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Thank you for the opportunity to provide input into the draft General Order for Dairies with Manure Anaerobic Digester or Co-digester Facilities. Comments herein focus on the Monitoring and Reporting Program component of the General Order.

Our comments are summarized with background detail provided below. Comments from the University of California Dairy Quality Assurance Workgroup subcommittee on the draft revised MRP for the General Order for Existing Milk Cow Dairies will provide more detailed information regarding soil analyses.

If the objective of the MRP is to discourage dairies from seeking coverage under this General Order it will be successful as it is written.

### Summary

1. Display monitoring requirements in tables similar to tables in the MRP of the General Order for Existing Milk Cow Dairies.
2. Re-write paragraph three on page 1 and align laboratory accreditation requirements, analytical methods, and analytes to be consistent.
3. Restructure sampling and analytes.
4. Simplify language in Visual Inspections section of MRP.
  - a. Use accepted definition of freeboard and redefine what is required for observation/documentation.
  - b. Replace "no earlier than 1 September and no later than 1 November" with "between 1 September and 1 November".
  - c. Clarify what is required in Land Application Area. Daily inspections required during wastewater applications: 3) inspect and note water supply wells....
5. Remove requirement b. (1) on page 4 Monthly during the growing season: (1) inspect and document land application areas with stunted growth...
6. Do not limit method of measurement of wastewater to flow meters.
7. Remove field calibrations of flow meters.
8. Define NOA

9. Review UCCE comments on MRP for Existing Milk Cow Dairies
10. Remove item 3 from General Monitoring Requirements
11. Clarify or remove item 7 from General Monitoring Requirements
12. Change due date from 1 August to 1 July for annual report submission.
13. Remove item 7 on page 17 (submission of copies of records documenting monthly wastewater EC).
14. Define non-nutrient salts (page 18, (11)), and calculations to determine salt balance (page 18, (12)).
15. Remove item 13 page 18 (restricting of salt to 2,000 lbs per acre...).

1. **Display monitoring requirements in tables similar to tables in the MRP of the General Order for Existing Milk Cow Dairies.** Many dairy operators and dairy professionals (consultants) are familiar with and accustomed to working with the tables in the GO for Existing Milk Cow Dairies. Streamline the ability to understand the MRP process and improve readability by structuring the MRP requirements similar to the tables identified in the General Order for Existing Milk Cow Dairies.
2. **Re-write paragraph three on page 1 and align laboratory accreditation requirements, analytical methods, and analytes to be consistent.** The language in this paragraph is inconsistent and conflicting. The California Department of Health Services does not certify laboratories for analyses of manure, plant tissue, or soil. The following table was retrieved from the ELAP website indicating the Fields of Testing available for accreditation. The ELAP accreditation process accredits laboratories for various protocols and analyses (equipment and analyte specific) in specific sample types. This does not mean that if a lab is accredited for total phosphorus in drinking water that it is also accredited for total phosphorus in solid manure, soil, or plant tissue as the methodologies are completely different. Separate audits within the laboratory would be required for these accreditations - however, since ELAP does not accredit in these sample types, such a requirement is unachievable. Paragraph 3 adds confusion in that many analytical methods already specify sample collection procedures. Methods for manure analyses are absent. Additionally, testing methods are not available for all the list of analytes identified in subsequent pages of the MRP. Test Methods for Evaluating Solid Waste (SW-846) does not provide protocols for all analytes described. Reference to similar methods from the MRP for Existing Milk Cow Dairies would provide continuity. The use of MAP and NAPT methods, as well as those identified and approved by the University of California would be a step forward. California Analytical Methods Manual for Dairy General Order Compliance—Nutrient Management Plan Constituents was developed specifically to address the need to have an analytical methods manual available to accommodate future analytes not currently included in existing national proficiency testing programs or methods manuals. It is available at: [http://anlab.ucdavis.edu/docs/uc\\_analytical\\_methods.pdf](http://anlab.ucdavis.edu/docs/uc_analytical_methods.pdf)

The analytes required within various media in the MRP are inconsistent. Why conduct general minerals for most macro-elements, yet sulfur is not analyzed as total sulfur but at sulfate or sulfide (depending on the material analyzed). The sulfate analysis is challenging and results lack repeatability in many samples because of low concentrations found.

This MRP requires analysis of EPA 503 metals on the feedstocks. It is important to identify concentrations of heavy metals in feedstock which would trigger analysis as a hazardous waste so that operators are able to prohibit importation of such materials (clearly not allowed). Detailed further analysis of the digestate liquids and/or solids for 503 metals is excessive once the imported feedstock is deemed acceptable. These analytical requirements add to the expense and contribute to the undesirability of this Order.

The analytical requirements for soils are excessive and the requirement that facilities with co-digestion are obligated to conduct EPA 503 metals is a clear deterrent to individuals considering co-digestion.

Detailed analytical requirements for irrigation water sources are excessive. These are particularly excessive at facilities with multiple wells.

http://www.cdph.ca.gov/certific/labs/Documents/ELAP-FOT.pdf

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Field of Testing (FOT) / Field of Accreditation (FOA)

Code	Description	Complexity	Program
101	Microbiology of Drinking Water	Medium	ELAP, NEALP
102	Inorganic Chemistry of Drinking Water	Medium	ELAP, NEALP
103	Toxic Chemical Elements of Drinking Water	Medium	ELAP, NEALP
104	Volatile Organic Chemistry of Drinking Water	High	ELAP, NEALP
105	Semi-volatile Organic Chemistry of Drinking Water	High	ELAP, NEALP
106	Radiochemistry of Drinking Water	Medium	ELAP, NEALP
107	Microbiology of Wastewater	Medium	ELAP, NEALP
108	Inorganic Chemistry of Wastewater	Medium	ELAP, NEALP
109	Toxic Chemical Elements of Wastewater	Medium	ELAP, NEALP
110	Volatile Organic Chemistry of Wastewater	High	ELAP, NEALP
111	Semi-volatile Organic Chemistry of Wastewater	High	ELAP, NEALP
112	Radiochemistry of Wastewater	Medium	ELAP, NEALP
113	Whole Effluent Toxicity of Wastewater	High	ELAP, NEALP
114	Inorganic Chemistry of Hazardous Waste	Medium	ELAP, NEALP
115	Extraction Test of Hazardous Waste	Low	ELAP, NEALP
116	Volatile Organic Chemistry of Hazardous Waste	High	ELAP, NEALP
117	Semi-volatile Organic Chemistry of Hazardous Waste	High	ELAP, NEALP
118	Radiochemistry of Hazardous Waste	Medium	ELAP, NEALP
119	Toxicity Bioassay of Hazardous Waste	High	ELAP, NEALP
120	Physical Properties of Hazardous Waste	Low	ELAP, NEALP
121	Bulk Asbestos Analysis of Hazardous Waste	Low	ELAP, NEALP
122	Microbiology of Food	Medium	ELAP
123	Inorganic Chemistry and Toxic Chemical Elements of Pesticides Residues in Food	Medium	ELAP
124	Organic Chemistry of Pesticide Residues in Food by GC/MS	High	ELAP
125	Organic Chemistry of Pesticide Residues in Food (excluding GC/MS)	High	ELAP
126	Microbiology of Recreational Water	Medium	ELAP
127	Shellfish Sanitation	High	ELAP
128	Air Quality Monitoring	Medium	ELAP

### 3. Restructure sampling and analytes

The analytical requirements to sample on a quarterly and then semi-annual basis non-manure feedstocks, digestate prior to mixing in dairy liquid storage structure, and output from digester (liquid and/or solids) is excessive. Depending on the amount of material imported (percentage of what is fed into the digester) there may be limited value in obtaining quarterly and semi-annual samples. The frequency of sampling imported material should only be required when the material exceeds a threshold for percent of total inputs or specific analytes as determined through input with stakeholders.

It is important to identify (potentially in an attachment to the MRP) why each of the constituents is being analyzed and how the data will be used. What is the value of iron, manganese, copper, and the macroelements? How will these data be used? Analysis of wastewater being discharged by the co-digester prior to mixing in a dairy wastewater pond as indicated on page 6 (6) requires installation of a sampling port. This is an added design and construction cost as many digesters discharge to retention ponds through inground pipelines, maintaining the anaerobic condition of the material.

### 4. Simplify language in Visual Inspections section of MRP.

- a. Use accepted definition of freeboard and redefine what is required for observation/documentation. One of the many confusing points with dairy operators is the inconsistent use of the word freeboard. In the technical sense freeboard is the unfilled space between the high water line (including a 25-yr, 24-hr storm event) and the top of the lowest part of the earthen embankment. Based on this definition, RB5 freeboard is 1' for in-ground ponds and 2' for partially or completely above ground ponds. It appears that the analysis required of operators (page 3, b. (1)) is to define remaining available storage capacity plus freeboard. Reword or define this requirement such that individuals are documenting just the available storage capacity.

- b. Replace "no earlier than 1 September and no later than 1 November" with "between 1 September and 1 November".
- c. Clarify what is required in Land Application Area. Daily inspections required during wastewater applications: 3) inspect and note water supply wells.... This requirement needs to be clarified. Why is it necessary to inspect and note water supply wells daily during wastewater application. The well is not moving from one irrigation or year to the next. Monitoring daily is excessive and not necessary once the setback is defined and appropriate documentation is conducted regarding the setback. Additionally, as written, there is a logistical issue. Once crops begin growing, it may be quite difficult to enter into fields and evaluate wells.
5. Remove requirement b. (1) on page 4 Monthly during the growing season: (1) inspect and document land application areas with stunted growth... Although it is possible to conduct observational analyses on crop growth around the perimeter of a field, it is nearly impossible to do this throughout a field with any precision. It is unclear why this is required and what it will accomplish given that the units of nutrient removal are based on the whole field (tons per field/acres per field=average removal of tons per acre).
6. Do not limit method of measurement of wastewater to flow meters. Restricting method of measurement of wastewater flow to flow meters prohibits use of other options, and potentially new technologies.
7. Remove field calibrations of flow meters. Flow meters should not be calibrated under field conditions. If a requirement is put in place, meters should be calibrated per manufacturers suggested maintenance schedule. Proper calibration is conducted under defined conditions with weighing tank or known volume of water. These conditions do not exist in the field. Water Districts within CA that use flow meters often maintain a 20 to 30% overage of meters which allows them to swap out part of their meters for calibration during the off season.
8. Define NOA This abbreviation is used within the MRP and is not defined.
9. Review UCCE comments on MRP for Existing Milk Cow Dairies The University of California Dairy Quality Assurance Workgroup is submitting comments regarding proposed modifications for the MRP for Existing Milk Cow Dairies. Considerable discussion is devoted to University's recommendations for soil and groundwater analyses. Specific to this MRP are comments regarding the value of soil samples taken every five years, and the analytes required for analyses.
10. Remove item 3 from General Monitoring Requirements This documentation appears to be covered by items 6 and 8 (chain of custody form). If item 3 is additional information, clarify the difference between items 3 and items 6 and 8.
11. Clarify or remove item 7 from General Monitoring Requirements Inclusion of information related to required holding time and protocols for collection and handling of samples is appropriately placed in the approved sampling procedures. The procedures need to be modified and updated to accommodate required analytes within this MRP.
12. Change due date from 1 August to 1 July for annual report submission. Maintain a single due date for Annual Reports from dairy operators covered under either this General Order or the General Order for Existing Milk Cow Dairies. This will minimize confusion with individuals covered under each of these Orders.
13. Remove item 7 on page 17 (submission of copies of records documenting monthly wastewater EC). There is little new information to be gained from analysis of monthly EC data versus tabulated results from laboratory data.
14. Define non-nutrient salts (page 18, (11)), and calculations to determine salt balance (page 18, (12)). Non-nutrient salts are not defined in the glossary therefore it is not possible to evaluate this request and determine if it is of value.
15. Remove item 13 page 18 (restricting of salt to 2,000 lbs per acre...). The definition of salt in the glossary includes anything that reacts with a weak acid or a weak base. Under this definition, nutrients required for plant growth and development as well as organic material would be included in the total determination of salt application. As written, this item does not address 'salts removed' from land application area, but merely restricts applications to the soil. Since there is no numeric value for compliance with salt application, there is no way for an operator to

include a statement indicating how the NMP will be modified to bring the facility back into compliance.