

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2011-XXXX
GENERAL ORDER
FOR
CENTRALIZED DAIRY MANURE ANAEROBIC DIGESTER OR CENTRALIZED DAIRY
MANURE CO-DIGESTER FACILITIES

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code (CWC) Section 13267. The Discharger shall not implement any changes to this MRP unless a revised MRP is issued by the Central Valley Water Board or the Executive Officer.

This MRP includes Monitoring, Record-Keeping, and Reporting requirements. Monitoring requirements include monitoring of discharges of process wastewater, co-digester feedstocks, storm water, and tailwater from the production area and land application areas, digestate (digester solids produced by the digestion process); gas scrubber waste (produced during the cleaning of the biogas), and groundwater.

Monitoring requirements also include monitoring of nutrients applied to, and removed from, land application areas in order for the Discharger to develop and implement a Nutrient Management Plan that will minimize leaching of nutrients and salts to groundwater and transport of these constituents to surface water.

In addition, monitoring requirements include periodic visual inspections of the facility and associated waste disposal areas to ensure the facility is being operated and maintained to ensure continued compliance with the Order.

This MRP requires the Discharger to keep and maintain records for five years of the monitoring activities for the production and land application areas and to prepare and submit reports containing the results of specified monitoring as indicated below.

All monitoring must begin immediately. Note that some types of events require that a report be submitted to the Central Valley Water Board within 24 hours (see section C).

Dischargers must follow sampling and analytical procedures approved by the Executive Officer. Approved procedures will be posted on the Central Valley Water Board's web site and copies may be obtained by contacting staff. A Discharger may submit alternative procedures for consideration, but must receive written approval from the Executive Officer before using them. If monitoring consistently shows no significant variation of a constituent concentration or parameter, the Discharger may request the MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

The Discharger shall conduct monitoring, record-keeping, and reporting as specified below.

A. MONITORING REQUIREMENTS

1. Feedstocks

- a. Centralized dairy manure digesters that use manure/wastewater from a dairy operating under Waste Discharge Requirements General Order for Existing Milk Cow Dairies, Order No. R5-2007-0035 (Dairy General Order) and the dairy accepts back a like mass of digester wastes for disposal.
 - (1). Chemical analysis must be performed for manure/wastewater received from a dairy operating under Waste Discharge Requirements General Order for Existing Milk Cow Dairies, Order No. R5-2007-0035 (Dairy General Order) that is receiving back digester wastes for disposal (Table 1.a).
 - (2). Calculation of the mass must be performed for each of the constituents in Table 1.a that are imported from a Dairy General Order dairy which will receive back digester wastes for disposal.

Table 1.a DIGESTER FEEDSTOCK
<p><u>Once every three months</u> Laboratory analyses for total nitrogen, total phosphorus, total potassium, and total fixed solids of wastewater and manure received from each dairy operating under the Dairy General Order.</p> <p><u>Once a month</u> Calculate mass of total nitrogen, total phosphorus, total potassium, and total fixed solids received from each dairy operating under the Dairy General Order.</p>

b. Centralized Dairy Manure Co-digesters

- (1). Co-digestion feedstock material must be non-hazardous and have been chemically analyzed prior to delivery on-site (as specified in Table 1.b below). Manifests for all imported feedstock material must be retained on site for potential Central Valley Water Board staff review (see Section B – Record-keeping Requirements).
- (2). The requirement to chemically analyze each feedstock prior to importation to the co-digester facility may be reduced or eliminated if it can be demonstrated that the sampling performed was sufficient to evaluate changes/variability in the character and volume of feedstocks used. Any proposed reduction in monitoring requirements must be approved by the Executive Officer in writing prior to implementation.

Table 1.b. CO-DIGESTER FEEDSTOCK
<p><i>Prior to Importation</i> Laboratory analyses for pH, electrical conductivity (or total dissolved solids), percent moisture, total nitrogen, total phosphorus, total potassium, chloride, calcium, sodium, sulfate, and EPA 503 metals (arsenic, cadmium, chromium, copper, nickel, lead, selenium, zinc, and mercury).</p>

2. Visual Inspections

The Discharger shall conduct and record the inspections specified in Table 3 below and maintain records of the results on-site for a period of five years.

Table 2. INSPECTIONS
<p><i>Production Area</i> <u>Weekly during the wet season (1 October to 30 April) and monthly between 1 May and 30 September:</u> Inspect all waste storage areas and note any conditions or changes that could result in discharges to surface water and/or from property under control of the Discharger.</p> <p>For digesters or co-digesters using pond systems, note whether freeboard within each liquid storage structure is less than, equal to, or greater than the minimum required (two feet for above ground ponds and one foot for below ground ponds).</p> <p><u>During and after each significant storm event¹:</u> Visual inspections of storm water containment structures for discharge, freeboard, berm integrity, cracking, slumping, erosion, excess vegetation, animal burrows, and seepage.</p> <p><u>Monthly on the 1st day of each month:</u> For digesters or co-digesters using pond systems, photograph each pond showing the height of wastewater relative to the depth marker and the current freeboard on that date. All photos shall be dated and maintained as part of the discharger's record.</p>
<p><i>Digester/Co-digester Land Application Areas</i> <u>Prior to each wastewater application:</u> Inspect the land application area and note the condition of land application berms including rodent holes, piping, and bank erosion. Verify that any field valves are correctly set to preclude off-property or accidental discharges of wastewater.</p> <p><u>Daily when process wastewater is being applied:</u> Inspect the land application area and note the condition of land application berms including rodent holes, piping, and bank erosion; the presence (or lack) of field saturation, ponding, erosion, runoff (including tailwater discharges from the end of fields, pipes, or other conveyances), and nuisance conditions; and the conditions of any vegetated buffers or alternative conservation practices.</p>

¹ A significant storm event is defined as a storm event that results in continuous runoff of storm water for a minimum of one hour, or intermittent runoff for a minimum of three hours in a 12-hour period.

3. Waste and Nutrient Monitoring

The Discharger shall monitor process wastewater and digestate/gas cleaning waste for the constituents and at the frequency as specified in Table 3 below. Dischargers shall also monitor plant tissue produced at the facility, soil in each land application area, and irrigation water used on land application area(s) for the constituents and at the frequency as specified in Table 3 below. This information is for use in conducting nutrient management on digester/co-digester controlled

land application areas. It must be used to develop and implement a Nutrient Management Plan. The Discharger is encouraged to collect and use additional data, as necessary, to refine nutrient management.

Table 3. WASTE AND NUTRIENT MONITORING
<p><i>Process Wastewater</i></p> <p><u>Each application</u> Record the volume (gallons or acre-inches) and date of process wastewater application to each land application area.</p> <p><u>Quarterly during one application event</u> Field measurement of electrical conductivity.</p> <p>Laboratory analyses for nitrate-nitrogen (only when retention pond is aerated), un-ionized ammonia-nitrogen, total Kjeldahl nitrogen, total phosphorus, total potassium, and total dissolved solids.</p> <p><u>Once every two years (biennially)</u> Laboratory analyses for general minerals (calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, and chloride).</p> <p><u>Quarterly for one year and annually thereafter</u> Laboratory analyses of liquid digestate, prior to blending in a dairy wastewater pond or blending with irrigation water for pH, total dissolved solids, electrical conductivity, nitrate-nitrogen, ammonium-nitrogen, total Kjeldahl nitrogen, boron, total phosphorus, total potassium, bicarbonate, carbonate, chloride, calcium, magnesium, sodium, sulfate, and EPA 503 metals (arsenic, cadmium, chromium, copper, nickel, lead, selenium, zinc, and mercury).</p>
<p><i>Digestate</i></p> <p><i>For Centralized Dairy Manure Digesters and Co-digesters:</i></p> <p><u>Annually:</u> Record the total dry weight (tons) of digestate applied annually to each land application area and the total dry weight (tons) of digestate exported offsite.</p> <p><i>For Centralized Dairy Manure Digesters:</i></p> <p><u>Once every two years (biennially)</u> Laboratory analyses for general minerals (calcium, magnesium, sodium, sulfur, chloride) and fixed solids (ash).</p> <p><u>Twice per year</u> Laboratory analyses for total nitrogen, total phosphorus, total potassium, and percent moisture.</p>

Table 3 (continued) WASTE AND NUTRIENT MONITORING
<p><i>For a Centralized Dairy Manure Co-digester:</i></p> <p><u>Annually:</u> Laboratory analyses for pH, fixed solids (ash), total nitrogen, total phosphorus, total potassium, chloride, calcium, sodium, sulfur, and EPA 503 metals (arsenic, cadmium, chromium, copper, nickel, lead, selenium, zinc, and mercury).</p>
<p><i>Plant Tissue</i></p> <p><u>At harvest:</u> Record the percent moisture and total weight (tons) of harvested material removed from each land application area.</p> <p>Laboratory analyses for total nitrogen, total phosphorus, total potassium (expressed on a dry weight basis), fixed solids (ash), and percent moisture.</p> <p><u>The following test is only required if the Discharger wants to add fertilizer in excess of 1.4 times the nitrogen expected to be removed by the harvested portion of the crop (see Attachment D of Order No. R5-2010-0130 for details): Mid-season, if necessary to assess the need for additional nitrogen fertilizer during the growing season.</u></p> <p>Laboratory analyses for total nitrogen, expressed on a dry weight basis.</p>
<p><i>Soil</i></p> <p><u>Once every 5 years from each land application area (may be distributed over a 5-year period by sampling 20% of the land application areas annually):</u> Laboratory analyses for soluble phosphorus</p> <p><i>The following soil tests are recommended but not required:</i></p> <p><u>Spring pre-plant for each crop:</u> Laboratory analyses for: 0 to 1 foot depth: Nitrate-nitrogen and organic matter. 1 to 2 feet depth: Nitrate-nitrogen.</p> <p><u>Fall pre-plant for each crop:</u> Laboratory analyses at depths below ground surface of: 0 to 1 foot: Electrical conductivity, nitrate-nitrogen, soluble phosphorus, potassium and organic matter. 1 to 2 feet: Nitrate-nitrogen.</p>
<p><i>Irrigation Water²</i></p> <p><u>Each irrigation event for each land application area:</u> Record volume (gallons or acre-inches)³ and source (well or canal) of irrigation water applied and dates applied.</p>

Table 3 (continued) WASTE AND NUTRIENT MONITORING

One irrigation event during each irrigation season during actual irrigation events:
 For each irrigation water source (well and canal):
 Electrical conductivity, total dissolved solids, and total nitrogen.⁴
 Data collected to satisfy the groundwater monitoring requirements (below) can be used to satisfy this requirement.

¹ The Discharger shall resume quarterly monitoring after the introduction of new feedstock or substantial change in existing feedstock.

² The Discharger shall monitor irrigation water (from each water well source and canal) that is used on Discharger land application areas.

³ Dischargers with land application areas may utilize initial volume measurements as the total volume for all land application areas. Volume measurements for each irrigation source for each land application area shall be recorded no later than **1 October 2011**.

⁴ In lieu of sampling the irrigation water, Dischargers with land application areas may provide equivalent data from the local irrigation district.

4. Monitoring of Surface Runoff

The Discharger shall monitor any discharges of process wastewater, storm water, and tailwater from the production area for the constituents and at the frequencies as specified in Table 4 below. Any discharge of process wastewater, storm water, or tailwater from the land application area(s) shall be monitored for the constituents and at the frequencies as specified in Table 5 below.

**Table 4. DISCHARGE MONITORING
 FOR CENTRALIZED DAIRY MANURE DIGESTERS AND CO-DIGESTERS:**

Discharges (Including Off-Property Discharges) of Process Wastewater and/or Digestate from the Production Area or Land Application Area

Daily during each discharge:

Record date, time, approximate volume (gallons) or weight (tons), duration, location, source, and ultimate destination of the discharge.

Field measurements of the discharge for electrical conductivity, temperature, and pH.

Laboratory analyses of the discharge for nitrate-nitrogen, total ammonia-nitrogen, un-ionized ammonia-nitrogen, total Kjeldahl nitrogen, total phosphorus, potassium, total dissolved solids, BOD₅¹, total suspended solids, and total and fecal coliform.

Daily during each discharge to surface water:

For surface water upstream² and downstream³ of the discharge:

Field measurements for electrical conductivity, temperature, dissolved oxygen, and pH.

Laboratory analyses for nitrate-nitrogen, total ammonia-nitrogen, un-ionized ammonia-nitrogen, total Kjeldahl nitrogen, total phosphorus, potassium, total dissolved solids, total suspended solids, and total and fecal coliform.

Storm Water Discharges to Surface Water from the Production Area

Daily during each discharge to surface water:

Record date, time, approximate volume, duration, location, source, and ultimate destination of the discharge.

Table 4 (continued). DISCHARGE MONITORING FOR CENTRALIZED DAIRY MANURE DIGESTERS AND CO-DIGESTERS:
<p>For (1) the discharge and surface water (2) upstream and (3) downstream of the discharge: Field measurements of electrical conductivity, dissolved oxygen, temperature, pH, total ammonia-nitrogen, and unionized ammonia-nitrogen.</p> <p>Laboratory analyses for nitrate-nitrogen, turbidity, total phosphorus, and total and fecal coliform.</p>
<p><i>Storm Water Discharges to Surface Water from Each Land Application Area⁴</i> <u>First storm event of the wet season⁵ and during the peak storm season (typically February)⁶ each year from one third of the land application areas⁷ with the land application areas sampled rotated each year⁸.</u> Record date, time, approximate volume, duration, location, and ultimate destination of the discharge.</p> <p>Field measurements of the discharge for electrical conductivity, temperature, pH, total ammonia-nitrogen, and un-ionized ammonia-nitrogen.</p> <p>Laboratory analyses of the discharge for nitrate-nitrogen, total phosphorus, turbidity, and total and fecal coliform.</p>
<p><i>Tailwater Discharges to Surface Water from Land Application Areas⁹</i> <u>Each discharge from each land application area where irrigation has occurred less than 60 days after application of manure and/or process wastewater:</u> Record date, time, approximate volume (gallons), duration, location, and ultimate destination of the discharge.</p> <p>Field measurements of discharge for electrical conductivity, temperature, pH, total ammonia-nitrogen, and un-ionized ammonia-nitrogen.</p> <p><u>First discharge of the year from any land application area where irrigation has occurred less than 60 days after application of manure and/or process wastewater:</u> Laboratory analyses for nitrate-nitrogen, total phosphorus, and total and fecal coliform.</p>

¹ Five-day biochemical oxygen demand.

² Upstream samples shall be taken just far enough upstream so as not to be influenced by the discharge.

³ Downstream samples shall be taken just far enough downstream where the discharge is blended with the receiving water but not influenced by dilution flows or other discharges.

⁴ Sample locations must be chosen such that the samples are representative of the quality and quantity of storm water discharged.

⁵ This sample shall be taken from the first storm event of the season that produces significant storm water discharge such as would occur during continuous storm water runoff for a minimum of one hour, or intermittent storm water runoff for a minimum of three hours in a 12-hour period.

⁶ This sample shall be taken during a storm event that produces significant storm water discharge and that is preceded by at least three days of dry weather. The sample shall be taken during the first hour of the discharge.

⁷ One land application area shall be sampled for Dischargers that have one to three land application areas, two land application areas shall be sampled for Dischargers that have four to six land application areas, etc.

⁸ The Discharger may propose in the annual storm water report to reduce the constituents and/or sampling frequency of storm water discharges to surface water from any land application area based on the previous year's data (see Storm Water Reporting section below).

⁹ Tailwater samples shall be collected at the point of discharge to surface water.

- a. If conditions are not safe for sampling, the Discharger must provide documentation of why samples could not be collected and analyzed. For example, the Discharger may be unable to collect samples during dangerous weather conditions (such as local flooding, high winds, tornados, electrical storms, etc.). However, once the dangerous conditions have passed, the Discharger shall collect a sample of the discharge or, if the discharge has ceased, from the waste management unit from which the discharge occurred.
- b. Discharge and surface water sample analyses shall be conducted by a laboratory certified for such analyses by the California Department of Health Services. 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 Executive Officer.
- c. All discharges shall be reported as specified in the Reporting Requirements (Priority Reporting of Significant Events and Annual Reporting) below, as appropriate.
- d. The rationale for all discharge sampling locations shall be included in the Annual Report (in the Storm Water Report for storm water discharges from land application areas).
- e. Parties interested in coordinating or combining surface water monitoring conducted by an individual dairy or group of dairies with monitoring conducted pursuant to 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) may propose an alternative monitoring program for the Executive Officer's consideration. The alternative program shall not begin until the Discharger receives written approval from the Executive Officer.

5. Groundwater Monitoring

Dischargers shall sample each domestic and agricultural supply well and subsurface (tile) drainage system, present in the production and/or land application areas to characterize existing groundwater quality. This monitoring shall be conducted at the frequency and for the parameters specified in Table 5 below.

Table 5. GROUNDWATER MONITORING FOR DIGESTER/CO-DIGESTER FACILITIES WITH LAND APPLICATION AREAS
<p><i>Domestic and Agricultural Supply Wells</i></p> <p><u>Annually:</u> Field measurements of electrical conductivity and ammonium nitrogen¹. Laboratory analyses of nitrate-nitrogen.</p> <p><u>Every five years (may be distributed over a 5-year period by sampling 20% of the wells annually):</u> Laboratory analyses for general minerals (calcium, magnesium, sodium, bicarbonate, carbonate, sulfate, chloride, and total dissolved solids).</p> <p><i>Subsurface (Tile) Drainage System</i></p> <p><u>Annually:</u> Field measurements of electrical conductivity and ammonium nitrogen¹. Laboratory analyses of nitrate-nitrogen, total phosphorus, and total dissolved solids.</p>

¹ If field measurement indicates the presence of ammonium nitrogen, the discharger shall collect a sample for laboratory analysis of ammonium nitrogen.

- a. Groundwater samples from domestic wells shall be collected from the tap nearest to the pressure tank (and before the pressure tank if possible) 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. Samples from subsurface (tile) drains shall be collected at the discharge point into a canal or drain.
- b. Additional groundwater monitoring requirements are specified in Attachment A to this Order.

6. General Monitoring Requirements

- a. The Discharger shall comply with the additional groundwater monitoring requirements specified in Attachment A to this Order either through individual groundwater monitoring or by participation in a Representative Monitoring Program as laid out in MRP Attachment A.
- b. The Discharger shall comply with all the "Requirements Specifically for Monitoring Programs and Monitoring Reports" as specified in the Standard Provisions and Reporting Requirements.

- c. Approved sampling procedures are listed on the Central Valley Water Board's web site at http://www.waterboards.ca.gov/centralvalley/available_documents/index.html#confined. When special procedures appear to be necessary at an individual dairy, the Discharger may request approval of alternative sampling procedures for nutrient management. The Executive Officer will review such requests and if adequate justification is provided, may approve the requested alternative sampling procedures.
- d. 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.
- e. All samples collected shall be representative of the volume and nature of the material being sampled.
- f. 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.
- g. 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.
- h. All samples submitted to a laboratory for analyses shall be identified in a properly completed and signed Chain of Custody form.
- i. Field test instruments used for temperature, pH, electrical conductivity, ammonia nitrogen, un-ionized ammonia nitrogen, and dissolved oxygen 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.

B. RECORD-KEEPING REQUIREMENTS

Dischargers shall maintain on-site for a period of five years from the date they are created all information as follows (Owners must maintain their own copies of this information):

1. Centralized dairy manure digesters or co-digesters that operate land application areas shall provide all information necessary to document implementation and management of the Nutrient Management Plan, including the information described in Items 2 through 6 below;
2. All records for the production area including:
 - a. Records documenting the inspections required under the Monitoring Requirements above;
 - b. Records documenting any corrective actions taken to correct deficiencies noted as a result of the inspections required in the Monitoring Requirements above. Deficiencies not corrected in 30 days must be accompanied by an explanation of the factors preventing immediate correction;
 - c. Records of the date, time, and estimated volume of any overflow or bypass of the digester or any wastewater storage or conveyance structure;
 - d. Steps and dates when action is taken to correct unauthorized releases as reported in accordance with Priority Reporting of Significant Events below;
 - e. Records of monitoring activities and laboratory analyses conducted as required in Standard Provisions and Reporting Requirements D.5.; and
 - f. For co-digester facilities, the volume, character, and origin of all imported feed stocks including copies of manifests and the results of chemical analyses required in Table 2 above.
3. All records for the land application area including:
 - a. Expected and actual crop yields;
 - b. Identification of crop, acreage, and dates of planting and harvest for each field;
 - c. Dates, locations, and approximate weight and moisture content of manure applied to each field;
 - d. Dates, locations, and volume of process wastewater applied to each field;
 - e. Whether precipitation occurred, or standing water was present, at the time of manure and process wastewater applications and for 24 hours prior to and following applications;

- f. Dates, locations, and test methods for soil, digestate, process wastewater, irrigation water, and plant tissue sampling;
 - g. Results from digestate, process wastewater, irrigation water, soil, plant tissue, discharge (including tailwater), and storm water sampling;
 - h. Explanation for the basis for determining digestate, or process wastewater application rates, as provided in the Technical Standards for Nutrient Management established by the Order (Attachment D);
 - i. Calculations showing the total nitrogen, total phosphorus, and potassium to be applied to each field, including sources other than process wastewater (Nutrient Budget);
 - j. Total amount of nitrogen, phosphorus, and potassium actually applied to each field, including documentation of calculations for the total amount applied (Nutrient Application Calculations);
 - k. The method(s) used to apply digestate, and/or process wastewater;
 - l. Records documenting any corrective actions taken to correct deficiencies noted as a result of the inspections required in the Monitoring Requirements above. Deficiencies not corrected in 30 days must be accompanied by an explanation of the factors preventing immediate correction; and
 - m. Records of monitoring activities and laboratory analyses conducted as required in Standard Provisions and Reporting Requirements D.5.
4. Centralized dairy manure digesters or co-digesters that operate land application areas shall provide a copy of the Discharger's site-specific Nutrient Management Plan; and
 5. All analyses of digestate, process wastewater, irrigation water, soil, plant tissue, discharges (including tailwater discharges), surface water, storm water, subsurface (tile) drainage, and groundwater.

C. REPORTING REQUIREMENTS

1. Priority Reporting of Significant Events (Prompt Action Required)

The Discharger shall report any noncompliance that endangers human health or the environment or any noncompliance with Prohibitions A.1, through A.4, A.6, A.7, A.8, A.12, A.13, and A.14 in the Order, **within 24 hours** of becoming aware of its occurrence. The incident shall be reported to the Central Valley Water Board office, local environmental health department, and to the

California Emergency Management Agency (CalEMA). During non-business hours, the Discharger shall leave a message on the Central Valley Water Board's voice mail. The message shall include the time, date, place, and nature of the noncompliance, the name and number of the reporting person, and shall be recorded in writing by the Discharger. The CalEMA is operational 24 hours a day. A written report shall be submitted to the Central Valley Water Board office **within two weeks** of the Discharger becoming aware of the incident. The report shall contain a description of the noncompliance, its causes, duration, and the actual or anticipated time for achieving compliance. The report shall include complete details of the steps that the Discharger has taken or intends to take, in order to prevent recurrence. All intentional or accidental spills shall be reported as required by this provision. The written submission shall contain:

- a. The approximate date, time, and location of the noncompliance including a description of the ultimate destination of any unauthorized discharge and the flow path of such discharge to a receiving water body;
- b. A description of the noncompliance and its cause;
- c. The flow rate, volume, and duration of any discharge involved in the noncompliance;
- d. The amount of precipitation (in inches) the day of any discharge and for each of the seven days preceding the discharge;
- e. A description (location; date and time collected; field measurements of pH, temperature, dissolved oxygen and electrical conductivity; sample identification; date submitted to laboratory; analyses requested) of noncompliance discharge samples and/or surface water samples taken to comply with the Monitoring Requirements above for *Discharges (Including Off-Property Discharges) of Manure or Process Wastewater, Digestate, or Other Dairy Waste from the Production Area or Land Application Area and Storm Water Discharges to Surface Water from the Production Area*;
- f. The period of noncompliance, including dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue;
- g. A time schedule and a plan to implement corrective actions necessary to prevent the recurrence of such noncompliance; and
- h. The laboratory analyses of the noncompliance discharge sample and/or upstream and downstream surface water samples shall be submitted to the Central Valley Water Board office within 45 days of the discharge.

2. Annual Reporting

An annual monitoring report is due by **1 July of each year**. It will consist of a General Section, Groundwater Reporting Section, and a Storm Water Reporting Section, as described below.

a. General Section

The General section of the annual report shall be completed on an annual report form provided by the Executive Officer (available on the Central Valley Water Board website at http://www.waterboards.ca.gov/centralvalley/water_issues/dairies/compl_ying_with_general_order/software/index.shtml) and shall include all the information as specified below.

- (1). Identification of the beginning and end dates of the annual reporting period;
- (2). Amount of total digestate (tons), and process wastewater (gallons or acre-inches) generated by the facility during the annual reporting period; a calculation of the total nitrogen, total phosphorus, total potassium, and total salt content measured as fixed solids of the solid waste; and total dissolved solids of the liquid waste;
- (3). Estimated amount of total digestate (tons) and process wastewater (gallons or acre-inches) applied to each land application area during the annual reporting period and a calculation of the total nitrogen, total phosphorus, total potassium, and total salt content measured as fixed solids (ash) of the solid waste and total dissolved solids of the liquid waste;
- (4). Quantify the ratio of total nitrogen applied to land application areas and total nitrogen removed by crop harvest (nitrogen uptake).
- (5). Total number of acres and the Assessor Parcel Numbers of properties that were used for land application of digestate, and process wastewater during the annual reporting period;
- (6). Summary of all digestate, and process wastewater discharges from the production area to surface water or to land areas (land application areas or otherwise) when not in accordance with the facility's Nutrient Management Plan that occurred during the annual reporting period, including date, time, location, and approximate volume; a map showing discharge and sample locations; rationale for sample locations; and method of measuring discharge flows;

- (7). Summary of all storm water discharges from the production area to surface water during the annual reporting period, including the date, time, approximate volume, duration, and location; a map showing the discharge and sample locations; rationale for sample locations; and method of measuring discharge flows; Copies of all manure/process wastewater tracking manifests for the reporting period;
- (8). Summary of all discharges from the land application area to surface water that have occurred during the annual reporting period, including the date, time, approximate volume, location, and source of discharge (i.e., tailwater, process wastewater, or blended process wastewater); a map showing the discharge and sample locations; rationale for sample locations; and method of measuring discharge flows;
- (9). A statement indicating if the Nutrient Management Plan has been updated and whether the current version of the facility's Nutrient Management Plan was developed or approved by a certified nutrient management specialist as specified in Attachment D of this Order;
- (10). Copies of laboratory analyses of all discharges (digestate or process wastewater) to surface water (upstream and downstream of a discharge), including Chain of Custody forms and laboratory quality assurance/quality control (QA/QC) results; and
- (11). Tabulated analytical data for samples of digestate, process wastewater, irrigation water, soil, and plant tissue. The data shall be tabulated to clearly show sample dates, constituents analyzed, constituent concentrations, and detection limits;
- (12). If the amount of non-nutrient salt exceeded 2,000 pounds per acre for single crop fields or 3,000 pounds per acre for double crop fields, or site-specific salt loading limits, for any field, a statement indicating how the Salt Minimization Plan will be modified, or higher limits justified, to bring the facility back into compliance with the Order; and
- (13). Results of the Record-Keeping Requirements for the production and land application areas specified in Record-Keeping Requirements B.2.b, B.2.c, B.3.a, B.3.b, B.3.c, B.3.d, B.3.e, B.3.j, and B.3.l above.

b. Groundwater Reporting Section

Groundwater monitoring results shall be included with the annual reports.

- (1). Dischargers that monitor supply wells and subsurface (tile) drainage systems only shall submit information on the location of sample collection and all field and laboratory data, including all laboratory analyses (including Chain of Custody forms and laboratory QA/QC results).
- (2). Dischargers that have monitoring well systems shall include all laboratory analyses (including Chain of Custody forms and laboratory QA/QC results) and tabular and graphical summaries of the monitoring data. Data shall be tabulated to clearly show the sample dates, constituents analyzed, constituent concentrations, detection limits, depth to groundwater, and groundwater elevations. Graphical summaries of groundwater gradients and flow directions shall also be included. Each groundwater monitoring report shall include a summary data table of all historical and current groundwater elevations and analytical results. The groundwater monitoring reports shall be certified by a California registered professional as specified in General Reporting Requirements C.9 of the Standard Provisions and Reporting Requirements of Order No. R5-2011-XXXX.

c. Storm Water Reporting Section

Storm water monitoring results will be included in the annual report. The report shall include a map showing all sample locations for all land application areas, rationale for all sampling locations, a discussion of how storm water flow measurements were made, the results (including the laboratory analyses, Chain of Custody forms, and laboratory QA/QC results) of all samples of storm water, and any modifications made to the facility or sampling plan in response to pollutants detected in storm water. The annual report must also include documentation if no significant discharge of storm water occurred from the land application area(s) or if it was not possible to collect any of the required samples or perform visual observations due to adverse climatic conditions.

If the storm water monitoring for any land application area indicates pollutants have not been detected in storm water samples, the Discharger may propose to the Executive Officer to reduce the constituents and/or sampling frequency for that area.

(3). **General Reporting Requirements**

- a. The results of any monitoring conducted more frequently than required at the locations specified herein shall be reported to the Central Valley Water Board.
- b. Each report shall be signed by the Discharger or a duly authorized representative as specified in the General Reporting Requirements C.7 of the Standard Provisions and Reporting Requirements of Order No. R5-2011-XXXX, 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 document 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."

- c. For facilities in Fresno, Kern, Kings, Madera, Mariposa, and Tulare counties, submit reports to:

California Regional Water Quality Control Board
Central Valley Region
1685 E Street
Fresno, CA 93706
Attention: Confined Animal Regulatory Unit

For facilities in Butte, Lassen, Modoc, Plumas, Tehama, and Shasta counties, submit reports to:

California Regional Water Quality Control Board
Central Valley Region
415 Knollcrest Drive, Suite 100
Redding, CA 96002
Attention: Confined Animal Regulatory Unit

MONITORING AND REPORTING PROGRAM No. R5-20101-XXXX
GENERAL ORDER FOR CENTRALIZED DAIRY MANURE ANAEROBIC
DIGESTER OR CENTRALIZED DAIRY MANURE CO-DIGESTER FACILITIES

MRP-18

For facilities in all other counties, submit reports to:

California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive #200
Rancho Cordova, CA 95670
Attention: Confined Animal Regulatory Unit

ORDERED BY:

PAMELA C. CREEDON, Executive Officer

Date

DAS: (5 April 2011)