

***STATE SURVEY ON WASTE & MANURE MANAGEMENT REGULATIONS***  
***COMPILED BY THE NATIONAL ASSOCIATION OF STATE DEPARTMENTS OF AGRICULTURE, UPDATED: JULY, 25TH, 2001***

STANDARD	ALABAMA	ALASKA	ARIZONA	ARKANSAS	CALIFORNIA
1. Agency with Responsibility for Administration/Enforcement of Program	Alabama Department of Environmental Management (ADEM)		Arizona Department of Environmental Quality (ADEQ)	Arkansas Department of Environmental Quality (ADEQ)	State Water Resources Control Board (statewide), CA Dept. of Food & Agriculture (CDFA), Regional Water Quality Control Boards (9 regions), Local government
2. Type of permit required	General permit required for construction; permit coverage not required for operation		Agricultural General permit; Concentrated animal feeding operations	Federal CAFO issued by state for large facilities. State permit for all others	NPDES Industrial storm water, Waste Discharge Requirements (WDR), Waiver of WDR, Grade A Milk - Market Milk, Conditional and General Use Permits
3. Permit required for	Registration coverage for CAFOs		All concentrated animal feeding operations	Liquid animal waste facilities only. Dry litter is exempt	Control discharges of storm water, Regulate waste management to protect water resources, Regulate sanitation of dairy facilities, Protect public health, and environment and prevent nuisance conditions
4. Separation distance to dwellings	Buffers proposed in rules for implementing CAFO		Local zoning varies from county-to-county	1320' for = 600 beef cattle, 430 dairy, 1500 finishing hogs, 600 sows, 33,000 turkeys, 130,000 chickens; 500' for all others	Individual County standards
5. Separation distance to property line	Buffers proposed in rules		Local zoning varies from county-to-county	None	Individual County standards
6. Distance to water wells	Buffers proposed in rules		100 ft	NRCS standards	100 ft. from animal or fowl enclosure; 150 ft. from manure lagoon; Counties may be more restrictive regulations
7. Distance from waste structure bottom to groundwater	No minimum requirement. If high water table found during soil investigation, a pollution potential risk assessment must be performed		Varies	NRCS standards	One regional standards Some counties may have a requirement
8. Land required for the facility	Based on the nutrient management portion of waste management plan required by NRCS		N/A	Based on agronomic rates for N, NRCS standards	County specific, if any

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9. Storage structure capacity/free-board	Based on NRCS standard. Minimum freeboard is 1'		Designed according to NRCS standards	120 days storage; 25yr/24hr storm event plus 1' freeboard	Statewide requirements for containment of waste water and storm water run off an up to a 25 yr./24 hr. storm; Protection of manure areas, including retention ponds from either a 20 year or 100 year peak stream flows depending when facility was constructed 2 ft of freeboard in manure ponds of the Southern San Joaquin Valley as MOU with mosquito abatement districts and to prevent nuisance conditions
10. Liner material used	Varies depending on soil type - need soil mechanics analysis to determine type of liner		Varies depending on soil types, exposure and NRCS technical assistance and standards	NRCS standards	Must contain at least 10% clay and no more than 10% gravel or materials of equivalent impermeability
11. Lagoon seepage allowed	A permeability of $1 \times 10^{-7}$ cm/sec or a specific discharge of 0.0028/ft./day must be met		No stipulations	NRCS standards	No explicit policy, however, anti degradation policies would not permit any discharge
12. Site appraisal before development?	Yes		Yes, NRCS technical assistance is performed	Yes, NRCS design and inspection	Yes, State appraisal (update they don't understand what we are asking for)
13. Required to follow design standards?	Yes - must meet or exceed NRCS specifications		Not mandatory unless violation occurs	Yes, NRCS standards	Yes Title 27, Title 3
14. How violators are identified?	Complaints and routine inspections		Complaints and inspections	Regular inspections, complainants, industry self-audit program	Mainly though complaint follow-up Some counties conduct inspections on schedule
15. Routine on-site inspection required?	Yes		No	Yes, see#14 above	For those holders of NPDES permits, may be a condition of the WDR
16. Limits on land application?	Yes, applies to actively growing crops, can't applied on soil when frozen, snow or ice or saturated , or within 3 days of predicted rain		Manure/solids applied according to agronomic standards; liquids require extensive effluent permits	Yes, agronomic rate for N, hydraulic limits loading	Yes, at rates which are reasonable for the corp, soil climate, special local situations, management system and type of manure.
17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?	Yes - CAFO rule will require a nutrient management plan based on N currently			Required by regulation	One region limits the application of manure based on salts One county is developing regulations to control manure applications based on salts and other based on nitrogen

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18. If yes to #17, please state the total number and/or percentage of acres in state currently covered by plans	Approx. 25%			Unknown	Data not compiled
19. Other groundwater related requirements and programs	Proposed rule will provide for additional measures		Conservation (BMP) requirements under Arizona's Groundwater Protection Act	NO	Policies to protect the beneficial uses and prevent degradation of groundwater
20. Wetland regulations related to CAFO	Wetlands identification and enforcement by the Corps of Engineers, NRCS involved in wetlands identification		Flood control district/NRCS general guidelines	No discharge/application to wetlands allowed	None
21. Water use restrictions	Varies with water districts		Conservation requirements under Arizona's Groundwater Protection Act	None	None at state level. There may be restrictions at local level
22. Air quality regulations related to CAFOs	Buffer requirements proposed in CAFO rule primarily to minimize the effect of offsite odors		Regulations applied according to the Clean Air Act	None	Only as it relates to nuisance issues such as odors
23. Other environmental regulations related to CAFOs	SPCC plans for onsite fuel/chemical storage; ADPH regulations for onsite domestic sewage management		Solid waste disposal; hazardous materials; and medical wastes	Dead animal disposal regulated by Livestock & Poultry Commission	New and expanding dairies are subject to environmental review under the California Environmental Quality Act
24. Dead animal requirements	Developed by State veterinarian		Regulated by county health departments	NRCS guidelines and see#23 above	Removal within 24 hours
25. Well construction requirements	Must meet ADEM's groundwater program requirements		Governed by wellhead protection regulations	None	Yes - specifications for separation, inundation, sealing casing and back flow preventions
26. Education, training and technical assistance related to CAFOs	Arrival training for owners/operators; certified animal waste vendors must be trained by NRCS and Extension		Environmental management seminars; BMP seminars; technical assistance provided by NRCS and universities	4hrs initial individual training required, 4hrs annual refresher course	Yes - California Dairy Quality Assurance Program (DQAP) offers short course on environmental stewardship (over 900 producers have completed) Technical assistance though University Extension, Dairy industry trained staffed, NRCS and private consultants. Training program is available for the consultants.

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27. Incentives related to CAFOs			Limited cost share with NRCS	N/A	Certification in the DQAP. Producers who complete the short course and associated planning documents any seek to be evaluated by an independent third party. The evaluation involves a rigorous and comprehensive review of the dairy operations with respect to compliance with environmental regulations.
28. Other regulations related to CAFOs	The certified Animal waste vendor program		Animal health; feed quality; OSHA; air quality; water quality and quantity; and packers and stockyards regulations; Dept of Ag Dairy Control	None	Department of Food and Agriculture regulates the construction and maintenance of dairy facilities with Grade A milk permits (98% of the dairies) for compliance with sanitation requirements.

STANDARD	COLORADO	CONNECTICUT	DELAWARE	FLORIDA	GEORGIA	HAWAII
1. Agency with Responsibility for Administration/Enforcement of Program	Colorado Dept. of Public Health & Environment (CDPHE)	Dept. of Environmental Protection (CDEP), Dept. of Agriculture (CDA), Dept. of Public Health (CDPH)	Delaware Dept. of Natural Resources & Environmental Control - Division of Water Resources	Florida Department of Environmental Protection (FDEP)	A. Georgia Dept. of Natural Resources-Environmental Protection Division (GDNR) B. Georgia Department of Agriculture	State Department of Health (HDOH)
2. Type of permit required	No permits issued	Varies based on local requirements; state individual ag permit and approvals	State/Federal	1) Future NPDES delegation may result, presently EPA has issued no permits. 2) Florida issues Industrial Waste Water (IWW) permits for surface & ground water discharges. 3) Local construction permits.	A. General B. Individual	NPDES approval to construct and operate
3. Permit required for	No permits issued; but new facilities with > 1,000 a.u. must have an operating plan	Facility and structures for new animal feeding operations and approvals for small operations	Manure storage ponds or structures > 40,000 gallons	Large dairies statewide. Since 1990, new dairies in the Suwannee River Basin and Lake Okeechobee (about 40 of 240 dairies) require IWW permit. Existing operations don't require a permit unless under consent order or enforcement action. Poultry is not permitted	A. AFOs with 300 or more Animal Units B. CAFO's with 1000 or more AU	CAFOs; Animal feeding operations, regardless of size
4. Separation distance to dwellings	No standard	Case-by-case, varies with town and type of structure	No state standards	No state standards other than water well setbacks, but local zoning criteria may apply	A. 700 feet	Requirements vary by county zoning ordinances. Generally, animal feeding operations are permitted only within agricultural zoning districts
5. Separation distance to property line	No standard, relies on local zoning	Case-by-case, varies with town and type of structure	No state standards	No state standards, but local zoning criteria may apply	A. 150 feet	Requirements vary according to county zoning ordinances.
6. Distance to water wells	150'	Case-by-case, compliance with local health districts	State regulations require 100 ft. separation	Lake Okeechobee has setback for permitted operations from surface water sources and wells	A.500 feet between wells and lagoons or barns B.100 feet from wetted area (spray fields or spread fields)	1,000'
7. Distance from waste structure bottom to groundwater	No standard	State and/or federal approval, 2 to 4 feet	Determined on case-by-case, site-specific basis	No state standards, varies by permit and construction type, shallow water table depth or construction not covered by NRCS standards	A. 2 feet from water table for clay liners B. Plastic liners can be less	No standards, however, waste structures should be located within designated non-critical wastewater disposal areas

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8. Land required for the facility	Agronomic rates required	No limitation; clay optional with State approval, require nutrient management plan	No state standards	No state standards, new operations may require certain acreage for land application based on agronomic rate calculations for nitrogen or phosphorus depending on location and waste-type	A. Amount sufficient to handle the entire waster from operation with no increase in soil B. Nutrients from one year to the next	Based on the nutrient needs of the crop(s) receiving wastewater
9. Storage structure capacity/free- board	Water (15 days of rain fall event)/2 ft.	State and/or federal approval, design according to NRCS standards	No state standards	NRCS standards with sufficient capacity for 25 year/24 hour storm event plus 1'	A. Not to exceed 100 acre-feet, with at least 2 feet freeboard	25-year, 24-hour storm plus processed wastewater generated
10. Liner material used	Owners discretion; any material that meets seepage requirements	Clay optional with state approval, NRCS specifications	No state standards	NRCS standards including concrete, clay or synthetic	A. Compacted clay B. Synthetic liner	Geomembrane or compacted soil layer having a liquid discharge velocity < 1 X 10(-7) cm/sec. Other standards according to applicable wastewater injection and groundwater control regulations
11. Lagoon seepage allowed	1/32 inch per day	State and/or federal requirements	1.0 inch per year or 1 x 10-7 cent. per second	NRCS standards	A. New 300-3000 Animal Units Vertical hydraulic conductivity Not to exceed 5x10 7cm/sec in water recharge areas B. Other areas are not to exceeded Vertical hydraulic conductivity not to exceed maximum 1/8 inch per day (3.67 x 10 6 cm/sec)	See #10
12. Site appraisal before development?	No	New operations only	No	Permitted operations may have opportunity for "pre-application" or "pre-construction" site review	Yes	Yes, NRCS assistance with HDOH approval
13. Required to follow design standards?	Yes, for runoff control	Yes if cost share and permitted	No but NRCS standards may apply	NRCS standards	A. Natural Resource Conservation Service	Yes
14. How violators are identified?	Complain driven and random inspection	Complaints and/or compliance visits	Complaints and inspections	Compliant or contamination event driven	A. On site inspections B. Complaints C. Sampling of streams and waterways adjacent to AFO and CAFO D. Owner operator / Notification	Complaints and inspections

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15. Routine on-site inspection required?	Not required; most are complaint driven	Yes, state and/or federal	No but periodic inspections may occur	Permitted sites annually inspected, Lake Okeechobee sites more often	Yes	No
16. Limits on land application?	Not recommended on frozen ground or saturated conditions	Recommend following farm resource management plans (RMP) and BMPs	No state standards but voluntary guidelines are available	Agronomic rates for nitrogen/phosphorus based on NRCS/state university criteria	Yes	Manure/liquids applied according to agronomic standards. Nutrient & biological oxygen demand mass balance required
17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?		Voluntary	Voluntary; Nitrogen based	Permitted operations require a plan for nutrient management/waste utilization. Unpermitted sites vary according to conservation plan. Both nitrogen/phosphorus controlled plans are used	A. Voluntary - Required - Nitrogen based at present possible (P) based in future B. Required - for CAFO C. Required - for LAS permits	Yes, required. Based on nitrogen and phosphorus levels
18. If yes to #17, please state the total number and/or percentage of acres in state currently covered by plans			46%	Unknown	A. 50% on voluntary basis (est) B. Required on all new AFO and CAFO by 10/1/2002	No data available
19. Other groundwater related requirements and programs	Conservation; Ag Chemical handling, storage and loading regs	Comply with local, state and federal regulations	Public water supply and well setbacks may apply	Both permitted and unpermitted operations are required to meet all state water quality, well construction, and state drinking water system standards	A. Monitoring wells for AFO and CAFO B. CNMP C. State Water quality regulations	None
20. Wetland regulations related to CAFO	Application of wastes not permitted	Local, state and/or federal regulations	Must have state permit for any activity	New operations may require stormwater, flow/quality and diversion related Environmental Resource permits from Water Management Districts or FDEP	A. 100 feet buffers	State and Federal regulations
21. Water use restrictions	Regulated by state laws	Local notification of diversion of any amount; state permit for more than 50,000 GPD	Permit for uses of more than 50,000 gal per day	Depending on location, may require water-use permit, allocation for operations to withdraw ground water. Some water use caution restriction may apply	A. There are permits for withdrawal required for sensitive watersheds within the state	Varies by county

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22. Air quality regulations related to CAFOs	Local, dust control	Exempt if following BMPs	State and federal regulations	Odor is not addressed in air regulations although dust may apply	A. Requires 700 feet distance between CAFO and dwelling, churches and other public facilities	None
23. Other environmental regulations related to CAFOs	None	Encouraged to voluntarily develop and maintain farm RMPs and BMPs	No state standards but voluntary guidelines are available	Waste disposal regulation for solid/hazardous waste if applicable and chemigation/fertilization backflow prevention requirements	A. Restrictions on size of large swine CAFOs	Coastal Zone Management Program Special Management Area Use Permit issued by counties for projects with potential adverse environmental impacts from odor, vectors, and wastewater disposal
24. Dead animal requirements	State law, regulatory	Encouraged to incinerate or compost	No state standards but voluntary guidelines are available	Department of Agriculture & Consumer Services (FDACS) regulates disposal through burial, rendering, or incineration	A. Yes, by methods approved by the Georgia Department of Agriculture Rules and Regulations	County ordinances require removal of dead animals and disposal at approved sites
25. Well construction requirements	Wellhead protection program, well capping regs	Local health permits required	Separation distances apply	State water well contractor requirements apply as construction permit and use of certified water well contractor. Includes setback from sanitary hazards (varies)	A. Located at least 100 feet from wetland areas B. 500 feet from any public water system well or well of owners property that supplies water for human consumption	Water source development permits required from State Dept. of Land & Natural Resources
26. Education, training and technical assistance related to CAFOs	State & extension programs	Encourages plans to be designed with NRCS or Extension Service assistance	Programs on nutrient management, manure application, storage and design	Extension service, NRCS, conservation districts offer educational workshops & demonstrations for nutrient management, treatment & land application, mortality composting, and intensive area management	A. University of Georgia - Education, Training, Technical Assistant B. NRCS- Technical Assistance C. Georgia Department of Agriculture - Training	Environmental management seminars; best management practices seminars; technical assistance provided by DOH, NRCS, and Univ. of Hawaii
27. Incentives related to CAFOs	NRCS cost share limited by Federal regs	EQIP funding, State Environmental Assistance Funding, & Limited cost share	State and federal cost share, incentive funds, and low interest loans	Limited cost share for animal waste offered by FDACS to complement EQIP, PL566 and other federal programs	A. Some financial assistance programs available on AFOs on 300 - 1000 Animal Units	EQIP funding

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28. Other regulations related to CAFOs	<i>N/A</i>	<i>N/A</i>	Federal Coastal Management Program	Animal health, food safety, feed as related to animal industry & dairy programs. Waste products used for nutritive purposes are not regulated as fertilizer provided no claims for effectiveness are made	A. Required owner / operator training and certification B. Bi-annual training required for owner / operator	<i>N/A</i>

STANDARD	IDAHO	ILLINOIS	INDIANA	IOWA	KANSAS	KENTUCKY
1. Agency with Responsibility for Administration/Enforcement of Program	Idaho State Department of Agriculture (IDA) for dairy CAFOs; All other CAFOs by Idaho Dept. of Environmental Quality (IDEQ) and EPA	Illinois Dept. of Agriculture (IDA) for siting, construction, waste mgt plans, certified livestock manager program and other pollution prevention programs; Illinois EPA (IEPA) for NPDES program and post pollution incidents	Indiana Dept. of Environmental Management (IDEM)	Iowa Department of Natural Resources (IDNR)	Kansas Dept of Health & Environment (KDHE) primary responsibility, Dept of Ag (KDA) for nutrient mgt plan for swine facilities > 1,000 animal units (AU)	Natural Resources and Environmental Protection Cabinet (NREPC)
2. Type of permit required	NPDES (optional), Milk permits, Livestock Confinement Operation or Conditional Use Permit (county)	State/Federal NPDES for some facilities; state approval of siting, construction plans and actual construction for all new or modified livestock waste handling structures	None, but approval; of construction plans by state	State/Federal	State/Federal; individual permits are issued	Kentucky Pollution Discharge Elimination System (KPDES)

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3. Permit required for	Dairies, livestock waste systems, and waste discharge under certain weather events only if they have NPDES permit	NPDES for facilities which have experienced a discharge; state approval for all new or modified waste handling facilities	Facility with 600 or > swine; 300 or > cattle or 30,000 or > poultry	Federal, open feedlots with 1,000 a.u. and discharging; State, depends on design	Any CAFO > 1,0000 AU or any AFOS, regardless of size, the KDHE determines whether significant water pollution potential	Categories: Beef, Dairy, Poultry Swine General Permit 1000 - 1500AU Individual Permit - More than 1500 AU Poultry unit definition same as 40 CFR 122.23
4. Separation distance to dwellings	Varies; state requires at least 100 ft., 300 to 500 feet preferable	1/4 mile residential and ½ mile populated area setback for 50-1,000 AU; graduated scale for 1,000-7,000 AU; ½ mile residential & 1 mile populated area for > 7,000 AU	No state standards	0-2,500 ft., varies by waste structure and animal type, animal weight capacity, and location	All CAFOs except swine: 1320' for 300-999 AU or 4000' for > 1,000 AU, for swine: 1320' for 300-999 AU, 4000' for 1000-3725 AU, 5000' for >3725 AU. There are provisions by which CAFOs can reduce the required distances	Dwelling not owned by applicant - 1500 feet from barns or lagoon, 500 feet for manure application by injection, and 1000 feet for any other disposal methods. Poultry land application, any method - 300 feet. City limits from barn or lagoon: Poultry - 2000 feet, all other types of livestock 3000 feet
5. Separation distance to property line	Varies; state recommends at least 300 ft.	Setback distances are measured form the closest livestock facility structure to the home, business or common place of assembly unless the activity associated with the common place is outdoors. In such cases, the setback distance is measured from the livestock facility structure to the property line	No state standards	100 ft. for land application of waste with irrigation; for others no standard; 100ft separation distance for confinement facilities effective 1/1/99	100' or 10'???	Nos applicable under CAFO KPDES. Per Agricultural Water Quality Act: 750 feet for buildings/lagoon, 50 feet for injection, and 500 feet for other disposal methods.
6. Distance to water wells	Varies; state requires 100' min; 300' recommended distance; 1,000' separation from public wells	100 ft. from exterior toe of lagoon berm to wells; for waste application, > 150 ft. from well	Varies for wells, roads and water bodies	100 to 1,000 ft.	CAFOs except swine: 100' to any water well (on site for swine operation exempted), 1000' to public water supply well	Water well not owned by applicant, 300 feet for buildings/lagoon and 150 feet for any method of manure application

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7. Distance from waste structure bottom to groundwater	2 ft. minimum for earthen structures	No specified distance; facility design requirements are enhanced as the distance from the structure bottom of groundwater is decreased as determined by a registered professional engineer and approved by IDA. Liners, monitoring programs, or other structural enhancements may be required by the IDA as the distance is decreased.	Part of construction plan review/ evaluation	2' unless synthetic liner used	10'	No distances from lagoon bottom to ground water are specified. The following design standards are specified: A hydraulic gradient no greater than 8.0, maximum liner permeability of $1 \times 10^{-7}$ cm/sec, a minimum 12" of compacted soil, or synthetic liner
8. Land required for the facility	Owner must have adequate land to appropriately apply waste	No specific limitations for the facility if there is adequate land for the agronomic application of facility-generated manure as demonstrated in the waste mgt plans which are subject to inspection by IDA	Based on crop need for nitrogen	Based on nitrogen needs of crops grown	Based on N needs of crop/plant for all species except for swine facilities > 1,000 AU. KDA administers the Nutrient Utilization Plan requirements that base application rates primarily on N requirements. However as specific P levels are reached application rates are adjusted according to a detailed P based matrix.	Based on nutrient management plan and annual soil analysis. Plan is usually nitrogen-based. Ample acreage to meet setback requirements.
9. Storage structure capacity/free- board	Earthen -1ft. freeboard + direct precipitation on pond; concrete-direct precipitation on pond	Anaerobic lagoons 270-day storage. Liquid Manure structures 150 days storage capacity, Solid Manure 6 months storage capacity; 2ft. freeboard requirement.	120 day holding capacity; 25 yr. storm event; 2 foot freeboard	Sufficient capacity; 2'	120 day of waste & dry weather flows, volume of 25 yr-24 hr event on storage structure, run-off from open lots (10 yr-24 hr), any extraneous drainage collected (10yr-24 hr) plus minimum 2' free board. Anaerobic lagoons required to ave 180 day of waste s	All poultry operations must have permanent litter storage structure. For others, lagoon capacity is the sum of one years production of residual solids, minimum 180 days of swine waste production, 12"excess precipitation, and 25 year-24 hour rainfall event. Must have 1 foot of freeboard and a spillway.
10. Liner material used	2 ft. compacted layer of soil, concrete or asphalt, and synthetic membrane liners	Synthetic liner or 2ft compacted clay or clay bentonite	2 ft. compacted clay/bentonite, synthetic liners	Any material that meets seepage rate	In-situ soils may be used. Soils amended with bentonite. Synthetic membrane liners.	See response for 7 above

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11. Lagoon seepage allowed	1/8 inch seepage per day	1 X 10 <sup>-7</sup> cm/sec	Part of plan evaluations	1/16" /day	All CAFOs: < 1/4 "/day at design operating depth (DOD). Swine CAFOs > 3725 AU require for A) groundwater < 25' below lagoon bottom - 1. 1/8" or less/day at DOD or 2. synthetic liner above a soil liner with 1/4" or less/day seepage. B) groundwater > 25' b	Permeability rating of 1 X 10 <sup>-7</sup> cm/sec
12. Site appraisal before development?	No but input is available from NRCS and state agencies and will be closely monitored	Setback requirements must be met set and approval provided by IDA before construction can commence	Yes	Verify separation distances and other site conditions	Yes	Site appraisal, detailed plans and specs on lagoon signed by a professional engineer or NRCS
13. Required to follow design standards?	Yes must follow state standards	Yes	Yes	Yes	Yes	Yes
14. How violators are identified?	Complaints and/or inspections	Through inspection or complaint process	Complaint driven, annual inspection of earthen waste storages.	Complaint driven	Inspections, Complaints, Operator monitoring reports.	Monitoring and inspection
15. Routine on-site inspection required?	Dairies, yes; other livestock operations, no	For registered lagoons, annual inspections >1,000 AU. Inspections can occur anytime if complaint-driven	Yes	At least annually for earthen structures, complaint driven or as time allows for others.	Yes for federal. All state permitted CAFOs, except swine, are not required, but routine inspections are conducted. For swine, HB2950 (passed 1998) details inspection frequency.	Records are to be maintained and available. Ground water monitoring reports are to NREPC
16. Limits on land application?	Based on developed application plan	Application based upon agronomic N rates unless a P-test greater than 300 lbs. at which time application rate must be no grater than the P maintenance rate. Injection or incorporation within 24 hours if application within 1/4 mile of an occupied residence. Also restrictions on waterways or frozen ground.	Based on crop need	Not recommended on frozen ground; maximum slope 10%; no use of flood plain unless injected	Land application limited to manure and wastewater applied at agronomic rates, soil test, & commercial fertilizer use. P considered on site specific basis. KDA defines/regulates application rates of swine effluent for all swine facilities grater than 1,000 AU's	Can't apply on frozen/saturated soil, excess of crop needs, or crops raised for direct human consumption

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17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?	Nutrient management plan required for nitrogen or phosphate as determined by site specific criteria	Formal waste mgt plans are required for facilities > 1,000 AU. IDA review and pre-approval required for facilities > 5,000 AU. Plan may be based on N unless the soil P-test result is > 300 lbs. at which time the application rate cannot be greater than the maintenance rate.		Manure mgt plan required for all confinement feeding operations 1)constructed after 5/31/85 and which have an animal weight capacity of 200,000 lbs for all species other than bovine and 400,000 lbs bovine, and 2)which are new or expanding and required to obtain a construction permit. Manure mgt plans are based on nitrogen	Nutrient utilization based primarily on N with P limiting application on specific sites. A manure Management Plan is required on all permits.	Land application based on N levels and on detailed plan with soil and manure nutrient analysis. Nutrient management standard is being revised at which time additional requirements will be made for phosphorus-limiting soils
18. If yes to #17, please state the total number and/or percentage of acres in state currently covered by plans	1000 dairies; acres covered by the nutrient plan is unknown	At this time such data is not collected		2,431 manure mgt plans developed and submitted, of which 920 have been approved to date; manure mgt plans cover less than 5% of Iowa's 26 million acres of row crop land	Not readily available, plans are dynamic and amendable	Not Available
19. Other groundwater related requirements and programs	DEQ-Idaho Water Quality Standards; Water Resources-Recharge and Water Rights; EPA-Sole Source Aquifer and Hydrologic Ground/Surface water connection; Well Head Protection Program	Groundwater monitoring required at some new anaerobic lagoon sites where the hydro geologic setting has required it	Must comply with state water pollution laws		HB 2950 requires mandatory groundwater monitoring for swine CAFOs > 3,725 AU under certain conditions: a) if groundwater < 25' below lagoon liner, b) if groundwater < 150' below lagoon liner & either the seepage > 1/8"/day or a synthetic liner is employed, or b) if <25' to groundwater.	Water monitoring around lagoon with gradient wells or lysimeters depending on depth to bedrock or saturation zone. Farms less than 10 acres must have ground water protection plan.
20. Wetland regulations related to CAFO	CAFOs cannot discharge into wetlands		None	No regulations specific to wetlands	Any permitted discharges must comply with state surface water quality standards.	No facilities or land application in jurisdictional wetlands
21. Water use restrictions	Private wells-13,000 gallons/day; state restrictions of beneficial use	No specific restrictions. If withdrawal is greater than 100,000g.p.d., notification of the local Soil and Water Conservation District is required.	None	Water use permit required if > 25,000 gal/day use	Water use is regulated by KDA. Water appropriation rights are required to use surface or groundwater.	N/A

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22. Air quality regulations related to CAFOs	No standards but BMPs are recommended	None specific to CAFOs at this time. CAFOs are subject to the general air quality regulations contained in the Environmental Protection Act.	Not required	Separation distances between CAFOs and residences, commercial enterprises, public use areas, etc.	EPA National Ambient Air Quality standards apply. Odors are addressed by establishment of separation distance requirements in statute.	Simply states that the operator must include a plan for lagoon management that outlines odor control practices. Setbacks previously stated in survey are included to buffer odor impacts
23. Other environmental regulations related to CAFOs	Chemigation, private wells, water reuse hazardous waste treatment, storage, handling, or disposal		None	All CAFOs subject to enforcement, penalties if operation violates state water quality criteria	Regulations addressing composting or manure and/or dead animals are being developed by KDHE. KDA regulates the "chemigation" of livestock waste to protect groundwater.	General air quality regulations. Water quality protection for drinking and outstanding resource waters.
24. Dead animal requirements	Buried 6 ft. deep w/lime & 100 ft. from waterways	Disposal governed by Illinois Dead Animal Disposal Act (burial, rendering, incineration) w/IEPA permit, or composting (swine, fish and poultry only) are approved methods	Regulated by State Veterinarian/ Board of Animal Health	Can be composted; limited on-site burial	Dead animal disposal is regulated by the Animal Health Dept. Acceptable methods of disposal include rendering, burial, incineration & composting. HB2930 requires the KDHE to develop animal composting & handling/storage of dead swine regulations.	Dead animals are to be disposed of by burial, incineration, rendering (except sheep and goats), approved landfill, or composting. Disposal is regulated by the Department of Agriculture.
25. Well construction requirements	Must meet standards of Idaho Dept. of Water Resources	Compliance with the Illinois Water Well Construction Code is required.	None	Permit required, must meet design standards and use certified well contractor	Wells constructed by licensed water well contractors in conformance with state requirements. Water well construction regulated by KDHE.	None
26. Education, training and technical assistance related to CAFOs	Provided by NRCS, Coop. Extension System, IDA, DEQ, and Soil Conservation Commission	A Certified Livestock Manager is required for every facility > 300 AU. Training or testing is required for managers representing facilities between 300 and 999 AU. Both training and testing is required of individuals representing facilities with 1,000 AU or more. Certification is valid for 3 years.	Law revision (1997) requires programs to be established but none currently in existence	Commercial and individual applicators (except small operations) must be certified effective 1/1/99	HB 2950 requires operators of swine facilities > 1,000 AU to receive training, be certified, and obtain continuing education. Regulations are being developed.	None

STANDARD	IDAHO	ILLINOIS	INDIANA	IOWA	KANSAS	KENTUCKY
27. Incentives related to CAFOs	"Dairy of Merit" award given by dairy industry	None beyond existing federal programs	EQIP	EQIP	Federal and state funds are passed through the State Conservation Commission and USDA. EQIP, NPS and WRCS provide program funding, technical and financial assistance are available	Some state cost-share is available for best facilities. In addition, Tobacco Master Settlement Agreement provides \$9 million each year of 2001 and 2002. CAFOs are eligible.
28. Other regulations related to CAFOs		County Board notification and public informational meetings may be required for new facilities >1,000 AU or lagoons; Reporting requirements for the release of manure; Financial responsibility requirements for new lagoons; Closure requirements for lagoon and non-lagoon facilities			Chemigation, water appropriations, construction of buildings and controls in flood plains, disposal of dean animals, and facility operational/animal health control permits.	None

STANDARD	LOUISIANA	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA
1. Agency with Responsibility for Administration/Enforcement of Program	Louisiana Dept. of Environmental Quality (LDEQ)	Department of Agriculture, Food & Rural Resources main agency, but based on a Memorandum of Agreement with Department of Environmental Protection shares relevant info to determine eligibility for a MPDES permit.	Maryland Department of Agriculture (MDA)	Massachusetts Dept. of Environmental Protection (MDEP)	Michigan Dept. of Agriculture (MDA)	MN Pollution Control Agency (MPCA)
2. Type of permit required	State/Federal NPDES	Livestock Operation Permit	Wastewater discharge (NPDES & state or state permit)	NPDES	No State permits required	<p>STATE: GENERAL NPDES/SDS (STATE DISPOSAL SYSTEM PERMIT), INDIVIDUAL NPDES/SDS, INTERIM PERMIT, AND CONSTRUCTION SHORT FORM (CSF). LOCAL GOVERNMENT PERMITTING AUTHORITY FOR MOST FEEDLOTS 999 ANIMAL UNITS (AU) AND LESS IF LOCAL GOVERNMENT HAS BEEN DELEGATED AUTHORITY FROM THE MPCA.</p> <p>ALSO, FEEDLOTS LARGER THAN 50 ANIMAL UNITS OR 10 ANIMAL UNITS IN SHORE LAND ARE REQUIRED TO REGISTER THEIR FEEDLOT WITH THE MPCA BY THE END OF 2001. THE REGISTRATION PROCESS IS SEPARATE FROM THE PERMITTING PROCESS.</p>

STANDARD	LOUISIANA	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA
3. Permit required for	Existing, new and expanding operations	New or expanding livestock operations with over 300 animal units	Facilities > 1,000 animal units (AU) or those which threaten water quality	CAFO requirements. No dairy currently meet the criteria of 1,000 AU; 1 farm issued permit due to existing problem	Soil erosion permit may be required	CONSTRUCTION (BUILDING/MANURE STORAGE), EXPANSION, AND IDENTIFIED POLLUTION HAZARD. SOME LOCAL REGULATIONS MAY INCLUDE MORE CRITERIA THAT TRIGGERS THE PERMITTING PROCESS.
4. Separation distance to dwellings	No specific distances	The separation distance to neighbor's dwellings is to be determined by the Certified NMP Specialist preparing the NMP for the farm, and is based on site-specific conditions. Suggested non-site specific setbacks for stacking manure: unslope 300' / downslope 300'?	Spray irrigation: 500' or 250' with tree buffer	Not known	Determined by the right to farm (RTF), generally accepted agricultural and management practices (GAAMPS) for site selection and odor control for new and expanding livestock production facilities (Site Selection GAAMPS).	STATE STATUTES REQUIRE A RECIPROCAL SETBACK BETWEEN NEW DWELLINGS AND EXISTING FEEDLOTS AND ALSO BETWEEN NEW FEEDLOTS AND EXISTING DWELLINGS. ALTHOUGH, THE STATE HAS NO SETBACK REQUIREMENTS, LOCAL GOVERNMENT SETBACK REQUIREMENTS APPLY.
5. Separation distance to property line	No specific distances	Determine by NMP Specialist as site-specific depending on specific conditions of the site. Justification for the site setbacks must be provided. Suggested: unslope 100' / downslope 200'	Spray irrigation: 200' or 100' with tree buffer	Not required	Determined by the site selection GAAMPS.	No State requirements, local standards may apply and vary from one jurisdiction to the next.

STANDARD	LOUISIANA	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA
6. Distance to water wells	No specific distance	Setbacks for manure application sites, storages and stacking sites to drinking water wells must be a minimum of 100'	100'	Not known	Determined by the drinking water standards of the Michigan Department of Environmental Quality.	<u>LAND APPLICATION:</u> 50' SETBACK FROM WATER SUPPLY WELL. <u>SITE LOCATION:</u> 100' SETBACK FROM PRIVATE WATER SUPPLY, 1000' FROM PUBLIC WATER SUPPLY WELL. <u>STOCKPILES:</u> VARIES ON CIRCUMSTANCE (100' TO 200') STANDARDS SET BY THE MINNESOTA DEPARTMENT OF HEALTH (MDH).
7. Distance from waste structure bottom to groundwater	Determined by site design	The high water table shall be maintained a minimum of two feet below the bottom evaluation of the structure.	No requirement	N/A	Recommended NRCS and/or Midwest Plan Service standards	DISTANCE TO BEDROCK DETERMINES THE TYPE OF LIQUID MANURE STORAGE ALLOWED. REGIONAL DIFFERENCES IN LOCAL GOVERNMENT REGULATION MAY OCCUR.
8. Land required for the facility	Varies based on site types and crop needs	The NMP identifies available land for spreading. Over 3 acres of imperious surface (buildings, parking sites, etc.) needs a site location development permit by DEP	No requirement	No requirement	Adequate land base to utilize manure at agronomic rates.	<u>SIZE OF LAND AREA FOR FEEDLOT:</u> NO STATE REQUIREMENT, BUT LOCAL STANDARDS APPLY. <u>SIZE OF LAND APPLICATION AREA:</u> MUST BE ADEQUATE AMOUNT OF LAND TO APPLY MANURE AT AGRONOMIC RATES THAT MEET THE REQUIREMENT OF A MANURE MANAGEMENT PLAN.

STANDARD	LOUISIANA	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA
9. Storage structure capacity/free- board	24 hr. 25 yr. storm event & 21 days process wastewater w/ 2 ft. freeboard	Following NRCS specifications Code 313. Storage required for a minimum of 180 days, recommended for 210 days of manure storage capacity. Freeboard for structures should be 0.5 feet and 1.0 feet for ponds.	2' per NRCS standards	Farm by farm determination	One foot of freeboard and 25 yr/24 hr storm event.	IF OVER 1000 AU, FEEDLOT NEEDS TO HAVE 9 MONTHS OF STORAGE CAPACITY. ALSO, FREE-BOARD OF 1' AND CAPACITY FOR 25 YR/24 HR RAINFALL EVENT.
10. Liner material used	State/Federal compacted to 10-7 CM/sec hydraulic conductivity or NRCS Tech Specifications	Design follows NRCS design which addresses compacted clay and impervious materials	Clay, bentonite, other 2' thick	NRCS standards	Recommended NRCS and/or Midwest Plan Service standards	NOT MORE THAN 1/56 INCH/DAY SEEPAGE RATE FOR NON-CONCRETE LINED MANURE STORAGEES. NOT MORE THAN 1/560 INCH/DAY SEEPAGE RATE FOR COMPOSITE LINED AND ABOVE GROUND MANURE STORAGEES.
11. Lagoon seepage allowed	See above	No	10 -7 cm/sec	Not known	Recommended NRCS and/or Midwest Plan Service standards	NOT MORE THAN 1/56 INCH/DAY FOR THE SEEPAGE RATE.
12. Site appraisal before development?	Case-by-case basis	For new operations, the Department of Agriculture and Department of Environmental Protection would appraise the site before permitting for environmental suitability.	Yes - soil analysis	MA Dept. of Food and Agriculture (MDFA)	Determined by the site selection GAAMPS	YES, AT STATE AND LOCAL LEVEL.
13. Required to follow design standards?	Yes	NRCS code 313 - conservation practice standard waste storage facility or otherwise approved by an engineer as being structurally sound & functioning as intended	Yes, NRCS standards	Not known	RTF GAAMPS require following NRCS or Midwest Plan Service standards	YES.
14. How violators are identified?	Complaints or inspections	Complaint driven program	Complaints. Occasional routine inspections of permitted facilities	Complaints and investigations	Environmental Complaint Response Program	Complaints & inspections

STANDARD	LOUISIANA	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA
15. Routine on-site inspection required?	Yes	When there is a verified complaint on nutrient management the Compliance Office, prepares a written set of BMPs for that farm and schedules one or more follow-up visit / inspection to ensure that BMPs are being implemented.	No	MDFA as part of dairy inspection program	Not required	NOT AT STATE LEVEL, BUT IS REQUIRED IN SOME UNITS OF LOCAL GOVERNMENT.
16. Limits on land application?	Yes, based on agronomic rates in waste management plan	Based on calculation of crop nutrient needs. Calculation is based on soil tests, manure tests, crop to be grown and realistic yield goals.	Yes	Recommendations, not required. Nutrient management program being developed for 2000 implementation	Agonomic rates of nitrogen and phosphorus	YES, BASED ON AGRONOMIC RATES FOR NITROGEN AND PHOSPHORUS DETERMINED USING A MANURE/NUTRIENT MANAGEMENT PLAN.
17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?	N/A	*CNMPs required as of Jan 1 2001 if:-farm confines and feeds 50 AU or more at any one time. -farm utilizes more than 100 tons of manure per year, not generated on the farm. -farm is the subject of a verified complaint of improper manure handling or - farm stores or utilizes regulated residuals. *Plan identifies with a matrix the limiting nutrient for determining nutrient application rates that are environmentally sound.	Both required. Based on N levels, will be changed to include P levels.	Voluntary, recommended	Nutrient Management Plan is voluntary, based on phosphorus at agronomic rates	REQUIRED FOR PERMITTED FACILITIES 100 AU. NON-PERMITTED FEEDLOTS WITH 300 AU MUST HAVE A MANURE MANAGEMENT PLAN BY JAN. 1, 2005.
18. If yes to #17, please state the total number and/or percentage of acres in state currently covered by plans	N/A	Currently over 250 farms have had plans prepared and approved and another 20 have requested variances to give them time to complete plans that are in progress.	Voluntary program: 1.3 million acres, Mandatory program: 60,000 acres	N/A		Unknown

STANDARD	LOUISIANA	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA
19. Other groundwater related requirements and programs	None	None	Sludge	N/A	Michigan Groundwater Stewardship Program	MINNESOTA DEPARTMENT OF HEALTH WELL HEAD PROTECTION PROGRAM (PUBLIC WATER SUPPLIES). PROPOSED KARST REGION (SE MN) GUIDELINES FOR MANURE STORAGE STRUCTURES (MPCA). MINNESOTA DEPARTMENT OF NATURAL RESOURCES (DNR) WELL SEALING PROGRAM FOR ABANDONED WELLS.
20. Wetland regulations related to CAFO	None	Wetland Protection Act, administered by DEP	No feeding/intensive use within 50' of tidal stream. Mitigation for any impacts to wetlands if > 5,000 sq ft. Routing ag activities authorized as long no new impacts/losses.	N/A	State Wetland Protection Act	IMPACTS TO WETLANDS CONTROLLED BY THE ARMY CORP, MN DNR, MN BOARD OF WATER AND SOIL RESOURCES (BWSR ), AND LOCAL SOIL AND WATER CONSERVATION DISTRICTS (SWCDS).
21. Water use restrictions	None	Statewide current discussion on irrigation law-flow policies. Should result in a statewide policy on waste.	Water appropriations permits required for use > 10,000 gal/day.	N/A	Subject to water use reporting if irrigating	MINNESOTA DNR WATER APPROPRIATIONS PERMIT FOR 10,000 GAL/DAY OR 1,000,000 GAL/YEAR OF GROUNDWATER USAGE.

STANDARD	LOUISIANA	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA
22. Air quality regulations related to CAFOs	State/Federal standards applicable	Addressed as part of the NMPs as odor control BMPs.	None specific, CAFO general permit addresses odor control	N/A	Conditional exemption for farms w/ Right to Farm Practices	FEEDLOT OPERATIONS MUST MEET STATE H <sub>2</sub> S STANDARDS AT THE PROPERTY LINE. ALSO, 21 DAY EXEMPTION TO H <sub>2</sub> S STANDARD PER YEAR FOR FEEDLOTS OVER 300 AU DURING PUMP OUT PERIODS. NOTIFICATION OF PUMP OUT TO STATE/LOCAL GOVERNMENT UNIT REQUIRED IN ORDER TO BE EXEMPT.
23. Other environmental regulations related to CAFOs	BMP used in Waste Management Plan on site-by-site basis	MPDES permits programs administered by DEP [DEP and DOA recently signed a Memorandum of Agreement on the Coordination of MPDES program (DEP) and the Livestock Operation Permits (DoA)]	N/A	N/A	Natural Resources & Environmental Protection Act "Zero Discharge"	VOLUNTARY IMPLEMENTATION OF BMPs. ALSO, MORE RESTRICTIVE LOCAL REGULATIONS WITH REGARDS TO FEEDLOTS (COUNTIES, TOWNSHIPS) SUCH AS MORATORIUMS, ETC.
24. Dead animal requirements	Approved by Animal Health Board, Louisiana Dept. Of Agriculture & Forestry	The Department of Agriculture has developed "Rules for the Disposal of Animal Carcasses" (chapter 211) to address potential pollutants from those sources.	Maryland Department of Health & Mental Hygiene (MDHEH)		Comply with Act No. 239, Bodies of Dead Animals	BURNING/INCINERATION, BURIAL (DISCOURAGED), COMPOSTING, AND RENDERING. MINNESOTA BOARD OF ANIMAL HEALTH DEALS WITH DEAD ANIMAL DISPOSAL ISSUES.
25. Well construction requirements	State/Federal requirements	Department of Health standards	Well head protection guidelines - not mandated - related to protection from intensive animal use	Dairy per Pasteurized Milk Ordinance (PMO)	Determined by the water supply and sewer systems requirements of the Michigan Department of Environmental Quality	State requirements

STANDARD	LOUISIANA	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA
26. Education, training and technical assistance related to CAFOs	Local Soil and Water Conservation Districts operating under LA Dept. of Ag. and LA State Univ. Coop. Extension	In collaboration with Cooperative Extension, Department Staff, SWCD, NRCS, Compliance officers as part of the Nutrient Management Program	Training and certification required by MDA for nutrient management plan development	N/A	Extension, conservation districts, NRCS, MDA, Michigan Department of Environmental Quality, and the Michigan Agriculture Environmental Assurance Program (MAEAP)	NO REQUIREMENTS, BUT TRAINING AVAILABLE FROM UNIVERSITY OF MINNESOTA EXTENSION OR THE MINNESOTA DEPARTMENT OF AGRICULTURE MDA.
27. Incentives related to CAFOs	None	None	MDA provides cost-share for manure storage, roof runoff, mortality composters, heavy use areas, & fencing	State Agricultural Environmental grants program available for BMP's - \$1 million over next 5 years	Conditional exemption from State Polluters Pay Law and the incentives component of the MAEAP	STATE AND FEDERAL (EQIP) COST SHARE; LOW INTEREST LOANS; AND TECHNICAL AND ENGINEERING ASSISTANCE (NRCS, ETC.). MANURE DIGESTER ZERO INTEREST LOANS THROUGH MDA.
28. Other regulations related to CAFOs	N/A	Certain town ordinances at a local level		N/A	MAEAP	STATE ENVIRONMENTAL REVIEW OF THROUGH THE MINNESOTA ENVIRONMENTAL QUALITY BOARD (EQB).

STANDARD	MISSISSIPPI	MISSOURI	MONTANA	NEBRASKA	NEVADA	NEW HAMPSHIRE
1. Agency with Responsibility for Administration/Enforcement of Program	Mississippi Department of Environmental Quality (MDEQ)	Missouri Dept. of Natural Resources (MDNR)	Montana Dept. of Environmental Quality (MDEQ)	Nebraska Department of Environmental Quality (NDEQ)	Nevada Department of Environmental Protection (NDEP)	DES, local municipality, Dept. of Ag. Markets & Food (NHDA)
2. Type of permit required	NPDES or facility multimedia permit	State/Federal NPDES	General CAFO, individual NPDES or groundwater discharge permit, depending on nature & location of discharge	Construction; Storm water; State operating; NPDES	New permit; public comments being compiled	Varies
3. Permit required for	Currently only swine CAFO. May have 1 or 2 dairy farms that meet CAFO criteria	Beef, Horses, Dairy cows, Swine, Sheep and Poultry of 1,000 or more AU	All animal feeding operations with potential to discharge	Prior to construction of LWCF; during construction phase if > 5 ac impacted; before operation of LWCF; additional permit for open lot discharge	Commercial composting only. CAFO	Dam/Berm impoundments (DES); Structures (municipality)
4. Separation distance to dwellings	1,000'	1000-3000 feet depending on number of animals	None	None	No	Established by municipal land use regs.
5. Separation distance to property line	300'	50 ft. for spreading	None	None	500'. Separation distance to public road is 1,000'.	Same as #4
6. Distance to water wells	N/A	Varies by date of well construction; after 6/30/96, 300 ft. separation from lagoon and waste storage	None	100' to domestic 1,000' to municipal	No	75' min. under the water well code
7. Distance from waste structure bottom to groundwater	No specific requirements from MDEQ but facility must be designed by P.E. utilizing good engineering practices	4 feet for earthen storage structures	Four feet minimum	No minimum requirement potential for groundwater monitoring	No	Varies, if threat of groundwater contamination then structure will be lined. Depends on soil analysis
8. Land required for the facility	Based on land application criteria. Facility must demonstrate ability to utilize waste generated at design capacity of CAFO site.	Varies with number of animals and if wet or dry waste systems	Sufficient for waste application at agronomic rates	Based on agronomic rates for nitrogen	No	No standard
9. Storage structure capacity/free- board	Effluent application prohibited 10/1 to 3/31- if cool season grasses present then 11/1 to 3/31. In addition, excess storage is required to contain 25 yr- 24 hr storm event. In addition, 2' freeboard required.	90 to 365 days depending on location in state and agronomic use of application site	2ft.	Totally housed operation min 180 day storage for waste wash water + 1' free board; for open lot contain runoff from 25 yr- 24 hr storm event + precipitation for month of June and livestock waste	No	Not set

STANDARD	MISSISSIPPI	MISSOURI	MONTANA	NEBRASKA	NEVADA	NEW HAMPSHIRE
10. Liner material used	Primarily soil clays. Permeability must equal 10 <sup>-9</sup> cm/sec	Compacted or synthetic material	Variable depending on site characteristics	Must meet 1/4"/day percolation rate	No	Fabric; asphalt; compacted clay; concrete
11. Lagoon seepage allowed	No	If no risk, 3,500 gal/acre/day; if risk, 500 gal/acre/day	500gal/acre/day	Must meet 1/4"/day percolation rate	Any discharge of water may need a permit.	None
12. Site appraisal before development?	Yes	Yes, Geological evaluation by MO DNR's Division of Geology and land survey	Occurs in some cases when the Dept. is notified	Yes - site inspection	Description of material to be composed and plant layout.	NRCS strongly recommended, local planning board and building inspections will review most cases
13. Required to follow design standards?	Yes	Yes	No, there are no industrial design standards in place	No specific design standard; PE required on application design	No	NRCS acceptable, otherwise most jurisdictions will want a licensed civil engineer to do design
14. How violators are identified?	Complaint investigations. Reported data. Inspections.	Complaints & inspections	Citizen complaints	Inspections; complaints		By complaints and by field investigations
15. Routine on-site inspection required?	Yes, once per year at minimum.	Quarterly inspections for flush systems above 1,000AU. Others in accordance with DNR work plan - from 1 to at least every 2 years lagoons are inspected.	No. Inspections limited by staff availability	When staffing allows		No
16. Limits on land application?	Yes. Application rates must be identified in waste management plan submitted with permit application. Facility required to operate according to the plan.	Yes, based on nutrient requirement	Applications at agronomic rates	Based on nitrogen but considering phosphorus	Yes - established in plan of operations	State has adopted BMP's which provide for application in accordance with crop utilization based on agronomic plan
17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?	Required. Controlled by both N & P.	Need a waste mg plan; Waste under cover; Adequate land for nitrogen use (not phosphorus)	Plans required of most serious violators only, Nitrogen - controlled	Plans part of required application based on nitrogen; phosphorus being considered	No, it can written into individual permits if necessary. However, it is not being done at this time.	BMP's in place, use is voluntary now
18. If yes to #17, please state the total number and/or percentage of acres in state currently covered by plans	7,000 plus acres	200,000 acres under mandatory plans, undetermined number for voluntary plans	About 4-6 operators submit annual plans covering 4-5 thousand acres, extremely small percentage of state cropland	Information not now available	N/A	

STANDARD	MISSISSIPPI	MISSOURI	MONTANA	NEBRASKA	NEVADA	NEW HAMPSHIRE
19. Other groundwater related requirements and programs	N/A	Large CAFOs restricted on water supply streams and lakes	Discharges can't exceed state groundwater drinking standards	Geologist reviews application for groundwater monitoring	No	
20. Wetland regulations related to CAFO	N/A	Tied to NPDES permit	Wetlands classified as state waters and federal discharge restrictions apply		No	Not specifically. Regulations general and comprehensive
21. Water use restrictions	N/A	None	None		No water use restriction - plan of operation should describe process	State has a water withdrawal plan and administrative rules to implement
22. Air quality regulations related to CAFOs	Mississippi Commission on Environmental Quality regulation "Ambient Air Quality" standards	Odor control plans are required of CAFO with 1,000 or more AU	None		Yes, permit required	More specific. General nuisance law prevails
23. Other environmental regulations related to CAFOs	N/A	Monitoring wells; shutoff requirements; lagoon closure fund and indemnity fee; secondary containment for spills	None		No	
24. Dead animal requirements	Per state Board of Animal Health	State Veterinarian at the Missouri Department of Agriculture has statutory authority over dead animal disposal. Cooperates with MO DNR on geological considerations	Compliance with solid waste regulations	NE Department of Agriculture (NEDA)	Burial within 24 hrs after death / no part of carcass within 3' of surface or by fire. Permit issued by Bureau of Animal Industry for conveyance of carcass on public roads.	Administrative rules for burial
25. Well construction requirements	N/A	Proper installation and reporting of construction	General well construction and abandonment regulations apply	NE Department of Water Resources requirement (NEDWR)		Extensive regulation of water well construction by DES
26. Education, training and technical assistance related to CAFOs	N/A	Technical Assistance from MO DNR; waste operators required to be trained and certified	Minimal, 1-2 training sessions/yr. on applicability of regulations	No training required; Ext, pork producers, cattlemen assoc have ed programs; presentations/exhibits part of NEDEQ outreach	Technical assistance available; training & education available.	Extension, conservation districts, NHDA, NRCS
27. Incentives related to CAFOs	N/A	EQIP and State revolving Loans	25% fee reduction if in compliance w/permit stipulations	Livestock Waste Act requires all confined operations regardless of numbers be registered with state by 1/1/2000	Not at present time. Waste reduction & recycling grant money may become available.	

STANDARD	MISSISSIPPI	MISSOURI	MONTANA	NEBRASKA	NEVADA	NEW HAMPSHIRE
28. Other regulations related to CAFOs	N/A	1,000 AU and above must test for heavy metals in lagoons twice a year and once per year in streams at property line. Smaller CAFOs may be required to do this on a site specific basis. Ten cents per AU per year must be paid into MO CAFO Indemnity Fund by 1,000 AU or larger operations that use flush system.	None	None except NEDWR dam safety regulations	No	

STANDARD	NEW JERSEY	NEW MEXICO	NEW YORK	NORTH CAROLINA	NORTH DAKOTA	OHIO
1. Agency with Responsibility for Administration/Enforcement of Program	New Jersey Dept. of Environmental Protection (NJDEP)	New Mexico Environment Dept. (NMED)	New York Dept. of Environmental Conservation (NYDEC)	North Carolina Department of Environment & Natural Resources (NCDENR)	North Dakota Department of Health (NDDH)	Ohio EPA; Ohio Dept. of Natural Resources (ODNR)
2. Type of permit required	State, NJ Pollutant Discharge Elimination Systems (NJPDES)	Federal NPDES and NM groundwater discharge permit	NPDES (point source)	State/Federal	State, some counties have Special Use Permits for zoning	Permit to Install includes manure management plan NPDES Permits for operations with a discharge
3. Permit required for	Discharge of animal waste via storm water run-off	All dairies, and some goat and chicken facilities	Any discharge or pollutant into the waters of the state	Facilities with > 250 hogs must have permit	Livestock operations greater than 200 AU; greater than 100 AU if on a flood plain, facilities within 2 ft/AU of water, any facility impacting or with potential to impact waters of the state.	All Operations with greater than 1000AU
4. Separation distance to dwellings	No state standards; local rules may apply	No standards	No standards	1,500' generally; 2,500' for schools, churches and hospitals	No state standards; local standards in some counties	300ft. non-farm dwelling
5. Separation distance to property line	No state standards; local ordinances may apply	No standards	No standards	500 ft. for new and expanding operations; 50 ft. for spraying fields	No state standards; local standards in some counties	None
6. Distance to water wells	No state standards; local ordinances may apply	100 ft. for private wells; 200 ft. for public wells	No statewide standards; the Department of Health has adopted standards for certain localities	100 ft.	100 ft. for public wells, 50 ft. for private wells	100ft. building; 300ft. waste treatment facilities; 25ft. for application
7. Distance from waste structure bottom to groundwater	No state standards; local ordinances may apply	Case-by-case basis	No standards	No standard, relies on seepage control	Determined on case-by-case basis; 2 ft minimum	5ft. clay minimum
8. Land required for the facility	No state standards; local ordinances may apply	Based on nitrogen loading and crop uptake	No requirement	Based on needs of crops grown	Adequate cropland available to apply manure at agronomic rates	No minimum, must have adequate land available for field application
9. Storage structure capacity/free-board	No state standards; local ordinances may apply	Varies, but standard is 2 ft. of freeboard	No requirement	180 days/1 to 2 ft.	180 days minimum storage of waste and wash water + 25 year, 24 hour runoff + a minimum of 1 foot of freeboard	Earthen pond/180 days; Freeboard 1' +25yr-24hr. storm event & annual rainfall; Concrete Tank 90 days
10. Liner material used	NRCS standards recommended	Case-by-case but compacted clay or synthetic is standard	No requirement	Any material that meets seepage rate	Must meet state seepage rate	Geomembrane, concrete or clay 5ft. minimum or, 2ft. re-compacted
11. Lagoon seepage allowed	No	10-7 cm/sec	No	1/28 inch per day	1/16 th inch per day maximum seepage	1 X 10-7 cm/sec

STANDARD	NEW JERSEY	NEW MEXICO	NEW YORK	NORTH CAROLINA	NORTH DAKOTA	OHIO
12. Site appraisal before development?	Yes	Yes	No requirement	Yes, eight sign- offs are required	Soil borings and site specific design plan	Yes. Hydrological, well water impacts, flooding
13. Required to follow design standards?	Yes	Yes, NPDES and as specified in state groundwater discharge permit and Dairy Policy	No permit or regulatory requirement but to receive funding must follow NRCS standards and specifications	Yes	Must construct, operate and maintain facility as designed	Yes. Lagoon design includes: minimum treated volume, odor control, sludge storage volume
14. How violators are identified?	Complaints & inspections	Complaints and compliance inspections	Complaints	Complaints, routine inspections, and other agencies	Complaints and/or inspections	Scheduled inspections and complaints
15. Routine on-site inspection required?	Not required	Yes, at least once per year	No requirement	Twice per year if >250 hogs	Periodic inspections are done	Inspections are now on scheduled basis for 1000 AU facilities once every 5 years
16. Limits on land application?	Yes, agronomic and hydrological rates per NRCS standards	Yes, based on nitrogen loading and crop uptake of nutrients	No requirement	Apply within 30 days of when crop can use nutrients	Proper land application of waste: Agronomic rates, prevent odors to residents, inject or incorporation of manure may be required	N by OEPA for permitted facilities N & P by SWCD's
17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?				Management plan required based on N	See #16. A nutrient mgt plan is required which addresses N and P	Yes, required by permitted facilities - N Yes, for less than 1000 AU facilities if receiving technical assistance and cost sharing or complaint resolution. Voluntary for all others
	<i>N/A</i>			N/A		130 + CAFOs and 1,500+ plans by SWCD
19. Other groundwater related requirements and programs	NJPDES regulations	State abatement and spill reporting regulations	Department of Environmental Conservation; Agricultural Nonpoint Source Abatement and Control Program; Interagency Agricultural Environmental Management Program	None	Facility may be required to monitor ground water	Well testing required of all CAFO + all Dairy farms
20. Wetland regulations related to CAFO	Yes, NJPDES regulations	State water quality standards	No requirement	None	Dredging/filling in wetland requires Section 404 permit from Army Corps of Engineers	Zero discharge to natural wetlands use of constructed wetland for treatment being done
21. Water use restrictions	Yes, NJDEP water allocation permit regulations	Set by State Engineer	No requirement	None	Water appropriation permit is required if using over 12 ½ acre feet	None. Registration of any user of 100,000 gall/day

STANDARD	NEW JERSEY	NEW MEXICO	NEW YORK	NORTH CAROLINA	NORTH DAKOTA	OHIO
22. Air quality regulations related to CAFOs	Yes, NJDEP air quality regulations	Varies according to county or municipality	No requirement	None	Site must meet air quality and odor requirements	None
23. Other environmental regulations related to CAFOs	BMPs are recommended by NRCS and Extension	Fly and nuisance ordinances	No requirement	None	None	Storm water construction permits for 5 acres or more for any size facility
24. Dead animal requirements	NJDA carcass disposal pending; composting via permit	CAFO requirement of proper disposal within 3 days	Buried at least 3 ft. deep or other sanitary disposal within 72 hours after being directed by peace officer	Must dispose by method approved by State Veterinarian	Approved method of disposal. Bun bury render of compost within 72 hours	CAFO: required in permit All sizes must use 1 of 4 approved methods: composting, burial, incineration or rendering
25. Well construction requirements	NJDEP permit required	Yes, state guidelines	No requirements	Per NC statutes and guidelines	State requirements as per Water Well Construction and Water Well Pump Installation Requirements.	Must meet minimum stds of O Health Dept. and must register well logs with ODNR Division of Water
26. Education, training and technical assistance related to CAFOs	None	NM Environment Department in conjunction with Extension provides education and training	Soil and water conservation districts, cooperative extension, NRCS, and State Soil and Water Conservation Committee and the Department of Agriculture and Markets	Yes	ND technical guideline handout (brochure). NDSU Extension Service provides educational materials, NRCS and SCDs provide technical and financial assistance through EQUIP and Section 319 program funds	Required training on mortality composting. Manure Nut Mgt assist provided. Focus has been voluntary with smaller producers. Livestock Environmental Assurance Program has reached over 3000 producers since its start in 1998
27. Incentives related to CAFOs	Limited EQIP cost share	Federal liability protection following a 25 yr/24 hr event	Technical and cost-share assistance for BMPs and educational assistance	Yes	EQUIP and Section 319 cost share available. ND department of Agriculture will educate and provide technical service to dairy producers to prevent pollution on their farms on a cost share basis.	None.
28. Other regulations related to CAFOs	None	None	None	New operations may be subject to local zoning	None	Vector control plans for flies and rodents  *Note, new legislation and rules will change some of this in the next year!

STANDARD	OKLAHOMA	OREGON	PENNSYLVANIA	RHODE ISLAND	SOUTH CAROLINA	SOUTH DAKOTA
1. Agency with Responsibility for Administration/Enforcement of Program	Oklahoma Dept. of Ag (ODA)	Oregon Department of Agriculture (ODA)	Dept. of Environmental Protection (PDEP)	Department of Environmental Management (RIDEM) & Division of Ag (RIDA) with farmers	South Carolina Department of Health & Environmental Control (SCDHEC)	Dept. of Environment & Natural Resources (DENR)
2. Type of permit required	EPA NPDES through Regional and State CAFO license	State Water Pollution Control Facilities Permit; General permit or Individual permit	No permits required; General permits requiring an approved nutrient management plan and manure storage have been proposed; Individual permits in special protection areas are applicable	Rhode Island Pollutant Discharge Elimination System (RIPDES)	General permit for operations > 30,000 # of normal live weight production unless SCDHEC specifically requires permit; existing facilities are deemed permitted unless modification-expansions are made	State surface water discharge permit from DENR. County requirements vary
3. Permit required for	Facilities discharging other than 25 yr/24 hr. storm; any facility deemed to be a polluter; and swine and poultry facilities with more than 1,000 animal units in a roof covered structure with a liquid waste management system (LMFOs or licensed managed fe	Any CAFO with a wastewater system that confines for 4 months or more	Facilities with > 1,000 animals and & CAFOs with > 2,000 lbs. of animals/acre	CAFOs depending on animal numbers & type of discharge to waters of state	All CAFOs except < 30,000# live weight production or SCDHEC requires permit	Any animal feeding operation > 1,000 AU; where local govt requires state permit; or DENR determines necessary
4. Separation distance to dwellings	LMFO's > 1 mile from 10 or > residences; 1/4 to 2 miles from occupied residences depending on size	Determined by local land use ordinances	None	Not specified	All distances measured to property line not dwellings	Zoning is local govt. responsibility. Distances vary from county-to-county
5. Separation distance to property line	No standards	Determined by local land use ordinances	100-300 ft. from property line for manure storage	Not specified	FACILITIES-Swine: > 420K# - 1,000'; 210K-420K# - 400'; < 210K# - 200'; All other animals: <1,200K# - 200'; 1,200K# to 2,400K# - 400'; >2,400K# - 600'; LAGOONS-Swine: <210K# - 300'; 210K# to 420K# - 600'; 420K# to 840K#-1,000'; 840K# to 1,260K# - 1,250'; 1,260K# to 1,680K# - 1,500'; >1,680K# - 1,750'; All other animals: <1,200K# - 300'; 1,200K# to 2,400K# - 500'; >2,400K# - 700' Distances may be reduced with permission of adjoining property owners	Zoning is local govt. responsibility. Distances vary from county-to-county

STANDARD	OKLAHOMA	OREGON	PENNSYLVANIA	RHODE ISLAND	SOUTH CAROLINA	SOUTH DAKOTA
6. Distance to water wells	Land application > 300' from public/private water well. LMFO facility > 3 miles from public drinking well	100 ft. from feedlot	100-200 ft. for private well; 100- 400 for public well	Not specified	Swine: facility - 200', lagoon - 500'; all other animals for facility or lagoon - 200'	Manure structure & application sites > 1,000' from public water supply; 250' from private water supply; & 150' from producer water supply
7. Distance from waste structure bottom to groundwater	LMFO's min 10' between bottom & max historic groundwater elevation. < 10' but not < 4'	No state standards	Based on nitrogen uptake	Not specified	Minimum 2' unless adequate provisions taken to meet standards	4ft. but will allow down to 2ft. on a case-by-case basis
8. Land required for the facility	Sufficient for land application	Sufficient for application of waste	Based on nitrogen uptake	Not specified	Adequate land for application of manure is required	Must have land to apply manure at agronomic rates. All application sites must be ID in nutrient mgt plan. Rates based on annual soil & manure sampling
9. Storage structure capacity/free- board	21 days of storage; 1 ft of freeboard; runoff from 25 yr./24 hr storm LMFOs must have 180 days of storage	Suggested 2 ft. freeboard	State/Federal; freeboard for earthen pond is 1.0 ft; concrete/steel structure is 0.5 ft.	Not specified	NRCS standards	Min. of 270 days of manure storage required. For open lots, mean annual runoff must be contained in addition to 25-yr, 24/hr storm event. 2ft of freeboard required for earthen lagoons; one foot for concrete structures.
10. Liner material used	Natural, geomembrane or synthetic material	Varies based on situation	Any materials that meet seepage rate per NRCS standards	Not specified	Lagoons for >420K# must be lined to meet permeability rating equal to or exceeds those required for human waste lagoons	Clay liner > 18" thick constructed 6" lifts. Material meet design standards in state general permit. Testing required after construction to verify meets all state requirements
11. Lagoon seepage allowed	1 x 10 <sup>-7</sup> cm/sec or NRCS Technical Note 716 rates	10 <sup>-7</sup> cm/sec permeability; less than 1/8 inch per day leakage	SNTC Technical Note #716	Not specified	Designed according to NRCS standards	1/16in/day at max. operating depth
12. Site appraisal before development?	Yes	No	Yes, must be approved by a registered engineer	Yes, typically in coordination with NRCS	Yes	State general permit requires soil borings, approval of plans & specs for manure mgt system prior to construction. Local govt. approves siting and land use.
13. Required to follow design standards?	Yes	Yes	Yes, must follow NRCS standards	Yes	Yes, must obtain certification from a licensed engineer or NRCS	Yes

STANDARD	OKLAHOMA	OREGON	PENNSYLVANIA	RHODE ISLAND	SOUTH CAROLINA	SOUTH DAKOTA
14. How violators are identified?	Annual inspections, complaints, and unannounced inspections	Complaints, routine and follow up inspections	Complaints, inspections, and/or compliance checks	Complaints, water quality monitoring	Annual inspections, complaints or non-scheduled visits from SCDHEC	Complaint and scheduled inspections. Permeates required to report noncompliance to DNR.
15. Routine on-site inspection required?	Yes, annual inspections	Once every 5 years	Yes, required once every three years	No CAFOs currently identified. Some operations could meet CAFO definition & would be regulated through new EPA enforcement strategy. If CAFO identified, on site inspections would occur.	Yes as resources permit	State inspects annually operations > 2000 animal units (AU) and once every three years for < 2000 AU
16. Limits on land application?	Waste application must not exceed the nitrogen uptake of crop. In nutrient limited watersheds and nutrient vulnerable groundwaters, waste application must not exceed USDA NRCS Waste Utilization Standard 633 Phosphorus recommendation	<annual agronomic rate and must be dissipated by evapo-transpiration	Based on nitrogen uptake of crop & water infiltration rate of soil	Typically in accordance with NRCS standards	Yes, land application rates for CAFOs based on 17 standards outlined in Act 460 of 1996	Buffer zones required. Spray irrigation prohibited on frozen/snow-covered ground. Surface broadcast on frozen ground allowed if land has slopes < 4% & 200' buffers to waterways. Incorporation of liquid manure required on nonvegetated cropland within 24hr
17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?	Waste mgt plans for all CAFOs and Poultry feeding operations. CAFO plans limited by N while poultry plans by P. CAFO plans limited by N except in circumstances identified in #16	Currently plans, based on nitrogen levels, are not required unless: 1) new CAFO is built; 2) existing CAFO has new owner; 3) existing CAFO is expanding or 4) plan is part of an enforcement order	Plan required at 2 animal units/acre of land - nitrogen based only	Nutrient mgt plan required. Nutrient controlling N or P but in either case must meet state water quality standards.	Waste utilization plans required for all CAFOs based on BMPs and nutrients soil can handle	Nutrient management plan required; based on nitrogen needs
18. If yes to #17, please state the total number and/or percentage of acres in state currently covered by plans	Information not available	>20,000 covered by approved plans	Info not available. Law becomes mandatory on Oct. 1, 1998. Totals may be available by Dec. 1998	Nutrient management plans exist for many farms but none are currently identified as CAFOs	Not sure	50,000-60,000 acres currently covered
19. Other groundwater related requirements and programs	Irrigation systems shall have: safety check valve; anti-syphon vent; low pressure escape drain; and interlock device preventing operation of waste pump. Monitoring wells or leak detection systems are required for LMFOs	Individual permits may be required	100-200 ft. setbacks from streams & sinkholes for waste storage	Depends on situation, but must meet ground water quality standards	Monitoring wells are required	Groundwater monitoring and/or groundwater discharge permit required for sites located over shallow aquifers.

STANDARD	OKLAHOMA	OREGON	PENNSYLVANIA	RHODE ISLAND	SOUTH CAROLINA	SOUTH DAKOTA
20. Wetland regulations related to CAFO	Wetlands are considered waters of the state	State permits and land use ordinances	State wetlands regulations	Construction or disturbance in a wetland requires a permit issued by RIDEM	Wetlands considered waters of state so facilities, lagoons, and waste storage ponds must adhere to setbacks for waters of state	Dredging/filling in wetland required to get Section 404 permit from Army Corps of Engineers.
21. Water use restrictions	Governed by the OK Water Resource Board rules	Water right required for > 5,000 gallons per day	Water withdrawals > 10,000 & 20,000 gallons a day must be registered	Not specified	Swine CAFOs must remove all under-drains that exist; 1,320' from swine lagoons - can be 500' if concrete used; other animal operations 100'	Water right permit required if water use exceeds 25,920 gal/day from a private water supply
22. Air quality regulations related to CAFOs	Must have odor abatement plan; no unnecessary/unreasonable odors. Lagoons designed for odor abatement	Exempted by state law	None; Exempted because of agricultural status	Not specified, typical odors relating to normal farming practices are protected by the RI Right to Farm Act	Yes, based on field surveillance or complaints	Local govt. have used separation distances between livestock feeding operations and residences to address odors
23. Other environmental regulations related to CAFOs	Must meet waste pollution requirements of the Oklahoma Water Resources Board	Land use compatibility	Pennsylvania's Nutrient Management Act (Act 6), passed May 20, 1993	Federal water quality standards and/or Army Corps Wetland regulations depending on situation	Federal and state water quality standards	Storm water discharge permit required if construction of operation will disturb 5 acres or more
24. Dead animal requirements	Burial, rendering, composting, incineration. Carcass Disposal Plan must address normal and catastrophic losses. Carcass Disposal Plan must be approved by the Department	Burial, incinerate or disposal at approved facility, and composting	Rendering or burial within 48 hours	Not specified	Disposal of animal carcasses or body parts into waste lagoons is prohibited	Dead animals must be burned to a depth of 4ft or disposed of by licensed rendering plant within 36 hrs
25. Well construction requirements	Governed by the OK Water Resource Board	No specific standards; Same as OK	None	Not specified	Not specified	Construction of wells must meet all state well construction standards
26. Education, training and technical assistance related to CAFOs	All employees of LMFOs who work with animal waste must obtain 9 hours of education in the first year and 3 hours each year thereafter	Available from NRCS, conservation districts, Extension and private engineers	All certified planners, conservation districts, NRCS & state agencies provide technical and education support	Typically through NRCS	Available through South Carolina Department of Agriculture, Clemson Univ, & NRCS	SDSU Extension service provides training program to feedlot operators/owners
27. Incentives related to CAFOs	None except USDA EQIP money where applicable	Oregon tax credits; EQIP money where available by area	Funding and limited liability	Construction cost share through USDA	USDA cost share	NRCS funds and EQIP

STANDARD	OKLAHOMA	OREGON	PENNSYLVANIA	RHODE ISLAND	SOUTH CAROLINA	SOUTH DAKOTA
28. Other regulations related to CAFOs	LMFOs required to pay an \$0.80 per animal unit fee for application and renewals. Pest Management Plans required for LMFOs. Waste retention structures annually inspected and certified by professional engineer for liner integrity.	Oregon Safety and Health (OSHA); food sanitary and safety requirements	Pennsylvania's Nutrient Management Act		Alternative waste treatment in nutrient sensitive watersheds	None

STANDARD	TENNESSEE	TEXAS	UTAH	VERMONT	VIRGINIA	WASHINGTON
1. Agency with Responsibility for Administration/Enforcement of Program	Tennessee Dept of Environment & Conservation (TDEC) and Dept of Agriculture (TDA)	Natural Resource Conservation Commission (TNRCC)	Utah Depts of Environmental Quality (UDEQ) & Water Quality (UDWQ)	Vermont Dept of Agriculture, Food and Markets (VDAFM)	Virginia Department of Environmental Quality (DEQ). Virginia Department of Conservation and Recreation (DCR) approves nutrient management plans (NMPs)	Washington Department of Ecology (WDE)
2. Type of permit required	NPDES Class I - Individual Class II - General	State NPDES	NPDES UPDES	State LFO (Large Farm Operation)	State, Individual or General VPA Permit (no discharge). VPDES (discharge).	NPDES
3. Permit required for	Class I >1,000 AU Class II 300-1,000 AU	Existing/new/expanding CAFO > 1,000 a.u. and any CAFO that is significant polluter; in 8 counties with high concentration of dairies	None	For farms > 950 AU or 95,000 birds; existing or new construction; expansions	Individual, Any size CAFO determined actual or potential polluter. General, >300AU and liquid waste. General, >200AU poultry, dry waste.	All dairy farms and limited number of beef cattle operations
4. Separation distance to dwellings	Class I - NRCS standards	½ mile for new/expanding CAFOs or 1/4 mile with odor control plan; existing CAFOs 1/4 mi or odor plan; no manure or wastewater application at night if occupied residence within 1/4 mi	None	Local zoning standards or other standards approved by VDAFM	200' land application buffer from occupied dwellings, may be waived or reduced in writing. Any local zoning ordinances.	No state standards, possible local standards
5. Separation distance to property line	Class I - NRCS standards	No standards	Local zoning	Local zoning standards or other standards approved by VDAFM	Local zoning ordinances	No state standards, possible local standards
6. Distance to water wells	Class I & II - NRCS standards	150 ft. to private wells and 500 ft. to municipal wells near land application sites	Drinking Water Source Protection Rule	Field stacking (manure, fertilizer, other nutrient sources) shall not occur within 100 feet of shallow wells or springs unless farmer can show no practicable alternative site.	100 ft.	No state standards, possible local standards

STANDARD	TENNESSEE	TEXAS	UTAH	VERMONT	VIRGINIA	WASHINGTON
7. Distance from waste structure bottom to groundwater	No state standards	Determined by prevention of hydrologic connection as per site design	Groundwater discharge permits for large animal waste lagoons	NRCS standards	Liquid waste – must monitor groundwater at new earthen facilities within 1’ of seasonal high water table, or if previously required at other facilities. Dry poultry waste – 2’ separation without liner, 1’ with impermeable barrier..	1' per NRCS waste management standards, enforced through NPDES
8. Land required for the facility	No state standards	Based on agronomic rates of crop for nitrogen unless phosphorus limits exceeded then based on P	No standards	Based on nutrient needs of crops; show how excess nutrients are managed	Land sufficient for nutrient management. Local zoning ordinances.	No state standards, possible local standards
9. Storage structure capacity/free- board	Class I - NRCS standards	24 hour/25 yr storm storage; min 21 days process wastewater storage + 2 ft. freeboard	24 hour/25 yr storm event	180 day storage plus 24 hr/25 yr storm even plus 1 foot for freeboard	24 hr/25 yr storm plus 1 ft freeboard	No state standards, but permitted facilities must meet NRCS standards & EPA regulations regarding capacity
10. Liner material used	Class I - NRCS standards	Placed and compacted clay at 1.5 ft. and $1 \times 10^{-7}$ cm/sec hydraulic conductivity or NRCS standards	Refer to “Animal Waste Management in Utah” handout	NRCS standards	Synthetic or clay liner	Compacted clay or augmented soil per NRCS standards administered thru NPDES permit
11. Lagoon seepage allowed	Class I - NRCS standards	See Above	Same as 10 above	NRCS standards	0.0014 inches/hr ( $1 \times 10^{-6}$ cm/sec)	No state standards, possible local standards
12. Site appraisal before development?	Class I - NRCS standards	Case-by-case	UDEQ for lagoons, local zoning	No	Siting, design & construction waste storage facility certified by licensed engineer or equivalent; certified nutrient mgt planner develops plan	No state standards, possible local standards
13. Required to follow design standards?	Class I - NRCS standards	Yes	Yes	Yes, must follow NRCS standards or equivalent as certified by a professional engineer	Waste structure certified by licensed engineer. NMP approved by DCR. DEQ notified 14 days prior to placing animals. Local zoning ordinances.	If permitted, required to follow NRCS standards. Dairies are required to meet minimum nutrient mgt standards currently being developed by state technical advisory committee

STANDARD	TENNESSEE	TEXAS	UTAH	VERMONT	VIRGINIA	WASHINGTON
14. How violators are identified?	Complaints. Annual inspections of Class I facilities is another way violators are identified.	Compliance inspections, complaint investigations or monitoring and reporting	Complaints	Complaints, inspections, and reports.	Inspections and complaints	New law (4/1/98) that: 1) requires each commercial dairy to register, 2) beginning 10/1/98 each dairy will be inspected within 2 yrs, with followup inspections to ensure compliance, 3) every dairy farm required to develop nutrient mgt plan by 7/1/02 and
15. Routine on-site inspection required?	Class I - annual inspection	In 8 counties with high concentration of dairies	No	Yes	Yes, annually. Also follow-up and compliance assistance.	All dairy farms will be inspected during 10/1/98 to 10/1/00
16. Limits on land application?	Per approved nutrient management plan (NMP)	Agronomic rates based on N, unless local water quality threatened by P or soil samples >200 ppm of extractable P then based on P loading	Agronomic rates	Yes, wastes must be applied at agronomic rates	State approved nutrient management plan required, agronomic rates and sensitive environmental areas	Limits contained in nutrient management plan which is currently enforceable on permitted dairies and will be on all dairies after 12/31/03
17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?	NMP required for Class I & II based on nitrogen. A Liquid Waste Handling System Plan is required of all Class I and Class II facilities that manage liquid waste. This plan addresses the daily operation and maintenance of the waste handling equipment structures.		None	All sources of nutrients considered when determining recommendations (application rates). Large permittees must demonstrate an ability to manage all nutrients generated. Land base, contracts or agreements to distribute are options.	NMP required. N-based; with exception of poultry NMPs developed after 10/1/2001 which must be P based.	<b>Nutrient management plan required on all dairies by 7/1/02, in plan nitrogen levels are at agronomic rates</b>
18. If yes to #17, please state the total number and/or percentage of acres in state currently covered by plans	None as of 10/98			Currently, approximately 2%	567,000 acres covered	Currently 15-20 % of dairy farms (total of 917) are fully implementing a plan
19. Other groundwater related requirements and programs	No state standards	Certification of absence or presence of recharge features with plan to prevent impacts	State groundwater standards	Farms must abide by state groundwater standards	Yes, if required by regulatory agencies	Need adequate liner to stop seepage for waste storage structure, state ground water quality standards apply, some county standards
20. Wetland regulations related to CAFO	Per approved NMP	Considered waters of the state and US and protected by permit or otherwise specific state statute	Considered waters of the state	State and federal wetland regulations	State and federal wetlands regulations plus engineer's certification of siting	Wetlands surface water of WA, animal waste discharges to wetlands can't violate surface water quality standards

STANDARD	TENNESSEE	TEXAS	UTAH	VERMONT	VIRGINIA	WASHINGTON
21. Water use restrictions	No state standards	Water right required for use of surface water; permit may be required if located in groundwater conservation district	No	No	SE VA coastal plain only, Groundwater Withdrawal Permit if > 300,000 gal/month.	Dairies need a state water right permit for surface & ground water depending on quality with drawn
22. Air quality regulations related to CAFOs	No state standards	CAFOs must have anaerobic treatment lagoon for wastewater and adhere to buffer requirements new/expanding CAFO - 1/2 mi or 1/4 mi w/ odor plan for existing 1/4 mi or odor plan	No	Permits may be conditioned for odor	Air permits required for incinerators	Odors from CAFOs must not create a substantial threat to human health
23. Other environmental regulations related to CAFOs	No state standards	Pollution prevention plans, BMPs, monitoring, reporting, inspections, and recordkeeping	Local zoning, RCRA	None	Local zoning ordinances may apply	Other blanket environmental regulations such as stream work
24. Dead animal requirements	Per approved NMP	Properly disposed of in 3 days	Local health codes	Disposal must protect groundwater and surface water quality	Poultry only, burial, incineration, rendering or composting	Local health departments handle
25. Well construction requirements	No state standards	According to state regulations	State regulations	No requirements except for drilled drinking wells	Permits for private drinking wells	WDE handles well drilling permits with include requirements for certification of well drillers
26. Education, training and technical assistance related to CAFOs	NRCS, Tennessee Dept of Ag, and Extension	Tech assistance by USDA and state agencies; CAFO > 300 AU in 8 counties shall complete an 8 hr mgt course w/in 1 yr of permit & 8 additional hrs every 2 yrs	EQIP, 319, ARDL funding	State cost share available; state assistance for completing application, DCs tech assist	Nutrient Management certification required for DEQ inspectors. CAFO operator training required every three years. One-time poultry operator training within year of receiving permit.	WDE provides regulatory, NRCS/conservation districts provide technical, and Extension provides educational assistance
27. Incentives related to CAFOs	Cost share through state programs	Limited NRCS EQIP cost share; limited Texas cost share for non-permitted AFOs	None	State cost share assistance. Compliance with LFO permit assures no discharge.	State/Federal cost share, State tax credits, Virginia Agricultural BMP Loan Program, Virginia Environmental Compliance Assistance Fund	EQIP, state conservation commission administers cost-share for BMPs on dairies, SRF loan program for dairies, and Centennial Clean Fund
28. Other regulations related to CAFOs	No state standards.			Permits can be conditioned for odor, noise, traffic, & insects, flies and other pests	Agricultural Stewardship Act applies to CAFOs not permitted by DEQ. Local zoning ordinances.	

STANDARD	WEST VIRGINIA	WISCONSIN	WYOMING
1. Agency with Responsibility for Administration/Enforcement of Program	Office of Water Resources of the State Division of Environmental Protection (WVDEP)	Dept of Natural Resources (WDNR) (primary) Dept of Ag Trade & Consumer Protection (WDATCP)	Dept. of Environmental Quality (WDEQ)
2. Type of permit required	NPDES - No CAFO facilities in state so no permitting actions have been developed or initiated.	State NPDES permit for CAFO greater than 1,000 AU	NPDES needed for CAFOs with > 1000 AU
3. Permit required for	N/A	CAFO greater than 1,000 AU and other designated operations with discharge	Discharge to surface water and construction of wastewater ponds
4. Separation distance to dwellings	No standard	No standard	1 mile separation for swine feeding operations only
5. Separation distance to property line	N/A	No standard	No separation from property line
6. Distance to water wells	WV Health Department (WVHD)	Varies based on type of storage structure 50 feet from animal yard 25 - 250 feet depending on type of structure	1/4 mile for swine operations only
7. Distance from waste structure bottom to groundwater	N/A	Minimum distance greater than 2 feet	No specific regulations
8. Land required for the facility	Designed by WVDEP & NRCS	No standard	No standard
9. Storage structure capacity/free- board	N/A	1 ft. freeboard	At least 3 ft. of freeboard
10. Liner material used	N/A	Clay, concrete, steel, geomembrane	Must be designed to protect groundwater
11. Lagoon seepage allowed	N/A	1 x 10 <sup>-7</sup> cm/sec or meet minimum WI standards	Site specific
12. Site appraisal before development?	NRCS	Yes if permit required	No
13. Required to follow design standards?	Yes, NRCS standards	Yes, minimum Wisconsin NRCS standards	Yes, must be approved by WDEQ
14. How violators are identified?	Complaints and inspections	Complaints, inspections and self reporting	Complaints, inspections, compliance self reporting
15. Routine on-site inspection required?	No	No	No
16. Limits on land application?	Voluntary nutrient management plan	Agronomic N rates; required for permitted farms and cost-share recipients. P based for new operations and increased operations in sensitive waters areas	Based on agronomic rates
17. Nutrient Management Plan or Waste Utilization Plan? Required? Voluntary? Is plan based on, or controlled by, nitrogen levels, phosphate levels, both, neither?	Voluntary	Nutrient Management plans required for permitted farms and cost-share requests; voluntary for others; based on agronomic N rates or P rates	Nutrient mgt voluntary, until N & P > state water quality standards, then permitted with NPDES
18. If yes to #17, please state the total number and/or percentage of acres in state currently covered by plans	N/A		NA
19. Other groundwater related requirements and programs	N/A	Identified pollution sources subject to regulation	Permits to construct are used to protect groundwater classes; monitoring and reporting may be required

STANDARD	WEST VIRGINIA	WISCONSIN	WYOMING
20. Wetland regulations related to CAFO	No state standards	None unless new or expanding CAFO lot proposes to alter existing wetland or if any discharge to wetland	No discharge into existing wetlands
21. Water use restrictions	No state standards	Must comply with state water laws	Must comply with state water law
22. Air quality regulations related to CAFOs	N/A	Must comply with state air laws; health concerns related to ammonia; any exceeds of air quality standards	Enforcement is tied to formal complaints as a nuisance
23. Other environmental regulations related to CAFOs	N/A	Construction site storm-water regulations apply to new facilities. Chapter 30 Wis State Stats, permit required for any proposed alteration to waters of the state	No standards
24. Dead animal requirements	WVHD requirements for composting, rendering, emergency burial	Must comply with state solid waste rules	If disposed on- site, considered solid waste; if not then other requirements will apply
25. Well construction requirements	WAHD requirements	Permit required; must comply with state well codes	Standards under the well head protection program
26. Education, training and technical assistance related to CAFOs	Training seminars by WV Department of Agriculture, CDs, NRCS	Available from county land conservation departments , University of Wisconsin, WDATCP, WDNR, NRCS	WDEQ; WY Dept of Ag; Extension
27. Incentives related to CAFOs	EQIP cost share	State and federal cost-share programs generally exclude CAFOs	No state incentives but local programs No state regulations but some local
28. Other regulations related to CAFOs	Local, county requirements	Local governments may require conditional use permits, local zoning rules may apply	