EPA must understand that contract producers are already burdened with an unfair share of the risk and they have little power to negotiate contracts, particularly once the contract is signed. Contract producers are simply trying to survive given the economic circumstances they are enduring.

Beef, Dairy, and Exotic Animals

Three written SER comments were received on this issue.

Mr. Pemberton stated that EPA should not regulate the "companies and industries" that feedlot operators are involved with and questioned EPA's legal authority to do so. Mr. Clause stated that co-permitting would have the unintended consequence of driving many small operators out of business with no apparent environmental benefits. He was concerned that integrators would drop many of their growers and pass any additional costs on to the remaining ones.

Ms Jarrett suggested criteria for determining whether or not a co-permit is required. Some of the criteria mentioned were "Does the operator own the animals?"and "Who controls when the manure is applied?" She added that co-permitting could be required for application to land that is adjacent but does not belong to the CAFO when the land application is under the direct control of the CAFO operator. She was particularly concerned about large, corporately owned hog operators near her small beef feedlot, that she feels are not adequately regulated. She also mentioned in a conference call that she contracts with another farmer to raise some of her cattle and is not sure that this should require a co-permit.

Poultry

One SER suggested that there were few, if any, independent poultry operators in the U.S. The SER indicated that co-permitting would restrict the freedom of the contract grower to move from integrator to integrator. The SER also stated that co-permitting will: 1) increase the contact between the grower and the integrator, and 2) increase the incentive for the integrator to interfere in the grower's operation.

Another SER questioned whether or not integrators are going to pass the regulatory costs to growers. He also questioned how the grower was going to overcome the costs. The SER indicated that co-permitting would place tremendous amounts of pressure on the grower.

One SER remarked that if you make one integrator angry, others in the area would hold it against the grower. He further remarked that after 20 years of service, his integrator sold his contract to another contractor.

Mr. Campbell stated that in Mississippi, growers move from integrator to integrator.

Another SER stated that moving from integrator to integrator is not normal practice in most States. The SER also indicated that the current situation for most poultry growers is not very good. For example, some growers receive only $0.025 per dozen eggs.

Another SER indicated that the integrator would hold the growers liable.

Another SER said that he is concerned about co-permitting because it will bring "legal changes to the permitting process," and he questioned the legal authority for co-permitting.

One written SER comment was received on this issue. Mr. Campbell cited six negative effects on AFOs and integrators that could potentially result from co-permitting as follows:

1. Increased oversight from integrators
2. Restrictions to changing integrators, and elimination of competition among integrators for the best growers
3. Pressure for integrators to terminate AFOs that fail to comply with nutrient management plans.
4. Encouragement for integrators to build and operate their own grow-out facilities
5. Shift to larger contractors by integrators to facilitate compliance
6. Change in structure of animal production that could require contract operators to own the animals and be responsible for production costs.

8.4.9 Comprehensive Nutrient Management Plans

8.4.9.1. General Issues

Multi-Sector Representatives

Mr. Parrish provided a written comment which indicated that EPA is not authorized to require the development and implementation of CNMPs as a condition of an NPDES permit, because these plans address nonpoint source pollution.

Swine

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider provided written comments regarding CNMPs. The SERs stated that they support the requirement of CNMPs on land owned or controlled by the operator. However, they believe that there should be no legal linkage between the CAFO operator and the environmental performance of any third party user of the CAFO-generated manure. They also stated that the phosphorus requirements within this rule have the potential of significantly impacting the pork producer economically. They supported three recommendations from the National Environmental Dialogue on Pork Production (the Pork Dialogue) to address the phosphorus issue:

- Federal agencies should work with land grant universities to develop specific information regarding each soil type and ability to hold phosphorus;
- USDA, in cooperation with land grant universities, should establish maximum, or threshold, phosphorous levels for all major soils based on their capacity to retain applications of phosphorous; and
- When soil phosphorous thresholds are established, and only where the phosphorous threshold is exceeded, producers should be given a significant period of time, up to five years, to adapt their systems to phosphorus-based manure management.

The same three SERs also recommended that CNMPs should be retained onsite and only available to authorized authorities. They further recommended that CNMPs should be considered confidential business documents, and should be afforded appropriate confidentiality from the general public.

Beef, Dairy, and Exotic Animals

Mr. Frenzen, a beef SER, posed the rhetorical question of why nutrient plans are not needed for commercial fertilizer.

Ms. Jarrett stated that CNMPs should only be required for large swine operations over 1,000 AUs. She said that "washing" has created runoff problems and manure management problems for those in the swine industry. Because of these problems, swine operations with over 1,000 AUs should definitely be required to develop and implement CNMPs. Ms. Jarrett also commented that beef operations with less than 2,500 AUs should not be required to develop and implement CNMPs.

A dairy SER indicated that rather than using AUs to determine whether or not a CNMP is necessary, use either AUs per acre or tons of manure per acre applied.

Three written SER comments were received on this issue.

Mr. Pemberton recommended that the schedule and requirements for CNMP should not even be considered until EPA develops a funding strategy for the drafting and implementation of the CNMP.

The same SER indicated that the CNMPs proposed by EPA are not the most effective way for all AFOs and CAFOs to minimize water quality and public health risks. He also stated that the CNMP should be retained onsite and only be available to permitting authorities. CNMPs should be considered confidential business documents that outline all of a producer's strategies and practices. EPA has demonstrated no need for the public to have access to this document.

Ms. Jarrett emphasized the need for a CNMP between CAFO operators who control the pump and valve that applies effluent to crop land and the owner of the land where the manure is being applied.

A dairy SER remarked that existing NRCS approved nutrient management plans may already be appropriate regulatory flexibility alternatives to a requirement for CNMPs for small operations.

Mr. Frenzen urged EPA not to require unnecessary, time consuming paperwork with CNMPs which are not designed by the farmers themselves.

8.4.9.2 CNMP Development

Multi-Sector Representatives

Mr. Parrish provided a written comment that there is an inadequate supply of certified CNMP planners. He also provided information on the cost of developing CNMPs, which varies considerably depending on existing practices, current management, and the size and configuration of the farm. He estimated that these plans may cost from $2,000 to $60,000 for typical farms to develop.

Beef, Dairy, and Exotic Animals

Ms. Itle agreed that there is a lack of resources available to help develop and implement these plans. Development of CNMPs by certified planners may be expensive for small producers. The SER suggests existing NRCS-approved nutrient management plans may be an appropriate regulatory flexibility alternative to CNMPs for small producers. Ms. Itle commented that National Milk Producers Federation is interested in cooperating with USDA and EPA to generate resources for CNMP development.

A dairy SER and a beef SER prefer that the farm owner develop the plan. The dairy SER, Mr. Mason, is concerned about the high cost of producing a plan for his farm. He consulted a

certified crop consultant familiar with his farm and, based on this, estimated that it would cost $5,000 to produce the plan for his farm and $1,000 to maintain it.

A beef SER stated a concern that financial support will be needed to develop these plans; though the industry continues to see more regulations and guidance documents, there has been nothing addressing this very important issue of financial assistance.

Swine
Ms. Reifshneider suggested that EPA consider a computer program for use in developing a site-specific CNMP in lieu of using a certified crop advisor. The same SER added that computer programs would be much more efficient.

Poultry
Mr. Campbell wondered what role a certified permit writer has. He indicated that in Mississippi, Natural Resources Conservation Service writes the plan. After the plan is complete, it is sent to the Department of Environmental Quality (DEQ). DEQ then writes a permit based on the actual CNMP.

Another SER suggested that EPA considered not including a CNMP as a condition of a permit.

One written comment was received on this issue. Mr. Campbell requested that owners/operators be protected from interruption in production during the development of NMPs in the event that there are disagreements between the certified planners and owners/operators, particularly if planners hold up the process without just cause. Owners/operators should have the option of appealing to another authority.

8.4.10 Offsite Transfer of Manure

Multi-Sector Representatives
Mr. Parrish provided a written comment opposing EPA regulating individuals or entities that purchase animal waste from CAFOs because, in doing so, EPA would be regulating nonpoint sources of pollution, which he thinks is not within the scope of EPA's authority.

Swine
Ms. Atwood, Mr. Foushee, and Ms. Reifshneider stated in written comments their belief that EPA lacks the legal authority to require offsite controls of CAFO-generated manure. The restriction of third-party use of CAFO-generated manure would threaten the cooperative market that exists between animal producers and the surrounding farmers who choose to use CAFO-generated manure on their crops. These three SERs did support requiring the CAFO to maintain certain off-site manure transfer records (see Section 8.2.2).

Beef, Dairy, and Exotic Animals

Two written comments were received on this issue. Mr. Handke stated that holding AFO operators responsible for what happens to manure given or sold to a second party would place an undue liability on the feedlot.

Mr. Pemberton stated that EPA's attempt to place liability upon the CAFO operator for third party actions would clearly be outside the jurisdiction of EPA and should not be considered. Mr. Pemberton also stated that he thinks any attempts to strictly link the offsite land application practices of third parties to beef feedlot operators' NPDES permits could destroy the market for dry manure.

8.4.11 General and Individual Permits

Multi-Sector Representatives

One SER suggested that EPA consider the privacy issues involved with general and individual permits.

Mr. Parrish stated that general permits are preferable to individual permits.

Swine

In their written comments, Ms. Atwood, Mr. Foushee, and Ms. Reifshneider indicated that EPA should do the following in regard to this issue:

- Issue general permits to new operations;
- Develop NPDES language that makes it clear that general permits should be available to all operations of all sizes and age, except those operations with historic compliance problems; and
- Give full credit to design capacity animal number, rather than determining "significant" expansion" on a point-in-time change in animal numbers.

The same three SERs noted that NPPC's policy is that all pork operations should be required to have permits. These SERs are also concerned that if EPA establishes so many exemptions, most CAFOs will likely be required to have individual permits.

Beef, Dairy, and Exotic Animals

Ms. Itle commented that individual permits are too resource intensive.

Three written SER comments were received on this issue.

Ms. Itle stated that general permits are a much more reasonable option for CAFOs, and individual permits should only be warranted in cases of historic compliance problems. She maintains that the application process itself requires the investment of a certain amount of time and money which should be accounted for in EPA's analysis.

Ms. Jarrett encouraged EPA to implement individual permits on all facilities of 1,000 AUs or more, with a full review period for public input and set minimal criteria that all permits must address.

Mr. Clause, who operates a 1,000+ AU operation, expressed concerns about the level and nature of public scrutiny and involvement in the process for individual permits and the potential for public interference and micro-management. This SER recommended that EPA not change the current policy, where general permits are the norm and individual permitting is limited to well-defined, extraordinary cases.

Poultry

One written comment was received on this issue. Mr. Johnson is also concerned about public interference.

8.4.12 Land Application

Multi-Sector Representatives

Mr. Parrish stated his belief that EPA does not have the legal authority to expand the scope of the NPDES program to include runoff from fields on which manure from a CAFO is applied, because land application results in mostly nonpoint source pollution.

Beef, Dairy, and Exotic Animals

Mr. Mason, a dairy SER, commented that manure is a valuable product. Another dairy SER agreed and added that manure should be viewed as an asset rather than a liability.

Mr. Voortman, a dairy SER, commented that, since most dairies land apply, this issue will undoubtedly affect them. The same SER also stated that approximately 95 percent of small dairies have enough cropland for spreading their manure.

Ms. Itle, another dairy SER, was concerned about the difficulty involved in applying manure during the rainy season in his area. He indicated that his operation is equipped to hold about two weeks worth of manure, and a major problem is trying to find the agronomic rate at which to apply the manure.

Mr. Pemberton, a beef SER, expressed concern about what effects regulating land application would have on manure use and suggested that EPA needs to do a related benefit analysis.

Mr. Frenzen, a beef SER, stated that most small AFOs have sufficient crop land for spreading their manure.

Ms. Jarrett stated that many large swine operations (>1,000 AUs) discharge due to excessive land application. The SER suggested that EPA permit these operations.

Five SERs submitted written comments on this issue.

Mr. Pemberton recommended against including on-site land application within the scope of the NPDES program, not without properly accounting for the agricultural storm water exemption. Mr. Pemberton also did not support including off-site land application within its scope and referred the Panel to NCBA's comments on this issue.

Mr. Handke indicated that he does not see the need for a strong enforcement program on manure application because the variability in phosphorus and nitrogen application can be so great, and most farmers already soil test. Mr. Handke suggested that NRCS and State universities could advise farmers on issues such as manure management as it relates to land application of phosphorous and nitrogen.

Another beef SER stated that EPA needs to make it clear that AFO producers that choose to land apply manure on their own property do not give up the protections of the CWA to be allowed to have certain activities fall under the agriculture storm water exemption. Just because one aspect of a producer's operation is considered a point source does not allow EPA to designate nonpoint source activities as point sources.

The beef SER also indicated that EPA has made this proposal on land application without doing an analysis on what the ramifications of it will be upon the manure market. This SER is also concerned that the standard has not been applied equally. Organic fertilizer will have these very strict requirements while commercial fertilizer will not. This SER recommended that EPA take advantage of the pilot project outlined in this year's appropriations bill to make some determinations on the effects of these proposals before implementing them nationwide.

Ms. Itle stated that phosphorus-based land application rates have the potential to restructure the dairy industry. Producers would require much more available land to apply manure, facilities for manure storage, and possibly the purchase of commercial nitrogen fertilizer to meet crops' needs. Only in the event of a local phosphorus loading problem should phosphorus-based application limits even be considered.

Ms. Itle also stated that the spreading of manure in winter should be maintained as a potential management option, otherwise many small producers would be forced to make significant storage investments. She stated that while smaller facilities are likely to have more crop land for land application, they are also less likely to have adequate manure storage. Therefore, manure storage requirements would have a significant impact on them. She indicated that dairy farmers will need another outlet for extra manure if EPA imposes agronomic land application limits and that requirements which are too stringent would discourage the use of CAFO manure by third parties.

Poultry

In reference to land application, one SER commented that litter is viewed by producers as an asset.

8.4.13 Manure and Wastewater Storage and Best Management Practices (BMPs)

Multi-Sector Representatives

Mr. Parrish's written comments included cost estimates for various best management practices (BMPs), which indicate that lagoons and adding storage capacity could be very expensive while filter strips and barnyard improvements would not, depending on the size and configuration of the operation.

Swine

One SER indicated that bankruptcy may occur along with facility closure. He asked whether indemnity funds would be available to protect against bankruptcy.

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider supported the recommendation of the Pork Dialogue that new and expanded manure and wastewater storage facilities should be consistent with the engineering standards and specifications provided by the NRCS or the American Society of Agricultural Engineers (ASAE). These SERs also supported the recommendation that existing facilities which: (1) receive only the amount of manure and wastewater for which they are designed, (2) are properly maintained, and (3) exhibit no signs of loss of structural integrity, should be considered to meet the standards proposed in the Pork Dialogue.

Beef, Dairy, and Exotic Animals

Mr. Pemberton noted in written comments that NCBA is very interested in discussing alternative requirements under consideration by EPA that would lessen the financial burden on small entities and requested any information on these requirements. Mr. Pemberton also appended comments to his own, in which NCBA objects to a requirement for covering dry manure (e.g., storage sheds) because 90 percent of cattle feeding operations are outdoors and

it would involve placing roofs over the entire feedlot at those operations, which would be economically and practically infeasible. This also would not provide any environmental benefit, because any rainwater that comes into contact with the manure stored in cattle pens (which allows more efficient production) is stored in a retention pond. NCBA is also concerned that EPA not prevent temporary in-field manure stacking, which is a common practice that allows operations to store large quantities of manure (each time the pen is cleaned) until it can be land applied. In light of this practice, NCBA suggested that the more practical BMP would be ensure that the manure is stored in a place that prevents polluted runoff into waters of the US.

Mr. Frenzen, who operates a 300+ AU facility, stated that the financial impact of being permitted under the NPDES program could be substantial, and provided cost estimates of constructing a livestock waste control facility, which includes a retention pond, to support his statement. He was very concerned about additional regulations that will require expensive structures (e.g., retention ponds).

Ms. Itle, a dairy SER, also provided a written comment on this issue. She recommended that EPA base any ELGs that would apply to small entities on the implementation of BMPs and not on containment structures. She stated that, in particular, ponds and lagoons can be incredibly expensive and many small dairy producers do not have such measures in place. The 1996 National Animal Health Monitoring System's *Dairy '96* study found that 68 percent of respondents had no storage tank or lagoon in place. This SER also stated that filter strips are an excellent example of an effective, affordable technology to control polluted runoff and provided references to a study that demonstrate that certain BMPs can be effective in addressing nonpoint source pollution. She also stated that the use of BMPs, such as filter strips and buffers, should be encouraged to control runoff in place of costly containment structures. Ms Itle indicated that recommended BMPs should be site specific and follow NRCS approved guidelines.

Two dairy SERs included in their written comments estimates of the costs to smaller dairy operations of building or expanding storage capacity that would indicate that such requirements could be unaffordable. Mr. Mason provided a cost estimate to 300 AU facilities of building storage for approximately 3/4 of a year, and stated his belief that almost 2/3 of the farms in his county with 300–1,000 AUs would have to build or expand storage facilities. Mr. Roos estimated that facilities that can handle waste in a 25-year, 24-hour storm could cost approximately $1,000 per cow for a 100 cow dairy in his county and that nearly half of the farms in his county would need to spend at least as much.

Instead of requiring additional storage capacity, Mr. Mason suggested that field stacking could be better managed to reduce the risk of runoff associated with it while reducing the costs to the operator associated with manure spreading. Mr. Mason is also concerned that EPA is

considering additional regulations of field stacking that may result in poorer manure management.

Poultry

One written SER comment was received on this issue. Mr. Campbell believed that BMPs should be voluntary, and strict oversight should be reserved for problem AFOs.

8.5 Regulatory Flexibility Alternatives

8.5.1 Additional Regulatory Flexibility Alternatives

Multi-Sector Representatives

As an attachment to his written comments, Mr. Parrish provided some additional regulatory flexibility alternatives. These alternatives are as follows:

- **Option #1** — Provide a "no permit option" for any operation that can certify, with the permitting agency (by soil testing or other monitoring methodology), that nutrient levels in soils are not excessive.
- **Option #2** — No additional regulations to be promulgated for animal feeding operations that meet the SBA small business definition. The permitting authority would retain the authority to permit operations that "discharge" on a case-by-case basis.
- **Option #3** — No additional regulations to be promulgated for animal feeding operations with less than 1,000 animal units. The permitting authority would retain the authority to permit operations that "discharge" on a case-by-case basis.
- **Option #4** — No additional requirements for animal feeding operations with less than 1,000 animal units unless there are sufficient public resources available to maintain the viability and income of the operator/permittee for development and implementation of the permit.
- **Option #5** — Provide a tiered "no exposure" exemption — No permit would be required if operations meet the following criteria:

    - Operations between 300 and 500 animal units — facility is designed and maintained to a "no discharge" standard except in the event of a 10-year, 24-hour rainfall event.
    - Operations between 500 and 1,000 — facility is designed and maintained to a "no discharge" standard except in the event of a 20-year, 24-hour rainfall event.

- Operations between 1,000 and 6000 animal units – facility is designed and maintained to a "no discharge" standard except in the event of a 25-year, 24-hour rainfall event.
- Operations greater than 6,000 animal units — facility is designed and maintained to a "no discharge" standard except in the event of a 50-year, 24-hour rainfall event.

Mr. Parrish offered options 2 and 5 in order to provide flexibility for small entities with over 1,000 AUs.

8.5.2 Exit Provision

Beef, Dairy, and Exotic Animals

One written SER comment was received on this issue. Ms. Itle state that smaller CAFOs should be allowed to exit the regulatory program if they have successfully addressed issues that had required them to obtain a permit. NCBA questioned whether this would not provide a true incentive for development of CNMPs by AFOs.

8.5.3 Good Faith Incentive

Beef, Dairy, and Exotic Animals

In this category of SERs, one written comment was received from Ms. Itle. She stated that this good faith incentive alternative should be extended to those operating with a NMP as opposed to a CNMP. Ms. Itle also requested that EPA clarify whether operations that cannot certify or prove in a permit application that they do not pose a threat to water quality would still be eligible for the good faith incentive.

NCBA suggested that EPA extend this incentive to operations with over 1,000 AUs.

Mr. Frenzen was very concerned about additional regulations that will require burdensome paperwork and operate from the assumption that operators are guilty until proven innocent.

8.6 Other Issues

8.6.1 Costs Analysis

Multi-Sector Representatives

Mr. Parrish was concerned about the complexity and presentation of the cost methodology, calculations and results, and suggested that EPA present the information in a simpler manner.

The SER specifically referenced to Table 3 in Attachment 5, tab 1, page 12 of the December 28th outreach mailing for clarification. He referred to these estimates as average costs and stated that the cost for individual operations would vary significantly, depending on the size and configuration of the farm, management, and extent to which these operations have already implemented certain pollution control technologies.

The same SER also provided a series of written comments pertaining to costs. Some of the costs mentioned by the SER are listed below:

Waste Management — $50,000 to $200,000
Barnyard Improvements — $1,000 to $500,000
Retrofit System — $50,000 (when there is inadequate room from proper filter areas)
Controlling wastewater from milking facilities — $1,000 to $40,000
Development of CNMPs — $2,000 to $60,000
Implementation of CNMPs (engineering costs) — $2,000 to $50,000

In addition to listing costs associated with the implementation of pollution prevention plans, the SER included in his written comments, a discussion of the inconsistencies in EPA's cost model and of the economic impacts of the proposed regulations. (Source materials are included with the comment letter in Appendix F.) The same SER also remarked that a hidden cost for the regulations would be the treatment of manure for odor control.

Beef, Dairy and Exotic Animals

One beef SER anticipates that these regulations will cost him about $6,000.

Mr. Roos indicated that in order to comply with these regulations, it would cost him approximately $70,000. He estimated that it would also cost 60–70 percent of the farms in his area this much as well. The SER provided a breakdown of his expected costs:

$38,000 for an above ground manure tank
$ 1,050 for site preparation
$ 2,600 for a rock fill
$ 580 for a waste transfer line (5 inches)
$10,000 for an electric agitator
$ 8,200 for a culvert (250 feet by 2 feet)
$ 4,675 for a buried mainline
$ 915 for participation in a NRCS waste utilization program
$ 7,050 for roofing

One dairy SER stated that concrete lagoons would cost approximately $1,000 per AU. He also stated his belief that this cost estimate is far more accurate than EPA's.

Six SER written comments were received on costs. Mr. Pemberton is concerned that there was not enough time during the Panel to analyze EPA's cost information. The SER is concerned over generalities and assumptions underlying that information, such as by the classification of regions.

Mr. Handke enclosed two estimates for construction of a livestock waste control facility along with his comments. One assumes a 25-year, 24-hour storm event variance, while the other is for zero discharge. He indicated that the financial impact for his 300+ operation is substantial. The total bid for the storm event variance is $23,610, while the total bid for the zero discharge is $42,852. (Source material is included with the comment letter in Appendix F.)

Mr. Mason presented a historical perspective of costs for building manure storage systems. (Source material is included with the comment letter in Appendix F.) He also indicated that a 300 AU operation would have to spend $147,000 to $294,000 in order to build enough manure storage. He mentioned that 2/3 of the farms in his county from 300–1,000 AUs would have to build or expand such storage facilities. This number will increase under the current economic conditions that farmers are facing unless EQIP funding becomes more available. The actual funding for cost share programs to help farmers build manure management structures has been cut by almost 2/3.

Mr. Mason also commented that it would not only cost him $5,000 to have a certified crop consultant produce a nutrient plan for his farm, but that it would cost him $1,000 to maintain the plan.

Mr. Roos enclosed a copy of the proposed compliance costs for his dairy, which total $73,080. He also enclosed a list of projects necessary to be in compliance with the Oregon State Department of Agriculture's CAFO Program, which is very similar to the proposed CAFO Rule. (Source material is included with the comment letter in Appendix F.)

Ms. Itle provided comments on Attachment 5 of the December 28 th mailing to SER entitles, "Overview of the methodology for estimating the cost of revising the ELGs for beef and dairy AFOs." (Source material is included with the comment letter in Appendix F.)

Ms. Itle suggested that if immature animals are included in the total AU computation fewer of the Nation's dairy farms would meet the SBA small business definition for the dairy sector (receiving less than $500,000 in annual gross revenue). Ms. Itle urged EPA to refine its cost analysis and consider the results accordingly.

Poultry

One SER stated a concern about EPA's cost analysis. Mr. Johnson indicated that while he only makes $.07 per dozen eggs, EPA used $.65 per dozen in its cost calculations.

One SER indicated that the cost of implementing some of these changes will be high. Another SER agreed.

Written comments were received from two different SERs. Mr. Johnson is concerned about the ability of small broiler contract growers to finance even small capital expenditures due to additional regulations and, to demonstrate this, he submitted two documents written by the University of Georgia Cooperative Extension Service, which detail layer and broiler income for contract growers. The 1994 document shows projected cash-flow (money left over after expenses, including State and federal taxes) amortized over 10 years. Similarly, the 1998 document gives a year-by-year demonstration of cash-flow amortized over 15 years. (Source materials are included with the comment letter in Appendix F.)

Mr. Campbell had several other comments regarding the cost analysis, including the following:

The estimates presented in the cost analysis for training and certification for manure application were too low considering program maintenance, travel and lost time on farms.

The connection of groundwater links to surface water in the cost analysis are questionable, and he believes this is not used in the poultry industry.

The cost estimate for soil testing is too low.

The same SER also submitted independent cost estimates for the hauling of excess litter which accounts for the use of specialized equipment that he believes he would need and was not considered in the cost analysis for hauling excess litter greater than 5 miles. He concludes that capital outlay would be much greater than indicated by the model presented in the cost analysis. (Source materials are included with the comment letter in Appendix F.)

8.6.2 Imposing Burden on Small Farms

Multi-Sector Representatives

Mr. Parrish asked EPA how they calculated costs associated with regulatory options. He expressed concern that smaller operations would bear more of the costs because they have fewer measures already in place. The same SER was concerned about the economic achievability of the CAFO Rules.

Mr. Parrish also provided written comment on this issue, warning that excessive burden would result in a massive re-organization of the dairy and beef livestock sectors.

Swine

Three SER written comments were received on this issue. The SERs stated their opposition(s) to imposing burden on small family farms. The SERs also wanted to make EPA aware of the dire economic climate the U.S. Pork industry is currently experiencing.
Mr. Petersen is concerned about the additional regulation of family farmers and thus the shifting of resources away from large-scale operations to family farmers. To the extent that this occurs, family farmers would be placed at an economic disadvantage relative to large-scale producers, when large-scale producers are allowed to externalize costs. Since family farmers directly experience the consequences of environmental mismanagement via the quality of their own drinking water, productivity of the land, and direct exposure to other environmental hazards, it is in their interest to be good stewards, whereas large-scale operations (where owners tend not to live) do not face the same incentive.

Mr. Petersen remarked that environmental regulations should address large-scale operations as the principle cause of environmental degradation.

Beef, Dairy, and Exotic Animals
One SER is concerned that CNMPs are another regulatory burden that small operations are facing.

One exotic animal SER stated that imposing any additional costs to the family farm would be detrimental.

Five written SER comments were received on this subject.

Ms. Jarrett is concerned that expanding the scope of the current regulation to include the smaller facilities would create an undue burden on small family farms under 1,000 AUs.

Mr. Pemberton requested to see information on EPA's alternatives to lessen financial burden on small entities. The same SER commented that in EPA's economic analysis for ELGs the assumptions can result in unfair economic burdens on an entire region because EPA continues to ignore environmental factors and to focus on size when analyzing high-risk operations. Size does not automatically equate to environmental risk.

Mr. Handke appealed to common sense and asked EPA not to place a heavy burden on small operations. Mr. Handke commented that tighter regulations will not only speed up concentration in the cattle feeding segment of the beef industry, but will impose too heavy of a burden on small producers.

Mr. Frenzen noted that, despite a booming economy, the farm crisis is real and invited EPA to consult them, their financial statements, and rural bankers. This SER was very concerned about

additional regulations that will require expensive structures (e.g., retention ponds), burdensome paperwork and operate from the assumption that operators are guilty until proven innocent.

Mr. Frenzen is also concerned about bureaucrats attempting to manage his farm, when it is in his family's interest not to environmentally mismanage it since they would directly experience the consequences, in terms of the quality of the drinking water.

Ms. Itle commented that the regulatory burden should be tailored to be affordable for particular size categories — for operations with 300–1,000 AUs and those with less than 300 AUs. The same SER also indicated that burdensome regulations may restructure the industry, causing only larger entities with economies of scale to afford costs.

8.6.3 Sound Science

Multi-Sector Representatives

Mr. Parrish recommended in a written comment, that EPA's regulation of AFOs be based on findings that AFOs are significant sources of water pollution, and that such findings should be based on reliable and credible water quality data (sound science) and not on assumptions about an AFOs polluting potential. He noted that the water quality data provided by EPA does not suggest the need for increased federal regulation of AFOs. The water quality problems appear to be limited to a few localized areas in the US.

Swine

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider Three SERs stated in their written comments that EPA should base CAFO rulemaking decisions on sound science.

Beef, Dairy, and Exotic Animals

Three written SER comments were provided on this issue.

Mr. Handke encouraged EPA to base all decisions on good science, and furthermore, new regulatory requirements should be able to demonstrate solid environmental benefits.

Mr. Mason questioned the whether the decision for a 100-foot buffer zone is based on sound science and stated that EPA has never explained why current regulations were insufficient or why EPA is considering lifting the 25-year, 24-hour storm event NPDES permit exemption.

Mr. Pemberton is concerned that EPA is considering changes to existing CAFO regulations without any scientific analysis or explanation of the environmental impacts driving these proposed changes — e.g., removing the 25-year, 24-hour storm permit exemption. He noted that it is difficult for NCBA to have productive discussions regarding revisions without analysis

or scientific data or to address the data supporting claims of nonpoint pollution from agriculture when the data are incomplete or outdated. The USGS in their 1993 scientific assessment of national water quality trends stated that the National Water Quality Inventory is so severely flawed and scientifically invalid that it could not be used to summarize water quality conditions and trends. Mr. Pemberton suggested that, before requiring large economic investments by AFOs into minimizing water quality impacts, NCBA recommended that accurate data be collected and analyzed to truly determine to what extent an impact exists and to what extent the proposed solutions will address this possible impact. Mr. Pemberton is very concerned about politically motivated proposals that ignore science, regional differences, and other fact-based analysis to determine environmental risk.

Mr. Clause is concerned that the desired environmental outcomes (i.e., water quality improvements) may not be realized even with massive expenditures by small livestock operations, since there is considerable question if they are in fact a problem.

Poultry

Two written SER comments were provided on this issue. Mr. Johnson expressed concern that EPA does not give due consideration to scientific evidence during policy-making. To support his viewpoint, he submitted an excerpt from a Georgia agricultural association's newsletter about a former EPA scientist who contends he resigned from EPA because policy-makers at EPA failed to view use of good science as more than a recommendation.

Mr. Campbell was also concerned that EPA not base any rulemaking decisions on the water quality data regarding 303(d) listed watersheds, because he suspects they were listed without proper consideration of the scientific data on impairment.

8.6.4 Regional & Industry Variation

Beef, Dairy, and Exotic Animals

Two beef SERs commented that there can not be a "one size fits all" for CNMPs.
One beef SER commented that EPA should consider different lots in an operation as separate locations based on the operation's impact on the environment. Another beef SER added that such variability even within the same facility illustrates the inadequacies of a one-size-fits-all regulation.

Another beef SER indicated that in regard to site-specific determinations, the regulations should "reach for a goal." He also indicated that there is no need to permit all operations.

Mr. Pemberton provided a written comment on this issue. The SER indicated that for the 300–1,000 AU category, EPA ignores the fact that not all livestock sectors are managed the

same, and thus regulating them the same does not make environmental sense. The SER also remarked that regional differences are a key environmental component (e.g., operations in the Pacific Northwest will need larger retention ponds than operations in the Southwest, where such structures have to contain significantly less rainfall during 25-year, 24-hour storms). He recommended that EPA consider regional differences not only in proposing additional regulations but also in terms of developing costs and estimates of the number of small entities that may be affected by these regulations.

Poultry

One written SER comment was received on this issue. Mr. Campbell stated that EPA's analysis ignores a key issue that pork, poultry, dairy and beef cattle are managed or produced differently, so regulating them the same does not make environmental sense. Also, to ignore regional differences in producing livestock is to ignore a key environmental component.

8.6.5 Definition of "Animal Unit"

Swine

One written SER comment was received on this issue. The SER stated that the current numbers corresponding to AUs should be maintained. The SER also indicated that it is important to assess risk from different types of livestock.

Poultry

One written SER comment was received on this issue. The SER indicated that because a one size fits all definition for the term "animal unit" does not exist, the current numbers corresponding to "animal units" should be maintained.

8.6.6 Research Needs

Swine

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider stated in their written comments that the government, academia, and the pork production industry should encourage and support research on at least one of the following subjects:

- Odor measurements and control;
- Atmospheric deposition of pathogens and nitrogenous compounds;
- Manure and wastewater storage facility improvements;
- Improved monitoring technologies; and,
- Determination of soil nutrient capacities.

8.6.7 Financial and Technical Assistance

Swine

Ms. Atwood, Mr. Foushee, and Ms. Reifshneider provided written comments on this issue. They stated that EPA and USDA should provide financial and technical assistance tools for the various types and sizes of livestock operations. The SERs also believe that pork operations should be eligible to seek financial or technical assistance to adopt environmental practices to meet existing and new environmental requirements.

Beef, Dairy, and Exotic Animals [9]

Three SER written comments were received on this issue.

Mr. Roos indicated that because EQIP funding is limited, many farmers may go out of business if they have to pay for 100 percent of the costs derived from implementation.

Another dairy SER also stated a concern over the lack of resources to develop plans.

Mr. Roos also commented that since EQIP money is limited, necessary funding for projects is difficult to maintain. As a result, many farmers are faced with spending their own money to achieve compliance. In his area, this will impact at least 60 of the 150 dairies .

8.6.8 Legal Authority

Multi-Sector Representatives

Mr. Parrish requested an explanation of EPA's authority for permitting facilities to operate and that EPA provide SERs with the definition of "discharge." The same SER also stated his view that discharges from land application of manure do not fall under the authority of the CWA permitting program because the law exempts "agricultural storm water" discharges.

One SER provided a several written comments on this issue. To begin, the SER stated his belief that the following potential regulatory changes are unlawful:

- Expansion of CAFO regulations to include non "discharging" AFOs;
- Elimination of the 25-year, 24-hour storm event exception;
- Regulation of land application of organic nutrients and mandated "nutrient utilization plans";
- Regulation of poultry operations dry liter;
- Co-permits for corporate entities; and

[9] Refer to Section 8.4.10, entitled "CNMP Development" (beef, dairy, and exotic animals) for related comments.

C Regulation of the transfer of organic nutrients.

The SER informed the Panel that the CWA defines a point source as "any discernible, confined, and discrete conveyance," not any activity associated with a CAFO land application, for instance. Runoff from land where CAFO manure is applied has been exempted from the definition of a point source as agricultural storm water runoff.

The SER continued that the ability of EPA to expand the definition of CAFO to include many heretofore unregulated AFOs is clearly limited by congressional intent underlying the CWA. And, in his view, there is substantial evidence in the legislative history of the CWA that Congress intended to control only "end-of-pipe" release or "discharge." CAFOs do not become permittable under NPDES program without a discharge.

Therefore, Mr. Parrish recommended that EPA not include dry operations in the CAFO regulations. Because of the absence of water or other liquids, dry manure management systems do not result in pollutants that can be discharged through a discrete point source. The current NPDES CAFO definition correctly includes only layer and broiler operations that use continuous overflow watering or liquid manure systems because of their possibility to discharge pollutants.

Mr. Parrish also recommended against removing the 25-year, 24-hour storm permit exemption. Regulations currently allow AFOs that otherwise meet the definition of CAFO to opt out of the NPDES permitting program if those AFOs discharge only in the event of a 25-year, 24-hour storm event. Mr. Parrish supports this exemption and, based on the legislative history, believes that EPA must retain some type of storm-event exception in the NPDES CAFO regulations, based on the legislative history of the CWA. Mr. Parrish added that the current exception provides adequate assurance that facilities (including those over 1,000 AUs) designed to such criteria will not discharge, while at the same time minimizing the need for livestock producers to comply with costly, onerous and unnecessary permitting requirements. No permit conditions should be included for discharges so long as the CAFO maintains structures that are designed and constructed to contain a 25-year, 24-hour storm event.

The SER remarked that while EPA does have the regulatory authority to require certain AFOs smaller that 1,000 AUs to obtain NPDES permits, the authority is limited to those that discharge from confinement areas to waters of the U.S.

The SER commented that the CNMP is more than "end of pipe" discharges. The SER indicated that, because such plans control nonpoint sources of pollution, which are outside the scope of the CWA, CNMPs cannot be required a condition of an NPDES permit.

<u>Beef, Dairy, Exotic Animals</u>

One SER stated that EPA is "setting itself up for a huge legal battle" with these CAFO regulations. Mr. Pemberton is especially concerned about expanding the scope of the NPDES program to include on-site and off-site land application. He is also concerned that EPA is shifting the burden of proof to operators, who would have to demonstrate under certain regulatory revisions that they have not violated the CWA, where as, under current regulations, the burden is on the permitting authority to identify such violations.

Mr. Pemberton submitted a written comment on this issue. The SER claims that EPA confuses the terms discharge and overflow, terms which have distinct legal implications. Overflow does not necessarily reach the waters of the U.S. and thus are not discharges and so the CWA does not provide EPA jurisdiction over this situation.

Ms. Itle was concerned about the legal implications of the certification approach.

8.6.9 Air Emissions

Swine

One written SER comment was received on this issue. Mr. Petersen indicated that he is concerned about the air emissions of hydrogen sulfide, endotoxins, ammonia, dust, and their effects on the workers and neighbors of large operations.

8.6.10 Facility Closure

Swine

One SER indicated that bankruptcy may occur along with facility closure. He inquired as to whether indemnity funds would be available to protect against bankruptcy.

8.6.11 100 Foot Buffer Zone

Beef, Dairy, and Exotic Animals

One dairy SER is concerned about the location issue (within 100 feet of U.S. waters). The same SER noted the five citizen suits that are currently ongoing in the State of Washington. He noted that a court ruled that irrigation canals are considered waters of the U.S.

Mr. Mason indicated that the 100 foot buffer zone is a problem. Due to this buffer zone restriction, he estimated he would lose 10–15 percent tillage on his farm alone, which would be extremely costly for him.

8.6.12 Additional Recommendations

Swine

In their written comments, Ms. Atwood, Mr. Foushee, and Ms. Reifshneider expressed concern that the swine industry's environmental record was mischaracterized during the Panel process. These SERs included in their written comments the recommendations of the Pork Dialogue, three SERs provided a list of recommendations, which are provided below: [10]

- Public participation for new or expanded operations;
- Management and location requirements to prevent pollution of surface and groundwater;
- Design standards for manure handling facilities;
- Restrictions on rates and methods for land application of manure and wastewater;
- Preparation of emergency response plans;
- Certification of all operators;
- Training of supervisors and employees involved in land application activities;
- Provision of financial guarantees by operators of new or expanded operations;
- Record keeping and inspections;
- Closure standards for manure storage facilities; and,
- Civil and criminal enforcement with stringent penalties for "bad actors."

The Pork Dialogue also provides flexibility to the appropriate regulatory agency to waive recommendations or extend compliance deadlines for alternative approaches that achieve the same objectives with less costs, for operations that demonstrate hardship, which makes accomplishment of framework recommendations impracticable, and acts of god.

8.6.13 Comments on the SBREFA Process

Several SERs were concerned that they did not have sufficient opportunity to review, evaluate, and discuss information provided by the Panel. Some felt they did not have sufficient information with which to provide informed comments and recommendations (e.g., an analysis of the benefits of additional regulations) and suggested that decisions had already been made, without a meaningful opportunity to provide input.

8.6.14 Confusing Regulations

Beef, Dairy and Exotic Animals

[10] Many of these comments fit into other categories; however, the recommendations were kept together to illustrate the entire range of ideas put forth by these three SERs.

Mr. Pemberton voiced general concern that federal CAFO regulations are becoming increasingly confusing, as EPA attempts to interpret and revise current regulations. For instance, terms such as "discharge" and "man-made conveyance" — terms which have significant legal implications — need clarification, if EPA now intends through interpretation or otherwise to expand their scope to include "potential" (as well as actual) discharges and "nonintentional" man-made conveyances. Mr. Pemberton elaborated upon this issue in his written comments by noting his concerns that revisions under consideration would cause much more confusion and further add vague terms that have significant legal implications and thus need definition, such as "certify and "pose a risk to water quality."

9.0 PANEL FINDINGS AND DISCUSSION

9.1 Number and Types of Entities Affected

For a complete description and estimate of the small entities to which the proposed rule will likely apply, see Section 5. EPA developed these estimates for the sole purpose of the IRFA in consultation with the Panel. Based on input from SERs and the Panel, EPA revised the methodology used in developing these estimates and will continue to refine them before proposal. The Panel endorses EPA's efforts to date and encourages EPA to continue refining these estimates as it develops the proposed rule.

The Panel notes, however, that the revised methodology outlined in Section 4 may not accurately portray actual small entities in all cases across all sectors. On the one hand, the revised methodology would indicate that a 10-house broiler operation with 260,000 birds would be a small business. Information from industry sources, however, suggests that a two-house broiler operation with roughly 50,000 birds is small. Therefore, it is likely that the revised methodology may result in some medium and large size broiler operations being considered small entities.

On the other hand, the revised methodology may result in failure to identify some small businesses as "small." SBA's size standards define as small about 98 percent of all firms in the economy and 99 percent of all farms. These firms account for approximately 38 and 62 percent of sales, respectively. While not a goal in itself, SBA would generally use these coverage rates as a guide in selecting from among alternative definitions of small business. However, the revised methodology would define as small swine operations with less than 1,400 pigs and turkey operations with less than 25,000 turkeys, even though these operations would constitute less than 93 percent of farms and would account for less than 30 percent of sales. Therefore, it is likely that there are additional small hog and turkey businesses that are not captured under the revised methodology.

The Panel recognizes that under this small business definition, EPA will have to regulate some small facilities to meet its obligations under the CWA, but urges EPA to consider the small business impact of doing so.

9.2 Potential Reporting, Record Keeping, and Compliance Requirements

9.2.1 Record Keeping Related to Off-Site Transfer of Manure

EPA is considering requiring CAFO operators that send manure off-site to maintain records of each transfer, including date, quantity transferred, and recipient name and address, and an analysis of the manure content. EPA is also considering requiring CAFO operators to provide any off-site recipient of manure with the analysis of manure content and a brochure (to be supplied by EPA) describing the recipient's responsibilities for appropriate manure management.

The Panel discussed the issue of whether such record keeping and reporting requirements would have significant practical utility, either to a CAFO operator or to regulatory authorities. EPA believes it could potentially regulate excessive nutrient discharges due to over-application at off-site locations as separate point sources. Some Panel members questioned how useful records kept by CAFO operators would be in identifying such situations, relative to other sources of information such as citizen complaints or direct observation of the recipient's operations. Such records could aid in verification of compliance with requirements in a CAFO operator's CNMP, by allowing a mass balance comparison of waste generation with on-site and off-site use and disposal. One significant limitation of these records, however, both for compliance verification and for identification of potential off-site point sources, would be the lack of any corresponding record keeping requirements on the manure recipients. Without such a requirement, the rule would provide no mechanism for cross-checking the CAFO operator's records against off-site receipts. Thus, even if a CAFO operator's records indicated significant quantities of manure shipped to a specific off-site recipient, the rule would provide no mechanism for reliably determining at the receiving end how, or over what time frame, this manure was used or disposed of and thus whether it was ultimately handled appropriately.

The Panel recommends that EPA give careful consideration to all proposed record keeping requirements and explore options to streamline these requirements for small entities. It may be that the limited potential for environmental harm from relatively small amounts of manure would justify less comprehensive record keeping requirements for small operators than for large ones. EPA should also explain the basis for any record keeping requirements in the preamble to the proposed rule and request comment on them.

Regarding the requirement to provide nutrient content information to manure recipients, the Panel believes that this would be minimally burdensome if analysis of this content is already required as part of the CNMP to ensure proper land application. However, if the CAFO operator has no need of this information for his or her own purposes, and has not conducted the appropriate analysis, it may be more efficient in some situations to leave analysis of nutrient content to the manure recipient, in order to ensure its relevance to conditions and the intended use at the recipient site. In other situations, such as when manure from a single operator is being provided to multiple off-site recipients, it may be more efficient for the operator to conduct the analysis. The Panel suggests that EPA consider limiting any requirement to provide nutrient content analysis to situations where such analysis is required as part of the CNMP to ensure proper on-site land application, or possibly where the operator transfers manure to multiple recipients.

Finally, the Panel notes that under the Paperwork Reduction Act and its implementing regulations, all reporting and record keeping requirements must be certified by the issuing agency to have practical utility and to reduce, to the extent practicable and appropriate, the burden on those required to comply, including small entities (5 CFR 1320.9).

9.2.2 Permit Application and Certification Requirements

EPA is considering several options that would revise the applicability requirements for operations in the intermediate size category, currently defined as 300 to 1,000 animal units (AUs). Under one option, all operations in this size range would be required to either apply for an NPDES permit, or file a certification check list indicating that they are not likely to discharge significant quantities of pollutants to waters of the US. This check list could include such items as adequate facility design to contain runoff in a large storm, use of appropriate BMPs, and land application of manure at agronomic rates. An additional option would require facilities that are not able to meet the certification requirements to file a more comprehensive permit application, but still allow the permitting authority to determine that no permit is required. This could increase flexibility for any operator who does not discharge to waters of the U.S. or pose significant risk to water quality. Under this approach, operations in the intermediate size range would effectively be tiered, based on their potential to discharge, and only operations with a reasonable potential to discharge would ultimately be required to obtain a permit.

The Panel notes the substantial number of small entities in this size range and recommends that EPA carefully consider the burden of any additional certification or application requirements. If EPA decides to propose a tiered approach, the certification check list should be designed to minimize both the required information and the substantive operational requirements for facilities with the lowest potential to discharge. For example, the check list might include a simple default criterion for demonstrating application of manure at agronomic rates, such as the ratio of animals to crop land, rather than requiring the operator to have a CNMP. For operators that do have a CNMP, this could be used to override the default criterion on a site-specific basis. Similarly, the check list could allow several alternatives for appropriate manure storage, including cost-effective BMPs (e.g., stacking manure in certain locations or in certain ways to avoid discharge) in lieu of expanded structural storage capacity. The Panel recommends that EPA carefully consider such options if it pursues a certification approach.

The Panel further notes that EPA has not ruled out the option of requiring a full permit application from all operations in the intermediate size range. The Panel is concerned that such an approach may impose significant burden with limited environmental benefits, and recommends that EPA carefully consider appropriate streamlining options, such as the tiered approach discussed above, before considering a more burdensome approach.

Finally, before adding any new application or certification requirements for operators in this size range, EPA should carefully weigh the burden and environmental benefits of expanding the scope of the regulations in this way.

9.2.3 Frequency of Testing

The Panel discussed the appropriate frequency of any testing requirement for soil and manure that might be included in the proposed rule. The Panel believes it is important to balance the burden on small entities against the need to ensure that sufficient information about nutrient content is available to support appropriate manure management. EPA is currently considering proposing that soil testing be required periodically (e.g., once every 3 years). EPA is also considering proposing that manure be tested more frequently (e.g., annually) because its content is potentially more variable than soil. The Panel agrees that testing manure and soil at different rates may be appropriate, but is concerned about the burden of any inflexible testing requirements on small entities. The Panel thus recommends that EPA consider leaving the frequency of required testing to the discretion of local permit writers, and request comment on any testing requirements that are included in the proposed rule. It might be that small entities could test less frequently and still generate sufficient information for proper manure management. The Panel recommends that EPA carefully weigh the small business burdens relative to the need for information in determining appropriate testing frequencies.

9.2.4 Groundwater Requirements Where Linked to Surface Water

The Panel notes that EPA is exploring an option under which CAFOs would be required to determine whether they have a reasonable potential to discharge to ground water with a direct hydrological connection to surface water. This determination would likely require hiring an assessor. If such a potential to discharge were established, the proposed rule might specify additional monitoring, record keeping and reporting requirements. In order to monitor groundwater, an operator would likely have to drill wells at appropriate monitoring locations. The proposed rule could also include compliance requirements (e.g., lining existing lagoon(s) to prevent leaching) to prevent or reduce discharges to groundwater.

The Panel notes that this option was not explicitly discussed in the outreach materials provided to SERs, although EPA did include the costs of hiring an assessor, installing monitoring wells, and sampling groundwater twice a year in supporting cost documentation provided to SERs. Several SERs commented on these costs.

The Panel is concerned with the potentially high costs to small operators associated with such an option and notes the comments of many SERs that small farmers, who live on the land, have a strong incentive to be good stewards of both soil and groundwater, which provides drinking water for most of them. The Panel thus recommends that, in exploring any option involving requirements related to groundwater protection, EPA give careful consideration to the associated small entities impacts, and in a manner consistent with the law, balance these against any identified environmental benefits. The Panel also recommends that, if EPA decides to propose any such requirements, EPA consider streamlining the requirements for small entities (e.g., sampling at reduced frequencies) or exempting them altogether.

9.3 Related Federal Rules

The Panel is not aware of any other Federal rules that duplicate, overlap, or conflict with these proposed rules.

9.4 Regulatory Alternatives

The Panel notes that EPA is considering deleting the current permitting exemption for AFOs that discharge only in the event of a 25-year, 24-hour storm and instead requiring permits for operations with a potential to discharge. Several of the options for increasing small business flexibility addressed in sections 9.4 and 9.5 (e.g., requiring permits of all AFOs with between 300–1,000 AUs that cannot demonstrate they do not have a reasonable potential to discharge — see section 9.4.2) presume that this change in regulatory approach would be adopted. The Panel did not reach consensus on the appropriateness of such a change in approach and, therefore, neither endorses nor opposes it. However, the Panel did consider a number of regulatory options that presuppose such a change in approach, and has provided recommendations regarding these options, focused on minimizing costs and burden on small entities while still maintaining environmental benefits. These recommendations are provided for EPA's consideration if it decides to adopt the changed approach and do not imply Panel endorsement of the new approach itself.

9.4.1 Revised Applicability Thresholds

Currently, size thresholds for applying CAFO requirements are included in both the ELG and NPDES regulations. The ELG regulation specifies a 1,000 AU threshold above which CAFOs are subject to ELG guidelines; this is the ELG applicability threshold. The NPDES regulations provide different definitions of CAFOs for operations in different size ranges. All operations above 1,000 AUs are *defined* as CAFOs, except as noted below. An operation with 300–1,000 AUs is also defined as a CAFO, if it discharges pollutants to waters of the United States through a manmade conveyance or directly into such waters that pass through the facility. However, any AFO that would otherwise be defined as a CAFO is excluded from the definition if it discharges only in the event of a 25-year, 24-hour storm event. An operation with 300 AUs or more may also be *designated* as a CAFO by the permitting authority if, after inspection, it is determined to be a significant contributor of pollutants to waters of the US. In making this designation, the permitting authority shall consider the size of the operation, the amount of wastewater discharged, the location of any potential receiving waters, and other factors such as slope, vegetation, and rainfall which may affect the potential for any discharge to reach receiving waters. Operations with less than 300 animal units are never automatically defined as CAFOs, and may only be designated as such on a site specific basis if, after inspection, they are found to meet either of the defining conditions applicable to operations with 300–1,000 AUs. Currently, 1,000 AUs serves as the threshold for both ELG applicability and automatic definition as a CAFO under NPDES. While EPA is currently examining possible revisions to these thresholds, its current preference is to continue using a single threshold for both.

EPA is not considering changing the designation criteria for operations with less than 300 AUs. The panel strongly supports this decision. This includes the criterion that the permitting authority must conduct an on-site inspection of any AFO, in making a designation determination (40 CFR 122.23(c)(3)).

As noted above in Section 9.2.2, EPA *is* considering changing the criteria for defining and/or designating operations in the 300–1,000 size range as CAFOs by including different or additional conditions. Most SERs expressed the belief that the major environmental problems associated with feedlots stem from operations over 1,000 AUs. Based on estimates of waste generated, the Panel agrees that, generally, these operations have the greatest potential to cause water quality impairments if not properly controlled. The Panel notes, however, that in some cases factors other than the quantity of waste generated may play a significant role in determining whether or not an operation is causing a significant environmental concern. At the same time, the economic implications of expanding both the administrative and the substantive operational requirements for facilities in the intermediate size category are significant. The Panel thus recommends that the Agency carefully evaluate the potential benefits of any expanded requirements for operations in this size range and ensure that those benefits are sufficient to warrant the additional costs and administrative burden that would result for small entities.

The Panel discussed in some detail possible ways of reducing both the administrative burden (e.g., permit application, reporting and record keeping requirements) and the compliance costs of any expanded requirements. The Panel's consideration of options to reduce administrative burden is discussed in Section 9.2.

As for compliance costs, one approach would be for EPA to consider less stringent effluent limitations guidelines for operations under 1,000 AUs. Currently, no national guidelines apply to operations in this size range. Rather, for those operations that are permitted, permit conditions are based on the best professional judgement (BPJ) of the local permit writer. EPA should give serious consideration to continuing this approach. One potential drawback with it, according to one of the SERs, is that local permit writers may look to guidelines designed for larger operations for guidance in determining BPJ, even though these guidelines may be overly stringent for smaller operations. Establishing less stringent guidelines for smaller facilities, based on consideration of economic achievability, could result in permit conditions that are more appropriately tailored to smaller operations, as discussed in the remainder of this document. For example, revised guidelines could allow, under certain circumstances, a less stringent design standard than the current one based on a 25-year storm, 24-hour (e.g., a 10-year, 24-hour storm), or allow cost-effective BMPs (e.g., filter strips or appropriate manure stacking) in lieu of expanded manure storage facilities at smaller operations. They could also include different land application requirements such as smaller buffer strips or more flexibility in determining whether to use N-based or P-based agronomic rates. And they could include less stringent reporting and record keeping requirements.

The Panel recommends that EPA give serious consideration to the issues discussed by the Panel when determining whether to establish less stringent effluent limitations guidelines for smaller facilities, and whether to preserve maximum flexibility for the best professional judgement of local permit writers.

To the extent that EPA is considering incremental additions to regulatory requirements, the Panel encourages EPA to reassess its size thresholds in those sectors where there are a significant number of small entities over 1,000 AUs. EPA should take into consideration the possibility for adverse economic impacts to small entities with more than 1,000 AUs as it considers economic achievability and environmental benefits in deciding whether to adjust the threshold upward for a given industry sector. The Panel also encourages EPA to consider additional ways of extending flexibility to operators with over 1,000 AUs in order to address the concern of small entities in this size category. For example, EPA might allow such operations the option to certify or demonstrate through a permit application that they do not have a reasonable potential to discharge or do not pose a significant risk to water quality, similar to the options discussed in section 9.2 above for operations below 1,000 AUs.

9.4.2 25-year, 24-hour Storm Event

Currently, AFOs that do not discharge except in a 25-year, 24-hour storm event are excluded from the definition of a CAFO and, therefore, are not required to obtain an NPDES permit absent designation as a CAFO. EPA is considering removing this exemption. This would not affect the 25-year, 24-hour storm design standard in the ELG for feedlots. Many of the SERs opposed removing this exemption. They felt that it would be unreasonable (and perhaps infeasible) to prohibit discharge in such an extreme storm event, and that if facilities were designed to prevent a discharge except in such an event they should not be required to obtain a permit.

The Panel discussed the effects of eliminating this permit exemption, in terms of both the resulting burden on small entities and the potential environmental improvements. On the one hand, it would significantly expand the scope of the regulation. However, it would also close a potential enforcement loophole that currently exists because, as a practical matter, it is only where a permitting authority demonstrates that discharges occur in less than a 25-year, 24-hour storm event that facilities are being required to obtain a permit, even for large facilities. The Panel agreed that removing this exemption is reasonable for large facilities (currently defined as those over 1,000 AUs), because of their significant potential for environmental harm if not properly managed. However, the Panel is concerned that removing this exemption may significantly impact small entities with over 1,000 AUs and encourages EPA to explore options for providing additional flexibility to operations in this size range (see Sec 9.4.1 above).

The Panel was divided on whether it would also be appropriate to remove the exemption for facilities below the 1,000 AU threshold. All Panel members acknowledged the possibility that there are facilities in this size range that currently do not have sufficient manure management and containment

provisions in place to prevent discharge, and yet believe that they do not need a permit because of this exemption. The Panel noted that for some such facilities, removing the exemption would not expand the scope of the current regulation, but rather ensure coverage for facilities that should already have obtained a permit. However, the Panel also recognized that eliminating the exemption would require facilities that do properly qualify for it — e.g., they do have sufficient manure management and containment in place or, for some other reason, do not discharge except in a 25-year, 24-hour storm — to apply for a permit or certify that none is needed. As discussed in Section 9.2.2 above, EPA is considering several options to minimize the impacts of removing this exemption. Under the certification checklist option, the exemption could effectively be maintained, but with the added requirement that a facility demonstrate to the permitting authority its ability to comply with the terms of the exemption (no discharge except in a 25-year, 24-hour storm event) by filling out the checklist or, in some cases, submitting a permit application.

The Panel recommends that EPA carefully weigh the costs and benefits of removing the exemption for small entities. If EPA decides to remove the exemption, it should fully analyze the incremental costs associated with permit applications for those facilities not presently permitted that can demonstrate they do not discharge in less than a 25-year, 24-hour storm event, as well as any costs associated with additional conditions related to land application, nutrient management, or adoption of BMPs that the permit might contain. As discussed above, EPA should also consider reduced application requirements for small operations affected by the removal of the exemption.

The Panel also recognizes the environmental benefits of capturing within the permitting process those facilities that discharge because they do *not* have sufficient measures in place, but who might not apply for a permit if the 25-year, 24-hour storm permit exemption were left in place in the regulations.

9.4.3 Manure and Wastewater Storage Capacity

Several SERs expressed strong concerns about the high cost of adding storage capacity to their facilities, including lagoons, retention ponds, and storage sheds. These SERs believe that, in many cases, such technologies are not economically achievable and would not necessarily improve water quality. They suggested allowing flexibility to adopt cost-effective alternatives in lieu of such technologies. These alternatives included filter strips and appropriate field stacking of manure. One SER provided a study to support the use of such alternatives. The Panel notes the SERs' concern about the high cost of additional storage capacity and recommends that EPA consider low-cost alternatives in its assessment of best available technologies economically achievable, especially for any subcategories that may include small entities.

9.4.4 Land Application

EPA is considering revising the criteria for defining and designating operations in the 300–1,000 AU size category to include over-application of manure and wastewater to farmland. One SER stated

his belief that EPA does not have the legal authority to regulate land application under the CWA. This SER was concerned that such a revision potentially could define all AFOs in this size category as CAFOs. EPA believes it has the authority to regulate over-application of manure and wastewater (consistent with the agricultural stormwater exemption) and is currently considering defining applications of manure in excess of agronomic rates as over-application.

The Panel did not address the legal arguments concerning EPA's authority to regulate land application under the CWA. However, the Panel is concerned that requiring permits from operations in this middle size category that do not pose a significant risk to water quality may increase the regulatory burden on small farmers without providing corresponding environmental benefits. The Panel agrees that if manure and wastewater are applied to land at agronomic rates and a facility is designed to contain the discharge from a 25-year, 24-hour storm, then that facility would have minimal potential to discharge or adversely affect water quality. However, it is also possible that an operation may land apply in excess of agronomic rates but still not discharge, depending on such factors as annual rainfall, local topography, and distance to the nearest stream. The Panel recommends that EPA consider such factors as it develops any certification and/or permitting requirements related to land application. The Panel also notes the concerns of other SERs regarding the practical difficulties of ensuring that manure is always applied at agronomic rates (e.g., during the rainy season). In addition, one SER urged EPA to maintain winter spreading of manure as an available management option. The Panel recommends that EPA continue to work with USDA to explore ways to limit permitting requirements to the minimum necessary to deal with threats to water quality from over-application and to define what is "appropriate" land application, consistent with the agricultural stormwater exemption.

EPA is also considering including substantive compliance requirements related to land application of manure and other CAFO waste waters in the proposed rule. These could include the development and implementation of CNMPs, as well as specific requirements for applying at a phosphorous-based (P-based) rather than a nitrogen-based (N-based) rate in certain circumstances. SERs were concerned that application of manure at P-based rates would require more land to fully utilize a given quantity of manure, and would necessitate the purchase of commercial fertilizer to provide adequate nitrogen to the soil. When large amounts of land are not available, an operator may be forced to manage manure as a waste product rather than using it as an asset and may have to transport it over long distances to get rid of it.

The Panel notes the high cost of P-based application relative to N-based application, and supports EPA's intent to require the use of P-based application rates only where necessary to protect water quality, if at all, keeping in mind its legal obligations under the CWA. If the soil is not phosphorus-limited, then N-based application should be allowed. The Panel recommends that EPA consider leaving the determination of whether to require the use of P-based rates to BPJ, and continue to work with USDA in exploring such an option.

9.4.5 Co-permitting

EPA is considering a regulatory change that would require corporate entities that exercise substantial operational control over a CAFO to be co-permitted. A majority of SERs expressed opposition to such an approach. They were concerned that co-permitting could decrease the operator's leverage in contract negotiations with the corporate entity, increase corporate pressure on operators to indemnify corporate entities against potential liability for non-compliance on the part of the operator, encourage corporate entities to interfere in the operational management of the feedlot in order to protect against such liability, provide an additional pretext for corporate entities to terminate a contract when it was to their financial advantage to do so, restrict the freedom of operators to change integrators, and generally decrease the profits of the operator. These SERs were not convinced that co-permitting would result in any benefit to the environment, given that the operator generally controls those aspects of a feedlot's operations related to discharge, nor were they convinced that such an approach would result in additional corporate resources being directed toward environmental compliance, given the integrator's ability to pass on any additional costs it might incur as a result of co-permitting to the operator. A few SERs, who were not themselves involved in a contractual relationship with a larger corporate entity, favored co-permitting as a way of either leveling the playing field between contract and independent operators, or extracting additional compliance resources from corporate entities.

Despite general concern over co-permitting due to the economic implications for the contractor, several SERs voiced their support for placing shared responsibility for the manure on the integrators, especially in the swine sector.

The Panel did not reach consensus on the issue of co-permitting. On the one hand, the Panel shares the SERs' concern that co-permitting not serve as a vehicle through which the bargaining power and profits of small contract growers are further constrained with little corresponding environmental benefit. On the other, the Panel believes that there is potential for environmental benefits from co-permitting. For example, co-permitted integrators may be able to coordinate manure management for growers in a given geographic area by providing centralized treatment, storage, and distribution facilities — though this could also happen through market mechanisms without co-permitting if it resulted in overall cost savings. Co-permitting could also motivate corporate entities to oversee the environmental compliance of their contract growers, in order to protect themselves from potential liability, thus providing an additional layer of environmental oversight.

The Panel also realizes, and is concerned, that any co-permitting requirements may entail additional costs, and that co-permitting can not prevent these costs from being passed on to small operators, to the extent that corporate entities enjoy a bargaining advantage during contract negotiations. The Panel thus recommends that EPA carefully consider whether the potential benefits from co-permitting warrant the costs particularly in light of the potential shifting of those costs from corporate entities to contract growers.

The Panel also recommends that if EPA does require co-permitting in the proposed rule, EPA consider an approach in which responsibilities are allocated between the two parties such that only one entity is responsible for compliance with any given permit requirement. This would be the party that has primary control over that aspect of operations. Flexibility could also be given to local permit writers to determine the appropriate locus of responsibility for each permit component. Finally, the Panel recommends that if EPA does propose any form of co-permitting, it address in the preamble both the environmental benefits and any economic impacts on small entities that may result and request comment on its approach. If EPA does not propose the approach discussed above (in which responsibility for each permit requirement is assigned to one party or the other) it should discuss the strengths and weaknesses of this approach and request comment on it.

9.4.6 CNMP Preparer Requirements

One regulatory change currently under consideration would require permittees to have CNMPs developed by certified planners. Several SERs were concerned that requiring the use of a certified planner could significantly increase the cost of plan development, as well as limit the operator's influence over the final product. These SERs felt that, with adequate financial and technical assistance, they could write their own plans and suggested that EPA work to facilitate such an option through expanded training and certification of farmers and provision of a user-friendly computer programs to aid in plan development.

The Panel recognizes the need for plan preparers to have adequate training to write environmentally sound CNMPs. This is particularly true for larger operations, as the complexity of the plan and, therefore, the level of training required increases with the size of the operation. However, the Panel also recognizes the potential burden on small entities of having to use certified planners, especially considering the large number of AFOs and the limited number of certified planners currently available. The Panel recommends that EPA work with USDA to explore ways for small entities to minimize costs when developing CNMPs. EPA should continue to coordinate with other federal, state and local agencies in the provision of low-cost CNMP development services, and should facilitate operator preparation of plans by providing training, guidance and tools (e.g., computer programs). EPA expects that many operations could become certified through USDA or land grant universities to prepare their own CNMPs.

9.4.7 General vs. Individual Permits

Another regulatory change under consideration involves requiring individual permits for CAFOs that meet certain criteria, or increasing the level of public involvement in general permits for CAFOs. Several SERs commented that they did not support increasing the use of individual permits for operations under 1,000 AUs, because it would be too resource intensive, both for operators and for permitting agencies. SERs also expressed concern that greater public involvement in the permitting process could risk compromising confidential business information and slow the permitting process

down. This latter concern would be compounded if permit revisions to address operational changes were repeatedly subject to public challenge.

The Panel recommends that EPA not expand the use of individual permits for operations with less than 1,000 AUs. EPA expects that general permits will be issued for operations with less than 1,000 AUs, except where special circumstances warrant otherwise, such as when an operation has a history of noncompliance.

9.4.8 Immature Animals

EPA is considering whether to include immature animals for all animal types in determining the total number of animal units at a CAFO. Currently, immature animals are counted (and given equal weight as mature animals) in the poultry, beef and exotics sectors, but are not counted in the dairy and swine sectors. The majority of SERs that commented on this issue did not support this regulatory change. Those who did were mostly concerned with equity across sectors and also pointed out that at some facilities immature animals can contribute significantly to runoff. Those not supporting such a change were concerned that the inclusion of immature animals could push many operations into larger size categories and thus require them to obtain a permit and significantly increase their costs. One SER also stated that it would be difficult to equitably account for immature animals, as there are many different ways of handling and raising them. Another SER was concerned that such a change would particularly impact small operations, as they are less likely than large operations to send their immature animals off site.

The Panel discussed this issue but did not come to any recommendation as to whether or not immature animal should be considered in the determination of who is a CAFO. However, to the extent that immature animals are considered in this determination, the Panel recommends that EPA consider an approach that would count immature animals proportionally to their waste generation relative to mature animals. For example, if a calf tends to generate only a half the manure generated by a milk cow, calves would only count as 0.35 animal units (mature dairy cow count as 0.7 animal units). Further, to the extent that including immature animals would have the effect of expanding permit coverage for small entities, EPA should consider the effect this will have on small entities and consider establishing less costly or burdensome requirements for these operations.

9.5 Other Issues

9.5.1 Additional Analysis

Benefits

Several SERs expressed concern that EPA had not developed an assessment of the environmental benefits of the potential regulatory changes. EPA did provide the Panel with preliminary

information on the estimated total amount of manure and manure nutrients generated on livestock and poultry operations differentiated by sector and broad facility size class. However, the Panel felt that these estimates were too preliminary to provide to SERs.

The Panel recognizes that SERs were not provided with adequate information to comment on the relative costs and environmental benefits of potential regulatory changes as they relate to small business. Although the Panel itself was provided with some preliminary results from on-going EPA analyses, the Panel feels that these results do not provide an adequate basis for it to comment on relative costs and benefits either. The Panel recognizes that in choosing to conduct SER outreach and the Panel process at a relatively early point in the rule development process, when SER input is most able to have a significant effect on the proposed rule, EPA is necessarily limited in the scope of quantitative analysis that it can provide to both the SERs and the Panel. The Panel thus recommends that as EPA moves forward in developing and ultimately selecting regulatory options, EPA carefully evaluate, in a manner consistent with its legal obligations, the relative costs and benefits (including quantified benefits to the extent possible) of each option in order to ensure that the options selected are affordable (including to small farmers), cost-effective, and provide significant environmental benefits.

EPA notes that it is conducting several analyses. One analysis looks at the waste generated in different parts of the country and by different animal sectors using USDA National Agriculture Statistics Service data and comparing that to information on available cropland, to evaluate potential nutrient loads. EPA is assessing the degree to which a particular type and size of operation is likely to have an excess of manure, and how that might change pre- and post- regulation.

EPA is also modeling loads in runoff from feedlots (including the storage area) and land application areas and is working to determine the amount reaching surface water. Benefits of CAFO controls to surface water are being calculated using the National Water Pollution Control Assessment Model (NWPCAM) developed by Research Triangle Institute (RTI). This model simulates over 633,000 miles of rivers and streams in the United States and estimates changes in water quality based on regulatory options. The model values these changes by applying Mitchell/Carson estimates of willingness to pay to estimated changes in water quality. EPA is also estimating benefits of the proposed regulation to groundwater, drinking water, and estuaries as separate analyses.

Costs

Several SERs noted their concerns that the model farm costs were underestimated because the unit costs did not account for the wide variability of site-specific circumstances and because EPA had overestimated the number of operations that had implemented certain controls. These SERs also provided quantitative information in support of these concerns. The Panel recommends that EPA continue to refine the estimated costs of these proposed rules and, in doing so, consider the additional information provided.

9.5.2 Public Availability of CNMPs

Several SERs provided written comments indicating that CNMPs should be retained onsite and that operators should only have to make CNMPs available to State and EPA authorities. These SERs further suggested that CNMPs be treated as Confidential Business Information that is exempt from public disclosure when submitted to State and EPA authorities.

EPA is currently evaluating what information in a CNMP (as well as other information that feedlots might be required to provide as part of the permitting or certification process) could be considered proprietary business information that could harm a CAFO if it were made public. EPA notes that most industrial storm water permittees that are subject to NPDES requirements to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) are not required to make those SWPPPs directly available to the public. If the SWPPP or CNMP is submitted to EPA or state permitting authorities, however, it may not qualify for the exclusion from public access that is provided to Confidential Business Information - - EPA is continuing to research this issue.

The Panel urges EPA to consider the legitimate business concerns of CAFO operators in keeping CNMPs and other proprietary business information confidential. To the extent allowed under the law, EPA should continue to explore ways to balance the operators' concerns over the confidentiality of information that could be detrimental if revealed to the operators' competitors, with the public's interest in knowing whether adequate practices are being implemented to protect water quality.

9.5.3 Dry Manure

EPA's CAFO regulations currently apply to laying hen or broiler operations which have liquid manure handling systems or use a continuous flow watering system. Since these regulations were issued, the trend in the laying hen industry has been to move away from liquid manure handling systems in preference for dry manure handling systems. EPA believes (and SERs agreed) that liquid manure handling systems are not generally in use at broiler operations.

The continuous flow watering system, which delivered drinking water to the birds, has been discontinued in favor of more water conserving methods. Thus, many broiler operations and laying hen operations do not meet the definition of a CAFO and are not subject to the Effluent Limitations Guidelines requirements, although these facilities may still be designated as a CAFO on an individual basis if they meet the individual criteria for such designation (see Sec 9.4.1). EPA believes proper management is necessary to ensure that dry manure handling does not result in a discharge of pollutants. EPA also believes that control of land application of dry manure is important because data indicate that over application results in nutrients running off into surface water. EPA currently plans to propose to

change the CAFO definition so that laying hen and broiler operations with dry chicken manure handling systems would be included within the definition of a CAFO, [1] if they meet the other regulatory criteria.

The Panel agrees that dry manure systems may pose a risk to water quality if not properly managed and that such systems should not automatically be excluded from coverage under the regulations. However, the Panel recommends that in evaluating potential requirements for dry manure poultry operations, EPA consider the effects of any such requirements on small entities. To the extent that small entities are regulated EPA should consider less costly or burdensome requirements for the small entities affected.

9.5.4 Coordination with State Programs

The Panel notes that some states already have effective permitting programs for CAFOs in place. Some SERs stated that their states already have in place programs that are more protective than required by current Federal regulations. One SER noted that the state of Alabama recently completed a broad-based stakeholder process to revise its regulations governing the poultry industry. The Panel recommends that EPA consider the impact of any new requirements on existing state programs and include in the proposed rule sufficient flexibility to accommodate such programs where they meet the minimum requirements of federal NPDES regulations. The Panel further recommends that EPA continue to consult with states in an effort to promote compatibility between federal and state programs.

[1]Note turkey operations are currently regulated regardless of the manure handling system used. Most turkey operations house the birds in a similar fashion to broiler operations and generate a dry manure similar to broiler manure.