

AFO Compliance Options

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A. Background and Definitions

1. AFO
2. CAFO
3. Large Weather Event
4. Reasonable Measures
5. Permit by Rule
6. CAFO Permit
7. Designated CAFO

1. AFO Definition (R317-8-10.2)

Animal Feeding Operations (AFO) means a lot or facility (other than aquatic animal production facility) where the following conditions are met:

- (a) animals have been, are, or will be stabled, housed, or confined and fed or maintained for a total of forty-five (45) days or more in any 12-month period;
- (b) crops, vegetation, forage growth, or post harvest residues are not sustained in the normal growing season over any portion of the lot or facility; and
- (c) 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 storage or disposal of waste.

2. CAFO Definition (R317-8-10.2)

(refer to the last 3 slides for CAFO size numbers)

Concentrated Animal Feeding Operations

(CAFO) means:

- (a) an AFO that is a Large CAFO; or
- (b) an AFO that is a Medium CAFO; or
- (c) an AFO that is a Small AFO or Medium AFO that is a Designated CAFO.

3. Large Weather Event (LWE) (R317-8-10.2)

Large Weather Event means a single event or series of precipitation events, including snow, received at an AFO (including a CAFO) during any consecutive thirty day period that:

- (a) occurs in a manner that does not allow an AFO or CAFO to appropriately dewater waste storage, treatment or containment structures; and
- (b) yields precipitation in an amount greater than the total of:
 - (i) the areas monthly average precipitation for the period of the precipitation event(s); and
 - (ii) (A) for a poultry, swine, or veal AFO or CAFO, a 100-year, 24-hour storm event for the area; or
 - (B) for all other AFOs and CAFOs, a 25-year, 24-hour storm event for the area.

4. Reasonable Measures

- Reasonable Measures are compliance to the Permit by Rule requirements in R317-8-10 which provide enforcement protections.

5. Permit by Rule (PBR)

- When PBR requirements are followed, which are “reasonable measures”, AFOs and CAFOs are exempt from financial penalties from large weather events discharges covered by the PBR.
- The PBR for AFOs is obtained through compliance to R317-810.9 or an ACES Certificate.

6. CAFO Permit

- The CAFO permit allows certain discharges upon compliance to the permit.
- The CAFO permit is based on federal CAFO requirements which DWQ is required to implement.
- The CAFO permit is required for illegal discharges at AFOs and CAFOs.

7. Designated CAFO

- **A designated CAFO is a Small AFO or a Medium AFO that is designated a CAFO by DWQ for discharges to surface water through direct animal contact or a man-made device (ditches, pipes, culverts, etc.).**

B. Three Options for AFO Compliance

1. Neither permit by rule nor CAFO permit
2. Permit by rule through State rule or an ACES AFO Certificate.
3. CAFO Permit coverage

1. No permit or PBR

- AFOs without coverage are at risk should a discharge occur.
- AFOs that discharge have no enforcement or permit-requirement protections for a discharge.
- AFOs are not allowed to discharge and therefore require containment sufficient to prevent discharges regardless of the storm size. (No longer 25-year, 24-hour storm event)
- AFOs without coverage are not “required” to have a nutrient management plan, although there are benefits and it is strongly recommended.
- AFOs without coverage are not “required” to keep compliance records, although it is strongly recommended.

2. Permit by Rule through the State Rule (R317-8-10.9) or ACES Certificate

- Provides enforcement protection from large weather event discharges.
- Provides a compliance option that is not as stringent as the CAFO permit.
- Voluntary – compliance indicates a producer’s willingness to protect water quality.
- Requires a current nutrient management plan (NMP) that meets certain requirements in R317-8.10.6 and R317-9-10.9.
- Requires soil and manure monitoring.
- Requires record keeping.
- Not subject to routine inspections (no plans to inspect)

3. CAFO Permit

- Only discharging AFOs and CAFOs are required to obtain, but facilities may voluntarily obtain if desired.
- Applicants must public notice their NMP for 30 days.
- Requires best management practices and record keeping not required for un-permitted facilities or facilities with the PBR.
- Subject to routine inspections by DWQ or EPA.
- Compliance provides the greatest enforcement protection of all options.
- Details of the CAFO Permit will be covered later in the workshop.

C. Permit by Rule Specifics

1. PBR through State Rule
2. PBR through ACES Program
3. Technical Standards (NRCS Practice 590)
4. 40 CFR 122.42(e)(1)(i) through (viii)

1. PBR Through State Rule

- Requires a site-specific NMP that complies with NRCS Practice 590, 40 CFR 122.42(e)(1)(i) through (viii), and applicable practices and protocols. Applicable practices and protocols may include:
 - Other NRCS practices besides Practice 590
 - USU soil and manure sampling practices
 - Other practices and protocols as needed.
- Required to keep records adequate to demonstrate compliance
- Submits an notice of intent to be covered under the PBR

2. PBR through ACES

- Required to submit a copy of the ACES Certificate to DWQ
- ACES facilities are required to keep records adequate to demonstrate compliance
- ACES requires a site-specific NMP that complies with NRCS Practice 590, 40 CFR 122.42(e)(1)(i) through (viii) (*122.42(e)(1)(vi)-(viii) for CAFOs*), and applicable practices and protocols. This may include:
 - Other NRCS practices besides 590
 - USU soil and manure sampling practices
 - Other practices and protocols as needed.

3. State Technical Standard

NRCS Practice 590, Nutrient Management

- Guidance for nutrient (manure) applications
- Guidance for soil and manure monitoring
- Guidance for winter applications
- Guidance for application equipment maintenance
- Guidance for phosphorus application thresholds

4. 40 CFR 122.42(e)(1)(i) through (viii)

Summary (underlines added for emphasis)

- (e)(1)(i) Ensure adequate storage of manure and process wastewater, including procedures to ensure proper operation and maintenance
 - This includes applicable storm event storage capacity, freeboard management, and proper dewatering.
- (e)(1)(ii) Ensure proper management of animal mortalities
 - This includes compliance to NRCS Practice 316 and management to prevent contamination of surface water
- (e)(1)(iii) Ensure that clean water is diverted from the production area
 - This includes berms, culverts, etc. as needed.

4. 40 CFR 122.42 continued

- (e)(1)(iv) Prevent direct animal contact of confined animals with surface waters.
 - This includes wading and watering at waters-edge.
- (e)(1)(v) Ensure chemicals and other contaminants are not disposed in any storage structure unless specifically designed to treat those chemicals
- (e)(1)(vi) Identify site-specific conservation practices that will be implemented.
 - This includes irrigation runoff management, runoff berms, setbacks, buffers, etc.
- (e)(1)(vii) Identify protocols for monitoring soil, manure, wastewater.
- (e)(1)(viii) Establish protocols for land applications.
 - This includes 590, equipment calibration, prohibited applications

D. Groundwater Requirements for AFOs and CAFOs

1. Ground Water Protection Permit
2. Construction Permit
3. Animal Facility GW Contamination Potential
4. Liner Tables

1. Ground Water Protection Permit

- GW Permit required for the following facilities with liquid waste structures:
 - Facilities over 1,500 animal units.
 - 1,500 animal units = (1,500 beef; 1,050 dairy cows; 123,000 layers, 3,750 swine)
 - Ponds under 4 million gallons built before 1999 are grandfathered.

2. Construction Permit

- For AFOs and CAFOs, a Construction Permit is required for process wastewater structures.
 - NRCS is approved under a MOU to design AFOs and CAFOs under 1,500 animal units, therefore a Construction Permit is not required.
 - Construction Permit is required for wastewater storage/treatment facilities constructed at all CAFOs.

(For assistance contact: Dan Hall, 801-536-4356 or Woody Campbell, 801-536-4353)

3. Comparison of AFO Potential to Contaminate GW (from wastewater pond monitoring)

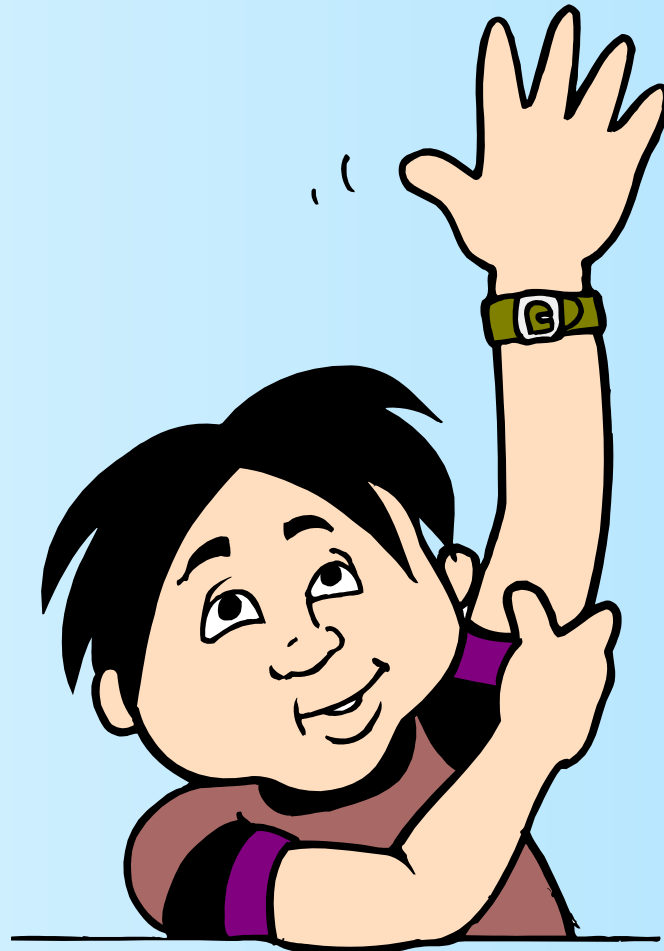
- Total Dissolved Solids (TDS)
 - Swine 8,314 mg/l
 - Dairy 3,850 mg/l
 - Municipal: 1,000 mg/l
- Ammonia-N
 - Swine: 1,419 mg/l
 - Dairy: 360 mg/l
 - Municipal: 30 mg/l
- TKN Lagoon Waste water
 - Swine: 1,660 mg/l
 - Dairy: 540 mg/l
 - Municipal: 45 mg/l

4. Liner Tables

- Please see handout for Liner Tables.
- Liner requirements are in NRCS Practice 313 and Utah Administrative code R317-1 and R317-6.

(Clay liners are 100,000 times more permeable than 40-mil HDPE liners. Permeability rates: 1×10^{-7} cm/sec vs. 1×10^{-12} cm/sec, respectively.)

Questions



Definition of Large CAFO

Large CAFO means an AFO that stables, houses, or confines the type and number of animals that fall within any of these ranges:

Beef, calves, and/or veal	1,000 or more
Cows (milking, dry)	700 or more
Layers, broiler (wet system)	30,000 or more
Chickens, not layers (dry system)	125,000 or more
Layers (dry system)	82,000 or more
Turkeys	55,000 or more
Swine (55 lbs or more)	2,500 or more
Swine (55 lbs or less)	10,000 or more
Sheep and lambs	10,000 or more
Horses	500 or more

***Note:** there are no “large” AFOs. By definition, any AFO with these numbers is a Large CAFO. A Large CAFO is a CAFO whether or not it discharges.*

Definition of Medium AFO

Medium AFO means a lot or facility that is an AFO that stables, houses, or confines the type and number of animals that fall within any of these ranges:

Beef, calves, and/or veal	300-999
Cows (milking, dry)	200-699
Layers, broiler (wet system)	9,000-29,999
Chickens, not layers (dry system)	37,500-124,999
Layers (dry system)	25,000-81,999
Turkeys	16,500-55,000
Swine (55 lbs or more)	750-2,499
Swine (55 lbs or less)	3,000-9,999
Sheep and lambs	3,000-9,999
Horses	150-499

Definition of Small AFO

Small AFO means a lot or facility that is an AFO that stables, houses, or confines the type and number of animals that fall within any of these ranges:

Beef, calves, and/or veal	1-299
Cows (milking, dry)	1-199
Layers, broiler (wet system)	1-8,999
Chickens, not layers (dry system)	1-37,499
Layers (dry system)	1-24,999
Turkeys	1-16,499
Swine (55 lbs or more)	1-749
Swine (55 lbs or less)	1-2,999
Sheep and lambs	1-2,999
Horses	1-149