

Response to Comments

On

Tentative Waste Discharge Requirements
General Order

For

Existing Milk Cow Dairies

Item 10

Central Valley Regional Water Quality Control Board Meeting
3 May 2007

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Community Water Center (on behalf of Community Water Center; Center on Race, Poverty, and the Environment; Motherlode Chapter of the Sierra Club; and Asociacion de Gente Unida por el Agua (AGUA))	23 April 2007	K 1-3
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Commenter A

**Comments by
San Joaquin County and Delta Water Coalition
Received 16 April 2007**

General Comment: Dairy parcels represent a significant portion of the Coalition's acreage. The removal of dairy lands and lands that receive dairy dry manure jeopardize the continuous participation of those lands in the Irrigated Land Program. If these parcels were removed from our Coalition, it would denigrate the ability of the Coalition to monitor and improve water quality in our region.

Response: The Order has been revised and no longer indicates that lands receiving manure will be placed under waste discharge requirements. This will allow these lands to remain in the Irrigated Lands Program.

Comment: Land Application Specification C.3 - The requirement that all lands part of a dairy or owned by a dairy be covered under the Order, even those lands that do not receive any type of discharge from a dairy operation does not make logical sense. Lands that do not receive waste discharges from a dairy operation are typically farmed and managed as any other farm in the area. Lands that do not any type of waste from a dairy, no matter who owns them, should be allowed to be covered under the Irrigated Lands Program

Response: The Order has been revised to remove this requirement.

Comment: Attachment C, Contents of a Nutrient Management Plan, Item I.C - This reporting requirement takes the land definition in the Land Application Specification C.3 out even further by requiring that all lands owned by the dairy operator within a five-mile radius be identified as part of the Nutrient Management Plan

Response: This Order is part of a regulatory program. If the Discharger has land near the dairy but claims that it is not used for waste disposal, the Board needs to be able to verify this claim. Part of this process is to identify the location of this property.

General Comment – Dry Manure: The application of dry manure is restricted by the Order to the same requirements as processed water. This will cause both dairy farmers and non-dairy framers unnecessary hardship, without any actual gain to water quality. Process water application and dry manure application should be separated and treated as different applications.

Response: The Order has been revised to address this issue. It no longer requires a written agreement with each third party that receives solid manure.

Comments by
University of California Dairy Quality Assurance Program
Workgroup 1 (Groundwater)
Received 18 April 2007

Comments regarding the Groundwater Monitoring Program can be summarized as:

1. The most common groundwater pollutant associated with dairies is nitrate.
2. Dairies are an agglomeration of many potential sources of groundwater nitrate contamination.
3. Additional sources of nitrate adjacent to dairies may also cause groundwater nitrate contamination: septic leach fields, commercial fertilizers used on non-dairy agricultural lands, and municipal wastewater treatment plant effluent percolation, among others.
4. Nitrate leaching from a dairy to groundwater is not uniform, not even within a single field or single lagoon.
5. Capturing all possible groundwater quality violations underneath a dairy may require the installation of many tens of monitoring wells if groundwater monitoring is to be done with the same effectiveness as is done at other regulated but much more localized waste discharge sites, e.g., for the percolation pond for a food processor or of a wastewater treatment plan, or at a gas station with an underground storage tank location.
6. The primary source of groundwater nitrate contaminations on dairies is the land application area, and the primary driver of nitrate leaching to groundwater in the land application area is the nitrogen balance of the land application area.
7. Addressing farm and field budgets is the first step to control and further prevent future groundwater contamination.
8. A farm-wide land application area nitrogen balance should be used as the primary indicator of whether a dairy of potential groundwater contamination and all other information should be used only as secondary indicators.

Response: Groundwater monitoring at existing dairies discharging to land will provide information on existing groundwater conditions, changes in groundwater quality with time, and a feedback mechanism to monitor the efficacy of existing and new management practices.

The complexities listed in items 2 – 5 above are common to all regulated sites where monitoring wells are used to monitor the effect of a discharge on groundwater quality. Groundwater monitoring well networks are designed and constructed under the responsible charge of professional engineers and geologists, and must contain a sufficient number of wells,

appropriately located, to monitor the effects of dairy activities on groundwater quality.

UC Davis' general and specific comments indicate three to eight wells could at best serve as an indicator of groundwater conditions, and that it would take many more wells to capture all possible groundwater quality violations. With respect to the General Order, monitoring well networks should be designed to provide a reasonable understanding of groundwater conditions and changes in quality due to dairy discharges and nutrient management practices. Additional wells may be needed to define the extent of a nitrate plume if detected; however, generally, additional wells would be requested as part of an enforcement order, not as part of the General Order.

Currently 46 dairies in the southern San Joaquin Valley monitor groundwater through dedicated monitoring wells completed in first encountered groundwater. Each monitoring well network was designed by a consulting engineer or geologist engaged by the dairymen. The average number of wells installed per dairy is four to five. Generally, wells are drilled up gradient of the facility, and down gradient of the lagoons, corrals, and in the cropland.

UC Davis urges that a farm-wide land application area nitrogen balance be used as the guiding indicator of potential groundwater contamination and that other information be used only as secondary indicators. Current data encompassing over 100 dairies in the southern San Joaquin Valley indicate whole farm nutrient balances are not predictive of whether groundwater pollution exists beneath a dairy facility.

Ninety-three dairies in the southern San Joaquin Valley have submitted groundwater data from their water supply wells. Fifty-nine of these (63%) have at least one well in which the detected concentration of nitrate exceeded the maximum contaminant level (MCL) of 45 milligrams per liter (mg/L). Each of these dairies has been the subject of a nutrient balance exercise on a whole farm basis. The nutrient balance exercise indicated only eight dairies (9%) had insufficient land to utilize all the liquid nutrients (some solid manure is exported off site).

Forty-six dairies in the southern San Joaquin Valley have submitted groundwater data from monitoring wells installed in first encountered groundwater. Forty of these (87%) have at least one well in which the detected concentration of nitrate exceeded the MCL of 45 mg/L. Each of these dairies has been the subject of a nutrient balance exercise on a whole farm basis. The nutrient balance exercise indicated only six dairies

(13%) had insufficient land to utilize all the liquid nutrients (some solid manure is exported off site).

In summary, whole farm nutrient balances indicated only 9% and 13% of dairies within the sample populations have excess nutrients. Conversely, groundwater quality data indicates between 63% and 87% of dairies in the sample population overlie groundwater containing nitrates in excess of the MCL. Based on the existing data encompassing over 100 dairies (15% sample of existing dairies in the southern San Joaquin Valley), whole farm nutrient balances are not an effective tool to determine whether a dairy has impacted underlying groundwater with nitrates.

Comments by
Community Alliance for Responsible Environmental
Stewardship (CARES)
Received 20 April 2007

“Cover Letter Comments”

Comment: The general order requires that all dairies must have monitoring wells installed, regardless of actual risk to groundwater, local hydrology, management capabilities, and most important of all, the likelihood that the wells will provide data that can be used to alter management decisions. The cost of installing wells, collecting and analyzing data, and submitting reports is very high. Groundwater monitoring is one of the least effective and most expensive methods of protecting water quality. Instead, groundwater monitoring should be required in a targeted and strategic manner when risk truly calls for it. Monitoring should be geared to validate good management practices and control strategies. The science of establishing the source(s) of nitrates in groundwater wells is still emerging and a strong, science-based link between cause and effect must be established before groundwater data are used for enforcement purposes.

Response: Groundwater monitoring is required to verify that the operations of the dairy are effective in protecting groundwater quality. Finding No. 22 already indicates that alternative methods of environmental monitoring will be considered, so no change is needed if stakeholders want to pursue further discussions on this issue. No change made.

Comment: The requirement that dairies wishing to pursue expedited review (Tier I) build double-lined leachate collection ponds to store wastewater until it can be applied to crops creates an unprecedented standard for dairy lagoons, essentially requiring zero leakage, while driving up the costs of lagoon construction. The ponds are not used for permanent storage and should not be required to be constructed to the standards applicable to permanent storage facilities. Making manure lagoons “leak proof” would be an expensive, wasteful and misguided use of resources. Instead, by building lagoons to tough, time-tested federal standards (Natural Resources Conservation Service), we can assure that the ponds can be expected to perform adequately and will pose no more risk to groundwater than application of manure to crops. The staff policy of requiring groundwater modeling for Tier 2 designs makes it overly burdensome or impossible to gain approval for lagoons, even if they meet generally recognized engineering standards and all other requirements of the Regional Board. The modeling requirement is inappropriate and sets a standard that is both impossible to meet in most cases and misinterprets the Resolution 68-16 non-degradation policy as applying to agriculture. Simply put, commercial agriculture with the very best technology currently available cannot be conducted with no impact and no degradation to groundwater. The appropriate standard

should be Best Practicable Treatment or Control (BPTC).

Response: The Tier I lagoon option is not required. It is available for dairies that do not want to wait for the staff review required by Tier II. Under the Tier II process, modeling is required to assess the water quality impacts of the proposed project. No specific modeling approach is required. This Order must comply with Resolution No. 68-16. No change made.

Comment: The order's clear intent is to allow reasonable herd size fluctuation for dairies covered under the order (plus or minus 15 percent). However, the draft order sets the herd baseline almost two years ago. It is not appropriate or reasonable to set the effective date for CEQA compliance for dairies under this order at a date significantly prior to adoption of this order

Response: Additional information has been added to the Order to explain the Board's position on this issue.

Comment: The current draft calls for written agreements between dairy operators and off-site haulers and users of solid manure. Solid manure is a fertilizer resource that does not pose significant environmental risks and should be subject only to simple reporting requirements, e.g. a simple shipping manifest identifying the buyer and seller.

Response: Revisions have been made to this portion of the order.

Comment: The current draft order seems contradictory in places with regard to enforcement flexibility. CARES coalition members feel strongly that this order is a "first-generation" permit that sets especially stringent and complex requirements for dairy producers. Producers making a good-faith effort to comply with the requirements should not be subjected to unnecessarily harsh enforcement in the event of failure to meet every requirement. CARES suggests some specific language changes that will assist in clarifying enforcement policy.

Response: The proposed changes do not reflect the Board's position on enforcement. No change made.

"Technical Appendix Comments"

Comment: Changes are proposed to Findings 10, 11, 19(a) and Attachment "E" to change the "existing herd size" from the number of mature dairy cows as of 17 October 2005 to the number reported in an updated Report of Waste Discharge filed within 90 days of adoption of this order. Also, "animal units" should be used instead of mature dairy cows to ensure uniform reporting.

Response: Additional information has been added to the Order to explain the Board’s position on the “existing herd size” issue. The Order uses mature dairy cows instead of animal units to be consistent with the US Environmental Protection Agency, which first coined and then abandoned the use of the term “animal units”.

Comment: Finding 20(a) implies that no storm water of any type can be discharged from the production area. The federal Clean Water Act encourages the separation and diversion of clean storm water from the production area to limit the amount of manure water that must be stored on-site and reused. Finding 20 (a) needs to be reworded to ensure that clean storm water can still be diverted from the production area consistent with the intent of the federal Clean Water Act.

Response: This is not an NPDES permit and it does not allow discharges to surface waters except where agricultural exemptions apply. No change made.

Comment: Finding 24 in the Tentative General Order is worded to imply that all dairy operators have been polluting. The statements in Finding 24 are overly broad and paint all dairies with the same brush regardless of their environmental management. This is not the case and there is no evidence presented in the General Order or in the attached Information Sheet that supports such broad statements.

Response: The original language reflects the Board’s understanding and position on this subject. Information provided by the University of California indicates that groundwater quality impacts are probably serious and widespread. No change made.

Comment: A new finding should be included immediately following Finding 25 to lay out the Board’s expectations that the all applicable water quality standards will be achieved in all waters of the State in the Central Valley Region within the term of this General Order nor does the Water Code or State Water Board Resolution 68-16 require instantaneous compliance with applicable water quality standards.

Response: The proposed statement does not reflect the Board’s position. No change made.

Comment: The wording of Finding 29 implies that State Water Board Resolution 68-16 will be applied to the Land Application Areas and used to regulate the application of water and nutrients to farmland. This is a huge step ahead of the intent of the original Resolution 68-16.

Response: It is the Board's position that Resolution 68-16 applies to the discharges covered by this Order. The policy applies to "Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters..." There is no exemption for agriculture or dairies. No change made.

Comment: The use of solid manure by neighboring farmers should not be prohibited. The use of a formal written agreement for such use would likely discourage these farmers from using manure fertilizers for crop production.

Response: The Order does not prohibit the application of manure. It only requires approval from the landowner before it occurs. No change made.

Comment: The staff proposal for Tier 1 consideration is not practical, efficient or cost-effective. It does not represent Best Practicable Treatment and Control. The Tier 1 design would place a financial burden on the dairy industry that is unacceptable

Response: Tier 1 was an option added in response to industry concerns about the length of time it takes to obtain review of other types of ponds. The Order does not require any facility to install ponds meeting Tier 1 criteria. No change made.

Comment: Tier II designed ponds are required to "include a technical report and groundwater model" which "demonstrate the amount and quality of seepage from the proposed pond and its effect on groundwater quality." This appears to be an attempt within the proposed order to codify a previous staff policy for requiring use of mathematical models to demonstrate no degradation of groundwater. The appropriate standard for Tier II retention ponds is Best Practicable Treatment or Control. In most cases, this will require building to Natural Resources Conservation Service (NRCS) standards for animal waste storage lagoons. Requiring a model to demonstrate that no degradation will occur sets and inappropriate standard that cannot be met in a cost-effective manner and fails to recognize that the manure will be applied to land.

Response: Modeling is necessary to evaluate the expected impacts of the proposed ponds. While ponds may be designed to the NRCS standard or other criteria, their impact on underlying groundwater will depend on site-specific conditions. Such a review is needed to verify compliance with Resolution No. 68-16. No change made.

Comment: Section C2 now stresses the need for a written agreement before any solid or liquid manure can be utilized off-site for nutrient management. This requirement is being imposed on the dairy operators while on adjacent land,

chemical fertilizers and other organic fertilizers are being applied without any regulation or requirement for Best Management Practices. This will discourage other farmers from using dairy manure as a fertilizer because of fear of increased regulation.

Response: This section of the Order has been revised.

Comment: Land Application Specifications C (2)(b)(iii) is very restrictive for the third party and will likely stop all neighboring farmers from using solid and liquid manure as an organic fertilizer.

Response: This section of the Order has been revised.

Comment: Provision E (10) contains an absolute requirement that any instance of noncompliance with this Order is a violation of the law. This Provision should be modified consistent with the language of the findings to recognize that dischargers will need time to make improvements and that the Order may need to be revised in the future.

Response: No change is needed. The Board will follow the State Water Resources Control Board's enforcement policies and guidelines when considering enforcement actions.

Comment: Use of the word "high" in Information Sheet, page IS-6, first full paragraph, first sentence is undefined and confusing. The word should be left out of the sentence as it does not change its meaning.

Response: Relative to levels that cause impacts in receiving waters the concentrations in manure and dairy wastewater are high. For example, coliform concentration in manure can be orders of magnitude higher than receiving water objectives. No change made.

Comment: The present wording of (1) Information Sheet Page IS-8, Applicable Regulations, Plans, and Policies, Title 27 California Code of Regulations (CCR), Third Paragraph, Third Line and (2) Attachment "A" to the Monitoring and Reporting Program, First Paragraph, Line 8 places the burden of water quality problems off the dairy site to be the responsibility of the dairy operator. This places a financial burden on the dairy operator to install monitoring wells if any neighboring property shows high levels of nitrates which may have come from a variety of sources, including septic tank leach fields, fertilizer use and background water quality.

Response: The purpose of obtaining and reviewing the data from the wells and drainage systems is to help prioritize which dairies receive monitoring wells first. It will identify locations where groundwater uses are already

impacted and focus attention on those areas. Further evaluation will be needed to identify sources of the elevated levels. No change made.

Comment: The Board intends to utilize tile drain effluent monitoring to determine if monitoring wells are needed at a dairy site. The criterion utilized is when the tile drain effluent is > 10 mg/l nitrate-nitrogen. This will place that dairy in a high priority for installation of monitoring wells.

Response: Subsurface drainage systems discharging more than 10 mg/L nitrate-nitrogen are an indication that groundwater has been adversely impacted, regardless of the age of the water being discharged. No change made.

Comment: The present wording of Information Sheet Page IS-8, Applicable Regulations, Plans, and Policies, Title 27 California Code of Regulations (CCR), Second Paragraph, Final Sentence and Attachment "A" to the Monitoring and Reporting Program, First Paragraph, Second Sentence means that a mandatory 100-200 dairies need to install monitoring wells each year. In reality, this should be based on the findings of the monitoring effort, the efforts to implement nutrient management plans and a nutrient balance, the availability of consultants and other professionals to prepare monitoring well plans and most important is the Regional Board's ability to review and approve these plans while working on other parts of the General Order implementation

Response: This portion of the Order has been reworded.

Comment: Information Sheet Page IS-17, Applicable Regulations, Plans, and Policies, Water Quality Control Plans, Receiving Water Limitations for Dairies is establishing receiving water limitations for both ground and surface waters while most of the limitations defined in the paragraph have never gone through a public review process. The establishment of water quality objectives is clearly defined as a public process by the Water Code (Basin Planning). Remove the entire paragraph from the Information Sheet or make it clear that this is presented as guidance for evaluation and is not intended for use in enforcement actions.

Response: The information sheet is clear as to how this information will be used. No change made.

Comment: The seepage rate for ponds that receive manure sealing credit given on Information Sheet Page IS-18 is not consistent with Table 1 of the Information Sheet. One of them is a typo and needs to be corrected

Response: Correction made.

Comment: The discussion of enforcement on Information Sheet, Page IS-27 needs to reflect the Board's desire to ensure that the required reporting be done in an efficient manner and is a priority for the Board in this first round of the General Order.

Response: An additional finding has been added to address this.

Comment: With the requirement to now include all the lands that belong to the dairy, there is a need for more lines for the County Assessor Parcel Numbers (APN) on the Existing Conditions Report (Attachment A).

Response: Additional space can be provided, as necessary.

Comment: The way the table on Page B – 2, I (D) of the Waste Management Plan (Attachment B) is presently written, the 3-month old calves are left out. Suggest the wording be changed to be consistent with that required by the air districts.

Response: Change made, as suggested.

Comment: The requirement to store the records for the Nutrient Management Plan for 10 years are inconsistent with the present 5 year requirements in the CAFO rule of the federal Clean Water Act and the requirements for the Monitoring and Reporting Program and the Standard Provisions and Reporting Program of this tentative General Order. To avoid confusion over what needs to be kept for how long, the time frames should be made compatible with other parts of the Order and the federal Clean Water Act.

Response: Application of waste to land impacts groundwater quality. There is often a multi-year delay between activities on the field and impacts in the groundwater. A longer record retention time is needed to help evaluate cause and effect. No change made.

Comment: The requirement to provide setback from critical wellheads needs to be clarified. There is no explanation in the Technical Standards for Nutrient Management, Page C – 15, VII (D) or in the information sheet of the origin or basis of this requirement.

Response: The only sole-source aquifer within the Central Valley at this time is the Fresno Aquifer, so the impact of this requirement would be limited to this area, until/unless additional aquifers are designated. An increased setback would be more valuable for domestic wells than municipal wells because municipal wells are more likely to be deep and to be constructed with deeper surface sanitary seals, both of which reduce the risk of movement of surface-applied wastewater into the well. In

contrast, domestic wells are frequently older and shallower, with shorter surface sanitary seals. Frequently, construction information for such domestic wells is incomplete or lacking altogether, which makes determination of the risk from land application of wastewater near the well very difficult.

Comment: If the crop material is incorporated into the soil, its nitrogen content should be considered when establishing application rates, but waste application should not be prohibited (Technical Standards for Nutrient Management, page C-9,V (5)(a)(10)).

Response: The intent of this prohibition is to make sure that the application of waste to land is for beneficial purposes (crop production with nutrient uptake and removal) and not just for disposal. No change made.

Comment: The Written Agreement portion of the Wastewater Tracking Manifest (Attachment D) should be made consistent with the comments we made on Land Application Specification C (2) of the General Order.

Response: Revisions made as suggested.

Comment: The monitoring and reporting program calls for extensive monitoring of storm water and tail water from dairy facilities that will be expensive, will be done prior to the Water Quality Coalitions under the Irrigated Lands Program developing the information you requested on where the priority water quality problems are, and will be counter productive to the success of the Water Quality Coalitions as a large percentage of the lands presently participating in this program are dairy farms and this land may be withdrawn from the Coalitions. The Board needs to set a monitoring program that focuses on existing water quality problems, not just on a set monitoring program for a dairy regardless of their location or management practices.

Response: Alternative surface water monitoring programs may be proposed. See item 5 under the Monitoring of Surface Water section of the Monitoring and Reporting Program. No change made.

Comment: General Reporting Requirement No. 1 in the Monitoring and Reporting Program, Page MRP-15, General Reporting Requirements states: "The results of any monitoring conducted more frequently than required at the locations specified herein shall be reported to the Central Valley Water Board." This will provide a disincentive to dischargers to collect additional samples or conduct monitoring proactively to increase their own knowledge or to support research efforts. This requirement should be removed.

Response: This is a routine requirement. It provides the Board with the same information base the Discharger has and prevents the selective submittal of data that favors the Discharger. No change made.

Commenter D

**Comments by
California Dairy Quality Assurance Program (CDQAP)
Received 22 April 2007**

Comment: Clarification needed regarding the July 1, 2009 deadline for Nutrient Management Plan completion. Specifically, CDQAP requests that, as long as a producer is in compliance with time schedule in Table 1, producer be viewed as "on schedule" and not have an added 100 points toward its ranking score.

Response: Table A in Attachment A of the Monitoring and Reporting Program has a footnote that states that the 100 points will be added only if the preparation and implementation of the nutrient management plan is behind schedule. The schedule referred to is in Table 1. No change made.

Comment: To assist CDQAP with its outreach, it asks for adjustment of report submittals to have a minimum of six months between due dates for required reports. It specifically asks that the report due October 31, 2008 be extended to December 31, 2008.

Response: The Order has been revised to make this change.

Comment: CDQAP recognizes that response dates vary greatly depending on report required. Recognizes that WC 13264 requires that a RWD for a material change must be provided 140 days prior to the change, and recognizes the need to have a report within two weeks of an offside discharge. But otherwise suggests that reports be included in the annual report, or if needed before the annual report, to be set as 60-days prior to, or 60-days after, a particular event (event depending).

Response: The timelines vary for a reason. While this may make it harder for the Discharger to remember, this issue can be addressed after adoption of the Order by developing a quick reference sheet for the Dischargers to use. No change made.

Commenter E

Comments by
University of California Dairy Quality Assurance Program
Workgroup 2 (Subcommittee for WDR Document Review)
Received 23 April 2007

Comment: We want to emphasize the need to streamline document submittal dates and to modify the October 2008 date to December 2008 (for submittal of the Statement of Completion of Item V of Attachment C [Nutrient Management Plan] and Preliminary Infrastructure needs Checklist)

Response: Modification made.

Comment: Page 10 Item 6 (General Order) - This item implies that the CAL EPA Emergency Animal Disease Regulatory Guidance for Disposal and Decontamination has established a new regulatory requirement for the handling of normal mortality associated with animal facilities (<http://www.calepa.ca.gov/Disaster/Documents/EADisease.pdf>). The referenced document serves as a guide to handle EMERGENCY ANIMAL DISEASE (during catastrophic mortality with and without infectious agents). The document was not intended to be used as a new regulatory process to handle mortality associated with normal management activities. Existing regulations do not and should not prohibit onsite disposal of animals. From a water regulatory perspective operators are required to submit a ROWD for on-site burial. Rendering options are not available throughout Region 5 jurisdiction. It is wise to allow operators who do not always use rendering to identify their mortality management plan.

Response: The reference to the guidelines was for information only. Where no emergency exists, this Order prohibits on-site disposal of mortality. The Discharger will have to obtain a different Board order or waiver of waste discharge requirements in order to dispose of dead animals. No change made.

Comment: Page 11 Item B (GO) - Title 27 adopted a 20- year peak stream flow criteria in 1984. The source of such information should be identified. FEMA data and maps are available for 100- and 500-year events. They do not compile 20-year data.

Response: This information will have to be developed by the Discharger (through a qualified consultant in most cases) if it is not available from other sources. No change made.

Comment: Page 11 Item B4 (GO) – Change language to read “Untreated wastes and land application areas shall be managed to prevent microbial contamination of those crops grown for human consumption which are unprotected by food processing” where the term “crops grown for human consumption” refers only to crops which will not undergo subsequent processing which adequately remove

potential microbial danger to consumers. “Wastes” refers only to untreated material and not dairy manure products which are processed to produce soil amendments which can be safely used for fresh or processed human foods.

Response: Revisions have been made to this section.

Comment: Page 12 Item 7 (GO) - The fix for Title 27 as identified in Tier 1 is extreme and does not provide adequate justification given the disclaimers associated with existing Central Valley data. Identification of a hydraulic conductivity, liner compaction and depth requirements and requirement of construction quality assurance seems reasonable. There has been insufficient time to evaluate the two-tiered process and provide more concise comments.

Response: Tier I pond requirements are an option, not a requirement. This is offered in response to a dairy industry request for an option that could be approved rapidly.

Comment: Page 14 Item 13 (GO) - It is assumed that any marking device that identifies a ‘do not exceed’ level is sufficient. This would include a marker placed in a side of a pond in lieu of a pole marker going into the bottom of the pond. Such a marker can create management disasters in ponds that are deeper than 5’. Additionally, it should be acceptable to mark a final pond (not necessarily every pond) in a multi-pond system. It is difficult to insert a gauge pole into the compacted bottom of an existing pond. Such poles may serve as conduit to groundwater. Tall poles will require anchoring components which can result in liquid flow through the pond and serve to increase solids accumulation.

Response: Revisions have been made to this section of the Order. There are no specific requirements for the type of marker used.

Comment: Page 16 Item ii (GO) - This requirement is written here and in the NMP and is inconsistent with how liquid manure is applied. As written “incorporate the solid manure and/or process wastewater into the soil before irrigation, unless a tailwater return system is being used...”. Liquid manure is blended with irrigation water during the irrigation process. It is not necessarily agronomically correct nor possible to incorporate the liquid manure prior to irrigation and in fact would not meet suggested methods of application from an NMP. If the objective of the statement is to mandate that all fields have tailwater return systems then it should be clearly stated. Irrigation practices vary significantly in the Central Valley and the need for a tailwater return system varies as well.

Response: Revisions have been made to this section of the Order.

Comment: Page 20 Item H.1.a (GO) - The preliminary facility assessment report is merely a preliminary report. Future annual reports should rely on site specific, detailed information.

Response: Continued use of the same assessment method will allow an evaluation of progress during the period before full implementation of the nutrient management plans. No change made.

Comment: Page 21 Footnote 8 (GO) - Total nitrogen in storage is not a number that can be estimated easily as it would technically require estimation of N in retention ponds, including any sludge. A whole farm balance typically includes a component that estimates N excreted from animals that is subsequently available for land application (subtract out unavoidable losses). The footnote has the wrong equation listed.

Response: This footnote provides a definition of a term used in this Order. No change made.

Comment: Page 22. Item I. 1(GO) - Record keeping requirements in this section identify a five year accumulation of records. In a separate section a requirement of 10 years is identified. Consistency is necessary.

Response: All records are to be kept for 5 years except for the Preliminary Dairy Facility Assessment and the annual updates of this document, which are to be kept for 10 years. The language is clear and no change is necessary.

Comment: Table 1, "1 July 2008 Statement of completion of Item II" - This should be a protocol not a proposal. As indicated in our previous comments, the term proposal implies that RB 5 staff will evaluate and notify discharger if the proposal meets acceptable criteria for implementation. Realistically, this is a sampling and analysis protocol.

Response: The word 'proposal' has been replaced by 'plan'.

Comment: Table 1, "1 July 2008 WMB" - Item 1.F. 5 is a map. Contents of submittal should include map after facility description. Facility description in contents of submittal column implies text information or completion of a matrix grid. Maps should be identified separately here and below.

Response: This is a summary of the deliverables. No change made.

Comment: Table 1 Page 24 - 31 October 2008 reset date at 31 December 2008 to be consistent with submission of existing conditions report in 2007.

Response: Date changed as suggested.

Comment: Statement of Completion of Item V, Field risk assessment - The objective is to determine if management practices are in place to control discharges from land application area. The requirement of a Certified Nutrient Management Specialist is inappropriate. The individuals identified in this category should be trained in land application of nutrients and placement of nutrients in a crop root zone while the crop is growing. Replace Certified Nutrient Management Specialist with NONE in the professional certification requirements column.

Response: Change made as suggested.

Comment: Table 1 Page 25 “1 July 2009” - A Certified Nutrient Management Specialist is not necessarily trained in the needs of piping, meters, pumps, etc. The individual can identify and sign off on the potential N balance if the infrastructure is in place. However, this individual may or may not have expertise in the infrastructure needs to get nutrients to specific locations. It is important to potentially split the retrofitting plan with schedule to have NONE as professional certification requirements for the infrastructure as the owner/operator is ultimately responsible and to have the certified nutrient management specialist sign off on the potential new balance when infrastructure is in place.

Response: Change made as suggested.

Comment: Table 1 Page 25 “July 2009, WMP facility description” - List map again.

Response: This is a summary of the deliverables. No change made.

Comment: Table 1 Page 26 “1 July 2009 Flood protection” - Identify in the Order or in the WMP where an individual can identify a 20-year peak stream flow map for use.

Response: State regulations require that the ponds and manured areas at facilities in operation on or before November 27, 1984 be protected from inundation or washout by overflow from any stream channel during a 20-year peak storm flow. The Board cannot waive this requirement. Maps showing 100-year flood zones are commonly available and could be used by some dairies to show that they are clearly safe from a 20-year peak storm flow. If flood maps are not available, the Discharger will have to develop the information.

Comment: Monitoring and Reporting Program Page 2 - The first sentence identifies that “monitoring shall begin within the first 12 months after the adoption of the Order.” The last sentence states “The Discharger is encouraged to collect

and use additional data, as necessary, to refine nutrient management.” However, MRP-15 2. requires that laboratory analyses be submitted. Requiring submission of additional sample results does not encourage operators to take additional samples.

Response: Comment noted. No change made.

Comment: MRP Page 3 - Process wastewater: Table 2 specifies field measurement of electrical conductivity of process wastewater. There will be few if any circumstances where process wastewater will be land applied absent dilution with irrigation water. The need to take a quarterly field measurement for this parameter is confusing. Quarterly sampling will be insufficient under most circumstances. Sampling of process wastewater should occur once per irrigation event. An irrigation event is when all or most fields are irrigated. If irrigation is essentially continuous, one sample per week should be taken. When discharge pumps draw from the bottom of the pond the initial pumped water should be recycled back into a pond or additional samples need to be taken. Likewise, when a floating pump is used additional samples need to be taken if sludge is being pumped. If fresh water is added to a pond at the same time as the irrigation is occurring, additional sampling needs to be done to characterize the changing concentration in the pond. Without adequate characterization of the concentration of the nutrient water being applied, reporting of application results becomes a meaningless exercise.

Response: The type and frequency of monitoring has been reduced (as compared to the tentative Order) to reduce costs. The Board expects the University to provide assistance to the dairies on the best approach for nutrient management. This may call for more on-farm monitoring than is required.

Comment: MRP Plant tissue - Sampling and analysis of plant tissue from freshly cut forages may be a safety hazard. Sampling from trucks can be dangerous. Likewise, sampling cut forages at the location where the chopped forage is dumped also can be dangerous. Safety protocols will need to be developed to minimize risk. RB 5 should also accept an analysis of silage once a correlation value is identified between the content of the ensiled material (for those materials entering silage processes) and the original substrate.

Response: The Order does not specify where the samples should be collected. No change made.

Comment: MRP - We recommend that 20% of the fields be sampled each year so that all fields will be sampled once every five years. If soil sampling is done on all field starting in year one, laboratories will need to increase capacity to handle

the number of analyses needed during a short time span. This capacity would be needed once in five years. Depth of soil for P analysis needs to be identified.

Response: Staggering the soil sampling over five years is inconsistent with the approach of moving the dairies forward on the same schedule. The depth of the soil sample for P analysis will be specified in the sampling protocol that must be approved by the Executive Officer. No change made.

Comment: MRP Table 1, Laboratory analyses—Preservation of samples will be different for analysis of nitrate, unionized ammonia nitrogen, total ammonia nitrogen, etc. Multiple samples will need to be collected, preserved, and delivered to the laboratory immediately. If BOD5 is required, the sample must be received and begin the analytical process within 24 hours. Absent preservation and timely delivery to an analytical lab with subsequent immediate action, many of the identified laboratory results will be of little value. This comment applies to all laboratory analyses in Table 1. The section needs to be modified to identify multiple samples are necessary for the various preservation methods needed.

Response: Dischargers must follow sampling and analytical procedures approved by the Executive Officer. The Regional Board hopes the University can assist the Dischargers with development of appropriate procedures, including the details discussed in these comments. Once developed, the procedures should be submitted to the Executive Officer for consideration of approval.

Comment: MRP Page 5, Storm Water Discharge, “Field measurements of storm water discharge to include ammonia nitrogen and unionized ammonia nitrogen.” - There is no field test for unionized ammonia nitrogen. Dairy operators who participate in a Water Coalition should be able to utilize Coalition data as part of regionalized surface water monitoring and not pay additionally for site specific monitoring.

Response: Unionized ammonia-nitrogen can be calculated if temperature and pH readings are taken at the time the ammonia-nitrogen samples are collected. See the discussion under Item 5 in the Monitoring of Surface Water section of the Monitoring and Reporting Program for the process to follow to propose an alternative monitoring program for the Executive Officer’s consideration.

Comment: MRP Page 10 C - RB 5 should work with OES, local environmental health departments, Fish and Game, and County Road Works to establish a streamlined approach to reporting off-site discharges. At a minimum, maintenance of an updated contact list (name and contact number) should exist and be readily available. Is it possible to set up a web reporting system to automatically identify the various agencies?

Response: Information on discharges reported to the Office of Emergency Services (as required in the “Priority Reporting of Significant Events” section of the Monitoring and Reporting Program) will automatically be reported to the Regional Board and other agencies. The University should contact the Office of Emergency Services for details and to submit suggestions.

Comment: MRP Page 12 General Section - For application and uptake information to be meaningful, it is important that crop seasons not be split. The reporting year should follow the crop year. The reporting year should end in the fall because it is at this time of the year that there should be the minimum amount of water and nutrients stored in the pond. An ideal time for records to be submitted would be around the first of March, covering the crop year ending with the harvest of the last summer or fall crop, whichever is later. The July 1 date proposed is an unnecessary burden.

Response: The reporting period for information related to crop production has been changed to the previous calendar year while the deadline for report submittal remains unchanged at 1 July. This gives the Discharger extra time to compile and submit the report. This also lines up better with the cropping seasons.

Comment: MRP Page 12 Item C.2 - A test should not be necessary to apply nutrients to a winter crop during the rainy season if it is in accordance with the planned application of nutrients. A typical winter forage crop will always need to be fertilized during this period. The limit on total N applications limits should be adequate to prevent unnecessary applications.

Response: The application of wastewater on to saturated ground is a high-risk operation from the standpoint of both runoff to surface water and movement of waste constituents to groundwater. The assumption that nutrients are needed is not an adequate justification. Testing must be conducted to verify that the need exists. No change made.

Comment: MRP Page 12 Item 4 - It is important to identify how total salt content of manure is to be calculated. There is no current process. Included in this process will be a definition of salt.

Response: The Order requires testing of manure and wastewater for general minerals. This data can be used to calculate salt content. No change made.

Comment: Standard Provisions and Reporting Requirements, Page 8 item a. (6)
- Item is not necessary as on-site analyses do not require preservation. Samples are immediately analyzed according to manufacturer's instructions.

Response: If no preservation is used the Discharger can just report "None." No change made.

Comment: Attachment A, Additional Dairy Facility Information Item g - This section requires a significant level of detail for an existing facility report. Identification of categories of materials utilized at the facility should be sufficient at the first submission.

Response: Information on the materials discharged is typically obtained from the Discharger in the Report of Waste Discharge and is used in setting discharge limits. This information is not available for most Central Valley dairies and must be part of this process to ensure that the products do not pose a threat to water quality when added to the on-site waste disposal systems.

Comment: Attachment B - The mapping activities associated with the NMP and WMP have significant overlap. It would be helpful to have a simple sentence "The objective(s) of this map is/are to" This helps the regulated entity understand the purposes of the maps. Logical information needed to describe the landowner include, name of agency and available information need to be provided when items need to be defined on a map that is not readily available to the operator. What map sources provide acceptable information? Will infrastructure alterations necessitate map modification and re-submission to RB 5. How often will maps need to be modified and what happens if a map is out-of-date?

Response: The Board will assist Dischargers with questions they may have regarding the maps. This can best be done in conjunction with the classes that will be conducted by the California Dairy Quality Assurance Program. The maps should be updated when the NMP and/or WMP need to be updated. No change made.

Comment: Attachment B, Page 4 Item 3 - Volume capacity design mandates 1.5 times rainfall minus evaporation, unless a contingency plan is developed. What is the technical basis for 1.5?

Response: Best professional judgment. This allows dairies with greater than normal storage capacity to avoid the cost of preparing the contingency plan.

Comment: Attachment B, Page 6 Item IV A - Facilities should be designed and constructed to collect and convey water to retention pond(s). The divert water requires additional language—from point A to point B.

Response: Comment unclear.

Comment: Attachment B, Page 7 Item B - Algae growth in ponds is typically desirable. It can be an indicator of the presence of oxygen.

Response: This refers to excess algae.

Comment: Attachment C, Page 2 - Copies of documents are required to be maintained for 10 years. This is inconsistent with requirements in the Order and in the MRP and excessive.

Response: Application of wastes to land impacts groundwater. In some cases there can be a considerable time lag between the application and the impact. Historical records will help interpret groundwater monitoring data and help the facility adjust management practices to comply with the Order. No change made.

Comment: Attachment C, Page 5 Item V - Absent a discharge during the time period this should not need a professional to sign off or certify no discharge should occur. If structural changes are needed then it is reasonable to have a professional indicate that changes have been made.

Response: Comment unclear. This section does not refer to professional sign off.

Comment: Attachment C, IV (VI?) - This section provides a long path to indicate people need to maintain records identified in the MRP. It refers to the records necessary for I.A (previous) and further discussed in Technical Standard IX (later in document). In fact the actual information needed is found in MRP and not in Attachment C. Identification in MRP pages 8-10 specify required records to maintain. Why not directly identify MRP pages in this section?

Response: The instructions are clear. No change made.

Comment: Attachment C, Page 9 Item 11 - This is not consistent with the soil analysis requirements in MRP. The initial soil test requires P and not N. Same comment applies to C-10 B. 2. a. Preplant soil sampling for nitrate is not generally recommended as a reliable predictor of the amount of nitrogen that needs to be applied to the crop (see below).

Response: The Monitoring and Reporting Program specifies the monitoring required by the Regional Board. Additional information may need to be developed by the Discharger in order to comply with the Nutrient Management Plan and other portions of the Order. This is very site specific and will be up to the Discharger.

Comment: Attachment C, Page 10-11 (Item B.2.a.) - The first two sentences of this section set a requirement that nitrogen application rates be based on a “soil analysis”, by which we presume R5 means a soil nitrate test. The two sentences are confusing. It is not clear whether the results of the soil test are to be used as the basis for (1) total N application for the season (2) “early season N application” or (3) “pre-plant or side dress applications”. Beyond that, we are not aware of any research having been conducted that would establish a quantitative relationship between an early season soil nitrate test and total crop N requirement over an entire season. An early season soil nitrate test would at best in some situations provide a basis for delaying N applications until later in the season. We note that , in the third sentence of this section, a numeric N limit (1.40) based on crop harvest N removal is described. The relationship of this to the soil test criteria in the preceding sentences is confusing. We suggest that this section be modified by removing the first two sentences, i.e., removing the soil nitrate test as a basis for N application rate. The use of a factor (1.4) times crop N harvest removal is easily understood and provides a robust general N application limit. The UC Committee of Experts report recommends that this be applied over a three-year moving period. Changes in soil nitrate inventory would become insignificant over that period..

Response: The wording in the Order is based on recommendations provided by representatives of the dairy industry. Pre-plant testing provides information that can be used in nutrient management. No change made.

Comment: Attachment C, Page C-11 Item B.2.a.i – ii - By the time plant tissue tests show a nutrient deficiency in warm season annual forage crops such as corn, irreparable yield losses will likely already have occurred on that crop. Good agronomic practice is to assure the crop has the nutrients it needs prior to the crop showing deficiencies. If yield is compromised, nutrient uptake targets may not be met and groundwater quality may not be protected. Tissue tests from previous season(s), either in season or at harvest, showing the need for additional nutrients should be acceptable justification for the need for additional applications to the current crop.

Response: The proposal to use tissue tests from the previous season will allow for poor management to be rewarded by increased applications of nutrients. This is exactly what this program is designed to prevent. The

Discharger must focus his efforts on keeping the nitrogen in the root zone to optimize yield.

Comment: Attachment C, Page 12 “Important Note” – “For example, phosphorus will leave” should be “may leave”.

Response: In the circumstances described, the use of “will” is more appropriate. It also alerts the Discharger that they have to manage the situation. No change made.

Comment: Attachment C, Page 12 Item C. 2 - There is no need to prohibit applications of process wastewater due to weather. In some locations, applications when fields have recently received rain allow for more uniform application and result in groundwater protection. This of course, requires adequate handling of any field runoff and justification as part of an NMP.

Response: This is a conditional prohibition that allows applications under specific conditions. Applications of process wastewater to saturated fields is a high risk operation and the conditions in the Order are necessary to minimize the threat to surface water and groundwater quality.

Comment: Attachment C, Page 13 Item D. 1 - Nutrient materials should be applied as uniformly as possible. Insert underlined words.

Response: Applying materials as uniformly as possible will comply with this portion of the Order. No change made.

Commenter F

Comments by
California Farm Bureau Federation
Received 23 April 2007

Comment: The Dairy General Order should focus on being a catalyst for regulatory progress by coordinating the various ongoing industry and agency efforts ... Some remaining changes are needed to strike a better balance between environmental regulation and economic reality. These include existing technical resources, integration with other regulatory programs, compliance with CEQA, and groundwater monitoring.

Response: The Board, primarily through its staff, has worked closely with other agencies, organizations and interested parties during the development of this Order. This has been a tradition of the Board's dairy regulatory program that will continue after the adoption of the Order.

Comment: Groundwater Monitoring - Consistent with the CWC, the general order's groundwater monitoring provision should reflect and balance the burden, including costs, of the requirements and should bear a reasonable relationship to the need for the data. The approach to groundwater monitoring is counterintuitive and will not provide the level of data necessary to support the excessive costs.

Response: The Order allows the development of alternative monitoring programs (see Finding No. 22). Board staff will also continue to work with parties interested in developing more cost-effective approaches for evaluation of the impacts of dairies on groundwater.

Comment: Existing Technical Resource - Farm Bureau is concerned with the economic feasibility of achieving compliance (cost of monitoring and reports), and question whether sufficient technical providers exist to provide required services.

Response: Numerous steps have been taken to reduce the burden on the Dischargers. The State Water Resources Control Board has provided a grant to Merced County to develop software to make it easier to prepare the Waste Management Plan, Nutrient Management Plan and other required reports. This software will be finalized shortly after the Order is adopted. The Board also established a timetable and adjusted report due dates to allow coordination with classes to be conducted by the California Dairy Quality Assurance Program. Dischargers should be able to attend the classes to learn about and perhaps complete the reports in the classroom. If technical providers become a limiting factor, adjustments can be made based on the situation that develops. Such adjustments can be done on a case-by-case basis through development of time schedule orders or through revisions of the Order.

Comment: Integration With Other Regulatory Programs - Dairymen having difficulty trying to evaluate regulatory options under the general order and the Irrigated Lands Waiver Program (re lands owned, leased, receiving liquid or dry manure).

Response: Lands owned or operated by dairy owners and/or operators for application of animal wastes must be covered by this Order. These lands are part of the dairy's waste management operations. The Order has been revised to remove the requirement that all croplands owned by the Discharger be placed under this Order. Following adoption of the Order, the Board will develop information (such as a Frequently Asked Questions document) to assist to help clarify the situation.

Comment: CEQA - CEQA issues are covered extensively. Farm Bureau supports existing facilities exemption, but wants cow population to reflect cows present at time of general order adoption by the Board.

Response: Additional information has been added to the Order to explain and support the Board's position on this issue.

Comment: Receiving Water Limits - Information Sheet page IS17 establishes receiving water limitations for both groundwater and surface water by converting narrative water quality standards to numeric limits. The establishment of water quality objectives is clearly defined as a public process by the water Code. The Water Code requires that prior to setting any water quality objective or regulatory program for agriculture that a full evaluation of costs and financing needs be conducted. This is normally done through a full Basin Plan review process, and to our knowledge this has not been done.

Response: The proposed order is consistent with the Water Code and the Basin Plan. The Basin Plan contains the "Policy for Application of Water Quality Objectives", which was properly promulgated and approved by the State Water Board and the Office of Administrative Law, and U.S.EPA. The Policy sets forth the method for determining numeric levels used to evaluate compliance with narrative objectives. That policy was followed in preparing the proposed order. As this is a general order, individual discharges are not required to apply for coverage under this order. If an individual discharger believes that less stringent numeric levels are appropriate to evaluate compliance with narrative objectives, the discharger may apply for individual waste discharge requirements. Pursuant to Water Code section 13263(i), the Regional Water Board may adopt general waste discharge requirements for similar types of discharges and impacts on water quality.

Commenter G

Comments by
California Department of Food and Agriculture (CDFA)
Received 23 April 2007

Comment: General Comment - The use of lysimeters may be more practicable than installing monitoring wells, where deemed effective, and could save the dairyman thousands of dollars while yielding important information on the movement of water in the vadose zone.

Response: The Order allows the Discharger to propose the use of alternative monitoring approaches. See finding no. 22.

Comment: Prohibition A.6 - Dairy producers should be allowed to identify and develop their own individual mortality plan that would be consistent with a Report of Waste Discharge submittal or local ordinance/regulation and protective of both surface and groundwater given limitations of rendering facilities in the Central Valley and throughout the state.

Response: Dischargers under this Order can submit a report of waste discharge for disposal of mortality. Under routine (versus emergency) circumstances, this Order does not allow disposal of dead animals at the facility and a different set of waste discharge requirements or a waiver of waste discharge requirements would be needed for on-site disposal. No change made.

Comment: Finding 22 - This finding appears to be in conflict with the rationale of the WDR language. How does requiring the extremely cost prohibitive task of requiring monitoring wells and groundwater monitoring satisfy the fact that no suite of management practices to date have demonstrate protective methods for groundwater. Recommend more study to understand the impacts of dairy farm practices as well as a more holistic approach to identify the source of groundwater pollution by spreading the effort to determine sources beyond just one group or individual commodity group.

Response: The Discharger must demonstrate, through monitoring, that the dairy operation is in compliance with the Order. The Order requires that groundwater quality be protected and installation and monitoring of groundwater monitoring wells will be the standard method of evaluating compliance. As noted in Finding 22, however, alternative approaches may be proposed. In general, the Board is also open to recommendations on how to evaluate and address all sources of pollution. No change made.

Comment: Required Reports and Notices, H.2.a, Existing Conditions Report - It is unreasonable to expect 1500 dairies to be able to submit the minimum,

preliminary dairy facility assessment, with the Existing Conditions Report by 31 December 2007. Recommend a time phased in criterion for the assessment.

Response: The Board will be working with the California Dairy Quality Assurance Program, which will be conducting classes to assist dairymen with this task. Also, Merced County has developed software that will make this report easier to prepare. No change made.

Comment: Required Reports and Notices, H2e, Salinity Report - There should be a direct nexus to the strategies and integrated salt management approaches developed by the statewide Salinity Working Group headed by Dr. Karl Longley. The requested Salinity Report does not reflect any sort of coordinated understanding from the Salinity Working Group. The Order should recognized salt source control as a basin wide problem in the context of urban, industrial, agricultural, and naturally occurring sources, and not one individual commodity group.

Response: There is a direct nexus between the development of a Salinity Management Plan and the requirement in the Order. The information developed and the steps taken pursuant to the required salinity report represent the interim steps to be taken at dairies pending the development of Basin Plan amendments addressing salinity. The Community Alliance for Responsible Environmental Stewardship has advised the Board that it will take the lead in working on a salinity report on behalf of the Dischargers. No change made.

Comment: General Specifications, No. 7 - The tiered pond lining approach in the permit is not appropriate. Recommend cost effective action be taken to prevent aggregate seepage from threatening groundwater, i.e., the California Natural Resources Conservation Service Practice Standard 313.

Response: The tiered approach allows the Dischargers options. One of the options is to start with the NRCS Practice Standard 313 design and then demonstrate that it is protective of water quality at the site. No change made.

Comment: Land Application Specification, No. 2 - The Department does not believe a written agreement should be applicable for solid manure receive as solid manure poses no demonstrated threat to surface or groundwater given low overall nitrogen content. Secondly, the Order will have the net effect of making it more problematic for dairy producers to find someone to willing to accept solid manure given the likely unwillingness of 3rd parties to enter in written agreements and the need for more land for process wastewater nutrient application.

Response: The Order has been revised and no longer requires a written agreement for solid manure.

Comment: Attachment C, Nutrient Management Plan, Technical Standards for Nutrient Management, Section V, Nutrient Budget - Nutrient Budget is currently too cumbersome in terms of requirements to be met by the 24-month window by individual dairies. Expressed concern over the ability of the Central Valley Regional Board staff's ability to review 1500 dairy nutrient management plans within a compressed window of time (24 months). Recommend at least 36 months.

Response: The Order does not require submittal of or staff review of the nutrient management plans. No change made.

Comments by Environmental Law Foundation
Received 23 April 2007

Comment: The proposed order does not comply with State Water Resources Control Board Resolution 68-16 (the state's "antidegradation" policy – Resolution 68-16) because dairies have resulted in degradation and pollution of groundwater, but the proposed order will not require implementation of best practicable treatment or control and is not to the maximum benefit to the people of the state. The proposed order notes that dairies have impacted groundwater, but the order does not require practices to be upgraded sufficiently to prevent further degradation.

Response: The proposed order is consistent with Resolution 68-16. The State Water Resources Control Board (State Water Board) established California's anti-degradation policy in State Water Board Resolution 68-16. State Water Board Resolution 68-16 requires in part:

(1) High quality waters be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies; and

(2) Any activity, which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

This Order does not authorize any further degradation to groundwater and prohibits discharges from production areas to surface waters. This Order also contains many restrictions, including the requirement to comply with a Nutrient Management Plan, for the application of waste to land application areas. However, it is possible that some minor degradation to surface waters from the application of waste to land application areas could occur despite compliance with this Order. That degradation would be limited because any such discharge may not cause or contribute to the exceedance of any water quality objective in the surface water. Such possible minor degradation is consistent with the maximum benefit to the people of the state. The proposed order would apply to approximately 1550 existing dairies, not to new or expanded dairies. These dairies were either previously regulated pursuant to a waiver of waste discharge requirements adopted by the Regional Water Board in 1982 that implemented State Water Board regulations, now at California Code of Regulations Title 27, Division

2 (Title 27), or are currently regulated pursuant to either Waste Discharge Requirements Order No. 96-270 or individual Waste Discharge Requirements. This proposed Order would impose significantly more stringent requirements on these existing facilities than has been imposed in the past and as a result, water quality will be improved. While the proposed order will impose stringent new requirements, it will still accommodate important economic activities in mostly rural areas of the Central Valley Region, which is considered to be a benefit to the people of the State. Given that these are existing facilities, the proposed Order would reduce the impacts that may have occurred under previous regulation of these facilities.

Consistent with Resolution 68-16, the proposed order would require the discharger to meet requirements that will result in best practicable treatment or control, pursuant to schedules set forth in the order, that have not been required before.

- a. With respect to the production area, the proposed order requires every facility to implement upgrades to the production area, beginning with identification of issues within 8 months of adoption to completion of all required upgrades within approximately 4 years of adoption. Currently, facilities are required to comply with pond liner requirements under Title 27 that are likely not sufficient, but this order will require upgrades to the pond liners based on evaluation of information about each facility. The proposed order would require covered dairies to replace or reconstruct waste management systems to ensure proper function in compliance with this Order. The proposed order prohibits discharges of waste and/or storm water to surface waters from the production area. This prohibition is more stringent than the prior waiver or requirements, which prohibited discharges except in cases where the 25 year, 24 hour storm was exceeded. The proposed order also prohibits the collection, treatment, storage, discharge or disposal of wastes at an existing milk cow dairy that results 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).**
- b. With respect to land application, the proposed order sets forth several more stringent requirements than previously applied. For example, the proposed order prohibits discharges of wastewater to surface waters during or following wastewater application to cropland and 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, set forth in Attachment C of the Order. Any such discharge is prohibited if the discharge 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. Each dairy must develop and implement a nutrient management plan. Any discharge at the facility cannot cause the groundwater to be degraded. Each facility must conduct a preliminary facility assessment within 8 months of the adoption of the order and make modifications as directed in the order, prepare a waste management plan and a nutrient management plan, and prepare and implement a salinity reduction report. Each facility must monitor existing wells to make an initial evaluation of impacts to groundwater. Facilities will be required to install groundwater monitoring wells and upgrade ponds to protect water quality through a phased approach based on results of monitoring and other factors. The Regional Water Board and the Executive Officer may require additional monitoring and actions at any time. Given that these facilities are existing facilities, it is appropriate to establish a schedule that is reasonable based on the listed criteria and staff resources prior to requiring monitoring. There are not a sufficient number of trained professionals or Regional Water Board staff to assure implementation of these new requirements on all facilities immediately, so it is reasonable and consistent with Resolution 68-16 to provide compliance schedules and phasing of requirements. Water Code section 13263(c) allows for compliance schedules in waste discharge requirements.

The proposed order is consistent with Resolution 68-16 because it includes requirements to assure that pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained. For example, the proposed order prohibits discharges to surface water from the production area and prohibits discharges from land application areas unless, among other requirements, the dairy prepares and implements a nutrient management plan. Any authorized discharge from the land application area must not cause or contribute to an exceedance of any applicable water quality objective or federal water quality criteria. The proposed order prohibits degradation of groundwater. Existing groundwater problems are subject to cleanup orders and other actions by the Regional Water Board and other agencies to address those impacts.

Comment: The tentative Order only requires that one foot of freeboard be maintained in below grade ponds. Title 27 however, requires a minimum two feet of freeboard for all surface impoundments and authorizes less freeboard only for certain interior ponds (surrounded by other ponds).

Response: The citation to Title 27 made by the Commenter applies to ponds containing waste other than dairy waste. Subchapter 2 of Title 27, which pertains to confined animal facilities, does not contain a freeboard requirement.

Comment: Too long a time is provided for the development of waste management and nutrient management plans.

Response: While templates may be available for these plans, the actual work needed at each dairy for the waste management plan will differ, depending on existing conditions. Similarly, the actual Nutrient Management Plan for a dairy will depend on the crops grown, crop rotation, and nutrients produced at the dairy. These elements require consideration of site specific conditions and will require time to prepare. Also, the requirement that portions of these documents be certified by appropriate professionals will also extend the time required as it will be necessary to hire appropriate professionals and availability of these professionals to do the work may result in delays.

Comment: Some recommended minimum criteria from the Brown, Vence Report are not included in the General Order.

Response: Staff carefully considered all the recommendations from the Brown, Vence Report and incorporated those recommendations that seemed most important for the protection of water quality.

Comment: Conveyance of process wastewater and other contaminated water in unlined channels without first establishing that there is no risk of groundwater degradation from such practices should not be allowed.

Response: Because the length of time that wastewater remains in such unlined channels is relatively short, staff concluded that the risk of degradation from this source is small. The General Order does not allow the storage of waste in these unlined conveyance structures as staff determined that such storage would pose an unacceptable risk.

Comment: The General Order should provide for the development of a month-to-month water balance.

Response: Staff feels that a month-to-month water balance is not necessary. The Nutrient Management Plan requirements will ensure that the applications of irrigation water to crops are tracked, with the goal of preventing excess application of irrigation water.

Comment: More stringent requirements should be placed on third parties that receive solid manure to provide a real, enforceable assurance against the

improper and degrading disposal of solid manure.

Response: Solid manure used on agricultural lands other than those under the control of the dairy is treated as a fertilizer for the purposes of this regulation. While staff acknowledges that overapplication of manure, as with any fertilizer, is possible, regulation of such overapplication is outside of the control of the dairyman or the scope of this Tentative Order.

Comments by Baykeeper
Received 23 April 2007

**Submitted on behalf of:
Baykeeper, the Sierra Club, the California Sportsfishing
Protection Alliance and the Waterkeeper Alliance**

“Outstanding Questions”

1. Will there be a vehicle for regulating new dairies (facilities coming on line after October 17, 2005) by this or a similar Order? If not, approximately how many dairies will be exempt from these environmental regulations? What are the environmental risks posed by these potential dairies, individually and collectively?

Response: Individual waste discharge requirements will be prepared for new dairies and other facilities that do not qualify for coverage under this Order.

2. What is the cutoff date for older dairies to be covered under this Order? Will there be a vehicle for regulating dairies older than this date by this or a similar Order? If not, approximately how many dairies will be exempt from these environmental regulations? What are the environmental risks posed by these older dairies, individually and collectively?

Response: There is no cutoff date for older dairies.

3. Are there dairies that did not complete a Report of Waste Discharge (which would preclude them from coverage under this Order) that would otherwise be covered by this Order? If so, approximately how many dairies will be exempt from these environmental regulations? What are the environmental risks posed by these dairies, individually and collectively?

Response: Nearly 100% of the existing dairies submitted a Report of Waste Discharge. If other dairies are found, individual orders will be prepared to regulate them.

4. When will the Board decide the size of dairies to which this Order will apply? Will larger or smaller dairies be covered by a similar Order? If not, approximately how many dairies will be exempt from these environmental regulations? What are the environmental risks posed by these other facilities, individually and collectively?

Response: The Board has the option of limiting the application of this Order based on the size of the herd. The number of facilities that would be impacted would depend on the limitations adopted. Waste discharge requirements or a waiver of waste discharge requirements would be adopted for facilities that are not covered by this Order.

“Legal Analysis”

1. Federal and state law requires that dairies be regulated via an NPDES permit. The commenter asserts that the United States Court of Appeals for the Second Circuit in *Waterkeeper Alliance, Inc. v. U.S. EPA* (2d Cir. 2005) 399 F.3d 486, did not vacate the NPDES requirement for confined animal facilities (CAFOs), but held that EPA could not require a facility to seek coverage based on a “potential” to discharge.

Response: The Regional Water Board agrees that facilities that are subject to NPDES permit requirements are required to obtain NPDES permits. It is not entirely clear at this time, which facilities must obtain NPDES permits. The *Waterkeeper Alliance, Inc. v. U.S. EPA* decision set aside key provisions of the federal CAFO rule. Perhaps the most significantly, the court rejected EPA’s view that the Clean Water Act could be used to regulate CAFOs as a class without evidence that each individual facility discharges pollutants to waters of the United States. The court held, instead, that an “actual discharge” of pollutants is necessary before a CAFO comes within the ambit of the Clean Water Act and can be required to obtain an NPDES permit. While waiting for EPA to revise its regulations in response to the ruling, the Regional Water Board decided to go forward with waste discharge requirements based on state law. The existence of waste discharge requirements will not preclude facilities from obtaining NPDES permits. The proposed order specifically states that it is not an NPDES permit and it does not excuse any facility of the requirement to obtain an NPDES permit if required.

“General Comments”

1. The Order should prohibit and otherwise discourage the over-application of manure and process wastewater.

Response: The Order limits the application of manure and wastewater to land application areas. The information provided by the dischargers includes assessor parcel numbers, so the Board has the ability to determine if a parcel is receiving waste from more than one facility. The Discharger must report application of all materials containing nutrients regardless of whether they originate in this or other Regions. No change made.

2. The Order should recommend treatment technologies.

Response: The California Dairy Quality Assurance Program will be holding classes to assist dairy operators with various aspects of this Order. The Board anticipates that these classes will present information on treatment technologies and management practices. No change made.

3. The Order should require monitoring of tile drain effluent.

Response: The Order requires monitoring of tile drainage. No change made.

4. The Order should encourage incorporation of liquefied manure and process wastewater.

Response: This Order will apply to a wide range of field operations. Incorporation is not always feasible, particularly when a crop is in the field. No change made.

5. The Order should prohibit the application of manure and process wastewater to cracked soils.

Response: The Order requires that the Discharger protect groundwater quality. Tile drainage must be monitored annually and groundwater monitoring wells will be phased in to verify that management is protective. No change made.

6. The Order should prohibit application of manure and process wastewater to saturated or frozen land.

Response: The prohibitions of discharge in the Order adequately address this concern. See Prohibitions 3, 10, 11, and 12. No change made.

7. The Order should require an erosion and sediment control plan for land disturbing activities.

Response: All construction activities with 1 acre of soil disturbance or greater are required to obtain coverage under the Statewide General Construction Storm Water Permit. No change made.

8. The Order should require an emergency plan.

Response: The Order provides instructions on how to respond to noncompliance that endangers human health or the environment and other situations. See the “Priority Reporting of Significant Events” in the Monitoring and Reporting Program. No change made.

9. The Order should require adequate freeboard for storage structures.

Response: General Specifications B.10, pg. 13 requires adequate freeboard. No change made.

10. The Order should require the separation of roof drainage from manure or process wastewater.

Response: General Specifications B.15, pg. 14 is a section of the state's regulations in Title 27, California Code of Regulations. No change made.

11. The Order should better define "sludge" and "biosolids."

Response: Wording revised as suggested.

"Monitoring and Reporting Comments"

1. The Order must require nutrient monitoring for groundwater to protect public health.

Response: Groundwater monitoring wells must be monitored semi-annually for ammonia and nitrate. See Table 6, Monitoring and Reporting Program Attachment A. Phosphorus generally does not move rapidly through soils, whereas nitrate does. Therefore, tracking nitrate concentrations is usually all that is needed to determine if waste has impacted groundwater. No change made.

2. The Order must require bacterial monitoring to protect public health.

Response: The Order requires monitoring of surface runoff for total and fecal coliform. See Table 3 in the Monitoring and Reporting Program. Monitoring of groundwater for coliform is not required because soils typically filter coliform, making nitrate a better indicator of the movement of waste constituents. No change made.

3. The Order should require monitoring upon specific operational changes.

Response: Attachment C addresses the contents of a Nutrient Management Plan (NMP) and the technical standards for nutrient management. The first section of Attachment C reads in part: "The NMP is linked to other sections of the waste discharge requirements. The Monitoring and Reporting Program specifies minimum amounts of monitoring that must be conducted at the dairy. As indicated below, this information must be used to make management decisions related to nutrient management." Also, the Nutrient Management Plan Review section

in Attachment C discusses when the NMP must be updated. No change made.

4. The Order should require visual inspections in anticipation of rain events.

Response: It is unreasonable to require visual inspections when insignificant rainfall is expected. No change made.

5. The Order should require visual inspections for all applications.

Response: The operations listed do not generally pose a major threat to water quality. Visual inspections are not warranted as long as the Discharger is complying with other conditions of the Order. No change made.

6. The Order should require nutrient monitoring before and after storage.

Response: The monitoring required by Table 2 is part of the nutrient management process. It is in the Discharger's best interest to test the waste at the time it is going out onto the field, rather than before there are changes in form or concentration. No change made.

7. The Order should require a mass balance analysis of nutrient loadings.

Response: Dairies handle a large volume of waste. Very little would be needed to impact surface water. Given the accuracy of measurement for irrigation water, wastewater, manure and other materials, a mass balance analysis would be of little use for protection of groundwater. Dairies are, however, required to maintain records to document where the waste goes and this could be used to attempt to develop such an analysis. No change made.

8. The Order should require more representative soil monitoring.

Response: The Order requires the development of a nutrient management plan that meets specific technical standards. Rates of nutrient application are monitored as well as crop uptake. Soil sampling only has to be conducted periodically to assess the situation. No change made.

9. The Order should require equipment calibration and calibration record keeping.

Response: The Order requires this. See Monitoring and Reporting Program B.3.m. No change made.

10. The Order should require retention of monitoring records.

Response: The Order requires this. See Section B. of the Monitoring and Reporting Program. No change made.

11. The Order must require complete monitoring of any and all un-permitted discharges.

Response: The Order requires this. See Table 3 of the Monitoring and Reporting Program. No change made.

12. The Regional Board must approve sampling plans.

Response: Collection of these types of samples is simple. Instructions are provided in the Groundwater Monitoring section of the Monitoring and Reporting Program. The situation does not warrant the time it would take to prepare and review sampling plans. No change made.

“Attachment A Comments: Monitoring and Reporting Program Additional Groundwater Monitoring, Monitoring Well Installation and Sampling Plan, and Monitoring Well Installation Completion Report for Existing Milk Cow Dairies”

1. The Order should require installation of additional groundwater monitoring wells when pathogen levels are exceeded.

Response: The Order does not require the testing of domestic and agricultural supply wells for pathogens. The presence of pathogens can be an indication of problems with the well or other factors not associated with management of animal waste. No change made.

2. The Order must ensure that monitoring wells are timely installed.

Response: Staff resources, not risk scores, will be the limiting factor in getting groundwater monitoring systems installed. No change made.

3. The Order must require pathogen monitoring of groundwater.

Response: The soil filters pathogens, whereas nitrates move readily with water. Nitrates are a better indicator of waste constituent movement and nitrate monitoring is required. No change made.

“Attachment B Comments: Waste Management Plan for the Production Area for Existing Milk Cow Dairies”

1. The Order should consistently use the term “process wastewater.”

Response: Good suggestion. Change made.

2. The Order should require more detailed site maps.

Response: There is no indication as to why this is needed. No change made.

3. The Order should require more information in the engineering reports.

Response: This historical information will not be available from many of the dairies where there have been changes in owners and operators. If the information is not provided by the dairy owners/operators, the engineer cannot generate it. No change made.

4. The Order must require adequate liners and leachate removal systems for ponds and treatment lagoons.

Response: The Order has strict requirements for pond liners. Leachate collection and removal is not required in most cases, but is not required given the amount of seepage that will occur from ponds built in compliance with the Order. No change made.

“Attachment C Comments: Contents of a Nutrient Management Plan and Technical Standards for Nutrient Management for Existing Milk Cow Dairies”

1. The Order should require NMPs to contain more detailed information.

Response: Changes were made to the Nutrient Management Plan Review section in Attachment C to require additional information. Some of this information recommended in this comment is provided by other reports prepared by the Discharger (for example, anticipated dates of completion of improvements). Inspections are not required, so records of inspections are not necessary.

2. The Order should require disclosure of crop rotation schedules.

Response: Crop rotation was added. Whether or not the crop will be a legume can be determined based on the type of crop reported. No change made.

3. The Order should prohibit the application of manure to saturated soils.

Response: When the soil is saturated, manure cannot be applied because the application equipment cannot get into the field. No change made.

Commenter J

Comments by
Merced County Division of Environmental Health
Received 23 April 2007

Comment: General Specification B2 - Not reasonable to require compliance with 20-year peak stream requirement against inundation or washout by overflow given apparent lack of 20-year peak stream flow data.

Response: State regulations in Title 27 of the California Code of Regulations require that confined animal facilities meet this requirement. The Regional Board cannot waive this requirement. No change made.

Comment: Table 1, 31 October 2008 Requirement - Certified Nutrient Management Specialists not qualified to identify infrastructure changes needed including piping, pumps, meters, etc. Only California registered civil, mechanical, and agricultural engineers qualified to do this type of work per California Business and Professions Code.

Response: This requirement has been revised.

Comment: Monitoring and Reporting Program, Groundwater Monitoring, Item 1 - Requirement that agricultural supply wells be run for a minimum of 30 minutes inadequate to collect a representative sample, that is, have the cone of depression reach steady state. Recommend a minimum of 2 hours of pumping.

Response: The procedures in the Order are consistent with US EPA guidelines. During the classes conducted by the California Dairy Quality Assurance Program the Dischargers can be encouraged to wait longer before collecting samples.

Comment: Standard Provisions and Reporting Requirements, Item 16 - Sentence '... Proper operation and maintenance includes best practicable treatment and controls, and the appropriate assurance procedures...' should be removed, as BPTC may not be economically justified for this industry in this application.

Response: Determination of the best practicable treatment or control (BPTC) takes costs into consideration. No change made.

Comment: Information Sheet, Compliance Schedule, By 1 July 2008 - Does the statement '...proposes interim facility modification to improve storage capacity and balance nitrogen...' mean that the all facility modifications (i.e., additional application acreage and cropping patterns) to balance nitrogen uptake with an over application factor of 1.4 are required to be accomplished by 1 July 2008?

Second half of question, Information Sheet, Compliance Schedule, By 1 July 2009 - Similarly, does the statement ‘...Documentation of interim facility modifications completion for storage capacity and to balance nitrogen ...’ mean that additional cropping acreage to balance nitrogen uptake are required to be under cultivation by 1 July 2009?

Response: These dates refer to interim actions. Final changes are not expected by these dates.

Comment: Attachment B, II A.1 - Determining adequate storage capacity is more complicated than calculating influent rate and time between lagoon irrigation events. The adequacy of containment capacity should be estimated by modeling the initial storage at the end of the summer irrigation season (e.g., minimum elevation) and inflows and outflows between the end of the summer irrigation season and the beginning of the spring irrigation season of the following year.

Response: The Order does not specify the method of calculation. It leaves it up to qualified professionals to conduct the evaluation. No change made.

Comment: Attachment B, III A.1 - Requirement for 20-year storm water data should be removed or data provided by the RWQCB as the data is not available for Merced County streams.

Response: State regulations in Title 27 of the California Code of Regulations require that confined animal facilities meet this requirement. The Regional Board cannot waive this requirement. No change made.

Comment: Attachment C, III, B - See adequate storage capacity calculation comment, Attachment B,II A.1

Response: The Order does not specify the method of calculation. It leaves it up to qualified professionals to conduct the evaluation. No change made.

Comment: Monitoring Reporting Program, Annual Reporting, Item 2 - Argues that the Preliminary Dairy Facility Assessment is a rough tool that could contradict the detail of the permittee’s NMP and WMP and ultimately compliance with the Order. Recommends adding an item to the Annual Report that identifies compliance with the nitrogen nutrient application rates and recommends eliminating this item from the Annual Reporting requirement.

Response: The Board expects numerous changes to be made during the first five years following adoption of this Order. Using the same assessment tool annually during this period will allow a programmatic evaluation of progress. No change made.

Comment: Monitoring Reporting Program, Annual Reporting, Items 4 and 5 - How does the permittee quantify “total salt content” for wastewater and manure when the MRP does not require a general minerals analysis (i.e., quantification of all anions and cations) for these wastes?

Response: The Monitoring and Reporting Program has been modified to require analysis of general minerals for both manure and wastewater.

Commenter K

Comments by
Community Water Center
Received 23 April 2007

Comment: this Draft WDR will allow for degradation of groundwater quality, in violation of the State Board's Anti-degradation Policy. The Draft WDR fails to require the Best Practicable Control Technologies (BPCT) to prevent groundwater degradation. BPCT should be required for existing retention ponds. Corrals and milk parlors should be required to meet the BPCTs for these facilities set out in the Brown Vence report. Wastewater conveyance in unlined ditches, swales and/or earthen berm channels should not be allowed. Enforceable requirements and BPCT should be required for solid manure application off the dairy property.

Response: These comments mirror those submitted by the Environmental Law Foundation, Commenter H. Please refer to the response to those comments for these issues.

Comment: Groundwater monitoring requirements are inadequate to protect groundwater by not promptly requiring groundwater monitoring wells at all dairies. Vadose Zone monitoring is necessary to detect contamination before widespread degradation has occurred. Also information should be provided on groundwater recharge basins within 2000 feet of each facility.

Response: Staff resources will be the limiting factor in getting groundwater monitoring systems installed. While vadose zone monitoring can allow early detection of contamination, vadose zone monitoring devices can be difficult to install and require considerable maintenance; staff views such monitoring as more a research tool than a practical ongoing method for monitoring conditions at existing dairies. The groundwater ranking system (Table 5 in the Monitoring and Reporting Program) currently incorporates the distance between the dairy and an artificial recharge area as a consideration. Requiring further information on the recharge basins from the dairyman is not viewed as practical since the dairyman has no jurisdiction over operation of the recharge basin. No change made.

Comment: The Existing Conditions Report should explicitly require information on antibiotics and hormones in its list of chemical use. The chemicals listed in the Existing Conditions Report should be the basis of requirements for groundwater and surface water testing for each facility. Groundwater should be tested for pathogens.

Response: The Order requires monitoring of surface runoff for total and fecal coliform. See Table 3 in the Monitoring and Reporting Program. Monitoring of groundwater for coliform is not required because soils

typically filter coliform, making nitrate a better indicator of the movement of waste constituents. The Existing Conditions Report has a place for the indication of “other” chemicals used at the dairies. In addition, the Executive Officer can make changes to the Monitoring and Reporting Program which specifies the constituents to be monitored in ground and surface water if staff determines that certain constituents are of concern. No change made at this time.

Comment: The Regional Board should conduct a CEQA process.

Response: The existing facility exemption is appropriate. The General Order will improve existing conditions and monitoring will document these improvements.

Eligibility under this order is limited to milk cow dairies that were existing as of 17 October 2005, which represents a narrow class of confined animal facilities. The language of Section 15301 nowhere states that the section only applies to individual projects; on the contrary, subsection (m), for example, applies the existing facilities exemption to “existing dams and appurtenant structures”, clearly encompassing multiple individual facilities.

Under the terms of the General Order, there is no expansion of use allowed beyond that which existed as of 17 October 2005, which serves as the time of the lead agency’s (Regional Board’s) determination. As stated in Section 15301: “The key consideration is whether the project involves negligible or no expansion of an existing use”.

The purpose of the General Order is not to permit additional dairies (“successive projects in the same place, over time”) but to regulate the dairies that currently exist to reduce their impacts to surface water and groundwater upon compliance with this order. The General Order aims to reduce the cumulative impact currently posed by these existing facilities.

These existing dairies are located in a variety of areas, some of which are more vulnerable to environmental impact due to the characteristics of the soil, underlying groundwater, or proximity to surface water. The General Order will not increase the threat posed to these vulnerable areas (“unusual circumstances”) by these existing, operating dairies, but will instead impose significant new and more stringent requirements that will reduce the environmental threat posed by these dairies. Again, the General Order does not permit a new activity but places requirements on an existing activity to reduce the environmental risk posed by that activity. It is not a case where “the activity will have a significant effect on the environment” (emphasis added), but a case where the activity may

currently be having a significant effect on the environment which the General Order aims to reduce.

Comment: this Draft WDR does not establish effective mechanisms to ensure enforcement and compliance with cleanup of groundwater contamination.

Response: The commenter is correct that the General Order does not require financial assurances for closure and cleanup when a dairy is no longer in use. The Regional Board can require cleanup using a Cleanup and Abatement Order that limits or prohibits any use of the land until a satisfactory cleanup is achieved.

Comment: This Draft WDR must include strong enforcement actions for groundwater contamination violations such as mandatory fines and enforcement for fraud if a signed certification is found to be knowingly inaccurate. Groundwater quality violations should be listed as high priority violations for enforcement.

Response: The Regional Board will evaluate the site-specific conditions of each violation and determine an appropriate enforcement approach.

Comment: This Draft WDR will disproportionately impact low income communities and communities of color because it does not protect groundwater from continued degradation from existing dairies.

Response: The goal of the Tentative General Order is to protect groundwater from further degradation by existing dairies using a phased approach. Staff did not deem it feasible to require immediate implementation of all elements of BPCT. We believe that the approach taken in the General Order will help achieve immediate improvements in some areas that can be readily implemented by dairies, such as timing of wastewater applications relative to soil moisture, and achieve long term improvements as provisions such as those in the Nutrient Management Plan are progressively implemented.

Commenter L

Comments by
Betsy K. Gerwig, PE
Received 23 April 2007

Comment: General Specification B.13 - Installing of markers to monitor for sufficient capacity to contain runoff from the 25-year, 24-hour storm year is difficult without having another reference point. Recommend requiring the installation of freeboard markers.

Further, it should be made clear whether the freeboard level for the 25-year, 24-hour storm is below the freeboard level or included with the freeboard.

Response: The requirement to install this depth marker is taken from the federal program, which does not call for a marker to show minimum freeboard. Parties conducting the work involving the installation of the required marker can set additional markers, but it is expected that the Dischargers can visually judge where the water level is relative to the required one or two foot required freeboard. The Order sets a minimum freeboard that should not be exceeded at any time. No change made.

Comment: Monitoring and Reporting Program, Table 3, Inspections, Item A - The requirement for photographs of freeboard level is without just cause given written record certification requirements and suggests that the Board expects falsification of records. Recommend installation of freeboard marker and freeboard monitoring by the Discharger.

Response: This requirement is now in Table 1. A photographic record is easy to maintain and will help evaluate how the pond water level fluctuates over the course of the year without requiring difficult measurements. No change made.

Comment: Monitoring and Reporting Program, Table 2: Nutrient Monitoring, Item A - The need for field measurement of electrical conductivity (EC) of process wastewater and groundwater should be explained. Most laboratories do not test for Ammonium-Nitrogen on manure samples, as it is not considered a reliable test. Recommend Total Nitrogen instead. When exporting manure offsite, the Discharger should be given the option to test moisture at the time of removal, as it provides the hauler with real time information to prevent overloading of transport vehicles.

Response: Field measurement of electrical conductivity is a useful tool to help evaluate strength of the fresh/waste water mixtures involved. The manure test requirement has been revised as suggested. The Order does not specify exactly when the moisture test is conducted.

Comment: Monitoring and Reporting Program, Record-Keeping Requirements B.3.j and B.3.k - These two items request documentation of the same calculations. Recommend eliminating one of them.

Response: There is a difference. One asks for the amount to be applied and the second asks for the amount actually applied. No change made.

Comment: Monitoring and Reporting Program, Annual Report, Items 4 and 7 - Items 4 and 7 are unnecessary as they recalculate the nutrient production by the dairy, which have already been calculated by the NMP or updates to the NMP for changes that affect nutrient production. A simple statement of confirmation from the Discharger about not exceeding the anticipated nutrient application to the fields as defined in the NMP, should meet the intent.

Response: The Discharger does not have to submit the Nutrient Management Plan to the Board, so summary information regarding operations at the dairy is requested through the annual report process. No change made.

Comment: Monitoring and Reporting Program, Attachment A – In Item A.10: Is this supposed to be an evaluation of the data or a proposal for an evaluation? The wording is conflicting as to which is the intent. In Item B.1.a: How are Dischargers supposed to identify wells located outside their property? Argues that it should not be the Dischargers' responsibility to locate wells on land not under their control.

Response: The wording in Item A.10. has been revised to make it clear that requires submission of a report containing specific information The wording in B.1.a. has been revised to limit the requirement to information known to the Discharger.

Comment: Attachment B: Waste Management Plan, Item III.A.3 - Ms. Gerwig questions the justification for using 1.5 times the normal precipitation when estimating the required lagoon storage volume and requests documentation supporting the need for this additional volume.

Response: There is no requirement for this additional storage volume. This just relieves Dischargers with above-average storage volumes from the obligation to prepare a contingency plan. It is part of an effort to reduce the costs of complying with the Order. No change made.

Comment: Attachment C: Nutrient Management Plan, Contents of Nutrient Management Plan - The statement "Copies of these assessments shall be maintained for 10 years," contradicts the rest of the Order which states records shall be maintained for 5 years. Re Item I.C - Ms. Gerwig questions the need for both a written agreement with third parties and a Tracking Manifest and suggests

eliminating the written agreement as it could quickly become outdated while the Manifest is filled during each removal event. Re Item I.D - Discharges should not be required to identify land holdings that will not be used for waste application by the dairy, as it provides no value in regards to managing animal waste.

Response: Application of waste to land can impact groundwater quality and there may be a significant lag time between the application and the impact. A longer record retention time is justified. The requirements related to written agreements has been revised to limit such agreements to parties receiving liquid waste. These arrangements are more stable. The requirement to identify all lands owned by the Discharger has been removed. Only lands within five miles of the facility (and thus readily available for waste application) must be identified.

**Comments by
Natural Resource Conservation Service (NRCS)
Received 23 April 2007**

Comment: Prohibition A1 - This prohibits the discharge of storm water to surface water from the production area. NRCS suggests prohibition apply only to runoff that has come in contact with manure.

Response: This is not an NPDES permit and it does not allow discharge of waste to surface waters except where agricultural exemptions apply. No change made.

Comment: Prohibition A15 - This prohibits the expansion of milk cow dairies covered under this order. NRCS suggests inserting the definition of expansion into text of the prohibition (it now resides in Attachment E Definitions).

Response: There is a section of the Order for definitions (Attachment E). Inserting definitions into the text would make the document cumbersome. No change made.

Comment: General Specifications B7-B9 - Reconsidering Tier 1 lagoon design as BPTC, codify Region-wide requirements of addressing seepage control from new are expanded lagoons, specify 40 ml HDPE liner material.

Response: Tier 1 requirements are optional and are included to provide the Discharger an option that will can be reviewed and approved in the minimum amount of time. Dischargers can propose alternative pond designs, including the use of different liner material, under the Tier II option.

Comment: General Specifications B13 - Place depth marker in last lagoon, not every lagoon. Rationale is that many dairies have lagoons in series, one filling up and overflowing into the next.

Response: This portion of the Order has been revised to address this situation.

Comment: General Specifications B17 - Add "that may contain manure" after the word "tailwater".

Response: This Order regulates land application areas where it is expected that all tailwater will contain waste constituents at one time or another. No change made.

Comment: Standard Provisions Item 8 - Exclude federal officers including NRCS from signing certification statement.

Response: There is no reason given for lowering the standards except for the convenience of NRCS. Most NRCS-related work at dairies is now done by outside contractors that could possibly assist in the review process. No change made.

Comment: Monitoring and Reporting Program General Comment 1 - It would be of great help to the dairymen if the RB developed checklists for testing and sampling and for use during inspections and monitoring.

Response: This has merit. Board staff can work with other interested parties to develop forms after the Order is adopted.

Comment: Monitoring and Reporting Program General Comment 2 - Many of the tests required have field versions. RB should allow the option to use field tests instead of laboratory tests when field test kits are available.

Response: Field testing will be allowed where appropriate. No change made.

Comment: Monitoring and Reporting Program Attachment A - Suggest a Regional monitoring well network and local deep soil testing for contaminant transport instead of monitoring wells at each dairy.

Response: Alternative monitoring approaches can be proposed by Dischargers after adoption of the Order. See Finding 22 for a discussion of the process.

Comment: Waste Management Plan for Production Area Item III - Required flood inundations study is too costly for environmental gains. Should use actual local flood experience and proximity and elevation differences with waterways instead.

Response: State regulations in Title 27 of the California Code of Regulations require that confined animal facilities meet this requirement. The Regional Board cannot waive this requirement. No change made.