PROPOSED REVISIONS TO CAFO REGULATIONS

(January 12, 2001; 66 FR 2960)

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Important Note - Please Read:

On January 12, 2001, EPA published proposed revisions to its regulations under the Clean Water Act for concentrated animal feeding operations ("CAFOs"). EPA proposed to amend both the National Pollutant Discharge Elimination System ("NPDES") regulations and the effluent limitations guidelines ("ELG") for CAFOs. EPA solicited a full range of public comments on any and all aspects of the proposal. The period for submitting public comments closes on July 30, 2001. Directions for how and where to submit comments are in the proposal, and can also be found on EPA's web site at http://www.epa.gov/npdes/afo (click on CAFO Proposed Rule in the Topics box).

The purpose of these frequently asked questions (FAQs) is to quickly provide answers to people on specific questions. These FAQs identify, in the form of questions, the major issues discussed in the proposal and numerous issues raised during a series of EPA-sponsored public outreach meetings, and provide brief answers for each question.

These FAQs are a reference tool only. The FAQs do not cover every issue or option set forth in the proposal. EPA emphasizes that these FAQs are intended to be used only as a tool to help you quickly obtain answers to specific questions you may have, and we encourage you to locate the your topic of interest in the preamble to the proposed rule for a fuller discussion of each issue, since by relying on this FAQ you may miss important information contained in the full preamble. To the extent there are any inadvertent differences between this guide and the proposal (preamble and regulations), the proposal governs.

I. Background

- ***What authority does EPA have to regulate concentrated animal feeding operations (CAFOs)?***

  Sections 301 and 402 of the Clean Water Act (CWA) prohibit the discharge of pollutants from a point source into waters of the U.S. except as authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Section 501 of the CWA defines the term point source as including concentrated animal feeding operations. EPA has issued comprehensive regulations that implement the NPDES program at 40 CFR Part 122. The CWA also provides for the development of technology-based and water quality-based effluent limitations that are imposed through NPDES permits to control discharges of pollutants. EPA has issued effluent limitations guidelines for feedlots at 40 CFR Part 412.

- ***What is a discharge of a pollutant?***

  A discharge of a pollutant includes "any addition of any pollutant to navigable waters from any point source." Pollutants associated with animal wastes include, but are not limited to, nutrients, organic matter, solids, pathogens, odorous/ volatile compounds, salts, trace elements, antibiotics, pesticides, and hormones. See sections 501(6) and (12) of the Clean Water Act and EPA's regulations at 40 CFR 122.2.

- ***What is the National Pollutant Discharge Elimination System (NPDES)?***

  Under the National Pollutant Discharge Elimination System (NPDES) permit program, which is established in the Clean Water Act, point sources that discharge or may discharge pollutants are subject to permitting. A NPDES permit authorizes, and imposes conditions upon, the discharge of specific pollutants from a specific location. Such permits must include technology-based limitations (e.g., any applicable effluent guidelines, such as those set forth at 40 CFR Part 412 for feedlots), and any additional, more stringent water-quality based limitations that may be imposed by the State. NPDES permits are issued by EPA or by States authorized by EPA to issue NPDES permits (44 States and the Virgins Islands presently are authorized to implement the NPDES program. States not currently authorized include Alaska, Arizona, Idaho, Massachusetts, New Hampshire, and New Mexico).

- ***What are Effluent Guidelines and Standards (ELG)?***

  Effluent limitation guidelines and standards are national regulations issued by EPA that establish limitations on the discharge of pollutants by industrial category and subcategory. These limitations, which are technology-based (i.e., are based on the degree of control that can be achieved using various levels of pollution control technology) are incorporated into NPDES permits as effluent limits. Effluent guidelines can include numeric limits as well as non-numeric effluent limitations and requirements for facilities to use specific "best management practices."

- ***Why is the EPA revising the NPDES and Effluent Limitations Guidelines and Standards for CAFOs?***

  On October 30, 1989, Natural Resources Defense Council, Inc., and Public Citizen, Inc., filed an action against EPA in which they alleged that EPA had failed to comply with CWA section 304(m) (which in part requires that EPA establish a schedule for the review and revision of promulgated effluent guidelines). The Plaintiffs and EPA agreed

to a settlement of that action in a consent decree entered on January 31, 1992. Under the decree, as modified, the Administrator was required to sign a proposed rule for both portions of the feedlots industry (i.e., swine and poultry, beef and dairy) on or before December 15, 2000. EPA must take final action on that proposal no later than December 15, 2002. As part of EPA's negotiations with the plaintiffs regarding the deadlines for this rulemaking, EPA also agreed to propose revisions to the existing NPDES permitting regulations under 40 CFR part 122 for CAFOs on or before December 15, 2000.

The proposed revisions seek to mitigate water quality impairment by reducing the pollutant discharges from the animal production industry. Since the existing CAFO regulations were issued in the mid-1970's, the livestock industry has undergone dramatic changes. The continued trend toward fewer but larger operations, coupled with greater emphasis on more intensive production methods and specialization, is concentrating more manure and other animal waste constituents within some geographic areas. This trend has coincided with an increased number of reports of large scale discharges from these facilities. More and more of the larger livestock facilities are concentrated in areas where there is an inadequate amount of land to accommodate the useful application of the animal manure they produce. The proposed rules work to address these changes and to foster the proper management of manure and process wastewaters. These proposed revisions also attempt to clarify the conditions under which a CAFO is regulated, which EPA believes will improve all aspects of implementation.

- ***Why is livestock and poultry waste a water quality concern?***

  There is an estimated 128.2 billion pounds of manure available for land application from confined animal units from the major livestock and poultry sectors. Primary pollutants associated with animal waste are nutrients (i.e., nitrogen and phosphorus) organic matter, solids, pathogens, and odorous/volatile compounds. In 1997, manure nutrients available for land application included 2.6 billion pounds of nitrogen, and 1.4 billion pounds of phosphorus. The geographic concentration of these nutrients and other pollutants result in the potential for water quality impairment, including fish kills, algae blooms, contamination of shellfish including subsequent toxin and pathogen transmission up the food chain, increased turbidity and levels of sediment in water, and reduction in biodiversity. For example:

  - Spills, dry-weather discharges, and runoff can carry pollutants in manure to rivers and streams and can result in fish kills;
  - Ammonia is highly toxic to aquatic life and is a leading cause of fish kills (due to its biochemical oxygen demand);
  - Excess nutrients result in eutrophication (the process in which phosphorus and nitrogen over-enrich water bodies and disrupt the balance of aquatic life), which is associated with blooms of a variety of organisms that are toxic to both fish and humans. Explosive algae populations can lower the level of dissolved oxygen, which can cause fish and other aquatic organisms to die. Eutrophication is also a factor in the growth of toxic microorganisms, such as toxic algae (cyanobacteria), and *Phfisteria psicicida*, which can affect human health as well.
  - Nutrient-derived nitrites pose additional risk to aquatic life, while nitrates present human health risks through the contamination of drinking water.

- ***How do pollutants from poultry and livestock operations reach surface waters?***

  Pollutants found in animal manures can reach surface waters in a number of ways, including through runoff from the feedlot itself (especially likely at a open-air feedlots), through spills or other discharges from animal waste storage (example causes at a lagoon can include pump failures, manure irrigation gun malfunction, and pipes or retaining walls breaking), through seepage from manure storage areas to groundwater with a direct hydrological connection to surface water, through direct contact between confined animals and the rivers or ponds located within their reach, through surface runoff from the land application area (particularly if rainfall occurs soon after application, or if manure is over-applied), and through erosion (erosion is a significant transport mechanism for land-applied pollutants that are strongly attached to soils, such as phosphorus).

- ***How is the proposed regulations for CAFOs related to the USDA/EPA Unified National Strategy for Animal Feeding Operations?***

  In response to public concern about contamination of rivers, lakes, streams, coastal waters, and ground water from livestock and poultry waste, EPA and the U.S. Department of Agriculture (USDA) developed the *Unified National Strategy for Animal Feeding Operations* (AFOs) in March 1999, as part of the *Clean Water Action Plan.* The strategy includes a national goal that all "AFOs should develop and implement technically sound, economically feasible and site-specific comprehensive nutrient management plans (CNMPs) to minimize impact on water quality and public health." The Unified National AFO Strategy identified seven strategic issues that should be addressed to better resolve concerns associated with AFOs. The proposed regulations for CAFOs primarily address one strategic issue: improving existing regulations for the largest operations (and also focus on proper nutrient management). The Unified National AFO Strategy stated that approximately 5 percent of all AFOs would fall within the NPDES regulatory program, while the remaining 95 percent would operate under voluntary programs. The alternatives proposed in the revised CAFO regulation are consistent with the Unified Strategy and would result in regulation of approximately 3 to 11 percent of all AFOs.

II. Existing Regulations

- ***When were the existing NPDES CAFO regulations promulgated?***

  The existing NPDES CAFO regulations were published on March 18, 1976 (41 FR 11458). The existing effluent limitations guidelines for feedlots were published on February 14, 1974 (39 FR 5704).

- ***What is an AFO under the existing regulation?***

  Under the existing regulations, an AFO is a lot or facility (other than an aquatic animal production facility) where: 1) 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 2) crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Two or more AFOs under common ownership are considered to be a single AFO if they adjoin each other or if they use a common area or system for the disposal of wastes. (See, 40 CFR 122.23(b)(1)).

- ***What operations are defined as CAFOs under the existing regulation?***

  Under the existing NPDES regulations, an AFO is defined as a CAFO if meets the criteria in 40 CFR Part 122, Appendix B (relating to the size of the operation or size and manner of discharge), or it is designated as a CAFO on case-by-case basis by the Permit Authority.

  40 CFR Part 122, Appendix B provides that and AFO is a CAFO if it meets either of the following criteria:

  a) More than the numbers of animals specified in any of the following categories are confined: 1,000 slaughter and feeder cattle; 700 mature dairy cattle (whether milked or dry cows); 2,500 swine each weighing over 25 kilograms (approx. 55 pounds); 500 horses; 10,000 sheep or lambs; 55,000 turkeys; 100,000 laying hens or broilers (if the facility has continuous overflow watering); 30,000 laying hens or broilers (if the facility has a liquid manure system); 5,000 ducks; or 1,000 animal units; OR

  b) More than the following number and types of animals are confined: 300 slaughter and feeder cattle; 200 mature dairy cattle (whether milked or dry cows); 750 swine each weighing over 25kilograms (approx. 55 pounds); 150 horses; 3,000 sheep or lambs; 16,500 turkeys; 30,000 laying hens or broilers (if the facility has continuous overflow watering); 9,000 laying hens or broilers (if the facility has a liquid manure system); 1500 ducks; or 300 animal units; AND either one of the following conditions are met:

  1) pollutants are discharged into navigable waters through a manmade ditch, flushing system or other similar man-made device; or

  2) pollutants are discharged directly into waters of the United States which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with animals confined in the operation.

  Provided, however, that no AFO is a CAFO as defined above if such animal feeding operation discharges only in the event of a 25-year, 24-hour storm event.

- ***How many operations are subject to permitting under the current NPDES CAFO regulations?***

  In the proposed rule, EPA estimated that under the current regulations, there are approximately 12,660 CAFOs that are potentially subject tp NPDES permitting based on confining greater than 1,000 animal units. Data available to EPA at the time of proposal indicate that approximately 2,500 CAFOs currently hold an NPDES permit. [NOTE: Recently updated information indicate that approximately 4,000 CAFOs hold an NPDES permit.]

- ***What are the requirements for operations determined to be CAFOs under the existing regulations?***

  Generally, under the existing regulations, any operation that is defined or designated as a CAFO and that "discharges or proposes to discharge" pollutants must apply for a NPDES permit and must operate in compliance with its permit conditions. See section 122.21(a) of the regulations. Under this standard, EPA believes that virtually all facilities that are currently defined as CAFOs have a current duty to apply for a permit because of their past or current discharges or potential for future discharges. The specific requirements of each permit are determined by regulation and the permit writer. Operations with over 1,000 AU are subject to the existing feedlots effluent guidelines (Part 412). Under the effluent guidelines, permits for these CAFOs must require them to achieve a standard of zero discharge of process wastewater pollutants from the production area to navigable waters, except that process waste pollutants may be discharged whenever rainfall events, either chronic or catastrophic, cause an overflow of process wastewater from a facility designed, constructed, and operated to contain all process generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event. Further, discharges from over-application of manure to land under the control of the CAFO owner or operator are also subject to Clean Water Act requirements.

III. Proposed Changes to the CAFO Definition

A. AFO

- ***What changes are proposed to be made to the definition of an AFO and why?***

  EPA proposed to amend the AFO definition to clarify how feedlots are distinguished from pasture and grazing lands. EPA proposed this change to clarify that situations where the existence of a small amount of vegetation (i.e., incidental growth) in what is clearly an area that concentrates animals (as well as feed, manure, etc.) for feeding meets the definition of an AFO. The definition is intended to exclude pastures and rangeland that are largely covered with vegetation that can absorb nutrients in the manure. Areas within the pasture land where animals tend to congregate to feed or drink are not considered AFOs.

  The following are examples of facilities that meet the definition of an AFO under both the current and the proposed regulations:

  – animals are maintained in a confined area with a dirt or constructed floor
  – animals are maintained in a confined area with a dirt floor that has a small portion of vegetative growth during all or part of the year.

  Under the proposal, the boundaries of the AFO would include both the production area and the land application area. [See, *Why do the definitions of AFO and CAFO include the land areas under the control of the operator?*].

- ***Is EPA proposing to regulate winter feeding operations?***

  The proposed rule does not explicitly address winter feeding operations because such operations vary considerably by animal type, size, location, conditions and region. Rather, the proposed rule would amend the AFO definition [see, *What change are proposed to be made to the definition of an AFO and why?*] with the intent to clarify that the definition excludes pastures and rangeland that are largely covered with vegetation

that can absorb nutrients in the manure, while including as AFOs areas where animals are confined in such density that significant vegetation cannot be sustained over most of the confinement area while the animals are present. For example, as EPA indicated in the preamble, a wintering operation where a small portion of pasture is barren because animals congregate near a feed or watering trough (but the animals have access to pasture or grazing land) is not an AFO because animals are not confined to the barren area. Conversely, if animals are brought into confinement during the winter and meet the 45 day criteria, such facilities are AFOs, and could potentially be CAFOs.

B. CAFO Thresholds/Criteria

- ***What are the proposed changes to the definition of a CAFO?***

EPA proposed two alternative structures for defining a CAFO (i.e., a three-tier structure and a two-tier structure). EPA also proposed eliminating the term "animal unit," eliminating the mixed animal type calculation, eliminating the 25-year, 24- hour storm exemption in the CAFO definition, and including new animal types (these proposed changes are addressed individually under separate questions, below).

The proposed three tier structure provides that an AFO is a CAFO

– if it has more than 1,000 AU;
– if it has 300 to 1,000 AU and it meets any of the following conditions:
  - there is direct contact of animals with waters of the U.S.,
  - there is insufficient storage and containment at the production area in the last five years,
  - there is evidence of a discharge from the production area in the last five years,
  - the production area is located within 100 feet of waters of the U.S.,
  - the operator does not have, or is not implementing a *permit nutrient plan*,
  - more than twelve tons of manure is transported off-site to a single recipient annually, unless the recipient has complied with the requirements for off site shipment of manure; or
– if the permit authority designates the facility a CAFO. [See, III.C., Designation].

The proposed two-tier structure provides that an AFO is a CAFO

– if it has more than a set number of animals for any animal sector (the proposed threshold was based on 500 AU and would include: 500 cattle and heifers; 500 veal; 350 mature dairy cattle; 1,250 swine each weighing over 25 kilograms (approx. 55 pounds); 5000 immature swine weighing less than 25 kilograms; 50,000 chickens; 27,500 turkeys; 2,500 ducks; 250 horses; or 5,000 sheep or lambs. EPA also is soliciting comment on other alternative thresholds, including the equivalent of 300 AU, 750 AU, and 1,000 AU.

– if the permit authority designates the facility as a CAFO based on the fact that the facility is a significant contributor of pollutants to waters of the U.S. [See, III.C., Designation]

- ***Why do the proposed revisions to the definitions of AFO and CAFO include the land areas under the control of the operator?***

  EPA believes this aspect of the regulations should be clarified, and has proposed to do so by including the land areas under the control of the operator directly in the definition of an AFO. EPA interprets the current regulations to include discharges of CAFO-generated manure and wastewaters from improper land application to areas under the operational control of the CAFO as discharges from the CAFO itself. Otherwise a CAFO could simply move its wastes outside the area of confinement and over-apply or improperly apply those wastes, which would render the CWA prohibition on unpermitted discharges of pollutants from CAFOs meaningless. The preamble further explains our rationale on this issue. Land application areas are integral parts of many CAFO operations and land application is typically the end point in the cycle of manure management. Significant discharges to the waters in the past have been attributed to overapplication of CAFO-generated manure and wastewater. EPA does not believe that Congress intended to exclude the discharges from a CAFO's land application areas from coverage as discharges from the CAFO point source. Moreover, defining CAFOs in this way is consistent with EPA's effluent limitations guidelines for other industries, which consider on-site waste treatment systems to be part of the production facilities in that the regulations restrict discharges from the total operation.

- ***Why is EPA proposing two alternative structures for defining a CAFO?***

  The co-proposed options reflect the Agency's efforts to balance the need to effectively address CAFOs that are potential sources of water quality impairments, with the need to provide flexibility for effective state programs. The two-tier structure is designed to give regulators and AFO operators a clear, straightforward means of determining whether or not an NPDES permit is required for a facility. The three-tier structure, while more complex to administer, may allow the permit authority to better focus its permitting resources on facilities that are more likely to be significant sources of water quality impairments and to use State non-NPDES programs to address the concerns at help small and medium size AFOs and help them avoid being permitted.

- ***Under the two tier alternative, what is the basis for the 500 animal unit threshold?***

  The 500 animal unit threshold is based on analyses of the percent of manure generated, potential to reduce nutrient loadings, the number of operations affected, and administrative burden. EPA is proposing 500 AU because it regulates larger operations – those that pose the greatest potential risk to water quality – and exempts more traditional – and oftentimes more sustainable – farm production systems where farm operators grow both livestock and crops and land apply manure nutrients.

- ***Under the three tier alternative, what would be the criteria applicable to the middle tier?***

  The proposed regulation would amend the conditions under which AFOs with 300 to 1,000 AU, or "middle tier" facilities, would be defined as a CAFO. An AFO within this category would be defined as a CAFO <u>unless</u> the AFO operator submits a certification to the Permit Authority that the AFO meets all of the following criteria:

  – Waters of the U.S. do not come into direct contact with confined animals;

- There is sufficient storage and containment to prevent all pollutants from the production area from entering waters of the U.S.;
- There has not been a discharge from the production area within the last five years;
- No part of the production area is located within 100 feet of waters of the U.S.;
- Where manure or process wastewaters are land-applied, they will be land applied in accordance with a permit nutrient plan.

An AFO with 300 to 1,000 AU that does not meet all these conditions would be defined as a CAFO. EPA is proposing this alternative because it presents a risk-based approach to determining which operations pose the greatest concern due to an increased potential to discharge. In addition, States would retain a certain degree of flexibility regarding how to best apply these criteria to middle tier facilities under this approach. The particular conditions being proposed would have the effect of ensuring that manure at all facilities with 300 AU or more is properly managed, and thus may be more environmentally protective than the two-tier structure.

- ***What other animal sectors would the NPDES proposal affect?***

  In addition to the beef, dairy, swine, poultry and veal sectors, the proposed revisions affect sectors covered under the current regulation (Part 122 Appendix B), including the horse, sheep, lamb and duck sectors. EPA is proposing to adjust the definition of CAFOs in these sectors in order to be consistent with the NPDES proposed revisions for beef, dairy, swine and poultry sectors. Under the two-tier structure, EPA is proposing to lower the threshold for defining which AFOs are CAFOs to the equivalent of 500 AU in the horse, sheep, lamb and duck sectors under the two-tier structure. Thus, 2,500 ducks, 250 horses, and 5,000 sheep or lambs would be considered CAFOs. Under the proposed three-tier structure, the thresholds for the horse, sheep, lamb and duck sectors would remain as they are under the existing regulation.

  Other elements of the NPDES requirements would also change, such as expressly including land application areas in the definition of an AFO and CAFO, eliminating the 25-year, 24-hour storm permit exemption (but retaining it as a design standard for some animal sectors), and clarifying the duty to apply for a permit.

  The effluent guidelines for ducks, horses, sheep and lambs and its applicability threshold for these sectors would not change. (See also *What technology-based effluent limitations would be in the permit?*) Thus, CAFOs with greater than 1,000 AU would be subject to the existing effluent guideline; while CAFOs in these sectors with fewer than 1,000 AU would continue to be subject to technology-based limitations that are developed by the permit writer on a case-by-case basis based on the permit writer's best professional judgement.

- ***Why is EPA proposing to eliminate the term "animal unit" in the definition of a CAFO?***

  EPA is proposing to eliminate the term "animal unit" to reduce confusion among the regulated community. The confusion is a result of the inconsistent use of this term and concept across a number of federal programs. The concept of an animal unit has been used by various programs to normalize numbers of animals across animal types. While

conceptually similar, the basis for these different animal units has varied, including live weight, forage requirements, or nutrient excretion. The result has been different animal unit values. EPA has proposed using the total number of head for purposes of defining an operation as a CAFO. The Agency believes this will both simplify and clarify the CAFO definition through eliminating confusion among different animal unit definitions.

- ***How would the proposed rule address operations with mixed animal types?***

  A basic goal of the proposed rule is to simplify the regulation to the extent practical. EPA believes that while a facility with multiple animal types could generate large quantities of manure, such facilities tend to be much smaller than specialized facilities, and tend to have more traditional, oftentimes more sustainable, production systems. These farms also tend to be more diversified, engaging in both animal and crop production. Given this, and the fact that the existing regulation's process for addressing mixed operations would require revision to be consistent with the proposed rule (e.g., the inclusion of dry chicken, immature swine and heifer operations), the Agency has proposed to eliminate the mixed animal provision.

  While the mixed calculation would be eliminated, once the number of animals from one sector (e.g. beef, dairy, poultry, swine, or veal) cause an operation to be defined as a CAFO, manure from all confined animal types at the facility would be subject to the permit conditions. In the event that waste streams from multiple livestock species are commingled, and the regulatory requirements for each species are not equivalent, the permit must apply the more stringent requirements. Additionally an AFO found to be a significant contributor of pollution to waters of the U.S. could still be designated a CAFO. EPA believes that the effect of this proposed change would be sufficiently protective of the environment while maintaining a consistently enforceable regulation.

- ***Can an operation be considered a CAFO if the operation has some of the animals housed in confinement and some in open lots?***

  All confined animals would be counted to determine whether the operation is a CAFO, regardless of the type of confinement. However, the facility must meet the definition of an AFO (in general, confinement for 45 days per 12 month period, vegetation criteria) before it can be defined as a CAFO. If more than one species of animal is confined, the facility would be defined as a CAFO only if the total number of any single species meets the threshold value for that species for being defined as a CAFO.

- ***Can an operation be considered a CAFO if the operation has some animals confined and some maintained on pasture?***

  A facility must meet the definition of an AFO (in general, confinement for 45 days per 12 month period, vegetation criteria) before it can be defined as a CAFO. Animals on true pasture generally are not counted in determining whether the operation meets meet the AFO definition. With respect to confined animals, including those that spend part-time in pasture and part-time confined, the owner or operator would have to determine whether the length and nature of confinement meets the definition of an AFO and, if so, whether the number of confined animals (and conditions of confinement for the middle tier) meet the definition of a CAFO.

- ***Can auction facilities be determined to be a CAFO?***

  An auction facility can be an AFO and a CAFO just like any other facility if it meets the definition of an AFO and meets the definition of a CAFO or is designated as a CAFO. Note that the same animals need not be confined for the 45 day period specified in the AFO definition, it is sufficient if any animals (other than aquatic animals) have been, are, or will be stabled or confined and fed for a total of 45 days or more in any 12-month period.

- ***Does the definition of a CAFO include supplemental feeding areas for animals that are raised primarily on pasture?***

  The proposed rule does not specifically address supplemental feeding areas for animals raised primarily on pasture, in part, because it focuses on concentrated feeding operations, and, in part, because such operations vary considerably. Such areas would be assessed under the definitions established for an AFO and a CAFO. Where an operation meets these definitions, it would be subject to regulation as a CAFO. Note that the proposed rule would amend the AFO definition with the intent to exclude pastures and rangeland that are largely covered with vegetation that can absorb nutrients in the manure, while including as AFOs areas where animals are confined in such density that significant vegetation cannot be sustained over most of the confinement area while the animals are present.

- ***Would two facilities that adjoin each other be counted as one?***

  Two or more AFOs under common ownership are considered to be a single animal feeding operation if they adjoin each other or use a common area or system for the disposal of waste. For example, facilities have a common waste disposal system if the wastes are commingled (e.g., stored in the same pond or lagoon or land applied on commonly owned fields). The collective number of animals confined in the adjoining facilities is counted to determine the size of the AFO.

- ***How would the proposed rule address two animal feeding operations separated by a distance that are under common ownership?***

  If the two operations use a common area or system for waste disposal then they would be viewed as a single operation with respect to the NPDES permit program. The collective number of animal units of the two operations would then be counted to determine if the AFO is a CAFO.

C. Designation

- ***What is designation and how is it used?***

  Under the existing CAFO regulations, an AFO may be designated as a CAFO on a case-by-case basis when the permit authority determines that it is a significant contributor of pollution to waters of the U.S. In making this determination, the permit authority considers factors specified in the regulations (e.g., size of the operation; the amount of waste reaching the waters; the location of the operation; the means of conveyance; slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of animal wastes or process wastewaters; and other relevant factors). No AFO with less than 300 animal units may be designated as a CAFO unless pollutants are discharged through a manmade ditch, flushing system, or other similar manmade device; or directly

into waters of the U.S. that originate outside of the facility and pass over, across, or through the facility or otherwise come into direct contact with the confined animals). And no permit shall be required for a designated operation until the permit authority has conducted anon-site inspection and determined the operation should and could be regulated under the NPDES permit program.

- ***What are the proposed changes concerning who can designate an AFO as a CAFO under the revised regulation?***

  EPA has proposed to state explicitly in the regulations that in authorized NPDES States, either the Permit Authority or the EPA Regional Administrator may designate an AFO as a CAFO where the AFO meets the standards for designation.

- ***What are the proposed changes to designation under the two-tier option in the revised regulation?***

  In the existing regulations, there are two criteria concerning how pollutants are discharged that must be present before operations in the smallest tier (less than 300 AU) may be designated. These two criteria now provide that 1) pollutants must be discharged through a manmade ditch, flushing system, or other similar manmade device; or 2) pollutants must be discharged directly into waters of the U.S. that originate outside of the facility and pass over, across, or through the facility or otherwise come into direct contact with the confined animals. In the two tier structure in the proposal, for CAFOs in the smaller tier (less than 500 animal units), EPA has proposed to eliminate these two criteria. Designation could occur even if neither of these criteria were met. The remaining requirements for designation concerning the need for a "significant contributor of pollution" finding and an on-site inspection would remain the same (except that EPA proposed a minor wording change to "significant contributor of *pollutants"*).

- ***What are the proposed changes to designation under the three-tier option in the revised regulation?***

  Under a three-tier structure, EPA has proposed to retain the two discharge criteria described above, as well as the other existing requirements for designation concerning the need for a "significant contributor of pollution" finding and an on-site inspection (except that EPA proposed a minor wording change to "significant contributor of *pollutants*).

- ***Are AFOs that are designated as CAFOs still subject to the ELG?***

  No. Under both the two-tier and three tier structures, those operations that do not meet the definition of a CAFO in the regulations but that have been designated as a CAFO would not be subject to the ELG. Rather, the technology-based permit limits would be developed by the permit writer on a case-by-case basis based on best professional judgement (BPJ).

D. Poultry

- ***What types of poultry operations would be CAFOs and covered by the revised regulation?***

  EPA has proposed to revise the CAFO regulations to include all poultry operations with the potential to discharge pollutants. The proposed revisions would remove the current

limitation on the type of manure handling or watering system used at laying hen and broiler operations.

Under the two-tier NPDES scenario, EPA proposed to establish the threshold above which poultry AFOs will be defined as CAFOs (i.e., the 500 AU level) at 50,000 chickens and 27,500 turkeys, respectively. Under the three-tier option, EPA proposed to establish the threshold above which poultry AFOs could potentially be defined as CAFOs (i.e., the 300 AU level) at 30,000 chickens and 16,500 turkeys, respectively. Under this option, the 1,000 AU level equals 100,000 chickens, and 55,000 turkeys, respectively.

E. Immature Swine and Dairy

- ***How would immature animals in the swine and dairy sectors be counted?***

  EPA has proposed to include immature swine (swine weighing less than 25 kilograms, approximately 55 pounds) and immature dairy cows (heifers) under the CAFO definition. As such, the Agency has established specific thresholds for determining when these operations are defined as CAFOs.

  For immature swine, in the proposed two-tier structure, EPA would establish the 500 AU threshold as operations with 5000 or more head. Those with fewer than 5,000 immature swine would become CAFOs only if designated by the permit authority. In the proposed three-tier structure, the 300 AU and 1,000 AU equivalents for immature swine would be 3,000 and 10,000 head, respectively, and those with fewer than 3,000 head would become CAFOs only if designated.

  Immature dairy cows, or heifers, would be counted equivalent to beef cattle; that is, the 500 AU threshold would be operations with 500 or more heifers, and those with fewer than 500 would become CAFOs only if designated by the permit authority. Under the proposed three-tier structure, the 300 AU and 1,000 AU equivalents would be 300 head and 1,000 head of heifers respectively, and those with fewer than 300 AU would become CAFOs only if designated.

- ***Why is EPA proposing to revise the provisions regarding immature animals?***

  Immature animals were not a concern when the current regulations were developed because they were generally part of operations that included mature animals and, therefore, their manure was included in the permit requirements of the CAFO. In recent years, these livestock industries have become increasingly specialized with the emergence of increasing numbers of large stand-alone nurseries and phased production systems. Further, manure from immature animals tends to have higher concentrations of pathogens and hormones and thus poses greater risks to the environment and human health. The proposed revisions to the NPDES regulation are intended to be more reflective of how the industry operates today and insure adequate water quality protection.

F. 25-year, 24-hour Storm Provision in CAFO Definition

- ***Under the proposed NPDES regulations, would an AFO be considered a CAFO if it only discharges during a 25-year, 24 hour storm?***

  The existing CAFO definition provides that "no animal feeding operation is defined as a concentrated animal feeding operation ... if such animal feeding operation discharges only in the event of a 25-year, 24-hour storm event." EPA has proposed to remove this exemption. EPA believes that the 25-year, 24-hour storm event exemption in the existing CAFO definition, in combination with the existing effluent guideline, has created confusion and led to difficulty implementing the NPDES regulations. EPA has proposed to eliminate the 25-year, 24-hour storm event exemption from the CAFO definition to ensure that CAFOs with a potential to discharge are appropriately permitted, and that through such permitting these operations are properly designed, constructed and maintained.

- ***Does the 25-year, 24 hour storm remain a design specification in the proposed effluent guideline?***

  For the beef and dairy sectors, the answer is yes. The proposed effluent limitations guideline for the beef and dairy sectors provides that where the production area is designed and constructed to contain all process wastewaters including the runoff from the 25-year, 24-hour rainfall event, and that area is properly operated (as specified in the proposed rule), process wastewater pollutants in overflow caused by rainfall may be discharged to U.S. waters.

  For the swine, poultry and veal sectors, the proposed guidelines would impose this same standard (i.e., contain all process wastewaters including the runoff from the 25-year, 24-hour rainfall event) as best practicable control technology (BPT) and best conventional control technology (BCT), but would impose a no discharge requirement (regardless of designed storage capacity) as the best available technology (BAT) and new source performance standard (NSPS). The BAT and NSPS standard is based on the fact that these animals are generally housed, feed is not exposed, and waste is or can be covered.

G. Facility Closure

- ***How does EPA propose to control manure at operations that cease to be CAFOs?***

  Under the proposed regulations, if a facility ceases to be a an active CAFO (e.g., it decreases the number of confined animals below the threshold for being defined as a CAFO, or ceases to operate), the CAFO must remain permitted until it is properly closed. Proper closure includes removal of water from lagoons and stockpiles, and proper disposal of wastes, which may include land application of manure and wastewater in accordance with the conditions in an NPDES permit.

IV. Proposed Changes to the Feedlot Effluent Guidelines

A. Overview of Effluent Guidelines

- ***What is the relationship between an NPDES permit and the feedlot ELG?***

  The NPDES regulations for CAFOs describe which facilities must have a permit. The effluent limitations section of the permit serves as the primary mechanism for controlling discharges of pollutants to receiving waters. The permit may have limitations based on the more stringent of either water quality standards, or technology-based categorical

standards. These latter categorical standards are contained in regulations known as effluent limitations guidelines and standards (ELG), or effluent guidelines. These effluent guidelines may be written for existing and new industrial point source categories, and may be developed for both direct and indirect dischargers. EPA may develop either numerical or narrative standards based on technologies evaluated and determined by EPA to be economically achievable by the subcategory. The point source facility then meets the standards with an appropriate technology of its own choosing.

- ***What livestock sectors are affected by the proposed revisions to the ELGs?***

  The beef, dairy (including heifers), veal, swine, chicken, and turkey sectors all would be affected by the proposed revisions to the ELGs. The current effluent guidelines for horses, sheep and lambs, and ducks would not change.

B. Beef and Dairy Operations

- ***Which beef and dairy operations would be subject to the revised effluent guidelines?***

  Under the two-tier approach, animal feeding operations with more than 500 cattle and heifers, **or** more than 350 mature dairy cattle would be subject to the effluent guidelines. Under the three-tier approach, CAFOs with more than 300 cattle and heifers **or** more than 200 mature dairy cattle would be subject to the effluent guidelines. Under either approach, effluent guidelines would not apply to AFOs designated as CAFOs that are smaller than these sizes.

- ***What is the discharge standard for the production area at these facilities?***

  For both existing and new beef, dairy, and heifer operations, the proposed effluent guidelines would require no discharge from the production area, unless rainfall causes an overflow where the liquid containment was designed ,and constructed to contain all process generated wastewater plus runoff from the 25-year, 24-hour storm event and operated according to certain standards in the regulations. [Note this is similar to the requirements of the existing Effluent Guidelines] EPA also proposes that operations in these animal sectors monitor the groundwater beneath the production area to ensure zero discharge to ground water that has a direct hydrologic link to surface water. Facilities can avoid this monitoring by demonstrating the facility does not have a direct hydrologic connection between the groundwater beneath the production area and surface waters.

- ***What did EPA assume constitutes a direct hydrologic link between groundwater and surface water for purposes of estimating costs?***

  EPA selected certain types of lithologic settings as constituting a high potential for a direct hydrologic link between groundwater and surface water. For costing purposes, any facility sited in karst or karst-like areas, sandy soils, and shallow groundwater tables were assumed to incur additional costs related to groundwater requirements. This corresponds to approximately 24% of all facilities nationally.

- ***What ground water monitoring would be required beneath the production area for beef and dairy operations?***

  Operations would be required to sample groundwater with monitoring wells located up-gradient and down-gradient from the production area at a minimum frequency of twice per year. The samples are to be analyzed for nitrate, ammonia, total coliform, fecal

coliform, total dissolved solids, and total chloride. Note that these ground water requirements would not apply to the land application areas.

- ***What requirements would apply to land application areas?***

  Discharges resulting from land application would have to meet the following requirements, among other things: Develop and implement a Permit Nutrient Plan (PNP) that establishes application rates for manure according to a phosphorus index, a phosphorus threshold, or a soil test for phosphorus, as approved by the state. The PNP would also include the additional measures described in D below [See, **Additional Measures Applicable to Those CAFOs Subject to the Revised Effluent Guidelines**]. More information on the development of a PNP is found in E below [See, **Land Application Areas**].

C. Swine, Poultry and Veal Operations

- ***Which swine, poultry, and veal operations would be regulated by the revised effluent guidelines?***

  Under the two-tier approach, animal feeding operations with more than 1250 swine weighing over 55 pounds *or* 5000 swine weighing less than 55 pounds *or* 50,000 chickens *or* 27,500 turkeys *or* 500 veal would be subject to the effluent guidelines. Under the three-tier approach, CAFOs with more than 750 swine weighing over 55 pounds *or* 3000 swine weighing less than 55 pounds *or* 30,000 chickens *or* 16,500 turkeys *or* 300 veal would be subject to the effluent guidelines. Under either approach, effluent guidelines would not apply to AFOs designated as CAFOs that are smaller than these sizes.

- ***What is the discharge standard for the production area at these operations?***

  For both existing and new swine, poultry, and veal operations, the proposed effluent guidelines would require zero discharge from the production area. EPA also proposes that new source CAFOs in these animal sectors monitor the groundwater beneath the production area to ensure zero discharge to ground water. Facilities can avoid this monitoring by demonstrating the facility does not have a direct hydrologic connection between the groundwater beneath the production area and surface waters.

- ***Why is there no allowance for discharge from a facility designed and operated to contain the 25-year, 24-hour rainfall event?***

  Larger swine, veal, and poultry operations typically house the animals under roof not exposed to weather. Broiler, pullet, and turkey operations generate a dry manure that can be contained under roof or cover. Laying hen facilities with dry manure handling systems store manure inside the building beneath the cages, or may contain manure under roof or cover. Egg wash water can be stored in tanks or covered liquid impoundments. Veal and swine operations may divert storm water away from all structures, and can cover liquid impoundments. Operations with under house pits already prevent storm water from contacting manure. Thus storm water contamination can be completely eliminated at these types of operations. Any operation could convert to dry manure handling systems to eliminate spills associated with heavy rainfalls. Note that "upset" and "bypass" defenses, which allow discharges from permitted facilities for

certain events that are beyond their reasonable control, would still be available to these facilities as a permit condition.

- ***What ground water sampling would be required beneath the production area for new source swine, poultry and veal facilities?***

  Operations would be required to sample groundwater with monitoring wells located up-gradient and down-gradient from the production area at a minimum frequency of twice per year. The samples are to be analyzed for nitrate, ammonia, total coliform, fecal coliform, total dissolved solids, and total chloride. Note that these ground water requirements would not apply to the land application areas.

- ***What requirements would apply to land application areas?***

  Discharges resulting from land application would have to meet the following requirements, among other things: Develop and implement a Permit Nutrient Plan (PNP) that establishes application rates for manure according to a phosphorus index, a phosphorus threshold, or a soil test for phosphorus, as approved by the state. The PNP would also include the additional measures described in D below [See, **Additional Measures Applicable to Those CAFOs Subject to the Revised Effluent Guidelines**]. More information on the development of a PNP is found in E [See, **Land Application Areas**].

D. Additional Measures Applicable to Those CAFOs Subject to the Revised Effluent Guidelines

- ***What inspections would apply to all facilities?***

  CAFOs would be required to perform routine inspections of storm water diversions, drinking water lines, feed systems, manure handling systems, and manure storage. CAFOs would need to document and correct all deficiencies as soon as possible.

- ***What mortality requirements would apply to all facilities?***

  Mortalities could not be disposed in any liquid manure or storm water storage or treatment system. Mortalities would also need to be handled in such a way as to prevent any discharge of pollutants to surface waters.

- ***What sampling requirements would apply to all facilities?***

  Manure would need to be sampled at least once per year for nitrogen, phosphorus, and potassium. Manure shipped offsite would also need to be must also be sampled once per year. Groundwater sampling is described above [See, *What ground water sampling would be required beneath the production area for new source swine, poultry and veal facilities?* and *What ground water monitoring would be required beneath the production area for beef and dairy operations?*].

- ***What setback requirements for manure application are proposed?***

  The proposed regulations would require that manure may not be applied closer than 100 feet to any surface water, open tile line intake structure, sinkhole, or agricultural well head. EPA also proposed alternative options based on NRCS Conservation Practice Standards, minimum residue cover, soil loss tolerance parameters, or erosion control measures.

- ***How did EPA determine that 100 feet was the proper set-back from surface waters for manure application?***

  EPA's analysis indicates the application rate is the single most effective means of reducing runoff. Nevertheless, EPA believes no combination of best management practices can prevent all pollutants from land application from reaching surface waters in all instances; vegetated buffers provide an extra level of protection. A 35 to 66 foot buffer (depending primarily on slope) achieves the most cost-effective removal of sediment and pollutants from surface runoff. However, EPA chose not to require operations to take land out of production and construct a vegetated buffer because a buffer may not be the most cost-effective application to control erosion and runoff in all cases. Instead EPA evaluated the literature as well as existing state programs that either require setbacks or encourage setbacks. The 100' setback was determined to minimize runoff under a wide range of climates, soil types, slopes, and ground covers. The setback was established to reduce pathogen, metals, and other pollutants in manure from reaching surface waters. Additionally, the setback may reduce offensive odors and particulate matter from crossing over CAFO boundaries.

- ***How does the proposed rule affect the application of commercial fertilizer?***

  EPA encourages practices such as vegetated buffers to minimize runoff from all sources (not just manure), but in the proposal EPA is not restricting use of the land in the 100' setback. Furthermore the proposal would not disallow commercial fertilizer use, but would require commercial fertilizer to be considered when manure application rates are established. In fact EPA realizes operations may need to supplement manure fertilizer with commercial nitrogen, and has accounted for the costs of commercial nitrogen when manure is spread at a phosphorus based rate.

E. Land Application Areas

- ***What is a Permit Nutrient Plan and how is it different from a CNMP?***

  A Permit Nutrient Plan (PNP) would consist of those components of a Comprehensive Nutrient Management Plan (CNMP) that EPA is proposing to require in all CAFO permits. A CNMP considers many elements of a conservation plan not required in the Effluent Guidelines. For example, EPA is not specifying conservation management practices, siting constraints, odor controls, or specific mortality handling methods. The main difference is a CNMP is voluntary, and EPA encourages a CNMP for all operations, but a Permit Nutrient Plan would be required in all CAFO permits.

- ***What are the specific requirements of a PNP and how would it developed?***

  The Permit Nutrient Plan establishes land application rates for manure. The PNP considers realistic yield goals based on historic yields or county average data, and determines the application rate such that application does not exceed the crop and soil requirements for nutrients. The application rate would be limited to nitrogen unless the soil conditions and other factors warrant establishing the application rate based on phosphorus. The specific criteria would be determined by the state.

- ***Who can prepare or certify a PNP?***

  The proposal would require PNPs be prepared or approved by a state approved PNP specialist. In the preamble, EPA suggests the specialist is one who has demonstrated

capability to develop a CNMP in accordance with USDA and State standards, as well as PNPs that meet the effluent guidelines, and is certified by USDA or a USDA-sanctioned organization. Specialists include qualified persons who have received certifications through a State or local agency, personnel from NRCS, certification programs recognized as third party vendors of technical assistance, or other programs recognized by States. In addition, USDA is developing agreements with third-party vendors and private companies similar to the 1998 agreement with the Certified Crop Advisors. CAFO owners and operators could be certified to write and approve their own plans. CAFO owners and operators that are not certified could still write their own plans but would need to obtain approval of these plans from a certified specialist. There has been a high level of interest in plan development by the private sector, and EPA believes the private sector could adequately prepare plans for all permitted operations.

- ***Why must the PNP be prepared by a certified specialist?***
  The purpose of using certified specialists is to ensure that effective PNPs are developed or reviewed and modified by persons who have the requisite knowledge and expertise. This would ensure that plans fully and effectively address the effluent guidelines, and would allow plans to be appropriately tailored to the site-specific needs and conditions at each concentrated animal feeding operation.

- ***Where can farmers find certified planners to assist with development of the PNP?***
  Technical assistance in developing PNPs is available from Federal agencies, such as the Natural Resources Conservation Service (NRCS), State and tribal agricultural agencies, the Cooperative Extension Service, Soil and Water Conservation Districts, and land grant universities. In addition, a growing number of non-governmental sources provide qualified technical assistance, including integrators, industry associations, and private consultants who are certified to develop nutrient management plans. A number of States have programs to train and certify nutrient management professionals; these programs are increasing the number of professionals available to provide technical assistance. EPA is working with USDA to identify additional resources to address this need.

- ***How is EPA proposing to determine an allowable manure application rate?***
  EPA is proposing the application rate to be determined consistent with one of three methods adapted from the NRCS nutrient management standard (Standard 590): phosphorus index, phosphorus threshold, and soil test phosphorus. EPA is proposing to require each authorized state Permit Authority to adopt one of these three methods in consultation with the State Conservationist. This allows flexibility to determine nutrient requirements that reflect the nutrient needs of the crop and soil. Once a need is determined, the manure application rate would be determined by subtracting other nutrient sources (such as residues, legume nitrogen credits, biosolids, and commercial fertilizers) from the nutrient requirements. Manure application on a nitrogen basis would also consider application methods and site specific factors such as incorporation, plant available nitrogen, and volatilization losses.

- ***What other information would be recorded in the PNP?***
  EPA proposed the PNP would include a cover sheet of general information, as well as an executive summary that briefly describes the operation. The cover sheet would describe

facility location, owners, operators, and contact information. The summary would include herd or flock size, annual animal waste production, expected crop rotation for next 5 years, realistic crop yield goals, acres receiving manure, field conditions, application rate, nutrient content of manure, and quantities of manure shipped off-site. A complete PNP would be kept on site and would contain detailed information beyond the executive summary such as manure handling and collection practices, treatment processes, animal waste production, land application sites, land application methods, alternative uses, voluntary measures, and review and revisions records.

F. Pathogens and Antibiotics

- ***Why is EPA not proposing any specific effluent guidelines controls for pathogens or antibiotics?***

The effluent guidelines EPA is proposing -- zero discharge from the production areas, except in some cases for certain storm-related discharges from facilities that meet specific design and operation standards, and land application requirements that would ensure the use of proper agricultural practices -- would control the discharge of pathogens and antibiotics as well as nitrogen, phosphorus and other pollutants. In addition, EPA data indicates measurable pathogen die-off during storage and stacking prior to land application, and the 100 foot setback requirement will reduce the runoff of pathogens from land applied manure. EPA considered technology options that specifically reduce pathogens, such as the anaerobic digester technology option. These technology options are described in the preamble and the supporting documents for the proposal. Many of the treatment technologies would result in high costs to permitted facilities, and is some cases are not substantially more effective at reducing pathogens than the proposed technologies. Nevertheless, EPA is concerned about pathogens, especially the increased potential for antibiotic-resistant pathogens. EPA continues to collect data to determine the need for additional national standards or treatment processes to reduce pathogens at concentrated animal feeding operations.

V. Requirement to Apply for NPDES Permit

A. General

- ***Who must apply for an NPDES permit?***

The proposed regulations require all owners and operators of AFOs that are either defined or designated as CAFOs to apply for an NPDES permit. However, if the owner or operator of a CAFO believes that it does not have a potential to discharge pollutants to waters of the U.S. from either its production area or its land application area(s), he or she could submit sufficient information to document such a claim to the permit authority in lieu of submitting a full permit application. If the permit authority agrees that the CAFO does not have a potential to discharge, the permit authority would not need to issue a permit. However, if the unpermitted CAFO does indeed discharge, it would be violating the CWA prohibition against discharging without a permit and would be subject to possible enforcement actions.

- ***How does EPA define "a potential to discharge"?***

EPA defines the term "no potential to discharge" to mean "that there is no potential for any CAFO manure or wastewaters to be added to waters of the United States, without qualification." (§122.23(3)). In making this determination the Permit Authority must

consider the potential for discharges from both the production areas and any land application areas, and must also consider any potential discharges via ground waters that have a direct hydrologic connection to surface waters.

- ***How does a CAFO obtain a determination of no potential to discharge?***

  The owner or operator of a facility that is required to apply for an NPDES permit may seek a determination of "no potential to discharge" from the permit authority, in order to avoid being permitted. The request must be supported with appropriate data and information that demonstrates that the facility truly has no potential for CAFO wastes to reach surface waters (for example, that the CAFO is far from any water body, or that the facility has a closed-cycle system for managing its wastes). Such a demonstration must account for all manure generated at the facility, specifying how the design of the animal confinement areas, storage areas, manure and wastewater containment areas, and land application areas eliminates any possibility of discharge to surface waters or to groundwater with a direct hydrologic connection to surface water. In addition, a CAFO operator must be able to provide assurance that all CAFO-generated manure and wastewater that is transported off-site is managed in an environmentally responsible manner (e.g., land applied in accordance with proper agricultural practices, managed subject to a NPDES permit, or used for purposes other than land application). An operation that has had a discharge in the past five years cannot receive a "no potential to discharge" determination. Whether or not a facility submits a request for a "no potential to discharge" determination does not change the deadline to apply for a permit. A CAFO owner or operator would need to apply for a permit as specified in §122.23(f) unless it receives a "no potential to discharge" determination before that date.

- ***What should I do if I am unsure whether I need to apply for an NPDES permit?***

  Questions concerning the status of a particular operation under the existing regulations should be directed to the NPDES permitting authority. Facilities that are in fact CAFOs but have not applied for a permit and have a discharge would be violating the CWA prohibition against discharging without a permit and would potentially be subject to enforcement actions. An unpermitted CAFO does not get the benefit of the 25-year, 24-hour storm standard established by the effluent guidelines for beef and dairy, nor does it have the benefit of the upset and bypass affirmative defenses.

B. Co-Permitting

- ***What is EPA proposing regarding co-permitting?***

  EPA has proposed to amend the existing definition of the term "operator" to include a person, such as some processors, who exercises substantial operational control of a CAFO [see *How does EPA define substantial operational control and who makes this determination*?]. These entities would need to either apply for an NPDES permit alone or be "co-permitted" together with other owners or operators of the CAFO. The proposal allows the permit authority to make co-permittees jointly responsible for all of a CAFOs permit requirements, or to allocate individual responsibility for various aspects of an operation to any of the co-permittees. However, all permittees would be held jointly responsible for ensuring that excess manure (i.e., manure exceeding what can be properly managed on-site) is handled in an environmentally appropriate manner. The permit

authority has the option to name both the operator and the processor on a single permit or to issue separate permits to each.

- ***Why is EPA proposing co-permitting?***

  EPA believes it is important to clarify the need for co-permitting to address changes in the structure of the animal livestock industry. It should also be noted that permit authorities have authority for co-permitting even under existing legal requirements on the basis of ownership or substantial operational control by processors. The proposal would add language to the regulations to specifically identify the circumstances under which co-permitting is required and how permit authorities are expected to implement the requirements.

  Since the existing regulations were promulgated in the 1970s, the animal livestock industry has changed considerably. Among the major trends in livestock and poultry production are closer linkages between animal feeding operations and processing firms. Increasingly, businesses such as slaughtering facilities and meat packing plants and some integrated food manufacturing facilities are contracting out the raising or finishing production phase to a CAFO. Often, production contracts are used in which a contractor (such as a processing firm, a feed mill, or another animal feeding operation) retains ownership of the animals and/or exercises substantial operational control over the types of production practices used at the CAFO. Although farmers and ranchers have long used contracts to market agricultural commodities, the increased use of production contracts is changing the organizational structure of agriculture. It is also raising policy concerns regarding who is responsible for protecting against discharges of manure and wastewater and who should pay for environmental improvements at a production facility to control such discharges. In addition, there is also evidence that the role of the producer-processor relationship may influence where animal production facilities become concentrated, since animal feeding operations tend to locate near feed and meat packing plants. This trend may lead to a concentration of excess manure nutrients beyond those needed for crop fertilizer in particular geographic areas, thereby raising the potential for increased environmental pressure in those areas. By making the co-permitting requirements more explicit and clear, EPA's hope is that large corporate entities will be motivated to take a more active role in providing oversight and resources to ensure that excess manure nutrients are appropriately managed.

- ***How does EPA define substantial operational control and who makes this determination***?

  The proposed regulation lists factors relevant to determining when "substantial operational control" exists, which would include (but not be limited to) whether the entity (1) directs the activity of persons working at the CAFO either through a contract or through direct supervision of, or on-site participation in, activities at the facility; (2) owns the animals; or (3) specifies how the animals are grown, fed, or medicated. EPA is aware that many integrator contracts may not provide for direct integrator responsibility for manure management and disposal. EPA believes, however, that the proposed factors will identify integrators who exercise such pervasive control over a facility that they are, for CWA purposes, co-operators of the CAFO. In the proposed regulation, EPA has included a representative list of factors that should be considered in determining whether co-permitting is appropriate. However, States should develop additional factors as

needed to address their specific needs and circumstances. The determination of substantial operational control would be made by the permitting authority.

- ***Does co-permitting apply to all livestock sectors?***

  The co-permitting decision would focus on whether substantial operational control is exercised through, for example, mechanisms such as production contracts. The Agency is in the process of evaluating specific criteria for when substantial operational control has been established and co-permitting would be required, and has requested comment on this. Currently, the use of production contracts varies by sector. Production contracting dominates U.S. broiler and turkey production, accounting for 98 percent of annual broiler production and 70 percent of turkey production. About 40 percent of all eggs produced annually are under a production contract arrangement. Production contracting in the hog sector still accounts for a relatively small share of production (about 30 percent of hog production in 1997), but use is rising, especially in some regions. Production contracts are uncommon at beef and dairy operations, although they are used by some operations to raise replacement herds or to finish animals prior to slaughter. The Agency is still evaluating whether these situations are analogous to the production contracts used in swine and poultry sectors as a basis for establishing substantial operational control.

- ***Would EPA consider an alternative to co-permitting?***

  Yes. In the proposed regulation EPA has identified several alternatives to co-permitting that are under consideration. Under one alternative approach EPA would waive the co-permitting requirement for States and processors that implement effective programs for managing excess manure and nutrients. Another alternative approach would not require co-permits when the processor has developed an approved environmental management system (EMS) that is implemented by all of its contract producers and regularly audited by an independent third party. EPA has also solicited comments on other alternatives to the co-permitting approach proposed in the revised regulation. EPA's objective is to enure that excess manure is redistributed in a manner that results in sound environmental management.

C. AFOs That Discharge

- ***How are AFOs that are not defined or designated as a CAFO subject to the Clean Water Act?***

  The proposed rule clarifies that point source discharges from AFOs may be subject to NPDES regulations, even if a facility is not a CAFO. Thus, in any of the following three circumstances an AFO would need a permit.

  Non-storm water discharges. Where an AFO discharges pollutants via a point source (e.g. a ditch or other discrete conveyance) from the production area or land application area and the discharge is a non-storm water discharge, the discharge would be a violation of the Clean Water Act unless the facility has an NPDES permit.

  Storm water discharges. A discharge from a point source, such as a ditch or other discrete conveyance, at the land application area of an AFO that does not qualify for the agricultural storm water discharge exemption may be designated as a regulated storm water point source and therefore require an NPDES permit. (See 40 CFR

122.26(a)(1)(v)). EPA has proposed to define an "agricultural storm water discharge" as a discharge composed entirely of storm water from a land area upon which manure and/or wastewater has been applied in accordance with proper agricultural practices, including land application in accordance with either a nitrogen-based or phosphorus based manure application rate.

Discharge as a CAFO. An AFO may be designated as a CAFO and, therefore, require an NPDES permit on that basis (see the section above on Designation).

VI. Types of NPDES CAFO Permits

- ***Who is the Permit Authority responsible for issuing NPDES permits?***

  NPDES permits are issued by EPA or by States authorized to administer the NPDES program. The EPA Region is the permitting authority in Alaska, Arizona, Idaho, Massachusetts, New Hampshire, and New Mexico.

- ***What types of NPDES permits are available for a CAFO?***

  NPDES permit authorities can issue two types of NPDES permits to CAFO's, a general permit or an individual permit.

- ***What is the difference between an individual and a general NPDES permit?***

  A general NPDES permit covers a number of facilities with similar characteristics for a defined geographic area. Individual permits are specifically tailored and issued to a single facility. General permits offer a cost-effective approach for NPDES permit authorities because they can cover a large number of facilities under a single permit. The geographic scope of a general permit is flexible and can correspond to political or other boundaries, such as a watershed. Under the proposed regulation, EPA anticipates that the majority of CAFOs would be covered under NPDES generals permit because CAFOs generally involve similar types of operations, require the same kinds of effluent limitations and permit conditions, and discharge the same types of pollutants.

- ***How do I apply for a general NPDES permit?***

  To develop a general permit, the permit authority must first determine the need for a general permit, develop the draft permit and associated fact sheet, issue a public notice, allow time for public review, address public comments, create an administrative record, and issue the final permit. Typically, once this permit is issued, facilities that wish to be covered under the general permit submit a Notice of Intent (NOI) to the permitting authority (indicating their intent to seek coverage under the general permit). Once the NOI is received, the permit authority may then request additional information describing the facility, notify the facility that it is covered by the general permit, or require the facility to apply for an individual permit.

- ***How do I apply for an individual NPDES permit?***

  The CAFO owner/operator initially submits an application (Under the federal regulations, Form 1 and 2B must be submitted. State requirements may vary but must contain the information required in 40 CFR 122, Subpart B). After receiving the application and making a decision to proceed with the permit, the permit writer reviews

the application for completeness and accuracy. When the application is complete, the permit writer uses the application data to develop the draft permit and the justification for the permit conditions (referred to as the fact sheet or statement of basis.). When complete the draft permit is made available for public review and comment. Following consideration of comments, the draft permit is revised as necessary and then issued to the CAFO.

For a listing of permit applications, EPA and State contacts, and more detailed information on the permit development and issuance process go to Office of Wastewater Management's web site at: http://www.epa.gov/npdes or at http://www.epa.gov/owm/npdes.htm#forms.

- ***Does the proposed rule change any of the administrative requirements for general permits issued to CAFOs?***

  Yes. The current regulation requires that the Notice of Intent (NOI) include the legal name and address of the owner and operator, facility name and address, type of facility or discharges, and the receiving stream. EPA is proposing to amend these administrative requirements to also include the following:

  – Type and number of animals at the CAFO
  – Physical location, including latitude and longitude of the production area
  – Acreage available for agricultural use of manure and wastewater
  – Estimated amount of manure and wastewater to be transferred off-site
  – Name and address of any other entity with substantial operational control of the facility
  – Additional requirements are as follows:
    - If it is a new facility, provide a copy of the draft PNP.
    - If it is an existing facility, give the status of the development of the PNP.
    - If an area is determined to have vulnerable groundwater, submit a hydrologist's statement that the groundwater under the production area of the facility is not hydrologically connected to surface water
    - Provide a topographic map.

- ***Does the proposed regulation require the use of an individual permit?***

  EPA is not specifying where individual permits must always be used instead of general permits. The proposed regulation would state, however, that the permit authority shall consider whether a general permit is appropriate for a CAFO that meets the following criteria:

  – Located in an environmentally or ecologically sensitive area;
  – Has a history of operational or compliance problems;
  – Exceptionally large operations as determined by the permit authority; or
  – Significant expansion.

  The proposed regulation would also require the permit authority, after considering input from the public, to issue a written statement of its policy on which CAFOs will be eligible for a general permit, including a statement of how it will apply the above criteria.

VII. NPDES CAFO Permit Requirements

A. General

- ***What are the basic parts of an NPDES permit?***

  A NPDES permit includes a cover page, effluent limitations (which include technology-based effluent limits and possibly water quality-based effluent limits), monitoring and reporting requirements, record-keeping requirements, special conditions (which supplement effluent limitations guidelines and can include BMPs), and standard conditions.

B. What Are the Effluent Limitations in the Permit?

- ***What technology-based effluent limitations would be in the permit?***

  Under a two tier structure, CAFOs with 500 AU or more would be subject to the technology-based effluents limits described in the revised effluent guidelines and standards regulations (40 CF Part 412). [See Section IV for a discussion of the proposed ELG revisions]. Under a three tier structure, any operation defined as a CAFO would be subject to the revised effluent guidelines.

  Where a permit is developed for a CAFO but the effluent limitations guidelines do not apply to that operation (e.g., operations with fewer than 500 AU under a two tier structure, as well as those with fewer than 300 AU under a three tier structure, that have been designated as a CAFO; or sectors other than beef, dairy, poultry, swine, and veal with fewer than 1,000 AU) the technology-based effluent limits will be based on best professional judgement (BPJ). BPJ limits reflect the highest quality technical opinion developed by a permit writer after consideration of all reasonably available and pertinent data or information that forms the basis for the terms and conditions of a NPDES permit.

- ***What water-quality based effluent limitations would be in the permit?***

  Generally, in the NPDES program, where technology-based effluent limitations are not sufficient to ensure that water quality standards will be achieved, a NPDES permit writer must develop more stringent water quality based effluent limits. For CAFOs, this could include, for example, more stringent best management practices for the production area as necessary to meet water quality standards.

C. What Monitoring and Reporting Requirements Are Included in the Permit?

- ***What monitoring is required?***

  Monitoring requirements are described in the effluent limitations guidelines (40 CFR Part 412). Generally, proposed monitoring requirements include:

  – Visual inspections of the production area
  – Test and calibrate manure application equipment annually
  – Sample manure for nutrient content (annually, or up to twice annually if manure is applied more than once annually or is removed to be sent off-site more than once annually).
  – Soil samples for phosphorous (once every three years)

  Under the proposed Beef and Dairy effluent limitations guidelines the ground water beneath the waste storage area must be sampled twice annually to demonstrate

compliance with the no discharge requirement (unless the facility has shown the ground water beneath the production area has no direct hydrologic connection to surface water).

- ***What reporting is required?***

  Under the proposal, each CAFO permittee must notify the Permit Authority when the CAFO's PNP has been developed or revised. The notice must include copy of the PNP cover sheet and executive summary (described in 40 CFR 412.37(d)). Permittees must also report specified non-compliance under 40 CFR §122.41(l).

D. What Are the Record Keeping Requirements?

- ***What records must a CAFO maintain?***

  Under the proposal, each CAFO must maintain the following records:
  - A copy of the PNP and supporting data
  - PNP cover sheet
  - PNP executive summary
  - Records documenting inspections
  - Records documenting manure application and crop production
  - Records of total volume or amount of manure and wastewater generated
  - Records of rainfall duration, amount, and estimated overflow (if any)
  - Emergency response plan
  - How mortalities are handled
  - Name or specialist that prepared or approved PNP, or documentation of training and certification for owners or operators that prepare their own PNP
  - Records of transfer to off-site recipients (one option would also include certification of proper application by off-site recipient).

E. What Are the Special Conditions and Standard Conditions?

- ***What standard conditions would be in an NPDES permit?***

  Standard conditions that apply to all NPDES permits are specified in 40 CFR 122.41. Examples of such conditions are the duty to properly operate and maintain all facilities and systems, and the duty to provide information requested by the Permit Authority.

- ***What special conditions would be in an NPDES permit?***

  Special conditions supplement effluent limitations and ensure compliance with the CWA. EPA proposed to require permit authorities to develop special conditions that:
  - Specify how the permittee is to calculate manure application rate;
  - Establish requirements for facility closure; and
  - Require certification for off-site transfer of manure and wastewater (co-proposal is omitting this requirement).

  Further, the proposal would require the permit writer to include other special conditions as needed, including whether to:
  - Specify timing restrictions regarding the land application of manure to frozen, snow-covered, or saturated ground; or
  - Specify conditions addressing ground water with a direct hydrologic connection to surface water.

- ***Would timing restrictions on land application of CAFO generated manure be required***?

  EPA has proposed that permit writers should consider whether to include regionally appropriate prohibitions or restrictions on the timing and methods of land application of manure where necessary. Such restrictions would be based on a consideration of local crop needs, climate, soil types, slope and other factors to ensure manure is used for agricultural purposes.

- ***What provisions are made for upset and bypass?***

  EPA has not proposed to change the bypass and upset provisions that exist as standard permit conditions (see, 40 CFR 122.41(m) and (n)).

- ***Are there variances built into the proposed regulation?***

  The only variance from the effluent guidelines that would be available for discharges from the production area is a Fundamentally Different Factors (FDF) variance. Under an FDF variance, a facility must demonstrate, based solely on information submitted to EPA during the effluent guideline rulemaking or not reasonably available to be submitted at that time but submitted afterward, that it is fundamentally different than the facilities considered by the Agency in the development of the effluent guideline. FDF variances and 301(c) variances (economic variances from BAT) are potentially available for effluent limitations covering the land application area.

- ***Are nutrient management plans developed under a state program acceptable as a PNP***?

  Nutrient management plans must meet the requirements of 40 CFR Part 412. Where a state program imposes requirements that are consistent with those specified in Part 412, nutrient management plans developed under such plans would likely be acceptable.

F. Off-Site Transfer and Land Application of CAFO Manure

- ***What requirements apply to the CAFO owner or operators regarding the off-site transfer of manure from a CAFO?***

  EPA has co-proposed two approaches for addressing the off-site transfer of CAFO-generated manure and has requested comment on these or other approaches. In one proposal, CAFO owners or operators would be allowed to transfer manure off-site only to recipients who certify to land apply according to proper agricultural practices; and would be required to maintain records of all off-site transfers, and to provide adequate information, including an analysis of manure content, to off-site manure recipients to facilitate proper application. The certification would be required from those that receive more than 12 tons annually of manure from the CAFO. Under the alternative proposal, certification would not be required; CAFOs owners or operators would simply be required to maintain records and provide the recipient with an analysis of the contents of the manure and a brochure describing the recipient's responsibilities for proper management of the manure. Commercial waste haulers must provide the name and location of the recipient of the waste to the permittee, if known. The CAFO owner or operator would not be liable for subsequent activities of the recipient.

- ***Why did EPA co-propose two different options for transferring manure off-site?***

  EPA recognizes that the need to obtain a certification from recipients may affect their willingness to take CAFO-generated manure. It also places an additional administrative burden on the CAFO operator. However, EPA is trying to balance these concerns with the need to make sure that off-site recipients of manure are land applying in accordance with proper agricultural practices so that potential water quality impacts are not simply shifted to other areas. The proposed option that does not require certification reduces the burden of the rule but provides less assurance that off-site recipients will properly apply CAFO-generated manure.

- ***Must a facility that is not an AFO but that land applies manure from a CAFO apply for an NPDES permit?***

  The proposed rule clarifies that point source discharges from facilities that are not AFOs but that land apply manure may be subject to NPDES regulations in certain circumstances. Thus, in either of the following circumstances a non-AFO facility that is land applying CAFO manure would need a permit.

  Non-storm water discharges. Where a non-AFO facility that is land applying CAFO manure discharges pollutants via a point source (e.g. a ditch or other discrete conveyance) from its land application area and the discharge is a non-storm water discharge, the discharge would be a violation of the Clean Water Act unless the facility has an NPDES permit.

  Storm water discharges. A discharge from a point source, such as a ditch or other discrete conveyance, at the land application area and that does not qualify for the agricultural storm water discharge exemption may be designated as a regulated storm water point source and therefore require an NPDES permit. (See 40 CFR 122.26(a)(1)(v)). EPA has proposed to define an "agricultural storm water discharge" as a discharge composed entirely of storm water from a land area upon which manure and/or wastewater has been applied in accordance with proper agricultural practices, including land application in accordance with either a nitrogen-based or phosphorus based manure application rate.

VIII. Implementation

A. Schedule

- ***When will the proposed regulations become final?***

  EPA is required under a consent decree to take final action on the proposed rule by December 15, 2002. It is anticipated that the final regulation would be published in the *Federal Register* in January 2003.

- ***When will implementation of the final NPDES regulations and effluent guidelines for CAFOs begin?***

  EPA has proposed to allow three years for authorized States to revise their programs, receive approval on the revised program from EPA, and issue new CAFO general permits. Thus, EPA expects that these changes would not be in effect until approximately January 2006. EPA has also proposed to delay the effective date of certain regulations for a corresponding period so that operations that are brought within

the regulatory definition of a CAFO for the first time under the final regulation would not be defined as CAFOs until January 2006.

EPA is proposing this delayed effective date only for the proposed regulatory changes that affect which operations will be defined as CAFOs. All other provisions of the revised rules would become effective 60 days after publication of the final rule. Thus, facilities that meet the existing definition of a CAFO and are being permitted 60 days after publication of the final rule would be subject to the revised §122.23 and Part 412 regulations. If currently permitted, a facility would not be subject to new permit requirements until the permit is re-issued after its 5-year term expires.

B. State Programs

- ***How do the States regulate CAFOs?***

  As of 4/01, 44 States and the Virgin Islands are authorized to implement the NPDES permit program. Under these authorized programs, the States issue permits to CAFOs and the incorporation of incorporate the feedlots effluent limitation guidelines and standards in permits as appropriate. Thus, these authorized programs have CAFO regulations that have been deemed consistent with existing federal CAFO regulations (EPA administers the NPDES program in States that are not yet authorized). However, only a handful of States rely solely on their State NPDES regulations to address CAFOs. Most use their NPDES regulations as one part of their CAFO program and supplement these requirements with additional provisions. For example, twenty-five States administer a State NPDES CAFO program in combination with some other State permit, license, or authorization program. Typically, this additional State authorization is a construction or operating permit.

- ***How would the revised regulations affect State programs?***

  Any State with an authorized NPDES program must revise its program to be consistent with changes to federal NPDES requirements, including changes to the CAFO regulations, within one year of the date of promulgation of final changes to the federal CAFO regulations. In cases where a State must enact or revise a statute to revise its NPDES program, such revisions must take place within two years. Thus, States with NPDES programs that are not as stringent as the revised federal program will be required to modify their programs accordingly. States may impose requirements that are broader in scope or more stringent than the requirements imposed under the federal NPDES program. In States not authorized to implement the NPDES program, the State CAFO program would not be affected, however, both the State and federal program would apply.

- ***Does the NPDES program and proposed rule provide flexibility for the continued use of effective State CAFO programs?***

  EPA is aware that a few States currently regulate or manage CAFOs predominantly under State non-NPDES programs. Permits, licenses, or authorizations issued by a non-NPDES program do not satisfy the NPDES permit program requirement. Facilities required to be covered by a NPDES permit must obtain a permit from an agency authorized to issue a NPDES permit. However, EPA believes the current NPDES program provides a reasonable degree of flexibility consistent with CWA requirements,

and that the proposed regulation provides opportunities to incorporate State programs in several ways. These include having a non-NPDES State AFO program obtain NPDES authorization, providing increased flexibility under the rule where a State program exists that addresses excess manure, providing flexibility regarding co-permitting where a processor has developed an environmental management system (EMS), and the use of State non-NPDES programs to keep tier 3 and tier 2 AFOs from meeting the criteria for a being defined as a CAFO. EPA also has requested comment on giving States the ability to choose which structure (2-tier, 3-tier) they believe is most consistent with their State programs.

C. Compliance Monitoring and Enforcement

- ***How will the States and EPA monitor compliance with the revised regulations?***

  Authorized States and EPA will use traditional methods for monitoring compliance with the revised regulations. Such methods include self-monitoring conducted by the facilities and compliance inspections conducted by the permit authority. Inspections may be initiated for cause or based on a neutral administrative inspection scheme.

- ***Who will monitor off-site recipients of CAFO manure?***

  EPA is not proposing to regulate off-site recipients through CAFO permit requirements, however, EPA believes that the certification and record-keeping requirements associated with the CAFO's permit will help to ensure responsible handling of manure. In addition, CAFO operators will be required to maintain a list of all off-site recipients of manure and to provide this list to the permitting authority upon request. Also, as described above, some off-site land appliers could be subject to NPDES permitting because, although they are not CAFOs, they otherwise meet the definition of a point source (i.e., they have a discrete conveyance) and are subject to permitting for dry weather discharges or, in some circumstances, storm-related discharges. In those cases, monitoring would occur through the permit requirements.

- ***Is EPA requiring reporting of overflow discharges?***

  Yes. NPDES permits require that any discharges must be reported to the permitting authority.

- ***How can citizen groups assist with monitoring?***

  EPA is proposing to require the operator of a permitted CAFO to make a copy of the PNP cover sheet and executive summary (and possibly the entire PNP) available to the public for review. The proposed regulations also require permitting authorities to provide the public with access to NOIs and a list of CAFOs that have prepared PNPs. This will provide the public with information regarding which operations are subject to NPDES permit requirements.

- ***How will EPA ensure that operators have developed and are properly implementing PNPs?***

  EPA is also proposing to require CAFO operators to submit a written notification to the permit authority, signed by the certified planner, that the PNP has been developed or amended, and is being implemented. This submission should be accompanied by a fact sheet summarizing certain elements of the PNP. The purpose of using certified specialists is to ensure that effective PNPs are developed and/or reviewed and modified

by persons who have the requisite knowledge and expertise to ensure that plans fully and effectively meet the minimum effluent guideline requirements in the NPDES permit, and that plans are appropriately tailored to the site-specific conditions at each CAFO.

- ***How will application rates identified in PNPs be enforced?***

  The CAFO would have to maintain the PNP on-site, along with records of the application of manure and wastewater including (1) the amount of manure applied to each field; (2) the nutrient content of manure; (3) the amount and type of commercial fertilizer and other nutrient sources applied; and (4) crop yields obtained. This information would be required to be provided to the permitting authority upon request to document that the operation is conducting land application activities consistent with its PNP.

- ***What is the penalty for not having a permit?***

  The CWA authorizes a variety of enforcement mechanisms, including authority to issue administrative orders (including penalties based on violations of any such orders), civil penalties, and criminal penalties. Civil penalties are authorized up to $25,000 per day for each violation and are calculated based on several factors specified in the CWA.

- ***Is there protection for permitted facilities from enforcement actions, including citizen suits?***

  In general, compliance with a permit constitutes compliance, for purposes of enforcement, with the relevant provisions of the Clean Water Act. CAFOs that are permitted are allowed to have certain types of discharges. For example, permits for CAFOs that are subject to the effluent guidelines provide that discharges caused by chronic or catastrophic rainfall are allowed as long as the facility has been built and operated according to certain standards. In addition, as a general matter all NPDES permits allow a facility to raise "upset" and "bypass" defenses, which allow discharges from permitted facilities for certain events that are beyond their reasonable control. In contrast, an unpermitted CAFO would not have the benefit of any of these provisions and any discharge from the CAFO would thus be a violation of the CWA. The operator or owner would potentially be subject to the civil and criminal penalties specified in the Act, as well as to citizen suits.

D. Other Federal Programs

- ***What is the relationship between the revised CAFO regulations and the TMDL program?***

  Under Section 303(d) of the CWA and 40 CFR Part 130, States are required to identify and list water bodies that do not meet applicable water quality standards, to rank them in order of priority, and to quantify the total maximum daily allowable loading (TMDL) of each pollutant that exceeds criteria for each listed water body. A TMDL also allocates the maximum load among the sources discharging the pollutant (point and non-point sources) so that water quality criteria will not be exceeded and the designated uses of the water body will be protected. TMDLs are implemented through NPDES permits, non-point source programs, and a variety of other Federal and State laws and requirements and voluntary programs. Where a CAFO discharges a pollutant subject to a TMDL, the CAFO permit may need to be modified to reflect the allocation of the TMDL.

- ***What requirements may be imposed on AFOs under the 1990 Coastal Zone Act Reauthorization Amendments?***

  In the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), Congress required States with federally-approved coastal zone management programs to develop and implement coastal nonpoint pollution control programs (33 States have such programs). Section 6217(g) of CZARA called for EPA, in consultation with other agencies, to develop guidance on "management measures" for sources of nonpoint source pollution in coastal waters. Coastal States must adopt and implement these management measures to ensure approval of their coastal nonpoint pollution control programs. In January, 1993, EPA issued its *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* which addresses five major source categories of nonpoint pollution, including agriculture runoff. Within the agriculture runoff nonpoint source category, the guidance specifically includes management measures applicable to "confined animal facilities."

  The CZARA guidance defines which facilities constitute large and small confined animal facilities based solely on the number of animals or animal units confined. Under the CZARA guidance, the thresholds for defining confined animal facilities are lower than those established for defining CAFOs under the existing NPDES regulations (e.g., under CZARA guidance, a large beef feedlot is one that contains 300 head or more, a small feedlot contains between 50 - 299 head). However, CZARA guidance does not apply to any CAFO that has a NPDES permit.

  EPA's CZARA guidance provides that new or existing large confined animal facilities should limit the discharge of facility wastewater and runoff to surface waters by storing such wastewater and runoff during storms up to and including 25-year, 24-hour frequency storm. Storage structures should have an earthen or plastic lining, be constructed with concrete, or constitute a tank. All existing small facilities should design and implement systems that will collect solids, reduce contaminant concentrations, and reduce runoff to minimize the discharge of contaminants in both facility wastewater and in runoff caused by storms up to and including 25-year, 24-hour frequency storm. Existing small facilities also should substantially reduce pollutant loadings to ground water. Both large and small facilities should also manage accumulated solids in an appropriate waste utilization system. The CZARA guidance also includes a nutrient management measure that is intended to be applied by States to activities associated with the application of nutrients to agricultural lands (including application of manure). The goal of this measure is to minimize edge of field delivery of nutrients and minimize leaching of nutrients from the root zone. This measure also provides for the development and implementation of a nutrient management plan.

IX. Scope and Impact of Proposed Rule

A. Scope

- ***Nationwide, how many livestock and poultry operations confine animals and may be considered to be AFOs?***

  Using available 1997 data from USDA, EPA estimates that there are about 376,000 operations that raise or house animals in confinement (based on average annual inventory). This estimate is based on the number of "animal units" (AU) as defined in

the existing regulations at 40 CFR 122, with the addition of the revisions that are being proposed for immature animals and chickens. This estimate is adjusted for operations with more than a single animal type.

- ***How many livestock and poultry operations have NPDES permits under the existing regulations?***

  Few operations have obtained NPDES permits under the existing regulations that have been in place since the early 1970s. Presently, EPA and authorized States have issued approximately 2,500 NPDES permits. This is less than 1 percent of the estimated 376,000 animal confinement operations in the United States and is less than 20 percent of the estimated 13,000 animal confinement operations that are defined as CAFOs under the existing regulations.

- ***How many AFOs would be defined as CAFOs and need to obtain NPDES permits under the revised regulations?***

  EPA estimates that about 26,000 to 39,000 livestock and poultry operations would need to obtain permits under the revised regulations, depending on the co-proposed alternative. Under the three-tier structure, about 7,000 operations would certify that they do not need to obtain a permit.

  Based on available USDA data for 1997, EPA estimates 12,660 operations with more than 1,000 AU would need to obtain permits. The two co-proposed alternatives differ in the manner in which operations with less than 1,000 AU would be defined as CAFOs and, therefore, subject to regulation. The proposed two-tier structure at the 500 AU threshold would affect a total of 25,540 operations (7 percent of all confinement operations). The proposed three-tier structure would subject a total of 39,330 operations to the proposed regulations (10 percent of all AFOs) based on the total number of animal confinement operations with more than 300 AU. Of these, EPA estimates that 31,930 AFOs would be defined as CAFOs (9 percent of all AFOs) and would need to obtain a permit, while an estimated 7,400 operations would certify that they do not need to obtain a permit.

- ***How many AFOs would be designated as CAFOs and need to obtain NPDES permits under the revised regulations?***

  EPA does not anticipate that many AFOs with less than 500 AU (two-tier structure) or 300 AU (three-tier structure) will be subject to the proposed requirements. EPA estimates that designation may bring an additional 50 operations under the proposed two-tier structure each year nationwide (or approximately 500 AFOs over a 10-year period). EPA expects these to consist of beef, dairy, farrow-finish hog, broiler and egg laying operations that are determined to be significant contributors to water quality impairment. Under the three-tier structure, EPA estimates that fewer operations would be designated as CAFOs, with 10 dairy and hog operations may be designated each year (100 operations over 10-years). EPA has assumed that few animal feeding operations will be designated as CAFOs and subject to the regulation based on historical experience in the NPDES permit program.

- ***What percentage of livestock and poultry manure would be controlled under the proposed regulations?***

  USDA estimates that 128.2 billion pounds of manure are "available for land application from confined AU" annually from the major livestock and poultry sectors. EPA believes these estimates equate to the amount of manure that is generated annually at animal feeding operations. Estimated coverage in terms of manure nutrients controlled by the proposed regulations vary by the co-proposed regulatory approach. Under the 500 AU two-tier structure, EPA estimates that the proposed requirements will capture 64 percent of all CAFO manure. Under the three-tier structure, EPA estimates that the proposed requirements will capture 72 percent of all CAFO manure generated annually. The majority of this coverage (49 percent) is attributable to regulation of operations with more than 1,000 AU.

- ***How many AFOs would be addressed through voluntary programs?***

  EPA is proposing to apply the effluent limitation guidelines to all facilities that are defined as CAFOs. Under the two-tier structure, all CAFOs with 500 AU or more would be subject to the proposed regulations. Under the three-tier structure all CAFOs with 300 AU or more would be subject to the proposed regulations. Under both of the co-proposed alternatives, operations that confine fewer animals than that specified by the proposed regulatory threshold would not be considered a CAFO and subject to regulation, unless they are individually designated by the Permit Authority. Therefore, more than 90 percent of all livestock and poultry operations (about 350,000 confinement operations not including operations with pasture- or range-fed livestock) would continue to be covered by voluntary programs, such as USDA's voluntary CNMP program.

- ***Would any other businesses be affected by the proposed CAFO regulations?***

  In addition to regulated CAFOs, EPA estimates that the proposed co-permitting requirements would affect about 100 meat packing plants that slaughter hogs and 270 poultry slaughtering facilities. EPA does not anticipate that any dairy or beef processing companies will be affected by the co-permitting requirements.

  EPA also estimates that the proposed requirements associated with the offsite transfer of CAFO manure may affect 18,000 to 21,000 field crop producers who use CAFO manure as a fertilizer substitute who would need to certify in writing to proper manure nutrient utilization.

B. Estimated Costs

- ***How did EPA estimate compliance costs and economic impacts to CAFOs to comply with the proposed regulation?***

  EPA evaluated regulatory costs and economic impacts to affected CAFOs using a "representative farm" approach, which is consistent with past research that USDA and many land grant universities have conducted to assess a wide range of policy issues, including environmental legislation pertaining to animal agriculture. Such an approach provides a means to assess average impacts across numerous facilities by grouping facilities into broader categories to account for the multitude of differences among animal confinement operations. As part of the expedited approach to this rulemaking, EPA has chosen not to conduct an industry-wide survey of all CAFOs using a Clean

Water Act Section 308 questionnaire. Rather, EPA is relying on existing data sources and expertise provided by the U.S. Department of Agriculture (USDA), industry, State agriculture extension agencies, and several land grant universities.

More detailed information on the modeling approach and data used for EPA's analysis are provided in the *Development Document for the Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations* (or "Development Document") and in the *Economic Analysis of the Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations* ("Economic Analysis").

- ***What are the total annual costs of the proposed regulations?***

  EPA estimates that the total costs of the proposed regulations will range between $847 million and $949 million per year (1999 dollars, pre-tax). These estimated total costs have three components, including: compliance costs to the CAFO industry; costs to off-site recipients of CAFO manure; and administrative costs to State and Federal governments to implement the permit program.

- ***What are the estimated total annual costs to CAFOs?***

  EPA estimates that the total annual costs to all the CAFO sectors of the proposed regulations will range from $831 million to $940 million, depending on the co-proposed alternative (1999 pre-tax dollars). (Post-tax costs of are estimated at $570 million and $640 million annually, respectively, and include tax savings to CAFOs.) Most of this estimated cost (roughly 70 percent) is incurred by CAFOs with more than 1,000 AU. Overall, about one-third of all estimated compliance costs are incurred within the hog sectors. These costs include annualized capital costs, operating and maintenance costs, start-up and recurring costs, and recordkeeping costs. These costs cover nutrient management planning, facility upgrades, land application, and technologies for balancing on-farm nutrients.

  These costs are aggregated from EPA's estimated technology costs that will be incurred by CAFOs to comply with the proposed regulations. EPA estimates that the annual (post-tax) compliance costs of the proposed regulations would range from $2 to $240 per livestock animal (cattle, dairy cows, pigs) and from less than one cent to $0.80 per poultry animal (layers, broilers, turkeys), estimated on an average annual inventory basis. Depending on the co-proposed alternative, costs as a share of operating expenses at livestock and poultry operations are estimated to range from under 1 percent to nearly 20 percent. More detailed costs broken out by sector, production region, land use category, and broad facility size groupings are provided in the *Economic Analysis*.

  Under the three-tier structure, EPA also estimates that the cost to operations that certify out of the NPDES program is about $80 million annually, which covers phosphorus-based PNP costs, facility upgrades, and letters of certification from manure recipient.

- ***Did EPA consider current rates of noncompliance with the existing regulations in estimating the costs of the proposed revisions?***

  EPA's cost estimate reflects incremental costs of the proposed revisions only and do not include the cost to operations for technologies and practices that are already in use and the cost to operations to comply with all existing Federal and State regulations. This approach of assuming compliance in the regulatory cost baseline is consistent with EPA and OMB guidance on conducting regulatory analyses that allow EPA to determine the most appropriate baseline assumption for its economic analysis. In any event, EPA could not have included an assumed rate of noncompliance by existing livestock and poultry CAFOs since this information is not available. OMB guidance recommends—but does not require—that an economic assessment include assumptions concerning known noncompliance. EPA's baseline assumption is consistent with the assumption it used to estimate benefits (i.e., the Agency also did not attribute any of the benefits of complying with the existing regulations to these proposed revisions).

- ***What are the estimated total annual costs to off-site recipients?***

  EPA estimates the cost to offsite recipients of CAFO manure will range between $10 million and $11 million per year, across the co-proposed alternatives. Affected businesses include an estimated 18,000 to 21,000 field crop producers who use CAFO manure as a fertilizer substitute who would need to certify to proper manure nutrient utilization. Costs associated with these requirements include the cost of soil and manure sampling at the CAFO site, training for manure applicators, application equipment calibration, and the hauling cost of excess manure generated by the CAFO. These estimated costs do not include the costs of hauling or spreading manure at the offsite location or any additional payments made to brokers or manure recipients in counties with excess manure.

- ***How will CAFOs pay for the proposed regulations?***

  On an annual per-animal inventory basis, EPA estimates that the annual compliance costs of the proposed regulations would range from $2 to $240 per livestock animal and from less than one cent to $0.80 per poultry animal (post-tax). This cost will be borne entirely by the regulated CAFO operator with some relief through government assistance programs and potential market adjustment through higher producer prices or manure fertilizer sales. EPA's proposed co-permitting requirements could result in shared liability between permitted CAFOs and their affiliated processor firms. In addition, various government programs provide financial assistance to farmers, such as cost-sharing, technical assistance, credit access, and land easement. EPA's cost estimates are conservatively high in that they do not account for any of this possible assistance.

  <u>Cost-Share and Technical Assistance Programs</u>

  Several Federal, State, and local conservation programs are available that provide cost-share and technical assistance to farmers and ranchers that install structural improvements and implement farm management practices, including many of the requirements that are being proposed by EPA to revise the existing CAFO regulations. Available cost-share assistance from these government programs may offset the estimated compliance costs to CAFOs to comply with the proposed regulations, thus mitigating the estimated economic impacts to these operations.

USDA's Environmental Quality Incentives Program (EQIP) is the main federal source of funds available to U.S. farmers. EQIP also provides cost-share assistance to install terraces, filter strips, and runoff trenches, as well as to implement non-structural practices such as nutrient management plans. Livestock and poultry operations are also eligible to receive funding for construction of animal waste storage and treatment facilities (e.g., lagoons, holding tanks). However, eligibility limitations under EQIP may prevent some larger sized operations from receiving funds since EQIP funds are limited to livestock and poultry operations with fewer than 1,000 AUs (as defined by USDA) and operations that either confine or graze animal. USDA does provide "Conservation Technical Assistance" to any size operation. Eligibility may also be restricted to some producers since USDA requires that 65 percent of EQIP funds be spent in "priority" geographic areas.)

Eligibility for EQIP cost-share dollars based on animal units is not always straightforward because AU definitions vary, depending on whether these are defined by EPA or USDA. USDA's AU size thresholds do not always coincide with EPA's regulatory thresholds. For example, broiler and egg operations with 100,000 birds are defined by EPA as 1,000 AU; however, the 1,000 AU threshold under the EQIP definition covers operations with 250,000 egg laying birds and 455,000 meat chickens. Therefore, because of this AU definition discrepancy, many poultry operations would be eligible for EQIP funding for waste storage and treatment (unless eligibility is amended according to program definitions and requirements in different states). In spite of these considerations, current EQIP funding levels are insufficient to support all of the operations covered by the proposed regulations, resulting in capacity constraints that limit overall funding. EQIP is authorized at $200 million annually, with 50 percent of that targeted to livestock producers. Actual funding tends to be lower, with $87 million funded in 1999 for animal waste management practices. During the upcoming Farm Bill debate, it is anticipated that Congress will review current funding levels of existing farm conservation programs and will assess whether additional programs are needed to assist farmers comply with environmental regulations.

Other Federal programs that cover animal waste projects include **USDA's Small Watershed Program** ($18 million in 1999) and the Department of Interiors's **Fish and Wildlife Service's Partners for Fish and Wildlife** ($18 million from 1996-1998). Many States also offer cost-sharing to farmers (KS, MD, MN, MO, NE, NY, NC). The Chesapeake Bay Program is a broader regional program, founded by EPA, with participating states Maryland, Pennsylvania, and Virginia, and the District of Columbia. Various state-level programs also offer technical assistance (KY, OR, TX).

Under **EPA's Section 319 Nonpoint Source Program,** States receive grant money to support a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint source implementation projects. In general, however, NPDES-permitted facilities (such as CAFOs) do not receive 319 funding. Section 319 funds have been used for animal feeding operations that are not CAFOs, which have mostly been used for demonstration projects. In FY 2000, available funds totaled $200

million across all nonpoint sources, including agriculture (crop and livestock producers), forestry, urban, and other nonpoint source categories.

Loan Programs

Various programs provide assistance to farmers through low-interest loans or by funding demonstration projects or by providing cost-sharing through redistribution of federal funds already counted through EQIP. For example, **EPA's Clean Water State Revolving Fund** is a loan program applied in some States to address animal agriculture nonpoint source pollution. Recently, EPA reinterpreted its rules governing the use of SRF for CAFOs, allowing that funding can be used for CAFOs under the National Estuary Program, if CAFOs are part of Comprehensive Conservation and Management Plans (CCMPs). Various other loan programs exists in several States (e.g., CA, DE, MN, MO, NJ, OH, and PA); other States have other targeted programs (e.g., WI and MI). **EPA's AgSTAR Program** provides assistance to producers to install covered lagoons and anaerobic digestors for methane recovery.

Land Easement Programs

USDA's Conservation Reserve Program (CRP) provides funding to landowners to remove highly erodible and other environmentally sensitive land from production. There are two programs under the CRP that provide assistance to farmers. The Conservation Reserve Enhancement Program (CREP) is a cooperative state/federal program which tailors land retirement to specific geographic areas within states. States must contribute to the program to enhance its coverage. The CRP Continuous Sign-Up allows producers to retire land for high priority practices (riparian buffers, filter strips) at any time rather than waiting for a national sign-up. It also pays a 20-30 percent bonus on top of regular rental rates for 10 to 15 years, as well as 50 percent of the cost of installing the practice.

- ***Has the EPA considered the impact this regulation may have on increasing consolidation in the livestock and poultry industries?***

  Each year the number of livestock and poultry operations declines due to ongoing consolidation in the animal production industry. USDA reports that there were 1.1 million livestock and poultry farms in 1997, about 50 percent fewer than the 2.3 million farms reported in 1974. USDA reports that in a normal year, 3 percent to 4 percent of all farm operators discontinue farming. In general, farms are closing, especially smaller operations that cannot compete with large-scale, highly specialized, often lower cost producers. Consolidation that is occurring in the industry is mostly attributable to cost and economic efficiency considerations. Increasingly, larger, more industrialized, and highly specialized operations account for a greater share of all animal production.

  In general, EPA does not believe that the proposed regulation will accelerate ongoing consolidation trends in the livestock and poultry industry. EPA is proposing to focus the regulatory revisions in this proposal on the largest operations, which present the greatest risk of causing environmental harm, and in so doing, has minimized the effects of the proposed regulations on small livestock and poultry operations. EPA's proposed regulations do not impose requirements on the overwhelming majority of animal confinement operations. EPA is also proposing to exclude mixed operations with more than a single animal type, which provides additional regulatory relief to generally

smaller-sized and diversified farming operations. Overall, EPA expects that the proposed regulations will benefit the smallest businesses in these sectors since it may create a comparative advantage for smaller-sized operations, especially those operations which are not subject to the regulations. Except for the few AFOs which are designated as CAFOs, these operations will not incur costs associated with the proposed requirements but could benefit from eventual higher producer prices as these markets adjust to higher production costs in the longer term.

However, EPA recognizes that the proposed regulation's co-permitting requirements could accelerate ongoing consolidation trends in some sectors where contracting is widely used, such as the poultry and hog sectors. If the co-permitting requirements are finalized, processing firms such as Purdue and Smithfield Farms that commonly contract out the raising of animals to farmers (or "contract growers") may choose to consolidate their contractual relationships within a fewer number of larger or more efficient operations or may choose to raise animals themselves. This could result in processing firms contracting out to fewer grower operations in order to reduce operating costs or avoid contractor liability and could have unintended consequences on the contract grower market, resulting in increased consolidation or otherwise have implications to small businesses. In spite these concerns, some livestock and poultry producer groups continue to maintain that processing firms should bear some portion of the regulatory costs incurred by their affiliated contract growers.

Because of the concerns regarding potential market consequences under a co-permitting scheme, EPA is examining other alternative options, including the proposal to waive the co-permitting requirement where the State has a program for addressing excess manure. One concept under review is adoption by integrators and growers of Environmental Management Systems (EMS) that address a wide range of environmental practices, including manure management. EPA is soliciting comments on the range of possible alternatives as part of this proposed rulemaking.

- ***Will livestock and poultry operations that are not defined or designated as CAFOs incur costs under the proposed regulations?***

  The proposed effluent limitation guidelines would apply only to facilities that are defined or designated above minimum threshold as CAFOs as CAFOs. AFOs that confine animals but do not meet the regulatory definition of a CAFO nor are designated as a CAFO by the Permit Authority would not be subject to the proposed regulations. These operations comprise the overwhelming majority (more than 90 percent) of all AFOs, most of which are small businesses. These roughly 350,000 confinement operations would continue to participate in voluntary programs and would continue to receive cost-share and technical assistance by Federal and State governments. Furthermore, livestock and poultry operations that do not confine animals (e.g., pasture- or range-land operations)—most of which are small businesses— would also not be subject to the proposed regulations.

- ***What will the proposed regulations cost U.S. taxpayers?***

  EPA estimates that the proposed regulations will cost taxpayers roughly $300 million annually. EPA estimates this costs based on the difference between the estimated pre-tax

and post-tax costs incurred by CAFOs. This difference reflects the tax savings to CAFOs from capital investments associated with complying with the proposed regulations and is considered as part of the broader estimated total social cost that includes lost tax revenue to governments. This estimate does not include the cost of various government conservation programs that provide cost-sharing and technical assistance to farmers to meet water quality objectives. This estimate also does not consider any offsetting benefits that may accrue to society from improved water quality, including any offsetting monetized benefits (e.g., avoided costs for environmental remediation and clean-up).

- ***What will the proposed regulations cost State and Federal governments?***

  EPA estimates that the proposed regulations will cost States between $6 million and $8 million annually. EPA expects that the bulk (95 percent) of estimated administrative costs will be incurred by the state permitting authority. These estimates cover regulatory costs incurred by the NPDES permitting authority to alter existing state programs and obtain EPA approval to develop new permits, review new permit applications, and issue revised permits that meet the proposed regulatory requirements. Expected administrative costs are related to the development, issuance, and tracking of either general or individual permits. EPA's estimates assume that 30 percent of CAFOs would be covered by individual permits and that 70 percent would be covered by general permits.

- ***What will the proposed regulations cost U.S. consumers?***

  EPA also conducted an analysis that predicts and quantifies the broader market changes that may result due to compliance. This analysis examines changes throughout the economy as impacts are absorbed at various stages of the food marketing chain. EPA expects that consumer and farm level price changes will be modest. At the retail level, EPA estimates that consumer prices for poultry and red meat will rise about one cent per pound. EPA also estimates that egg prices will rise by about one cent per dozen and that milk prices will rise by about one cent per gallon. EPA's analysis also indicates that the proposed regulations will have a modest effect on U.S. exports and imports, as well as industry-level employment.

C. Estimated Environmental and Economic Benefits

- ***What are the estimated monetized benefits of the proposed regulations?***

  EPA has estimated monetary benefits of the proposed regulations that range from $146 million to $182 million annually. For EPA's benefit analysis, monetized benefits measure the value of reduced health risks and improved water quality that would accrue under the proposed regulations. Benefits categories estimated for this rulemaking include improved surface water quality, improved water quality in private wells, and reduced fish kill and shellfish bed closures. These categories cover a small subset of the broader range of potential benefits that will likely accrue under the proposed regulations. In addition to these monetized benefits, EPA expects that additional benefits will include avoided costs for drinking water treatment, reduced odor and air emissions, improved water quality in estuaries, and avoided loss in property value near polluting feedlots, among other benefits.

- ***What are the expected improvements to water quality from the proposed regulation?***

  EPA anticipates that the proposed regulations will result in improved water quality through implementation of BMPs and recordkeeping to minimize accidents, spillovers, and runoff. Expected improvements are associated with a reduction in stream impairments in general, a reduction in eutrophication and algal growth as a result of reduction of nutrients, a reduction in turbidity and benthic impacts as a result of reduction of sediments, a reduction in fish kills and loss of aquatic diversity, and a reduction in harmful impacts to shellfish and aquatic birds. Improved containment in general would also result in a reduction of runoff containing nutrients, sediments, and pathogens to surface waters. Under one of the proposed regulatory options (Option 5 requiring that lagoons be covered), EPA also anticipates that improved water quality could result from a reduction in emissions from ammonia volatilization and subsequent redeposition as well as elimination of most overflows during chronic rainfall events. Another proposed regulatory option (Option 3 requiring that lagoons be lined and groundwater monitoring) could also result in improved groundwater quality and a reduction in subsequent surface water contamination.

  EPA has estimated the loadings and loading reductions that are expected under the proposed regulations. EPA estimated loading reductions for total nitrogen (TN), total phosphorus (TP), and total suspended solids (TSS), as well as metallic compounds that are present in animal manure (Cd, Cu, Ni, Pb, Zn, As) and also pathogens (fecal coliform and fecal streptococcus).

  Overall, depending on co-proposed alternative, EPA estimates a loading reduction of 1.3 billion to 1.4 billion pounds of nitrogen and about 0.6 billion pounds of phosphorous (an estimated reduction of 64 percent of nitrogen and 76 percent of phosphorous estimated as originating from CAFOs). Roughly two-third of the estimated loading reductions in nitrogen and phosphorous are attributable to controls at operations with more than 1,000 AU. EPA's analysis also indicates that the proposed regulations would reduce runoff of fecal coliform by an estimated 130 to 150 billion CFU or colony forming units (77 percent reduction compared to baseline loadings). Fecal streptococcus would be reduced by 240 to 270 billion CFU (about a 60 percent reduction). EPA also estimates that metallic compounds present in manure would also be reduced by about 70 percent to 95 percent compared to baseline conditions. More than one-half of the estimated pathogens and metals are attributable to controls at operations with more than 1,000 AU.

- ***What are the environmental and human health benefits of the proposed regulations?***

  EPA anticipates that the proposed regulations will result in improved environmental and human health through implementation of BMPs and recordkeeping to minimize accidents, spillovers and runoff. Expected human health improvements are associated with a reduction in disease from exposure to pathogens and other constituents in contaminated waters (e.g., through recreational use), a reduction in exposure to pollutants that may cause cancer and other systemic effects (nitrates, metals), a reduction in disease from consuming contaminated shellfish, and a reduction in exposure to other constituents, such as antibiotics and hormones. Expected environmental improvements are associated with improved water quality in general, including improved aquatic and wildlife habitat from a reduction in eutrophication and algal growth as a result of

reduction of nutrients, a reduction in turbidity and benthic impacts as a result of reduction of sediments, a reduction in fish kills and loss of aquatic diversity, a reduction in harmful impacts to shellfish and aquatic birds. Under one of the proposed regulatory option (Option 5 requiring that lagoons be covered), EPA also anticipates that environmental and human health improvements could result from air benefits from a reduction in noxious odors and sulfide emissions and greenhouse gases. Another proposed regulatory option (Option 3 requiring that lagoons be lined and groundwater monitoring) could also result in improved groundwater quality and a reduction in disease from drinking contaminated ground water.

D. Statutory and Regulatory Requirements

- ***What is "economic achievability" and how did EPA address Clean Water Act requirements that require EPA to consider costs?***

The Clean Water Act requires EPA to establish effluent limitations for point sources based on the "best available technology economically achievable" (Sections 301(b)(2)(A) and 304(b)(2)). Factors that EPA shall consider in an assessment of best available technology include the cost of achieving effluent reductions, among other factors (Section 304(b)(2)(B)). If EPA determines that the costs of a technology option under consideration are not economically achievable for the industry or a particular subcategory of facilities within the industry, then EPA bases the regulations for that category or subcategory on less expensive technology options.

EPA is proposing that the proposed regulations are economically achievable based on the results of EPA's economic impact analysis that estimates the financial burden to CAFOs of the proposed regulations. EPA estimates that the proposed regulations could result in 1,900 to 2,400 confinement operations being vulnerable to closure, depending on the co-proposed option. This equates to about 7 percent of all affected CAFOs. These estimated impacts are worst-case and do not reflect the likelihood that these costs will be passed on from the CAFO through the food marketing chain. EPA expects that long-run market and structural adjustment by producers in these sectors will substantially diminish the estimated impacts. That is, if modest levels of cost passthrough are assumed, the estimated impacts described above would result in impacts that are considered to be affordable or could result in moderate financial impacts to the CAFO.

EPA's analysis indicates that the costs associated with the proposed requirements will not result in significant financial burden to most operations in the livestock and poultry sectors. However, EPA's analysis indicates that the co-proposed two-tier structure will cause an estimated 1,890 operations to experience financial stress in the beef cattle, dairy, hog and broiler sectors. These operations are considered to be vulnerable to closure. The co-proposed three-tier structure will cause financial stress to an additional 520 facilities in the beef cattle, heifer, dairy, hog and broiler sectors. Affected hog facilities are operations with more than 1,000 AU. Many of these affected operations are not small businesses. Most affected broiler facilities include operations with more than 1,000 AU, including some operations with between 300 and 1,000 AU. Affected dairy and cattle operations are those that have a direct link from ground water to surface water and thus pose greater environmental risk.

A summary of this analysis is provided in Section 10 of the preamble. EPA's detailed economic assessment can be found in *Economic Analysis of the Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations* (referred to as "Economic Analysis").

- ***Did EPA conduct a cost benefit analysis of the proposed regulations?***

  EPA estimates that the total costs of the proposed regulations will range between $847 million and $949 million per year. These estimated costs include compliance costs to CAFOs, offsite manure recipients, and Federal and State governments. This regulatory cost compares to monetized benefits of the proposed regulations that are estimated to range from $146 million to $182 million annually. These estimated benefits include improved surface water quality, improved water quality in private wells, and reduced fish kill and shellfish bed closures.

  The analyses that support these cost and benefit estimates demonstrate that EPA has met its reporting requirements under Executive Order 12866 and the Unfunded Mandates Reform Act of 1995 (UMRA). Under EO 12866, EPA determined that the annual costs of the proposed regulations would exceed $100 million per year and therefore submitted the proposed regulatory revision to OMB for review and also prepared a cost-benefit analysis for OMB's review. This cost-benefit analysis also satisfied similar requirements under section 202 of the UMRA, which require that EPA prepare a written statement, including a cost-benefit analysis, for regulations with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. EPA's cost-benefit analysis also includes broad analysis of a reasonable number of regulatory alternatives and EPA has proposed to adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. EPA has determined that the proposed CAFO regulations do not include a federal mandate that may result in estimated costs of $100 million or more to either state, local, or tribal governments in the aggregate (excluding the private sector) and therefore are not subject to the requirement of section 203 of the UMRA. EPA conducted extensive outreach and completed other reporting requirements as required by these and other regulatory requirements.

  EPA's detailed economic assessment can be found in *Economic Analysis of the Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations* (referred to as "Economic Analysis"). EPA's detailed benefit analysis can be found in *Environmental and Economic Benefit Analysis of the Proposed Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations* ("Benefits Analysis"). A summary of EPA's cost benefit analysis is provided in Section 10 of the *Economic Analysis* as well as Section 10.I of the preamble. The preamble summarizes how EPA addressed other requirements under EO 12866 and UMRA (Section 13.A and 13.C, respectively).

- ***What is the Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 and how did EPA comply with its requirements?***

  The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a "significant impact on a substantial number of small entities." For this proposed rulemaking, EPA could not conclude that costs are sufficiently low to justify "certification." Instead, pursuant to the RFA, EPA prepared an initial regulatory flexibility analysis (IRFA) and also conducted outreach to small businesses, and convened a Small Business Advocacy Review (SBAR). EPA's IRFA examines the impact of the proposed rule on small entities along with regulatory alternatives that could reduce that impact. EPA's IRFA and detailed economic assessment is available for review in Section 9 of the *Economic Analysis*. The preamble contains a summary of this analysis (Section 10.J) as well as a summary of how EPA addressed other SBREFA requirements (Section 13.B).

- ***How did the EPA respond to recommendations from the Small Business Advocacy Review Panel?***

  EPA convened a Small Business Advocacy Review Panel in December 1999 to obtain advice and recommendations of representatives of the small entities that potentially would be subject to the rule's requirements. The Panel evaluated preliminary data and small-entity comments on issues related to the elements of the Initial Regulatory Flexibility Analysis (IRFA) and prepared a Panel Report. This report was completed in April, 2000, and is available in the public record. The report summarizes the Panel's outreach efforts to small entities and the comments submitted by the small entity representatives.

  Section 12.G of the preamble provides a summary of the Panel's activities and recommendations and describes the subsequent action taken by the Agency. As summarized in the preamble, EPA adopted some of the Panel's recommendations in the proposed regulations but did not adopt other recommendations that EPA deemed to be inconsistent with the environmental objectives of the proposed rulemaking.

- ***How many animal feeding operations that are considered to be "small businesses" by SBA will be affected by the proposed regulation?***

  EPA estimates that between 11,000 to 15,000 CAFOs that would be subject to the proposed requirements are small businesses, depending on the co-proposed alternative. This is about one-half of all CAFOs that would be subject to the proposed regulations. The remaining number of AFOs that would not be subject to the proposed regulations comprise the overwhelming majority (more than 90 percent) of all AFOs, estimated at roughly 350,000 small businesses. Livestock and poultry operations that do not confine animals, most of which are also small businesses, are also not be subject to the regulations.

  For the purposes of complying with the RFA/SBREFA requirements, EPA used definitions of "small businesses" as established by the Small Business Administration (SBA) to determine the number of small businesses in the livestock and poultry sectors.

For the agricultural industries, SBA's size standards are defined in terms of average "annual receipts" (gross sales) generated by an operation. Current SBA standards define a "small business" within each of the main livestock and poultry sectors as an operation that generates average revenues ranging from less than $0.5 million per year (for the hog, dairy, broiler, and turkey sectors) to less than $1.5 million per year (for the beef feedlot sector), averaged over the most recent three fiscal years. The exception is the revenue threshold for a small chicken egg operation (layer sector), which SBA has defined as a business that generates up to $9 million annually. EPA believes that the definition of small business for the egg laying sector might not truly characterize a small business in this sector and is using an alternative definition that identifies a small business as any operation that generates up to $1.5 million in annual revenue. EPA has also consulted with the SBA Chief Counsel for Advocacy on the use of this alternative definition. SBA's size standards differ from the revenue cutoff generally recognized by USDA, which defines gross sales of $250,000 as its cutoff between small and large family farms.

EPA uses three steps to determine the number of small businesses that may be affected by the proposed regulations. First, EPA identifies small businesses in these sectors by equating SBA's annual revenue definition with the number of animals at an operation. Second, EPA estimates the total number of small businesses in these sectors using farm size distribution data from USDA. Third, based on the regulatory thresholds being proposed, EPA estimates the number of small businesses that would be subject to the proposed requirements. More detail on each of these steps is provided in Section 10.J of the preamble and Section 9 of the *Economic Analysis*.

- ***What is the estimated financial burden to CAFOs that are considered to be "small businesses" by SBA?***

  EPA estimates that the proposed requirements will not cause significant financial burden to most affected small businesses in most sectors. However, EPA's analysis indicates that proposed regulations could cause financial stress to some small businesses, making these businesses vulnerable to closure. EPA estimates that between 10 to 40 small cattle operations and between 150 ro 280 small broiler operations will experience financial stress, depending on the co-proposed alternative. Affected broiler facilities are operations with more than 1,000 AU. This analysis is conducted assuming that no costs are passed through between the CAFO and processor segments of these industries. Details of this assessment are provided in Section 9 of the *Economic Analysis*; a summary of this analysis is provided in Section 10.J of the preamble

- ***What is the Paperwork Reduction Act of 1995 and how did EPA comply with its requirements?***

  Under the PRA, EPA in certain instances must obtain approval from OMB to collect information from the public. The Agency prepares an Information Collection Request (ICR) and submits it for OMB approval. An ICR explains what information will be collected, why the information is needed, who will need to respond, and gives an estimate of the burden hours the public will need to get and report the information.

  EPA has prepared an ICR for the proposed regulations that presents the reporting and recordkeeping requirements of the proposed regulations and submitted this document for review by OMB as part of the proposed rulemaking package. EPA expects that costs

associated with information collection in the proposed regulations will be incurred by CAFOs and States in order to comply with the proposed recordkeeping and reporting requirements. Information collection by States is associated with the development and recordkeeping of individual state permits. These estimates includes the time required to review instructions, search existing data sources, gather and maintain all necessary data, and complete and review the information collection. Information collection by CAFOs is associated with PNP development and ground water assessment, including the monthly recording of animal inventories, manure generation, findings from visual inspections of feedlot areas and fields, lagoon emptying, and other activities, the collection of information on field application of manure and other nutrients (including amount, rate, method, incorporation, dates), manure and soil analysis compilation, crop yield goals and harvested yields, crop rotations, tillage practices, rainfall and irrigation, and lime applications. Other requirements include manure spreader calibration worksheets, manure application worksheets, maintenance logs, and soil and manure test results.

The estimated average annual burden for this rule to both the private and public sector ranges from $37 million annually to $29 million annually, depending on the co-proposed alternative. This estimate is based on an annual average of 1.2 to 1.6 million labor hours for all CAFO respondents and 700,000 to 900,000 hours for all State respondents will be needed to comply with the proposed regulations. These estimates do not account for State programs that may already be requiring some of the recordkeeping and reporting requirements already. Thus, this burden would be an overestimate to the degree that some States already require such actions.

Details of this assessment are provided in the ICR document; a summary of this analysis is provided in Section 13.F of the preamble.

X. Schedule and Process

- ***What is the process and schedule for finalizing the proposed CAFO regulations?***

  EPA is accepting comments on the proposed rule through July 30, 2001. Once the comment period closes, EPA will evaluate and analyze the comments, including any data submitted. This information will be used by EPA to take final action on the proposed regulations, which EPA plans to do in December 2002. EPA will respond to the public comments in a document that will be publicly available in the rulemaking record for the final rule.

- ***How will EPA decide between the various options proposed?***

  Once EPA has evaluated and analyzed the public comments and any data submittals, the Agency will take the new information and perform additional technical, cost and benefit analyses on the regulation. EPA will use the results of these analyses to determine the best option(s) for the final rule.

- ***What opportunities are there for public participation in the rule development process?***

  EPA welcomes and encourages the public to comment on the proposed rule. You may comment on any and all aspects of the proposed rule. In addition, Throughout the preamble of the proposed rule, EPA has indicated where the Agency is requesting specific comments and data. In addition, EPA asks that comments address any perceived

deficiencies in the record supporting this proposal and that suggested revisions or corrections be supported by data. The public comment period is open until July 30, 2001.

- ***How should people comment on the proposed rules?***

  EPA asks that individuals cite, where possible, the paragraphs or sections in the preamble, rule or supporting documents for which comments are being provided. A separate paragraph should be used for each issue discussed. A self-addressed stamped envelope should be enclosed if an acknowledgment of the receipt of the comments is desired. EPA cannot accept faxes but is accepting electronic comments. Please submit electronic comments as an ASCII, WordPerfect 5.1, 6.1, or 8 file, and identify the comments by the water docket number OW-00-27. Electronic comments on the Federal Register notice may be filed on-line at any federal depository library.
  Public comments for the proposed rule can be submitted in three ways.

  – By mail:

    Concentrated Animal Feeding Operation Proposed Rule
    Office of Water
    Engineering and Analysis Division (4303)
    USEPA
    1200 Pennsylvania Avenue, NW.
    Washington, DC 20460.

  – By hand delivery (including overnight mail):

    Concentrated Animal Feeding Operation Proposed Rule
    USEPA Office of Water
    401 M. Street, SW
    Room 611, West Tower
    Washington, DC 20460

  – By e-mail: CAFOs.comments@epa.gov

  Please submit any references cited in the comments. Please submit an original and three copies of all written comments and enclosures.

- ***How can people review the record for the revised CAFO regulations?***

  The record (including supporting documents) for this proposed rule is filed under docket number OW-00-27. The record is available at the Water Docket, Room EB57, USEPA Headquarters, 401 M Street, SW, Washington DC 20406. The Water Docket is open from 9 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. For access to docket materials, please call (202) 260-3027 to schedule an appointment.

  Further, key documents supporting the proposal are available on EPA's web site at http://www.epa.gov/npdes/afo (click on CAFO Proposed Rule in the Topics box).