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

**RE: General Order MRP Revision,
NPDES Permit and Groundwater Monitoring Revision Comments**

Ms. Herbst,

Merced County Division of Environmental Health (MCDEH) has reviewed the

- 1) Revised Monitoring and Reporting Program No. R5-2007-0035 General Order for Existing Milk Cow Dairies,
- 2) The General Waste Discharge Requirements and General National Pollution Discharge Elimination System (NPDES) Permit for Existing Milk Cow Dairy Concentrated Animal Feeding Operations within the Central Valley Region Draft, and,
- 3) Revised Monitoring and Reporting Program Order No. R5-2007-0035 Attachment A, Additional Groundwater Monitoring, Monitoring Well Installation and Sampling Plan and Monitoring Well Installation Completion Report for Milk Cow Dairies and provides the following comments.

The primary focal points of a Monitoring and Reporting Program should emphasize cost effective and appropriate sampling, analyses, and reporting to ensure compliance by establishing meaningful criteria for the issuance of a permit and or monitoring the short and long term environmental effects of dischargers.

Appropriate analyses is critical to reconcile waste handling, storage, and nutrient management practices to proposed plans on a field by field basis with emphasis on monitoring environmental impacts ultimately assessing the trend in concentrations of specific constituents in nutrients applied, crops harvested, soils, groundwater and surface waters at and near the dairy production facility and or land application area(s).

RB-5 may consider requiring the discharger to include any adopted changes/components of the draft General Order MRP/NPDES in written form into the

facility's Waste Management Plan (WMP) and or Nutrient Management Plan (NMP). Optionally, RB-5 may in the body of the Dairy General Order MRP and NPDES revision, incorporate by reference all specified changes as requirements of the dairy facility Operation and Maintenance Plan within the facility's WMP and Sampling and Analyses Plan within in the NMP.

Revised Monitoring and Reporting Program No. R5-2007-0035 General Order for Existing Milk Cow Dairies Comments (MRP)

Visual Inspections

Existing Language-

Monthly on the 1st day of each month:

Photograph each pond showing the current freeboard on that date. All photos shall be dated and maintained as part of the discharger's record.

Existing language in the MRP lacks specificity to confirm proper liquid level monitoring. Photographic inspection records should clearly include/show the actual depth marker in the pond and the freeboard with the top of the pond berm in the background of the photographs to confirm the depth marker is present and simultaneously indicate the pond liquid level is above, at, or below the minimum levels required.

Nutrient Monitoring

Process Wastewater, Manure, Plant Tissue, Soil, and Irrigation Water

Total phosphorus and total potassium analyses are proposed in the draft revisions to the General Order MRP. Total phosphorus and total potassium analyses are potentially problematic and not well suited to trend analyses for compliance purposes for solid and liquid media at dairy facilities where soil may be entrained and particularly where soil is the media of interest. MCDEH recently evaluated laboratory data from Hilmar, California land application area soil samples. Total phosphorus (P) and total potassium (K) analytical data from an ELAP certified laboratory ranged from 0.03 to 0.09 percent total phosphorus and 0.24 to 0.56 percent total potassium in Hilmar Loamy Sands (HgA, density at approximately 120 lbs/cu.ft.). The composite sample results were from soil columns from grade to 3 feet below grade surface in all cases. Calculated mass for total phosphorus ranged from an estimated 4,704 to 14,113 lbs/acre and total potassium from 37,636 to 87,817 lbs/acre in the top three feet. As a comparator MCDEH utilized the Kearney Foundation Special Report; Background Concentrations of Trace and Major Elements in California Soils, March 1996. Ranges in concentration, element mean values in the Kearney Report for California soils are reported as 0.0412 % for phosphorus (P=412 mg/kg) and 1.73 % for potassium (K= 17,300 mg/kg), no background data for HgA soils are included in the Kearney report. See MCDEH Soil Analyses and Component Content Estimates table attached for mass estimates for numerous elements. The individual elemental (Na, Ca, P, K, S...) contribution in soil is often significant without nutrient applications for or from crop production. Given the lack

