California Regional Water Quality Control Board
North Coast Region

Conditional Waiver of Waste Discharge Requirements

Monitoring and Reporting Program

Order No. R1-2012-0003

For

Existing Cow Dairies
Region Wide

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code Section 13267(b) and is associated with the Waiver of Waste Discharge Requirements (Waiver) Order No. R1-2012-0002 for cow dairies. This MRP requires that regular monitoring, sampling, and record-keeping be conducted by dairy owners and operators (hereinafter "Dischargers") and that the records by made available to California Regional Water Quality Control Board, North Coast Region, (hereinafter Regional Water Board) staff. Visual inspections, monitoring, surface water and groundwater sampling, analyses, reporting, and review, will help to prevent uncontrolled waste discharges and to protect water quality.

Appendix 1 to this MRP presents requirements for the Water Quality Plan (WQP) which will help to ensure that the dairy production areas are designed, constructed, operated and maintained to prevent adverse impacts to surface water and groundwater. Appendix 2 of this MRP includes minimum requirements for a Nutrient Management Plan (NMP) for large CAFO (concentrated animal feeding operations) dairies of 700 or more dairy cows. Finally, this MRP requires submittal of an Annual Report, including sampling results to be submitted to the Regional Water Board November 30 of each year (Appendix 3).

The Regional Water Board may give approved TMDL offset dairy projects an alternative schedule for enrollment and submittal of MRP reports.

I. MONITORING

Visual inspections, and sampling of surface water and groundwater are required to assess compliance with conditions of this Order and the North Coast Basin Plan. Sampling results shall be used by the Discharger to assess water quality conditions and to inform management practices.

A. Visual Inspections

This MRP requires periodic visual inspections to ensure the dairy is being operated and maintained in compliance with the Order. Visual inspections shall be done when conditions are safe to do so. Except where otherwise noted in

this MRP, visual inspections shall be conducted prior to, during, and after anticipated storm events, and during dry conditions and inspections shall be conducted on a monthly basis at a minimum. Key observations made during inspections and corrective actions taken shall be documented in each Annual Report. All adverse conditions resulting in a discharge found during these inspections shall be reported to the Regional Water Board within 24 hours and shall be recorded and the records retained onsite for a period of five years. Corrective actions shall be implemented to stop the discharge as soon as possible.

1. **Production Area**
   The Discharger shall conduct inspections of the production area **daily,** including all manure containment facilities, pumping equipment, water lines, and animal confinement areas, and note any waste discharges from the property under the control of the Discharger. Any noncompliance with the Order shall be reported to the Regional Water Board. Discharges that are a threat to human health or the environment shall be identified as such.

2. **Holding Pond Freeboard**
   The Discharger(s) shall measure the freeboard **weekly** in each holding pond or liquid containment structure. Freeboard is the vertical distance from the pond surface to the lowest elevation of the surrounding berm or the bottom of the spillway. The size of ponds/containment structures needed to contain waste materials and rain water from a 25 year 24-hour storm event will vary from facility to facility. To maintain structural integrity and prevent a discharge t wo feet of freeboard shall be maintained in ponds/structures located partially or completely above ground, and one foot of freeboard shall be maintained in ponds/structures that are completely in ground. Noncompliance shall be reported to the Regional Water Board.

3. **Manure Containment Structures**
   Manure containment structures shall be inspected for berm integrity, cracking, slumping, excess vegetation, animal burrows, and seepage. Repairs shall be made to avoid discharges to surface water and/or groundwater, and noted in the Annual Report. Any uncontrolled discharges shall be reported to the Regional Water Board.

4. **Animal Confinement Areas**
   Animal confinement areas within the production area shall be inspected periodically to ensure that all pollution prevention measures, as specified in the facility's WQP, are implemented and effective.

5. **Discharges**
   Receiving waters upstream and downstream of the dairy shall be inspected to monitor any change in water quality resulting from dairy operations. Any adverse change in water quality, including color or turbidity, shall be reported to the Regional Water Board.

6. **Cropland and Pasture**
   The Discharger(s) shall inspect any cropland on which process water or manure is applied at least once daily during each irrigation event. Dates, occurrences, location, and estimated amounts of unauthorized releases from the manure containment structures (e.g. ponds) or cropland, either off-property or to surface water drainage courses, shall be documented and reported to the Regional Water Board as noncompliance. Any erosion, conditions of field saturation, or runoff from the cropland containing pollutants shall be remedied as necessary to protect water quality and prevent nuisance conditions.

B. Water Quality Testing

Water quality sampling and reporting is required to allow the Regional Water Board to assess compliance with Basin Plan water quality objectives. The following sampling and reporting shall be conducted:

1. Surface Water Sampling

Surface watercourses that flow through the dairy property, including the production area, cropland, or pastures, must be sampled using grab samples at the point where watercourses enter and leave the property. If multiple watercourses flow through the property, the Discharger may request in writing, reduced representative sampling locations. Alternatively, if surface waters flow adjacent to but not through the property, and are located such that they could be impacted by activities at the dairy, the grab samples should be collected upstream and downstream of the areas closest to the dairy property, assuring legal access for sampling. Sampling shall take place during or directly following each of three (3) major storm events of one (1) inch or more per 24 hours, during the rainy season, beginning in the winter of 2012/2013. Sampling events shall be at least one (1) month apart. Sampling shall be done when conditions are safe to do so. Visual observations, such as changes in color or turbidity, must be recorded at the time of surface water sampling and reported in or submitted with the Annual Report.

Temperature, pH, and electrical conductivity shall be measured on-site with a handheld data sonde or comparable field equipment. Ammonia nitrogen shall

be measured either with a field test kit (colorimetric field test kits are acceptable) or by a laboratory certified for such analyses by the California Department of Health Services or a laboratory approved by the Regional Water Board. These laboratory analyses shall be conducted in accordance with the Title 40 Code of Federal Regulations Part 136 (*Guidelines Establishing Test Procedures for the Analysis of Pollutants*) or other test methods approved by the Regional Water Board. Three (3) measurements of electrical conductivity taken 3 minutes apart shall be recorded during each sampling event at each location. One (1) sample to be tested for ammonia nitrogen, pH, and temperature shall be collected at each sampling location for each sampling.

Samples shall be tested for the following constituents:

Constituent	***Units***
Electrical Conductivity (EC)	Mmhos
Ammonia Nitrogen (NH_4)	mg/L
pH	
Temperature	^oC

2. Groundwater Well Sampling

Representative wells located at the dairy, including domestic and agricultural supply wells, shall be sampled four (4) times total, approximately six (6) months apart. A sample must be collected in: (1) Fall 2012, (2) Spring 2013, (3) Fall 2013, and (4) Spring 2014. Results of groundwater samples collected consistent with the sampling protocols of this Order and within these time frames for another purpose (e.g. for a County Health Department or by the County milk inspector) may be submitted to the Regional Water Board instead of collecting additional samples. The sample must be representative of groundwater well conditions (i.e. not disinfected).

Groundwater samples from domestic wells shall be collected from the tap before the pressure tank after water has been pumped from this tap for 10 to 20 minutes. If the sample cannot be collected prior to a pressure tank, the well must be purged at least twice the volume of the pressure tank. Groundwater samples from agricultural supply wells shall be collected after the pump has run for a minimum of 30 minutes or after at least three well volumes have been purged from the well. Alternatives to this protocol may be approved by the Regional Water Board.

One (1) sample from each well shall be tested for the following parameters:

Constituent	***Units***
Nitrate	mg/L
Fecal Coliform Bacteria	MPN/100mL

Groundwater samples shall be analyzed by a laboratory certified by the State Department of Health Services or a laboratory pre-approved by the Regional Water Board.

3. Sampling Protocol

a. The Discharger shall use clean sample containers and sample handling, storage, and preservation methods that are accepted or recommended by the selected analytical laboratory or, as appropriate, in accordance with approved United States Environmental Protection Agency analytical methods.

b. All samples collected shall be representative of the volume and nature of the material being sampled.

c. All sample containers shall be labeled and records maintained to show the time and date of collection as well as the person collecting the sample and the sample location.

d. All samples collected for laboratory analyses shall be preserved and submitted to the laboratory within the required holding time appropriate for the analytical method used and the constituents analyzed.

e. All samples submitted to a laboratory for analyses shall be identified in a properly completed and signed Chain of Custody form.

f. Results of both surface water and groundwater well samples must be submitted to the Regional Water Board with the Annual Report due after sample results are obtained. If sample results exceed Basin Plan water quality objectives or other public health standards, the Discharger shall note the exceedence in the Annual Report. The Regional Water Board may require corrective actions and additional monitoring.

g. Field test instruments used for electrical conductivity, pH, temperature, and ammonia nitrogen, may be used, provided:

    1. The operator is trained in the proper use and maintenance of the instruments;

2. The instruments are field calibrated prior to each monitoring event; and

3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency.

h. Alternative sampling protocols shall be approved by Regional Water Board staff. Consultation with the California Dairy Quality Assurance Program regarding sampling protocol is encouraged, and the California Analytical Methods Manual for Dairy General Order Compliance – Nutrient Management Plan Constituents laboratory analysis methods document is a valuable reference, located at: http://anlab.ucdavis.edu/docs/uc_analytical_methods.pdf

4. Additional Monitoring

The Regional Water Board may require additional monitoring or may modify the existing monitoring program as appropriate on a site-specific or watershed basis. Future management practices and/or monitoring requirements may also be imposed by the Regional Water Board, within those waterbodies listed as impaired due to constituents that may be present in waste from cow dairies under federal Clean Water Act Section 303(d).

5. Group Sampling

One option for fulfilling this monitoring requirement is to form a representative monitoring group, to develop and/or administer a local, watershed-based surface or groundwater monitoring program. The Regional Water Board staff may allow the Discharger to use data gathered from the representative monitoring program to substitute for some or all of the required monitoring of individual dairies, if the Discharger can demonstrate that the data are valid.

6. Basin Plan Water Quality Objectives

Water quality objectives are presented in Section 3 of the Water Quality Control Plan for the North Coast Basin (Basin Plan), which is posted on the Regional Water Board web page at: http://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/basin_plan.shtml.

II. REPORTING

A. Documentation and Annual Report

The objective of the Annual Report (MRP Appendix 3) is to provide updates using photographs and narrative text on new management practices and the effectiveness of existing management practices. Documentation of compliance with conditions of the Order must be submitted to the Regional Water Board in the Annual Report due each November 30 starting in 2013. The annual reporting period is November 1 through October 31. Regional Board staff will review the Annual Report and provide comments if necessary for the facility to meet the Order requirements. If the Regional Water Board provides comments on the Annual Report or any technical report, the discharger will be required to address those comments. A copy of the Annual Report including photo documentation must be kept at the facility for Regional Water Board review during inspections. The contents of the Annual Report shall include:

1. Photos shall be taken each year by November 1 and submitted to the Regional Water Board to confirm that:
   A. The liners of the manure ponds are protective of water quality (free of weeds and cracks that may disturb the liner), and
   B. The manure ponds have sufficient storage capacity prior to the rainy season as required in the Order.

2. Photos of other pollution prevention measures to protect surface and groundwater must also be submitted with the Annual Report. Photos of permanent pollution prevention measures only need to be submitted in an Annual Report once, as long as the measures are still operational and effective. Examples of pollution prevention measures include:

   a. cleaning up of pollutant-containing materials from areas where stormwater runoff occurs,
   b. covering of manure, compost, and feed storage areas,
   c. installing impermeable ground covering in manure storage areas,
   d. protecting watercourses from erosion and wastes, and
   e. any other best management practices or control measures for water quality protection.

3. A narrative summary of measures taken to protect surface and groundwater and to meet conditions of the Order. Where appropriate, sketches of pollution prevention measures implemented since the previous Annual Report may also be submitted.

4. Analytical results of surface water and groundwater samples. If participating in a group monitoring effort pre-approved by the Regional Water Board, the Discharger must submit a statement identifying the group. If results of groundwater samples collected for another purpose are submitted to meet these MRP requirements, an explanation is required in the Annual Report.

B. Noncompliance Reporting

The Discharger shall report any spill, discharge, or other type of noncompliance that violates the conditions of this Order and/or endangers human health or the environment within 24 hours of becoming aware of its occurrence. The incident shall be reported to the **Regional Water Board office (707) 576-2220, and to the California Office of Emergency Services (OES) (510) 286-0895**. During non-business hours, the Discharger shall leave a message on the Regional Board's office voice mail. The OES is operational 24 hours a day. The message shall include the time, date, place, and description of the discharge. A written report shall be submitted to the Regional Water Board office within fourteen (14) business days of the Discharger becoming aware of the incident. The report shall include complete details of the steps that the Discharger has taken, or intends to take, in order to prevent recurrence. The written submission shall, at a minimum, contain:

1. The approximate date, time, and location of the discharge;

2. A description of the noncompliance and its cause;

3. The flow rate, volume, and duration of the discharge;

4. Note if the noncompliance has been corrected and/or the actual or anticipated time for achieving compliance; and

5. A time schedule and a plan to implement necessary corrective actions to prevent the recurrence of such discharges.

The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Regional 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.

If during the performance of Discharger and/or Regional Water Board staff inspections, deficiencies, defects, and/or impending failures are observed in any of the manure-contacted water conveyance, control, and/or retention structures, the Discharger shall take immediate action to correct and/or prevent

any unauthorized release. The corrective action(s) must be documented and these records attached to the Annual Report.

C. Record-Keeping

The Discharger shall create, maintain for five years, and make available to the Regional Water Board during inspections and upon request by the Regional Water Board, any reports or records required by the Order including those required under this MRP.

D. Signature and Submittal.

Each Annual Report and Noncompliance Report shall be signed by the Discharger or a duly authorized representative and shall contain the following statement:

> *"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this report and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

Reports shall be submitted to:

North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403
Phone (707) 576-2220
Fax (707) 523-0135

III. SUMMARY OF REQUIRED REPORTS AND NOTICES

In summary, the discharger must complete the following in accordance with the Waiver:

A. **Notice of Intent (NOI)** – see Attachment A. The NOI must be submitted to the Regional Water Board by April 30, 2012, or upon notification from the Regional Water Board to comply with this Order.,

B. **Water Quality Plan (WQP**) – see MRP Appendix 1. The WQP must be prepared and implemented byNovember 30, 2012. A copy of the WQP must be

kept on the dairy site and made available for review by Regional Water Board staff during inspections.

C. **Nutrient Management Plan (NMP)** – see MRP Appendix 2. The NMP must be prepared and implemented at the time of Waiver enrollment for Large CAFOs (Concentrated Animal Feeding Operations with 700 or more dairy cows, milking + dry). Smaller dairies are encouraged to develop and implement a NMP, but it is not required. A copy of the NMP must be kept on the dairy site and made available for review by Regional Water Board staff during inspections.

D. **Annual Report** – see MRP Appendix 3. The Discharger shall submit an Annual Report to the Regional Water Board by November 30 of each year starting in 2013. The reporting period is November 1 through October 31. A copy of each Annual Report shall be kept at the facility and be made available for review by Regional Water Board staff during inspections.

E. **Noncompliance Report** – Any spills, discharges, or other noncompliance must be reported and corrected as described in this MRP.

F. **Extension Request** - The dairy operator may request an extension to MRP deadlines by written request to the Executive Officer of the Regional Water Board at least 30 days prior to the deadlines. This request must include a description of incomplete plan elements, an alternative date of compliance, and assurance of water quality protection in the interim. A letter from the Regional Water Board will be issued granting or denying the request. A staff inspection may be necessary.

Ordered by: _____
Catherine Kuhlman
Executive Officer

January 19, 2012

APPENDIX
1. Water Quality Plan (WQP)
2. Nutrient Management Plan (NMP)
3. Annual Report