COLORADO AFO REGS

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CDPHE - Water Quality
Control Division
What is an AFO?

- **Confined animal operation**
  - Livestock fed for 45 days or longer in any 12-month period
  - Forage growth not maintained
  - Elk? Buffalo? Llamas?
**What is a CAFO?**

**Concentrated Animal Feeding Operation**

- Defined or designated as a CAFO
- Defined CAFOs meet animal number threshold and be of animals of specific species

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Minimum Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeder cattle</td>
<td>1,000 animals</td>
</tr>
<tr>
<td>Dairy cattle (mature)</td>
<td>700</td>
</tr>
<tr>
<td>Swine (&gt; 55 lbs)</td>
<td>2,500</td>
</tr>
<tr>
<td>Horses</td>
<td>500</td>
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</tbody>
</table>

**For example**

Click on the video to the right to play it
CAFOs (cont)

• A Medium AFO can be designated a CAFO if:

Pollutants are discharged into surface water:
  ▪ Through ditch or other manmade device, or;
  ▪ Animals contact flow-through water
  ▪ e.g., 300 to 999 cattle
CAFOs (cont)

- **Any** AFO can be designated as a CAFO where:
  - WQCD performs on-site inspection, and
  - Determines that it reasonably could be a significant contributor of pollutants to surface water
- AFO is provided opportunity to remove risk
Colorado’s AFO Regulations

- Regulation No. 81
  - In effect since 1974
  - Revised June 2004

- Regulates AFOs and CAFOs
  - AFOs: use BMPs
  - CAFOs: ground water protection provisions
CAFO Regs

• First-time CAFO permitting regs became effective June 30, 2004
• Regulation 61.17
• Requires all CAFOs to apply for a permit by certain dates (like other point sources)
  – About 250 CAFOs in Colorado
  – 18 hold permits to date
• No ground water protection provisions!!
Housed Commercial Swine Feeding Operations

- > 800,000 pounds of live weight capacity at any one time
  - Multiple sites are one if same owner/management
- Amendment 14 in 1998
- Regulation #61.13
- 11 individual permits active today (83 sites)
- Very high standard regs (also odor regs)
Regs Web Sites

• http://www.cdphe.state.co.us/op/regs/waterregs/100281confinedanimalfeedingregs604.pdf
• http://www.cdphe.state.co.us/op/regs/waterregs/100261wqccdischargepermitsystem604.pdf
CAFO or AFO?

1. Dairy farm with 650 milking cows.

2. Feedlot with 900 steers (capacity 2500)

3. Feedlot with 10,000 lambs
CAFO or AFO?

4. Ten swine facilities with 800,000 lbs of live weight capacity

5. Bare lot next to creek with 2 horses

6. Bare lot with 501 elk
7. Three AFOs under common ownership or management
   - Not adjacent to each other
   - Use common area for manure application
Surface Water

• Same definition as Waters of the U.S.
  – Navigable waters
  – Any waterway that eventually drains into a navigable stream, lake, or sea
  – Includes intermittent streams & dry washes
Regulation #81: CAFOs

Ground Water Protection

• Seepage rate from process wastewater impoundments not exceed 1 x 10^{-6} \text{ cm/sec}

• Inspect liner integrity weekly; repair as needed

• Remove manure/wastewater per approved Standard Operating Procedure (protect liner)

• Not a permit requirement!!!
Reg #81 - AFOs

BEST MANAGEMENT PRACTICES

- AFOs must utilize BMPs, as appropriate
  - to reduce impacts on waters of state
- Complaints:
  - waste onto neighboring property
  - waste into streams
  - well water contamination
AFO BMPs (cont)

- BMPs are in section 81.6

1. Divert runoff from feed lot
   - e.g., roofs, ditches, terraces, berms

2. Decrease open lot surface area
   - e.g., ↑ animal density, roofs, collect manure frequently
Click on the video to the right to play it.
3. Decrease water volume
   • Minimize water wastage

4. Decrease discharges to watercourses*
   • Impound and evaporate wastewater
   • Land apply at agronomic rates
   • No storage within 100-year flood plain
   • Locate manure piles away from surface water
Click on the video to the right to play it.
5. Minimize transport to water (cont)
   • Remove settleable solids
     – Settling basins, terraces, diversions
   • Grassed strips, filter fences, straw bales at edge of eroded soil

6. Protect groundwater
   • Locate a min. 150’ from water wells
   • Establish land application buffers around wells
AFO BMPs (cont)

Impoundment liner (1 x 10^{-6} \text{ cm/sec}) is required where WQCD determines that the AFO could adversely effect ground water quality.
CAFO General Permit

- One permit issued by state, to date
  - Issued in 2001
  - 18 CAFOs covered

- Annual fee for CAFO general permits
  - $416 base + $0.07 per animal unit
  - 1,000 AUs (cattle) = $486
  - HCSFOs pay $1.00 per animal unit
• New permit to be issued in December 2004
  – Contain new Federal requirements
• Storage for 25-Year, 24-Hour Storm or 10-Year, 10-Day Storm, whichever greater
CAFO General Permit (cont)

- Retention structures: professionally designed + have spillway
Nutrient Management Plan
- Maintain 2 feet of freeboard in ponds
- Manage mortalities
- Control runoff of pollutants to surface water
- Assess potential for P runoff
- Sample manure, wastewater, soils
- Inspect land application equipment
- Install depth markers in ponds
Click on the video to the right to play it
Calculate application rates using:

- Extension publications in Colorado or neighboring states
- The method in a CNMP
- USDA-NRCS standards
- Other method approved by WQCD

- Daily/weekly inspections
- Recordkeeping and annual reporting
Odor Regulations

• Ag operations exempt from state odor regs
  – Except HCSFOs
    • Odor Management Plan
    • High standard regs: odor complaints are down
• Numerous odor/vector complaints about feedlots and dairies
  – County nuisance ordinance may apply
• EPA odor regulations coming??
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