

Waste Discharge Requirements General Order for Confined Bovine Feeding Operations



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Types of Confined Bovine Operations



Feedlot



Calf Ranch



Heifer Operation

What is a Confined Bovine Feeding Operation?

- Commercial facility that houses calves, heifers, steers, cows, and/or bulls...
- Representing 6 or more Animal Units (AUs)...
- Which are confined and fed for 45 days or more in a 12 month period.

Animal Units (AU)

Animal Type	Average maximum weight (lbs)	Number of head to make 6 AUs	Number of head to make 100 AUs
Calf (<3 mo)	210	About 30	About 475
Calf (3 mo-1 yr)	350	About 18	About 285
Heifer	730	About 8	About 135
Steer	1200	About 5	About 80

1 Animal Unit = 1,000 lbs of animal weight

Categories in the Bovine General Order

- Limited Time Operations
- Limited Population Operations
- Full General Order Coverage

Limited Time Operations

- House animals fewer than 24 days per calendar month
- Store manure in a protective manner
- If composting, meet specific requirements
- Store only storm water in ponds

Limited Population Operations

- House between 6 and 99 AUs
- Prepare and follow an Operation and Maintenance Plan
- If composting, meet specific requirements
- Store only storm water in ponds

Full General Order Coverage

- House 100 or more AUs or house more than 6 AUs and do not meet criteria for a lower-threat tier
- Must develop and implement:
 - Waste Management Plan
 - Nutrient Management Plan
 - Monitoring, Sampling, and Reporting
 - Groundwater Monitoring (individual operations or by a coalition)

Number of Confined Bovine Feeding Operations

Type	Limited Time Operations	Limited Population Operations (6-99 AUs)	Full GO Coverage Operations (100+ AUs)
Auction Markets	25		
Beef Feedlots			50
Calf Operations			50
Heifer or Heifer/Calf Operations			250
Total	25	400 (est.)	350

Additional Provisions in the Bovine General Order

- Existing ponds may not intersect groundwater
- Requirements for on-site composting
- Flowmeters required to measure applications to cropland
- Annual sampling of soil for nitrogen
- Monitoring of surface water discharges for ammonia and pesticides

Comments Received on the Tentative Draft

- 10 Interested Parties submitted comments on the Tentative Draft of the Bovine General Order.
- Responses were prepared for 49 comments.

Comment: *Anti-Degradation Analysis is inadequate.*

Response: Analysis in the Findings and Information Sheet complies with the policy, and documents that:

- degradation will occur,
- Best Practicable Treatment or Control (BPTC) required to minimize degradation, and
- degradation is to the maximum benefit of the people of the State.

Comment: *The Order is too expensive; the cost analysis did not include all costs.*

Response:

- Effort to balance costs and environmental benefits
- Limited Time and Limited Population Tiers created
- Additional capital costs included

Comment: *The regulatory threshold of 6 animal units:*

A. should be raised.

B. should not be raised.

Response:

- Smaller facilities (6-99 AUs) may still threaten water quality
- Reclassify Limited Time and Limited Population Operations if pose higher threat

Comment: *Order should preclude fragmenting operations; the Order should allow combining of dairy and bovine operations.*

Response:

- Finding 5 changed to prevent an operation from being artificially divided
- Finding 12 changed to clarify requirements to combine dairy and bovine operations

Comment: *Limited Time Operations should be allowed to house up to 10% of capacity on non-operating days.*

Response:

- Finding 4.a changed
- Up to 10% of the facility's capacity can be housed at any time

Comment: *Limited Population Operations should be required to sample on-site supply wells.*

Response:

- MRP “Monitoring Requirements”, section E.3 changed
- Executive Officer may require monitoring of groundwater

Comment: *The time schedule in the Order is too long/too short.*

Response:

- Deadlines extended
- Schedule reflects cost and need for education and outreach
- Management changes may be required sooner if data indicate issue

Comment: *The Board should develop reporting forms for annual reports, NMPs, and WMPs.*

Response:

- Funding is not currently available, but staff will pursue funding
- Staff is available to review and provide feedback on forms developed by others

Comment: *The 1.4 nitrogen applied-to-removed ratio should be removed.*

Response:

- 1.4 applied-to-removed ratio for cropland retained as a target
- over-application of nitrogen compounds to cropland is a significant concern

Comment: *Staff should conduct scoping meetings with ILRP Coalitions before adopting the Order.*

Response:

- New Finding 47 added:
 - ILRP membership is not required by the Order
 - Order places no requirements on ILRP coalitions

Comment: Soil, Plant Tissue, Manure, and Wastewater testing should be reduced.

Response:

- Retained annual soil testing for nitrogen
- Retained plant tissue testing
- Reduced wastewater sampling to one-time event if not applied to crops
- Requirements can be changed if no significant variation in a constituent

Comment: *Order should include streamlined process for pond liner design approval, including a pre-approved single-liner design.*

Response:

- No change to pond liner design requirements
- Entities allowed to propose “Pre-Approved Tier II” liner designs for EO approval

Comment: *Pond upgrades should be required sooner.*

Response:

- Upgrades may be required sooner if needed to protect water quality
- Upgrades to ponds at lower-threat operations can be required any time data indicate need

Comment: *Incorporate recommendations of Salt and Nutrient Management Plan.*

Response:

- Recommendations not yet adopted by the Board
- Order may be amended in the future to incorporate provisions of a valley-wide Salt and Nutrient Management Plan
- Reopener language added to Finding 45

Late Revisions #1

- Clarify dates when annual reports are due
- Revise definition of Agricultural Composting
- Add new Finding 47 to describe the relationship between the Order and the ILRP

Late Revisions #2

- Deadlines extended for some reports
- Changes to Response to Comments:
 - Deadlines extended
 - Pursue funding for development of new reporting forms

Table 1 – Schedule

Date Due	Item Due	Extension
7/1/2018	- Notice of Intent	No change
7/1/2019	- NMP completion certification	+ 6 months
7/1/2020	- First Annual Report - Waste Management Plan - Workplan – well installation	+ 12 months + 18 months + 12 months
7/1/2021	- Nutrient Management Plan implementation certification	+ 18 months
4/1/2026 & 7/1/2026	- Summary Report for groundwater monitoring (1 st date is for RMP, 2 nd date is for individuals)	No change



Costs of Compliance – Monitoring and Reporting (per facility)

Type of Operation	First year // Annual			First year	Annual
	Simple	Medium	Complex		
Limited Time				\$15,000	\$7,500
Limited Population				\$1,000	N/A
Full Coverage – Small size (250 animals)	First year = \$10,100 Annual = \$6,600	Not evaluated	First year = \$41,600 Annual = \$22,700		
Full Coverage – Medium size (2,000 animals)	First year = \$13,400 Annual = \$9,100	First year = \$30,100 Annual = \$15,700	First year = \$46,600 Annual = \$27,200		
Full Coverage – Large size (100,000 animals)	First year = \$21,500 Annual = \$17,800	First year = \$47,900 Annual = \$29,000	First year = \$60,700 Annual = \$39,500		

Costs of Compliance

Capital Costs – Pond Construction

Pond Capacity	Design of Pond	Estimated Cost
140,000 gallons	Single synthetic liner, no pan lysimeter*	\$29,000
1.2 million gallons	Single synthetic liner, no pan lysimeter*	\$89,000
1.2 million gallons	Tier 1 double synthetic liner	\$250,000

**Pan lysimeter required per Bovine General Order, estimated to add 5 to 10% to cost, depending on pond size.*

Requirements for the Production Area

- Wastewater ponds are not allowed to intersect groundwater
- Composting operations must conform to the State Board's Composting General Order, WQ 2015-0121-DWQ



Requirements for the Land Application Area

- Flowmeter or equivalent method to accurately measure nutrient applications
- Annual sampling of soil for nitrogen



Surface Water Monitoring Requirements - Ammonia

To protect surface water from un-ionized ammonia -

- Test tailwater and a representative portion of storm water before releasing the water from cropland



Surface Water Monitoring Requirements - Pesticides

To protect surface water from pesticides –

- Follow provisions based on the Irrigated Lands Regulatory Program (ILRP)
- Monitor storm water and tailwater discharges for actual pesticides used on cropland

