

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

Order No. ____

**WASTE DISCHARGE REQUIREMENTS GENERAL ORDER
FOR
EXISTING MILK COW DAIRIES**

The California Regional Water Quality Control Board, Central Valley Region (hereafter, Central Valley Water Board), finds that:

SCOPE OF COVERAGE OF THIS ORDER

1. This Order serves as general waste discharge requirements for discharges of waste from existing milk cow dairies (defined in Finding 7) of all sizes.
2. This Order applies to owners and operators of existing milk cow dairies (hereinafter Dischargers) that submitted a complete Report of Waste Discharge in response to the Central Valley Water Board's 8 August 2005 request for such a report. Following formal written notification by the Central Valley Water Board, these Dischargers are required to comply with the terms and conditions of this Order. Dischargers that do not qualify for coverage under this Order will be covered under separate general or individual waste discharge requirements or a waiver of waste discharge requirements.

REASON FOR THE CENTRAL VALLEY WATER BOARD ISSUING THIS ORDER

3. The Central Valley Water Board authority to regulate waste discharges that could affect the quality of the waters of the state, which includes both surface water and groundwater and the prevention of nuisances, is found in the Porter-Cologne Water Quality Control Act (California Water Code Division 7).
4. California Water Code Section 13260 requires any person discharging waste, or proposing to discharge waste, within the Central Valley Region, that could affect the quality of the waters of the state to file a report of waste discharge with the Central Valley Water Board.
5. The Central Valley Water Board is required to prescribe waste discharge requirements for proposed, existing, or material changes in discharges of waste and must implement the relevant water quality control plans. The Central Valley Water Board may prescribe general waste discharge requirements as to a category of discharges if all the following criteria apply to the discharges in that category:
 - a. The discharges are produced by the same or similar operations.
 - b. The discharges involve the same or similar types of waste.

T
E
N
T
A
T
I
V
E

- c. The discharges require the same or similar treatment standards.
 - d. The discharges are more appropriately regulated under general requirements than individual requirements.
6. In regulating discharges of waste, the Central Valley Water Board implements State laws and regulations. California regulations governing discharges from confined animal facilities are contained in Title 27 of the California Code of Regulations (CCR), Division 2, Subdivision 1, Chapter 7, Subchapter 2, Article 1 (Title 27).
 7. For the purposes of this Order, an existing milk cow dairy includes all dairies that were operating as of 17 October 2005 and were requested by the Central Valley Water Board on 8 August 2005 to file a Report of Waste Discharge.
 8. Existing dairy operations include herd sizes that may vary in order to ensure a constant milk production volume. Doing so requires a dairy operator to manage the herd, continually producing calves, raising support stock to replace cows that die or fail to produce, and selling some of the mature cows and support stock.
 9. Professionals at the University of California Davis estimate the normal variation in California dairy herd sizes ranges from about 10 to 15 percent.
 10. For the purposes of this Order, existing herd size is defined as the number of mature dairy cows reported in the Report of Waste Discharge submitted in response to the 8 August 2005 letter from the Executive Officer, plus or minus 15 percent of that reported number to account for the natural variation in herd sizes.
 11. For the purposes of this Order, an increase in the number of mature dairy cows of more than 15 percent beyond the number reported in the Report of Waste Discharge submitted in response to the 8 August 2005 letter from the Executive Officer is considered an expansion.
 12. There are approximately 1,600 milk cow dairies within the Central Valley Region (Region) that will be required to operate under the requirements of this Order. Each facility represents a significant source of waste discharge with a potential to affect the quality of the waters of the State.
 13. For the purposes of this Order, “waste” includes, but is not limited to, manure, leachate, process wastewater and any water, precipitation or rainfall runoff that contacts raw materials, products, or byproducts such as manure, compost piles, feed, silage, milk, or bedding.
 14. This Order implements the requirements of State Water Resources Control Board Resolution 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*), Title 27 CCR for confined animal facilities, the Central Valley Water Board’s Water Quality Control Plan for the Sacramento and San Joaquin River Basins (4th

T

E

N

T

A

T

I

V

E

Ed.) and the Water Quality Control Plan for the Tulare Lake Basin (2nd Ed.) (Basin Plans) and other applicable plans and policies of the State Water Resources Control Board (State Water Board) and the Central Valley Water Board described in the Information Sheet, which is attached to and made part of this Order.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

15. The Central Valley Water Board is the lead agency for purposes of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) with respect to adoption of this Order.
16. In accordance with CEQA, the Central Valley Water Board adopted a Negative Declaration in 1982 with the adoption of Central Valley Water Board Resolution 82-036 (Waiving Waste Discharge Requirements for Specific Types of Discharge), which waived waste discharge requirements for confined animal facilities where the Discharger complies with Central Valley Water Board guidelines. That waiver program expired on 1 January 2003.
17. Food and Agricultural Code Section 33487 provides a statutory exemption from CEQA for dairy farms under the following circumstances: (1) when the dairy will be constructed and operated in accordance with the minimum standards in Chapter 5 of the Food and Agricultural Code; (2) where the applicable local agencies have completed all necessary reviews and approvals including that required by CEQA; and (3) where a permit for construction was issued by a local agency on or after the effective date of Food and Agricultural Code Section 33487 and construction has begun.
18. CEQA provides several categorical exemptions from CEQA that apply to this Order including:
 - a. CEQA (Title 14 CCR Section 15301) for Existing Facilities that applies to “...*the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency’s determination...*”
 - b. CEQA (Title 14 CCR Section 15302) for “...*replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced...*”
 - c. CEQA (Title 14 CCR Section 15304) for “*minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry and agricultural purposes...*”

T

E

N

T

A

T

I

V

E

19. The adoption of this Order is categorically exempt from CEQA because:

- a. Consistent with the “existing facility” exemption in Title 14 CCR Section 15301, eligibility under this Order is limited to milk cow dairies that were existing facilities as of 17 October 2005. This Order does not authorize expansion of use beyond that existing as of 17 October 2005. Restoration of, or improvements to dairy waste management systems to ensure proper function in compliance with this Order will involve minor alterations of existing private facilities.
- b. Consistent with the categorical exemption of Title 14 CCR Section 15302, this Order will require covered dairies to replace or reconstruct waste management systems to ensure proper function in compliance with this Order.
- c. Consistent with the categorical exemption of Title 14 CCR Section 15304, this Order will require covered dairies to make improvements to their waste management systems that will result in minor alterations to land, water, and/or vegetation.

T

E

N

20. This Order imposes significant new and more stringent requirements compared to previous waste discharge requirements or waivers of waste discharge requirements that have applied in the past to these existing facilities. This Order requires compliance with State Water Resources Control Board Resolution 68-16, Title 27 CCR for confined animal facilities, and the Basin Plans. As a result, existing milk cow dairies will reduce their impacts to surface water and groundwater upon compliance with this Order. This Order prohibits:

T

A

- a. Expansions of facilities while they are covered by this Order;
- b. Discharges of waste and/or storm water to surface waters from the production area;
- c. Discharges of waste to surface waters which causes or contributes to an exceedance of any applicable water quality objective in the Basin Plans or water quality criteria set forth in the California Toxics Rule or the National Toxics Rule;
- d. Discharges of waste that causes pollution or nuisance;
- e. Discharges of wastewater to surface waters during or following wastewater application to cropland;
- f. Discharges of storm water to surface water from the land application area where manure or process wastewater has been applied unless the land application area has been managed consistent with a certified Nutrient Management Plan (see Attachment C, which is attached to and made part of this Order); and

T

I

V

E

This Order requires that discharges of waste from existing milk cow dairies shall not cause groundwater to be further degraded¹, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance. This Order also requires monitoring of surface water and groundwater to demonstrate reduced impacts to surface water and groundwater upon compliance with this Order.

DAIRY IMPACTS ON WATER QUALITY

21. Groundwater monitoring shows that dairies in the Region have impacted groundwater quality. A study of five dairies in a high-risk groundwater area in the Region found that groundwater beneath dairies that were thought to have good waste management and land application practices had elevated levels of salts and nitrates beneath the production and land application areas. The Central Valley Water Board requested monitoring at 80 dairies with poor waste management practices in the Tulare Lake Basin. This monitoring has also shown groundwater pollution under many of the dairies, including where groundwater is as deep as 120 feet and in areas underlain by fine-grained sediments.
22. No set of waste management practices has been demonstrated to be protective of groundwater quality in all circumstances. Since groundwater monitoring is the most direct way to determine if management practices at a dairy are protective of groundwater, Monitoring and Reporting Program No. ____, which is attached to and made part of this Order, requires groundwater monitoring to determine if a dairy is in compliance with the groundwater limitations of this Order.
23. The Central Valley Water Board has documented many discharges of waste from existing milk cow dairies to surface water and has taken appropriate enforcement actions in such cases. This Order prohibits discharges of: waste and/or storm water to surface water from the production area; wastewater to surface waters from cropland; and storm water to surface water from a land application area where manure or process wastewater has been applied unless the manure has been incorporated into the soil and the land application area has been managed consistent with a certified Nutrient Management Plan. When such discharges do occur, this Order requires the Discharger to monitor these discharges.
24. The milk cow dairies at which this Order is directed were in existence prior to October 2005 and many were constructed several decades ago. The waste management systems at these existing dairies are commonly not capable of preventing adverse impacts on waters of the state either because of their outdated design or need for maintenance or both. Historic operation of these dairies has presumptively resulted in an adverse effect on the quality of waters of the state. Groundwater data are needed to determine the existence and magnitude of these impacts. If data document impacts, continued operation of dairies without waste management improvements will perpetuate the ongoing adverse water quality effects caused by the generation and disposal of dairy waste.

T

E

N

T

A

T

I

V

E

¹ Further degradation will only be allowed under individual waste discharge requirements following an analysis as required by State Water Board Resources Control Board Resolution 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*).

25. As stated in Finding 18 above, this Order imposes new and more stringent requirements than these existing facilities have had applied to them in the past. Many Dischargers will need to make significant improvements in their facilities to meet these requirements. Some of these improvements (e.g., recycling flush water, grading, establishing setbacks, installing flow meters, exporting manure, leasing or purchasing land, etc.) can be made relatively quickly while some involve infrastructure changes (e.g., new retention ponds, additional piping, tailwater return systems, etc.) that may require more time to implement. The Central Valley Water Board believes it is reasonable to allow Dischargers time to phase in elements of the required Waste Management Plan and Nutrient Management Plan in order to adequately design and construct major infrastructure changes needed to comply with all the requirements of this Order. This Order requires Dischargers to make any necessary interim facility modifications first in order to prevent discharges to surface water, improve storage capacity, and improve the facility's nitrogen balance before completing any necessary infrastructure changes.

T

E

N

STATE WATER RESOURCES CONTROL BOARD RESOLUTION 68-16

26. State Water Resources Control Board Resolution 68-16 requires that any activity which discharges a waste to existing high quality waters must meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained.

T

A

27. To be consistent with State Water Resources Control Board Resolution 68-16, Dischargers must employ best practicable treatment or control measures to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained. As noted in Finding 24 above, waste management improvements will be needed at many of the existing milk cow dairies to prevent ongoing adverse water quality effects caused by the generation and disposal of dairy waste. The goal of this Order is to require Dischargers, through monitoring, to first identify the existence, location, and magnitude of adverse water quality impacts and then determine where and what improvements in waste management are needed to prevent ongoing adverse water quality effects. As noted in Finding 25 above, this Order allows Dischargers time to implement the needed improvements in order to achieve best practicable treatment or control measures.

T

I

V

Best Practicable Treatment Or Control Measures For Retention Ponds

28. An October 2003 report (Task 2 Report) by Brown, Vence, and Associates concluded that the "...current Title 27 requirements are insufficient to prevent groundwater contamination from confined animal facilities, particularly in vulnerable geologic environments." In particular, the Task 2 Report concluded that the Title 27 requirement for retention ponds to be lined with, or underlain by, soils that contain at least 10 percent clay and not more than

E

10 percent gravel could result in seepage from a retention pond at a rate as high as 1×10^{-3} cm/sec or greater.

29. A November 2004 report (Task 4 Report) by Brown, Vence, and Associates recommended minimum criteria applicable to all confined animal facilities to protect groundwater quality, recognizing that based on site specific conditions, a facility may need to implement more stringent criteria and that best professional judgment would be necessary to demonstrate compliance with the appropriate performance goal (the performance goals evaluated in the Task 4 report included no release to underlying geologic materials, no change in groundwater quality, and no exceedances of water quality objectives). The minimum criteria included the design of retention ponds with liners that have a maximum seepage rate of 1×10^{-6} cm/sec with no credit for manure sealing. This minimum criteria was based on the Natural Resource Conservation Service (NRCS) guidelines in Appendix 10D of Chapter 7 of Part 651 (Agricultural Waste Management Field Handbook) of the 1992 United States Department of Agriculture National Engineering Handbook.
30. In June 2006, NRCS issued California Conservation Practice Standard No. 313 (PS 313) for waste storage facilities that store manure, wastewater, and runoff as part of an agricultural waste management system. NRCS practice standards establish the minimum level of acceptable quality for planning and designing a practice. PS 313 specifies seepage criteria for retention ponds. These criteria include a target maximum specific discharge (seepage) rate of 1×10^{-6} cm/sec for all vulnerability/risk categories, except that: (1) a synthetic liner is required where the aquifer vulnerability and risk are high (i.e., groundwater is within five to 20 feet of the pond bottom, coarse soils, and the pond is within 100 to 600 feet from a domestic supply well), and (2) other storage alternatives are required when the aquifer vulnerability and risk are very high (i.e., groundwater is within five feet of the pond bottom and the pond is less than 1,500 feet from a public supply well or less than 100 feet from a domestic supply well).
31. The Brown, Vence, and Associates Task 4 Report recommends a minimum criteria and the California NRCS PS 313 indicates minimum level of acceptable quality for design and construction of retention ponds to achieve a seepage rate of 1×10^{-6} cm/sec or less. This seepage rate criterium alone does not assure that a condition of pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained. Other factors that must be considered include: depth to groundwater, water quality beneath the facility, nature of the material between the bottom of the retention pond and the first encountered groundwater, nature of the leachate from the retention pond, and facility wastewater management practices.
32. Consistent with State Water Resources Control Board Resolution 68-16, this Order requires that new retention ponds or reconstructed existing ponds be designed and constructed to:
(1) comply with General Specifications B.1 and the groundwater limitations in the Order,
(2) have a seepage rate no greater than 1×10^{-6} cm/sec with no credit for manure sealing, and
(3) result in the best practicable treatment or control of the discharge necessary to prevent a condition of pollution or nuisance.

T

E

N

T

A

T

I

V

E

Best Practicable Treatment or Control Measures for Land Application Areas

- 33. Pursuant to Title 40 Code of Federal Regulations Section 122.23(e), precipitation- related discharges from land application areas are considered agricultural storm water discharges and are not subject to the United States Environmental Protection Agency (USEPA) regulations for concentrated animal feeding operations (CAFOs) if the "...manure, litter, or process wastewater has been applied in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater, as specified in Section 122.42(e)(1)(vi)-(ix)..."
- 34. The USEPA has established best practicable control technology currently available for application of waste from large concentrated animal feeding operations to land application areas. The best practicable control technology includes best management practices required by Title 40 Code of Federal Regulations Section 122.42(e)(1)(vi)-(ix).
- 35. The technical standards for nutrient management as specified in Attachment C of this Order are consistent with the USEPA best practicable control technology and the best management practices required by Title 40 Code of Federal Regulations Section 122.42(e)(1)(vi)-(ix) and the large CAFO best practicable control technology. Therefore, precipitation-related discharges from land application areas at facilities operating in compliance with this Order are agricultural storm water discharges. And since they are consistent with USEPA best practicable control technology, the technical standards for nutrient management represent best practicable treatment or control for the purposes of State Water Resources Control Board Resolution 68-16.
- 36. Farming practices on lands the receive dairy waste contribute salts, nutrients, pesticides, trace elements, sediments and other by-products that can affect the quality of surface water and groundwater. Evaporation and crop transpiration remove water from soils, which can result in an accumulation of salts in the root zone of the soils at levels that retard or inhibit plant growth. Additional amounts of water often are applied to leach the salts below the root zones. The leached salts can reach groundwater or surface water. Even using the most efficient irrigation systems and appropriate fertilizer application rates and timing to correspond to crop needs, irrigation of cropland will have some measurable impact on existing high quality groundwater as a result of the leaching required to protect the crops from salt buildup in the root zone.
- 37. In land applications areas where groundwater is shallow, some Dischargers have installed subsurface (tile) drainage systems to maintain the groundwater level below the crop's root zone. Drainage from these systems may be discharged directly to surface water bodies or to drainage ditches that discharge to surface water bodies. Some of these systems discharge to evaporation basins that are subject to waste discharge requirements. Discharges from these systems have elevated concentrations of salts, including nitrates and other nutrients. This Order requires Dischargers who have these systems to identify their location and discharge point and to monitor discharges from these systems.

T

E

N

T

A

T

I

V

E

38. The majority of the Dischargers that will be covered under this Order have been operating for many years without a Nutrient Management Plan, which would have minimized the impacts of land applications of dairy waste to surface water and groundwater quality. This Order requires each Discharger to develop and implement a Nutrient Management Plan, which should result in improved water quality by reducing the amount of dairy waste applied to the land application areas.
39. Consistent with State Water Resources Control Board Resolution 68-16, this Order requires that process wastewater that is applied to land application areas under the Discharger's control and process wastewater that is applied to land application areas under control of a third party: (1) be managed according to a certified Nutrient Management Plan that is consistent with the technical standards specified in Attachment C, and (2) not cause groundwater to exceed the groundwater limitations of this Order.

T

E

N

ENVIRONMENTAL STEWARDSHIP PROGRAMS

40. Environmental stewardship programs, such as the California Dairy Quality Assurance Program, and local ordinances can greatly assist the Central Valley Water Board efforts to assure compliance with this Order. Since its inception in 1998, the California Dairy Quality Assurance Program's efforts have resulted in dairy operators having a greater understanding of the need for water quality protection. Recently adopted local ordinances in several counties throughout the Region have also increased dairy operators' understanding of the needs for water quality protection.
41. Participation in an Environmental Stewardship Program or operation of a dairy in a county that has a local ordinance regulating dairies may assist an existing dairy facility in meeting the requirements of this Order but these programs are not a substitute for regulation under this Order.

T

A

T

GENERAL FINDINGS

42. This Order does not authorize violation of any federal, state, or local law or regulation.
43. As stated in California Water Code Section 13263(g), the discharge of waste into waters of the state is a privilege, not a right, and this Order does not create a vested right to continue the discharge of waste. Failure to prevent conditions that create or threaten to create pollution or nuisance will be sufficient reason to modify, revoke, or enforce this Order, as well as prohibit further discharge.
44. This Order is not a National Pollutant Discharge Elimination System Permit issued pursuant to the Federal Clean Water Act. Any facility required to obtain such a permit must notify the Central Valley Water Board.

I

V

E

45. The Findings of this Order, supplemental information and details in the attached Information Sheet, and the Central Valley Water Board record on milk cow dairies, were considered in establishing the conditions of discharge.
46. The Central Valley Water Board has notified interested agencies and persons of its intent to issue this Order for discharges of wastes from existing milk cow dairies, and has provided them with an opportunity for a public hearing and an opportunity to submit comments.
47. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the proposal to regulate discharges of wastes from existing milk cow dairies under this Order.
48. Any person affected by this action of the Central Valley Water Board may petition the State Water Board to review this action. The State Water Board must receive the petition within 30 days of the date on which the Central Valley Water Board adopted this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request.

IT IS HEREBY ORDERED that, pursuant to California Water Code Sections 13260, 13263, and 13267 and in order to meet the provisions contained in Division 7 of the California Water Code and regulations and policies adopted thereunder; all Dischargers specified by the Central Valley Water Board and all Dischargers that have submitted the appropriate fee and a complete Report of Waste Discharge in response to the Central Valley Water Board's 8 August 2005 request, their agents, successors, and assigns shall comply with the following:

A. PROHIBITIONS

1. The discharge of waste, other than as defined in Finding 13 above, or hazardous waste, as defined in California Water Code Section 13173 and Title 23 CCR Section 2521(a), respectively, is prohibited.
2. The direct or indirect discharge of waste and/or storm water from the production area to surface waters is prohibited².
3. The discharge of waste from existing milk cow dairies to surface waters which causes or contributes to an exceedance of any applicable water quality objective in the Basin Plans or any applicable state or federal water quality criteria, or a violation of any applicable state or federal policies or regulations is prohibited.
4. The discharge or disposal of waste from existing milk cow dairies that results in pollution or nuisance is prohibited.

² Discharges of pollutants from the production area to waters of the United States may not lawfully occur except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. NPDES permit coverage is not provided by this Order, but must be obtained separately.

T

E

N

T

A

T

I

V

E

5. The disposal of waste not generated by on-site animal production activities is prohibited unless a Report of Waste Discharge for the disposal has been submitted to the Executive Officer and the Central Valley Water Board has issued or waived waste discharge requirements (WDRs). T
6. The disposal of dead animals in any liquid manure or process wastewater system is prohibited. The disposal of dead animals at a dairy facility is prohibited except when federal, state or local officials declare a State of Emergency and where all other options for disposal have been pursued and failed and the onsite disposal complies with all state and local policies for disposal of dead animals³. E
7. All animals shall be prohibited from entering any surface water within the animal confinement area (Title 27 CCR Section 22561). N
8. The application of waste to lands not owned, leased, or controlled by the Discharger without written permission from the landowner or in a manner not approved by the Executive Officer, is prohibited. T
9. The land application of manure or process wastewater to cropland for other than nutrient recycling is prohibited. T
10. The discharge of wastewater to surface waters from cropland is prohibited. Irrigation supply water that comes into contact or is blended with waste or wastewater shall be considered wastewater under this Prohibition. A
11. The application of process wastewater to a land application area before, during, or after a storm event that would result in runoff of the applied water is prohibited. T
12. The discharge of storm water to surface water from a land application area where manure or process wastewater has been applied is prohibited unless the manure has been incorporated into the soil and the land application area has been managed consistent with a certified Nutrient Management Plan. I
13. The use of manure to construct containment structures or to repair, replace, improve, or raise existing containment structures is prohibited. I
14. The direct discharge of wastewater into groundwater via backflow through water supply or irrigation supply wells is prohibited. V
15. The expansion of the existing milk cow dairy facility is prohibited⁴. E

³ In an emergency, guidance is provided by the *CAL/EPA Emergency Animal Disease Regulatory Guidance for Disposal and Decontamination* (October 20, 2004).

⁴ Dischargers must submit a Report of Waste Discharge and obtain coverage under individual waste discharge requirements before any material facility expansion. "Expansion" is defined in Attachment E.

B. GENERAL SPECIFICATIONS

1. The collection, treatment, storage, or disposal of wastes at an existing milk cow dairy shall not result in: (1) discharge of waste constituents in a manner which could cause degradation of surface water or groundwater except as allowed by this Order, (2) contamination or pollution of surface water or groundwater, or (3) a condition of nuisance (as defined by the California Water Code Section 13050).
2. The existing milk cow dairy shall have facilities that are designed, constructed, operated, and maintained to retain all facility process wastewater generated during the storage period (maximum period of time anticipated between land application of process wastewater), together with all precipitation on and drainage through manured areas, up to and including during a 25-year, 24-hour storm (see item II of Attachment B, which is attached to and made part of this Order).
3. In the Sacramento and San Joaquin River Basins, retention ponds and manured areas at existing milk cow dairies in operation on or before 27 November 1984 shall be protected from inundation or washout by overflow from any stream channel during 20-year peak stream flows. Existing milk cow dairies that were in operation on or before 27 November 1984 and that are protected against 100-year peak stream flows must continue to provide such protection. Existing milk cow dairies built or expanded after 27 November 1984 shall be protected against 100-year peak stream flows (Title 27 Section 22562(c)).
4. In the Tulare Lake Basin, existing milk cow dairies that existed as of 25 July 1975 shall be protected from inundation or washout from overflow from any stream channel during 20-year peak stream flows and existing milk cow dairies constructed after 25 July 1975 shall be protected from 100-year peak stream flows. Existing milk cow dairies expanded after 8 December 1984 shall be protected from 100-year peak stream flows.
5. Dischargers required to install new retention ponds in order to comply with the requirements of this Order (i.e., to increase the storage capacity to meet the existing facility conditions, not related to an expansion) shall construct such new retention pond(s) as required in General Specification B.7 below.
6. Dischargers shall reconstruct existing retention ponds in compliance with General Specification B.7 below when groundwater monitoring demonstrates that the existing retention pond has impacted groundwater quality.
7. New retention ponds or reconstructed existing ponds, as required in General Specifications B. 5 and B.6 above, shall be designed and constructed to: (1) comply with General Specification B.1 and the groundwater limitations in this Order, (2) have a seepage rate no greater than 1×10^{-6} cm/sec with no credit for manure sealing, and (3) result in the best practicable treatment or control of the discharge necessary to prevent a condition of pollution or nuisance.

T

E

N

T

A

T

I

V

E

8. Prior to the enlargement of an existing settling, storage, or retention pond or the construction of any such new pond not associated with an expansion, the Discharger shall submit a design report prepared and certified by a Civil Engineer who is registered pursuant to California law or other person as may be permitted under the provisions of the California Business and Professions Code to assume responsible charge of such work. Enlargement of any existing pond or construction of any new pond shall not begin until the Executive Officer notifies the Discharger in writing that the design report is acceptable. The design report shall include: (1) a demonstration that the proposed pond is in compliance with General Specification B.7 above, including calculations that demonstrate the amount and quality of seepage from the proposed pond and its effect on groundwater quality, (2) a construction quality assurance plan describing testing and observations needed to document construction of the pond in accordance with the design, and (3) an operations and maintenance plan for the pond.
9. Prior to the placement of waste in any enlarged existing settling, storage, or retention pond or any such newly constructed pond, the Discharger shall submit a post construction report prepared and certified by a Civil Engineer who is registered pursuant to California law or other person as may be permitted under the provisions of the California Business and Professions Code to assume responsible charge of such work. Waste shall not be placed into the pond until the Executive Officer notifies the Discharger in writing that the post construction report is acceptable. The post construction report shall include: (1) verification that the pond meets the requirements of this Order as specified in General Specification B.7 including documentation of the results of the construction quality assurance testing and observations, (2) certification that the pond was constructed as designed, and (3) as-built diagrams.
10. The level of waste in the process wastewater retention ponds shall be kept a minimum of two (2) feet from the top of each aboveground embankment and a minimum of one (1) foot from the ground surface of each belowground pond. Less freeboard may be approved by the Executive Officer when a Civil Engineer who is registered pursuant to California law, or other person as may be permitted under the provisions of the California Business and Professions Code to assume responsible charge of such work, demonstrates that the structural integrity of the pond will be maintained with the proposed freeboard.
11. Retention ponds shall be managed and maintained to prevent breeding of mosquitoes and other vectors. In particular,
 - a. Small coves and irregularities shall not be allowed around the perimeter of the water surface;
 - b. Weeds shall be minimized through control of water depth, harvesting, or other appropriate method;
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface; and

T

E

N

T

A

T

I

V

E

- d. Management shall be in accordance with the requirements of the Mosquito Abatement District.
- 12. All precipitation and surface drainage from outside of the existing milk cow dairy (i.e., “run on”) shall be diverted away from any manured areas unless such drainage is fully contained (Title 27 Section 22562(b)).
- 13. All retention ponds must have a depth marker that clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation from a 25-year, 24-hour storm event.
- 14. All roofs, buildings, and non-manured areas located in the production area of the existing milk cow dairy shall be constructed or otherwise designed so that clean rainwater is diverted away from manured areas and waste containment facilities, unless such drainage is fully contained in the wastewater retention system (Title 27 Section 22562(b)).
- 15. Roof drainage from barns, milk houses, or shelters shall not drain into the corrals unless the corrals are properly graded and drained (Title 3 CCR, Division 2, Chapter 1, Article 22, Section 661).
- 16. The milk parlor, animal confinement area (including corrals), and manure and feed storage areas shall be designed and maintained to convey all water that has contacted animal wastes or feed to the wastewater retention system and to minimize standing water and the infiltration of water into the underlying soils.
- 17. Unlined ditches, swales, and/or earthen-berm channels may not be used for storage of process wastewater, manure, or tailwater and may only be used for conveyance of process wastewater collected in the production area to the retention pond, conveyance of process wastewater from the retention pond to the land application area, irrigation return water management, or temporary control of accidental spills, or rainfall-induced overflows at existing milk cow dairies designed, constructed, operated, and maintained in compliance with General Specification B.2.
- 18. The application of manure or process wastewater to the land application area must be done in a manner that is consistent with a certified Nutrient Management Plan that is developed as required in Required Reports and Notices H.2.b.

T

E

N

T

A

T

I

V

C. LAND APPLICATION SPECIFICATIONS

- 1. Land application of all waste from the facility to areas under the Discharger’s control shall be conducted in accordance with a certified Nutrient Management Plan consistent with the technical standards for nutrient management as specified in Attachment C. The Nutrient Management Plan shall be modified within 30 days if monitoring shows that discharge from the land application fails to comply with the Groundwater Limitations of this Order or

E

surface water quality objectives or criteria. The modifications must be designed to bring Dischargers into compliance with this Order.

2. Land application of process wastewater to offsite property under third party control will be regulated by waste discharge requirements to be developed by the Central Valley Water Board. Until such time that the waste discharge requirements are adopted, such land applications shall be conducted: (1) in accordance with a certified Nutrient Management Plan consistent with the technical standards for nutrient management as specified in Attachment C, and (2) under a written formal agreement, which shall be included in the Discharger's Nutrient Management Plan. The Discharger shall include management of such land application areas as part of the Discharger's Nutrient Management Plan (see Contents of a Nutrient Management Plan in Attachment C).
3. The Discharger shall have a written agreement with any third party that has control on the use of solid manure provided by the Discharger. The written agreement with the third party shall be included in the Discharger's Nutrient Management Plan and shall specify plans for the use and management of the third party's land application area. Land application areas under control of a third party that receive solid manure from the Discharger may be regulated under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R5-2006-0053 for Coalition Group or Order No. R5-2006-0054 for Individual Discharger, or updates thereto) if the third party is a participant in a Coalition Group or has an Individual Discharger Waiver.
4. Land application of wastes for nutrient recycling from existing milk cow dairies shall not cause the underlying groundwater to contain any waste constituent, degradation product, or any constituent of soil mobilized by the interactions between applied wastes and soil or soil biota, to exceed the groundwater limitations set forth in this Order.
5. The application of animal waste and other materials containing nutrients to any cropland under control of the Discharger shall meet the following conditions:
 - a. The application is in accordance with a certified Nutrient Management Plan developed and implemented in accordance with Required Reports and Notices H.2.b and Attachment C of this Order; and
 - b. Records are prepared and maintained as specified in Record-Keeping Requirements of Monitoring and Reporting Program No. _____.
6. The application of waste to cropland shall be at rates that preclude development of vectors or other nuisance conditions and meet the conditions of the certified Nutrient Management Plan.
7. Land application areas that receive dry manure shall be managed through implementation of erosion control measures to minimize erosion and must be consistent with a certified Nutrient Management Plan.

T

E

N

T

A

T

I

V

E

8. All process wastewater applied to land application areas must infiltrate completely within 72 hours after application.
9. Process wastewater shall not be applied to land application areas during periods when the soil is at or above field moisture capacity unless consistent with a certified Nutrient Management Plan (see Attachment C).
10. Manure and process wastewater shall not be applied closer than 100 feet to any down gradient surface waters, open tile line intake structures, sinkholes, agricultural or domestic well heads, or other conduits to surface waters, unless a 35-foot wide vegetated buffer or physical barrier is substituted for the 100-foot setback or alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions achieved by the 100-foot setback.

T

E

N

D. GROUNDWATER LIMITATIONS

1. Discharge of waste at existing milk cow dairies shall not cause the underlying groundwater to be further degraded, to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance. The appropriate water quality objectives are summarized in the Information Sheet, which is attached to and part of this Order, and can be found in the Central Valley Water Board's Water Quality Control Plan for the Sacramento and San Joaquin River Basins (4th Ed.) and the Water Quality Control Plan for the Tulare Lake Basin (2nd Ed.).

T

A

E. PROVISIONS

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements General Order No. _____ for Existing Milk Cow Dairies* (Standard Provisions) dated [date of adoption of Order], which is attached to and made part of this Order.
2. The Discharger shall comply with all applicable provisions of the California Water Code, Title 27 CCR, and the applicable Water Quality Control Plans.
3. The Discharger shall comply with the attached Monitoring and Reporting Program No. _____ which is part of this Order, and future revisions thereto or with an individual monitoring and reporting program, as specified by the Central Valley Water Board or the Executive Officer.
4. The Discharger shall submit a complete Report of Waste Discharge in accordance with the California Water Code Section 13260 at least 140 days prior to any material change or proposed change in the character, location, or volume of the discharge, including any expansion of the facility or development of any treatment technology, or construction of an anaerobic digester.

T

I

V

E

5. If the Preliminary Dairy Facility Assessment (PDFA)⁵ indicates that facility improvements are necessary (see Required Reports and Notices H.2.c), the Discharger shall make continual facility improvements while completing implementation of the Waste Management Plan and/or Nutrient Management Plan. T
6. This Order does not apply to facilities where wastes such as, but not limited to, whey, cannery wastes, septage, sludge, biosolids, ash or similar types of waste are generated onsite or are proposed to be brought onto the dairy or associated croplands for the purpose of nutrient recycling or disposal. The Discharger shall submit a complete Report of Waste Discharge and receive WDRs or a waste-specific waiver of WDRs from the Central Valley Water Board prior to receiving such waste. E
7. If site conditions threaten to violate General Specification B.1 or Prohibition A.2, the Discharger shall take immediate action to preclude the violation, documenting the condition and all corrective actions. Such actions shall be summarized in the annual monitoring report. Alterations of the Waste Management Plan (see Required Reports and Notices H.2.a) for the production area to avoid a recurrence shall be submitted as a modification to the Waste Management Plan. N
8. If a discharge of waste creates, or threatens to create, significant objectionable odors or nuisance odor and vector conditions, enforcement and/or revocation of coverage under this Order may result. T
9. The Discharger shall comply with all requirements of this Order and all terms, conditions, and limitations specified by the Executive Officer. A
10. Any instance of noncompliance with this Order constitutes a violation of the California Water Code and its regulations. Such noncompliance is grounds for enforcement action, and/or termination of the authorization to discharge. T
11. Upon cessation of operations at the milk cow dairy facility, the Discharger must maintain coverage under this Order or a subsequent revision to this Order until all manure, process wastewater, and animal waste impacted soil, including soil within the retention pond(s), is disposed of or utilized in a manner which does not pose a threat to surface water or groundwater quality or create a condition of nuisance. At least 90 days before ceasing operations, the Discharger must submit a closure plan that demonstrates proper disposal of all manure, process wastewater, and animal waste impacted soil. The closure plan shall describe: I
V

⁵ The PDFA is required as part of the Existing Conditions Report (Attachment A). The Monitoring and Reporting Program No. _____ requires annual updates of the PDFA. E

- a. Maximum concentrations of phosphorus, nitrate, ammonia, and total Kjeldahl nitrogen that can remain in soil at the facility which will be protective of both groundwater and surface water.
 - b. Laboratory analyses of phosphorus, nitrate, ammonia, and total Kjeldahl nitrogen in soils beneath all ponds, animal confinement areas, and manure and feed storage areas to determine the potential for a discharge of pollutants to surface water or groundwater;
 - c. The existing locations and approximate quantity of manure, process wastewater, and animal waste impacted soil to be treated, applied to the land application area, or removed from the facility in order to eliminate the potential for a discharge of pollutants to surface water or groundwater;
 - d. The destination of any materials to be removed from the facility and documentation that the destination is approved to accept the materials;
 - e. The method used to treat or land apply any material remaining at the facility;
 - f. The method(s) to be used to control the discharge of pollutants from the facility;
 - g. Any limitations on future land or water uses created as a result of the facility's operations or closure activities;
 - h. A schedule for implementation of the closure plan; and
 - i. Any other relevant information the Executive Officer determines to be necessary.
12. No more than 30 days after completion of site closure, the Discharger shall submit a closure report which documents that all closure activities were completed as proposed and approved in the closure plan.
 13. This Order shall become effective upon adoption by the Central Valley Water Board.
 14. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Central Valley Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in terminating the applicability of this Order to a specific facility or Discharger.

T

E

N

T

A

T

I

V

E

15. Technical reports (Monitoring Well Installation and Sampling Plan, Monitoring Well Installation Completion Report, Groundwater Monitoring Report, Waste Management Plan Certification, and portions of the Waste Management Plan) required by this Order must be certified by an appropriately licensed professional as required in this Order and its Attachments (see Schedule of Tasks J.1 below). If the Executive Officer provides comments on any technical report, the Discharger will be required to address those comments.

T

16. The Discharger shall maintain a copy of this Order at the site so as to be available at all times to site-operating personnel. The Discharger, landowner and his/her designee shall be familiar with the content of this Order.

E

F. EFFECTIVE DATE OF COVERAGE UNDER THIS ORDER

N

1. Coverage under this Order is effective upon notification by the Executive Officer that this Order applies to the Discharger.

G. PERMIT REOPENING, REVISION, REVOCATION, AND RE-ISSUANCE

T

1. If more stringent applicable water quality standards are adopted in the Basin Plans, the Central Valley Water Board may revise and modify this Order in accordance with such standards.

A

2. This Order may be reopened to address any changes in state plans, policies, or regulations that would affect the water quality requirements for the discharges and as authorized by state law.

3. The Central Valley Water Board or the Executive Officer may revoke coverage under this Order at any time and require the Discharger to submit a Report of Waste Discharge and obtain individual waste discharge requirements.

T

H. REQUIRED REPORTS AND NOTICES

1. Dischargers must submit documentation from a trained professional that no cross connections exist between the waste management system and any water supply or irrigation well that would ensure compliance with Prohibition A.14. A trained professional could be a person certified by the American Backflow Prevention Association, an inspector from a state or local governmental agency who has experience and/or training in backflow prevention, or a consultant with such experience and/or training. Documentation shall be supplied as part of the required Waste Management Plan (Item VI in Attachment B) and in accordance with the Schedule of Tasks in J.1.

I

V

E

2. Dischargers must submit the following in accordance with the Schedule of Tasks J.1:

- a. **Existing Conditions Report:** The Discharger shall submit an Existing Conditions Report for the dairy facility, prepared in accordance with Attachment A. The Existing Conditions Report shall provide additional information on existing conditions at the dairy that was not provided in the Report of Waste Discharge submitted in response to the Central Valley Water Board's 8 August 2005 request. The Existing Conditions Report requires the Discharger to complete a Preliminary Dairy Facility Assessment. The Preliminary Dairy Facility Assessment is available on the Central Valley Water Board's web site at http://www.waterboards.ca.gov/centralvalley/available_documents/index.html#confined and must be completed electronically. The Discharger shall include a copy of the results of the Preliminary Dairy Facility Assessment in the Existing Conditions Report. Monitoring and Reporting Program No. ___ requires the Discharger to include an updated Preliminary Dairy Facility Assessment in each Annual Report.
- b. **Waste Management Plan:** The Discharger shall submit a Waste Management Plan for the production area of the dairy facility, prepared in accordance with Attachment B. The Waste Management Plan shall provide an evaluation of the existing milk cow dairy's design, construction, operation, and maintenance for flood protection and waste containment and whether the facility complies with General Specifications B.1 through B.4 and B.6 through B.14. If the design, construction, operation, and/or maintenance of the dairy facility does not comply, the Waste Management Plan must propose modifications and a schedule for modifications that will bring the dairy facility into compliance. Certification that the modifications have been implemented shall be submitted in accordance with the Schedule of Tasks J.1.
- c. **Nutrient Management Plan:** A Discharger who applies manure, bedding, or process wastewater, and/or provides process wastewater to a third party for application, to land for nutrient recycling must develop and implement management practices that control nutrient losses and describe these in a Nutrient Management Plan. The Nutrient Management Plan must be certified as specified in Attachment C, maintained at the dairy, submitted to the Executive Officer upon request and must ultimately provide for protection of both surface water and groundwater. Certification that the Nutrient Management Plan has been completed shall be in accordance with the Schedule of Tasks J.1, shall incorporate the elements specified in Attachment C based on a field-specific assessment of the potential for pollutant transport to surface water and groundwater, and shall be submitted to the Executive Officer. The Nutrient Management Plan shall be updated as specified in the Technical Standards for Nutrient Management in Attachment C or if the Executive Officer requests that additional information be included. Groundwater monitoring will be used to determine if implementation of the Nutrient Management Plan is protective of groundwater quality.
- d. **Proposed Interim Facility Modifications:** A Discharger whose Preliminary Dairy Facility Assessment (see Required Reports and Notices H.2.a above) shows that the

T

E

N

T

A

T

I

V

E

Whole Farm Nitrogen Balance⁶ is greater than 1.5 and/or that the existing retention pond(s) total storage capacity is less than the total storage capacity required shall submit Proposed Interim Facility Modifications as Necessary to Balance Nitrogen and/or Proposed Interim Facility Modifications as Necessary to Improve Storage Capacity, respectively. Such Dischargers shall also submit a Status Report on the Interim Facility Modifications and Documentation of Interim Facility Modifications Completion as Necessary for Storage Capacity and to Balance N.

- e. **Salinity Report:** The Discharger shall submit a report that identifies sources of salt in waste generated at the dairy, evaluates measures that can be taken to minimize salt in the dairy waste, and includes a commitment to implement measures identified to minimize salt in the dairy waste. If a third party (for example, the California Dairy Quality Assurance Program) produces an industry-wide report that is acceptable to the Executive Officer, the Discharger may refer to that report rather than generating his own report, but must certify that the appropriate measures will be implemented to reduce salt in his dairy waste.

3. Reporting Provisions:

- a. All Reports of Waste Discharge, applications, annual reports, or information submitted to the Central Valley Water Board shall be signed and certified in accordance with C. 7 and C.8 of the Standard Provisions.
- b. The Discharger shall submit all reports as specified in the attached Monitoring and Reporting Program No.____.
- c. Any Discharger authorized to discharge waste under this Order shall furnish, within a reasonable time, any information the Central Valley Water Board may request, to determine whether cause exists for modifying, revoking, and reissuing, or terminating their authorization for coverage under this Order. The Discharger shall, upon request, also furnish to the Central Valley Water Board copies of records required to be kept by this Order.
- d. All reports prepared and submitted to the Executive Officer in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board.

I. RECORD-KEEPING REQUIREMENTS

- 1. The Discharger shall create, maintain for five years, and make available to the Central Valley Water Board upon request by the Executive Officer any reports or records required

⁶ The Whole Farm Nitrogen Balance is to be determined as the ratio of (Nitrogen generated + Nitrogen imported)/(Nitrogen Removed by Crops and Exported) as reported in the Preliminary Dairy Facility Assessment in the Existing Conditions Report (Attachment A).

T

E

N

T

A

T

I

V

E

by this Order including those required under Monitoring and Reporting Program No. _____.

J. SCHEDULE OF TASKS

1. Dischargers who receive coverage under this Order are required to develop and implement a Waste Management Plan and Nutrient Management Plan and submit an Existing Conditions Report, Proposed Interim Facility Modifications, and a Salinity Report according to the schedule shown in Table 1. All elements of the Waste Management Plan shall be submitted to the Executive Officer by the deadlines specified in Table 1 and signed and certified by the Discharger as required in Required Reports and Notices H.3.a above and the additional professional specified in Table 1. For the elements of the Nutrient Management Plan, Dischargers shall submit a statement to the Executive Officer by each of the deadlines that the item due has been completed. All statements must be signed and certified by the Discharger as required in Required Reports and Notices H.3.a above and the additional professional specified in Table 1.
2. If changes are made to the required submittals through Central Valley Water Board or Executive Officer review, those changes shall be implemented.
3. Any Discharger may be requested to complete the Nutrient Management Plan and/or Waste Management Plan prior to the due date identified in Table 1 if the Executive Officer has determined the facility presents a significant risk to groundwater or surface water.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

PAMELA C. CREEDON, Executive Officer

T

E

N

T

A

T

I

V

E