

**Regional Water Quality Control Board
Central Valley Region
Board Meeting—8/9 June 2017**

**Response to Written Comments On
Tentative Waste Discharge Requirements
General Order For
Confined Bovine Feeding Operations**

The following are Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff responses to comments submitted by interested persons regarding the tentative Waste Discharge Requirements General Order for Confined Bovine Feeding Operations (Bovine General Order).

The tentative Order was issued for a 30-day public comment period on 10 February 2017, with comments due by 24 March 2017. The comment period was subsequently extended to 7 April 2017 at the request of the interested public. The Central Valley Water Board received public comments regarding the tentative Order by the extended due date from 10 interested persons; the persons are identified by letters in the following collated comments:

Commenter AGCC	Agricultural Council of California
Commenter SFB	San Francisco Baykeeper
Commenter CCA	California Cattlemen's Association (comments prepared by AGPROfessionals)
Commenter CCOF	California Certified Organic Foundation
Commenter CDC	California Dairy Campaign
Commenter CLAMA	California Livestock Auction Markets Association
Commenter CWC	Community Water Center <i>and</i> Leadership Counsel for Justice & Accountability
Commenter DC	Dairy CARES
Commenter IAS	Innovative Ag Services LLC
Commenter WUD	Western United Dairyemen

Written comments have been arranged by topic; similar comments have been grouped and are summarized below, followed by the responses of Central Valley Water Board staff. As discussed below, some changes were made to the proposed Order and attachments based on public comments received. Where specific changes to the Order are presented below, additions are in bold text and deletions are in strike-out.

Central Valley Water Board staff also made some minor edits to the Order and attachments to correct typographical errors and to improve clarity. Those changes are not included in this package.

Topic: Anti-Degradation Analysis

Comment: Staff has failed to conduct a legally adequate anti-degradation analysis because:

- a. staff failed to identify baseline water quality for each of the pollutants in the discharge that are likely to degrade water quality;
- b. staff asserts, without any basis, that the management practices and requirements set out in the Permit represent Best Practicable Treatment or Control (BPTC); and
- c. staff has failed to conduct any meaningful analysis to demonstrate that the continued degradation allowed by the Permit is “to the maximum benefit of the people of the State.”

Staff must affirmatively “demonstrate” compliance with the anti-degradation policy. The Order must include an analysis of how much degradation is actually permitted and a cost-benefit analysis that takes into account the social and economic costs and benefits not only to dischargers, but to communities who rely on groundwater for drinking water and other beneficial uses. (Comments SFB 1 and CWC 1)

RESPONSE: The Commenters are correct that the Central Valley Water Board must affirmatively demonstrate compliance with the State Anti-Degradation Policy. In response to these and other comments, the Information Sheet has been revised to elaborate on the findings and explanations provided in the draft that was circulated for public comment.

Baseline Water Quality:

As explained in the revised Information Sheet, the first five steps in the Board’s analysis under the Anti-Degradation Policy, including identifying baseline water quality for each constituent of concern, exist for the purpose of determining whether the Policy applies—i.e., whether the discharge being authorized will lead to degradation of “high-quality waters.” The identification of a high-quality water within the meaning of the state and federal anti-degradation policies is water body- and constituent-specific. However, very little guidance has been provided in state or federal law with respect to applying the anti-degradation policy to a whole program or general permit where multiple water bodies are affected by various discharges, some of which may be high quality waters and some of which may, by contrast, have constituents at levels that already exceed water quality objectives.

Given these limitations, the board has used readily available information regarding the water quality status of surface and ground waters in those portions of the Central Valley Region where bovine operations exist and has constructed provisions in this Order to meet the substantive requirements of Resolution 68-16. This Order regulates discharges from hundreds of individual facilities to a very large number of water bodies within the Central Valley. There is no comprehensive, waste

constituent-specific information available for all surface waters and groundwater aquifers accepting confined bovine facility wastes that would allow site-specific assessment of current conditions. Likewise, there is no comprehensive historical data.

However, data collected by the Central Valley Water Board, dischargers, educational institutions, and others demonstrate that many water bodies within the Central Valley Region are already impaired for various constituents that are or could be associated with confined bovine facility operations. Those same data collection efforts also indicate that many surface water bodies meet objectives for particular constituents and would be considered “high quality waters” with respect to those constituents. Although new ambient surface water and groundwater quality data are constantly being produced, there will always be substantial data gaps, particularly with respect to historical water quality data. Generation and synthesis of new and historical data to fill all these gaps would be time intensive and costly, delaying the ultimate implementation of what would likely be a markedly similar program with or without the data.

In light of the significant variation in conditions over the geographic areas covered by this Order, any application of the anti-degradation requirements must account for the fact that at least some of the waters into which confined bovine facility discharges will occur are high-quality waters (for one or more constituents). Further, the Order’s provisions also account for the fact that even where a water body is not high quality (such that discharge into that water body is not subject to the Anti-Degradation Policy), the board should, under State Water Board precedent, impose limitations more stringent than the objectives set forth in the Basin Plan, if those limits can be met by “best efforts.” Consistent with these principles, and after a general assessment of reasonably available water quality data, staff proceeded with its anti-degradation analysis based on the reasonably supported conclusion that the discharges in question would degrade high quality waters. This conclusion obviates the need to perform the first five steps in the Board’s anti-degradation analysis individually in the same manner as for individual WDRs.¹

¹ Further, although draft or proposed State Water Board orders are non-precedential and subject to change until they are final, the reasoning in the Anti-Degradation Policy discussion in the State Water Board’s proposed order reviewing the Central Valley Water Board General Order R5-2012-0116 suggests that the State Water Board would likely find that this General Order’s approach is legally permissible and reasonable in light of informational constraints. See State Water Board, Draft Order WQ-2016-XXXX, *In the Matter of Review of Waste Discharge Requirements General Order No. R5-2012-0116* (posted Feb. 8, 2016), pp. 59-60, available at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2239/a2239_proposed_order.pdf.

Best Practicable Treatment or Control (BPTC):

Revisions to the Information Sheet provide an expanded explanation for why the management practices and other requirements in the General Order represent BPTC. The pertinent discussion begins on page IS-22.

Maximum Benefit to People of the State:

Revisions to the Information Sheet provide an expanded explanation as to why limited degradation to high-quality waters from the discharges authorized under the General Order is consistent with the maximum benefit to the people of the state, so long as that degradation does not result in long-term detrimental impacts to beneficial uses. The pertinent discussion begins on page IS-28.

Comment: APU 90-004 applies to non-NPDES, or WDR only permits, where “an existing discharge has reduced water quality, since the facility was last permitted and the reduction is not authorized by the permit.” APU-90-004 at p.3. (Comment SFB 2)

RESPONSE: The Commenter’s interpretation regarding the scope of APU 90-004 is mistaken. Page 1 of APU 90-004 defines the scope of the entire document, and reads:

This Administrative Procedures Update provides guidance for the Regional Boards for implementing State Board Resolution No. 68-16, "Statement of Policy With Respect to Maintaining High Quality of Waters in California" (Appendix I-I), and the Federal Anti-degradation Policy, as set forth in 40 CFR 131.12 (Appendix 1-2), **as applied to the NPDES permitting process.**

APU 90-004, p. 1 (emphasis added). Nothing on page 3 or elsewhere in the document applies the APU's guidance to non-NPDES WDRs. Because this General Order is not an NPDES permit, the specific requirements of APU 90-004 are inapplicable.

Comment: Because the Order’s anti-degradation analysis is inadequate, the Order does not comply with the requirement in the Porter-Cologne Water Quality Control Act that waste discharge requirements shall “implement” basin plans and water quality objectives. (Comment CWC 2)

RESPONSE: The General Order complies with the State Anti-Degradation Policy for the reasons explained in the first Response as well as those listed on pages IS-22 to IS-32 of the revised Information Sheet. Additionally, pages IS-12 to IS-14 identify applicable beneficial uses and water quality objectives and identify the provisions in the General Order that implement them.

Topic: Cost

Comment: The Order is too expensive and places an economic burden on feedlots. (Comments AGCC 1, CCA 5, CDC 1, CLAMA 1, DC 1, IAS 1, WUD 1)

RESPONSE: The projected costs of implementing the Order were derived based on individual operations meeting requirements of Resolution 68-16 (State Anti-Degradation Policy) and are directly associated with (1) the requirements and necessities for a bovine operation to come into compliance with the Order (e.g., development of a Nutrient Management Plan, a Waste Management Plan, Annual Reports, etc.); and (2) how an operation maintains compliance (i.e., oversight of the operation through inspections, sample collection and analysis, and maintenance). The direct expenses of the Order stem from (1) the time and the labor to reach and maintain compliance (i.e., preparation, activation, and oversight); and (2) capital costs to comply.

Regional Board staff recognize that implementation of the Order will lead to an increase in the cost of production. However, in view of environmental benefits (e.g., protection of water quality), the additional costs are justified.

To ease the economic burden on Full Coverage Operations, the requirement to sample pond contents at many facilities has been changed from an annual requirement to a one-time event. This will provide a baseline of waste constituent concentrations in ponds, while the Representative Monitoring Program characterizes the range of concentrations as part of evaluating needed management practices for pond operations. Facilities that apply wastewater to land will continue to be required to sample the pond contents as part of their Nutrient Management Plan.

In order to minimize the economic burden to facilities that fall under the Limited Time or Limited Population tiers, but require a higher level of protection, Finding 6 has been revised as follows to avoid unnecessary requirements if only certain measures are warranted:

“...A facility that otherwise meets the definition of a Limited Time or Limited Population Operation may be required to comply with all **or some** of the requirements of this Order as a Full General Order Coverage Operation...”

Comment: The cost analysis in the Order does not include capital costs for upgrading facilities to comply with the Order’s requirements. These costs are significant and need to be included. The current economic analysis only includes compliance costs. (Comment CCA 4)

RESPONSE: In response to the comment, estimates of the capital costs for lining ponds have been included on pages IS-26 and IS-27 of the Information Sheet attached to the Order. Capital costs for flood protection are site-specific and highly

variable; no attempt has been made to estimate those costs. It is acknowledged that, in areas of highest flood risk, the cost of installing flood protection measures for the production area can be considerable. Note that the flood protection requirements of the Bovine General Order are the same as those in Subchapter 2 of Title 27, as adopted in 1984 and are required whether this order is adopted or not. Therefore, costs associated with those requirements are not considered “new” costs resulting from implementation of this Order.

Topic: Who should be regulated/covered by the Order

Comment: The regulatory threshold should return to its previous level of 100 Animal Units (AU) or larger; proposing to include 6 AUs or greater in the General Order is putting too much of a burden on small operations. (Comments AGCC 2 and DC 2)

Comment: We appreciate that the Order regulates down to 6 AUs. (Comment CWC 4)

RESPONSE: Smaller Confined Bovine Feeding Operations may nonetheless pose a threat to water quality and therefore are properly within the scope of this Order. The response under “Upgrading Practices” below regarding potential impacts to water quality from constituents from corral runoff speaks to some of the issues that justify inclusion of smaller Confined Bovine Feeding Operations within the Order. In recognition of the economic impact of the Order on smaller confined bovine feeding operations, the Order requires fewer water quality controls relative to larger operations and monitoring and reporting has been reduced. However, a Limited Time or Limited Population Operation may be required to comply with some or all of the requirements of this Order as a Full General Order Coverage Operation if the Executive Officer determines that the Operation poses a greater threat to water quality than is normally associated with the Limited Time or Limited Population tiers (Finding 6).

Comment: The Order should exclude all educational projects related to secondary schools, FFA, and 4-H programs, and others. (Comments AGCC 3 and DC 3)

RESPONSE: Smaller facilities with 5 or fewer Animal Units, facilities that operate for fewer than 45 days in any 12-month period (such as fairs), and non-commercial operations are not subject to the Order (Finding 2). Educational projects related to secondary schools that do not qualify for these exclusions (i.e., they are larger and/or operate for longer periods than excluded operations) will remain covered under the Order, ensuring that students who may become operators of bovine facilities in the future gain an understanding of Central Valley Water Board requirements designed to protect water quality at confined bovine feeding operations.

Comment: Existing facilities should be defined as those that were operating as of the date that the Bovine General Order is adopted instead of using the date that the Tentative Order was released for public review. (Comment CLAMA 3)

RESPONSE: For this General Order, the Board is relying on a Class 1 CEQA categorical exemption, which exempts "the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination." The provisions of the General Order related to establishing "existing" herd size and operations exist to facilitate the Board's compliance with CEQA and the application of this categorical exclusion.

By law, CEQA analysis must occur prior to the discretionary approval it supports. (See Cal. Code of Regs., tit. 14, § 15004.) Further, the lead agency must legally commence CEQA procedures when it *proposes* the Project. (*Id.* § 15002.) In order to apply the Class 1 Categorical Exemption, the Board first had to establish an environmental baseline and base its determination regarding the categorical exclusion on the facilities existing within that environmental baseline. The baseline consists of "physical environmental conditions in the vicinity of the project, as they exist at the time ... environmental analysis is *commenced*." (*Communities For A Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 315 [emphasis added]; see also Cal. Code of Regs., tit. 14, § 15125, subd. (a).) Therefore, establishing the environmental baseline for "existing facilities" on the date of the Tentative Order was consistent with binding CEQA requirements, whereas setting that baseline on the date the board adopted the General Order would be inconsistent with those requirements.

Comment: Organic bovine operations that primarily graze their animals should be allowed to apply as Limited Time Operations because animals are not always in corrals. (Comment CCOF 2)

RESPONSE: Grazing animals are not part of the Order as stated in Finding 2:

"...Confined Bovine Feeding Operations do not include operations where animals primarily graze on pasture or rangeland, including any corrals that are an integral part of the grazing or pasture operation. However, corrals or other confinement areas used to finish cattle for slaughter at a grazing operation are considered Confined Bovine Feeding Operations requiring coverage under this Order."

Comment: Include language to prevent dischargers from fragmenting their operations to avoid falling within the full coverage classification. The Order should include language clarifying what the Board considers to be a single operation or facility and should require operators under the Limited Population Tier to swear under penalty of perjury that they are not operating contiguous operations. (Comment CWC 6)

RESPONSE: The Bovine General Order has a full coverage classification and two limited coverage classifications (i.e., Limited Term Operation and the Limited Population Operation). In summary, the Limited Term Operation is for facilities that will house bovine animals for fewer than 24 days per calendar month. The Limited Population Operation is for facilities that continuously house more than 5 but fewer than 100 animal units. An additional criterion has been added to Finding 5 to preclude operators from artificially dividing their bovine operation:

“f. [The Limited Population Operation] Has not been artificially divided from what is essentially one operation (e.g., contiguous border and/or common ownership) to avoid the requirements applicable to Full General Order Coverage Operations.”

Comment: Dairy Cares seeks additional clarity on the issue of whether to-be-regulated dairy calf or heifer facilities can be included within and added to existing dairy permits. The Order should include language clearly stating calf or heifer ranches can be added to dairy permits wherever they are contiguous to the dairy or when either is contiguous to farmland regulated under the Dairy Order. (Comment DC 12)

RESPONSE: To further clarify when a bovine operation can be treated as part of a dairy, Finding 12 of the Bovine General Order has been modified to read as follows:

“Confined Bovine Feeding Operations that are conducted as part of a dairy currently regulated under the Reissued Waste Discharge Requirements General Order for Existing Milk Cow Dairies, Order No. R5-2013-0122 (Reissued Dairy General Order) or its successor orders, shall continue to be regulated under the Reissued Dairy General Order and will not require coverage under this Order, provided that the bovine feeding operation **is included in the dairy’s Waste and Nutrient Management Plans and is:**

- a. Located within the dairy production area; or
- b. Is immediately adjacent to the dairy production area, land application area, or both; or
- ~~c. Shares the same land application area with the dairy.~~

If a Confined Bovine Feeding Operation does not meet a or b above but shares the same land application area with a dairy, the Confined Bovine Feeding Operation can request that the bovine operation be covered by the Reissued Dairy General Order as part of the dairy operation.”

Presently, bovine operations seeking coverage under the Dairy General Order need to meet one of the conditions set forth in Finding 12. In addition, the bovine operation’s herd, production area, and land application area must be included in the dairy’s Waste and Nutrient Management Plans. Any existing lagoon(s) at the bovine

operation will be treated as part of the dairy's waste management system under the Reissued Dairy General Order.

Topic: Herd Size

Comment: Bovine operations should be allowed to use the current maximum design capacity of the facility as the maximum herd size as an option instead of using the maximum herd size in a month in the preceding three year period. (comment CCA 1)

RESPONSE: Regional Board staff understands the variability of Confined Bovine Feeding Operations; the use of a single month over a 3 year period is designed to reflect this variability and provide a reasonable basis for the determination of an "Existing Facility" pursuant to CEQA.

The Order as drafted already allows a Confined Bovine Feeding Operation to use a maximum herd size identified in an approved CEQA document or other regulatory document that has gone through CEQA review or a CEQA-equivalent process. Provided that the current maximum design capacity was established using such a process, that capacity can be used as the "existing herd size" rather than the maximum in a month in the preceding three year period.

CEQA does not apply to ministerial approvals; only to discretionary approvals. Therefore, a maximum design capacity or herd size set by a ministerial approval process (e.g., by a grading permit) could not be used as the "existing herd size".

Comment: Auction markets should be allowed to use the number of pens and the area of housing to determine the size of the operation, as opposed to Animal Units. (Comment CLAMA 7)

RESPONSE: Regional Board staff understands the variability of auction market populations; the use of a single month over a 3 year period is designed to reflect this variability and provide a reasonable basis for the determination of an "Existing Facility" pursuant to CEQA. The current fee schedule is based on the number of animals. We have added a question to the Notice of Intent form to report the area of animal housing in the auction market so that this information could be used as a basis for determining the size of the operation in the future.

Topic: Limited Time and Limited Population Operations

Comment: The definition for Limited Time Operations should be changed as follows: "a. House bovine animals for fewer than 24 days per calendar month and remaining days of month do not exceed 10% of capacity." (Comment CLAMA 4)

RESPONSE: In response to the comment, Finding 4.a of the Order was revised as follows:

“House bovine animals for fewer than 24 days per calendar month. **Animals, up to 10% of the existing herd size, may be housed during the remaining days of the month, provided that the animals are moved or rotated around the facility so that cleanup and maintenance are not hindered.”**

Comment: The definition for Limited Time Operations should be changed as follows: “b. Exports all manure/wastewater or, if manure/wastewater is applied to Discharger’s cropland, the cropland...” (Comment CLAMA 5)

RESPONSE: Storm water runoff from corrals can produce large quantities of water that need to be managed as wastewater and may contain high concentrations of waste constituents, depending on factors such as the quantity of manure in the corrals at the time of precipitation events, the acreage of the animal housing area, and the effectiveness of measures to divert clean storm water away from manured areas. Limited Time Operations and Limited Population Operations, due to their size and, for Limited Time Operations, the ease of cleaning of animal housing, may generate storm water having lower concentrations of pollutants or in smaller volumes than Full Coverage Bovine Operations. Therefore, Findings 4b and 5b of the Order have been modified to allow Limited Time and Limited Population Operations to apply corral runoff to cropland enrolled under the Irrigated Lands Regulatory Program if the operations can demonstrate that, due either to the limited volume of corral runoff to be applied or the low concentration of waste constituents in the corral runoff, application of the corral runoff to crops poses a minimal threat to water quality. If the demonstration cannot be made, cropland receiving storm water must be regulated as part of a Full Coverage Bovine Operation having a Nutrient Management Plan.

Comment: The definition for Limited Time Operations should be modified to add “incidental water generated from sanitization for biosecurity purposes” to the liquid allowed to be stored under Section e. (Comment CLAMA 6)

RESPONSE: Board staff agrees that very small amounts of water used for sanitization do not increase the risk to water quality posed by corral runoff alone. Therefore, language has been added to the end of Finding 4.e of the Order to read:

“...other than corral runoff **and de minimis amounts of water necessary for sanitization.”**

Comment: Auction markets would prefer to be assessed an annual flat fee instead of a fee based on the number of animals. (Comment CLAMA 8)

RESPONSE: The Fee Schedule is adopted by the State Water Resources Control Board. Board staff has noted the comment and will transmit it to the Fee Unit for consideration.

Comment: Limited Population Operations should, at a minimum, be required to annually test any wells on their property and store the results with the rest of their documentation for review by Regional Board staff. (Comment CWC 5)

RESPONSE: Testing of on-property domestic and agricultural wells, because they rarely sample first encountered groundwater, are of limited utility in evaluating the impacts of on-site waste management practices on groundwater quality. Such wells can provide useful information on regional groundwater quality, which is why such sampling is required of larger bovine operations and of dairies. Though staff anticipates that the sampling data from Full General Order coverage operations will yield sufficient regional groundwater quality information, language has been added to Monitoring and Reporting (MRP) Monitoring Requirements section E.3 to indicate that Limited Population Operations shall monitor groundwater if directed by the Executive Officer.

Topic: Timelines/Schedules

Comment: The proposed implementation timeline for the Order should be extended to reduce negative practical and financial impacts on the regulated community. (Comments AGCC 4, CLAMA 2, DC 4)

Comment: The timelines for reporting requirements need to be shortened, with extensions being granted for only a showing of good faith efforts to comply. (Comment CWC 8)

RESPONSE: The timelines for reporting requirements identified in the Order represent a balance between competing concerns that include the level of threat to water quality, the costs to the regulated community and community-at-large, and lack of established education and outreach programs within portions of the bovine industry. As some commenters specified, the confined bovine industry historically has been an unregulated industry; these commenters requested implementation timelines to be extended. In contrast, another commenter requested the timelines be reduced due to the threat to water quality posed by bovine operations.

After reviewing and considering the comments regarding the timelines for reporting requirements, staff has extended the deadlines for submittal of major documents by six to eighteen months, depending on the complexity of the document. ~~not proposed any change to the existing timelines, which~~ The extensions reflect anticipated challenges in identifying bovine operations subject to the Order and reviewing documents submitted by the operations. The implementation timelines and submittal deadlines, as extended, have been established to allow the regulated community time to comply and to spread out the cost of compliance. The timeline is designed to accommodate the difficulty of implementing monitoring and reporting requirements within a previously unregulated industry. The first submittal, the Notice of Intent (NOI), is due 12 months after the adoption of the Order. No changes to the

submittal date for the NOI have been proposed because the NOI information is critical to identifying the characteristics of facilities subject to the Order.

For example, bBBecause many bovine operations either have no cropland or only apply manure to cropland already enrolled under the Irrigated Lands Regulatory Program, it is estimated that fewer bovine operations will need to develop Nutrient Management Plans (NMPs) as compared to dairies, the majority of which have cropland and generate wastewater from flushing operations that is land applied. However, bovine operations having cropland and needing to prepare an NMP are not obligated to commence preparation of the NMP until after filing an NOI and receiving a NOA confirming that their facility is covered by the Bovine General Order. This would effectively reduce the amount of time available to prepare the NMP to six months. Therefore, the deadline for submittal of certification that a NMP has been completed has been extended by six months. no changes to the timelines for the development of a Nutrient Management Plan (NMP) and submittal of certification that the NMP has been completed have been proposed.

Dairies have several industry groups as well as outreach groups such as the California Dairy Quality Assurance Program to educate dairy owners and operators and assist them in complying with the Dairy General Order. Such efforts are funded out of the monthly milk checks issued to dairies. Bovine operations do not have a similar support network, nor do they have a similar reliable funding source to pay for needed assistance, and it is anticipated that additional efforts will be necessary to ensure that deadlines in the Bovine Order are met by bovine operations.

Although this Order allows time for the implementation of the requirements of the Order, Dischargers may be required to make changes in their management practices sooner than the schedules in the Order if data become available from other monitoring programs that identify practices that are not protective of groundwater quality (Section N, Time Schedule for Compliance).

Topic: Reporting Forms and Record Keeping

Comment: The Notice of Intent (NOI) should be simplified to be easier for completion. Specifically:

1. Application fee should not be required;
2. Reports should not need to be submitted via GeoTracker;
3. Wastewater agreements should not be required;
4. A map should not be required.

(Comments AGCC 7, CCA 2, DC 7)

RESPONSE: An application fee is required by law to ensure that each program is self-supporting and not supported by other fee payers outside the program.

The requirement that the Notice of Intent be submitted via GeoTracker has been removed and replaced with simpler email and mail submittal options.

Language in Section E.2, *Land Application Area Specifications* indicating wastewater agreements needed to be submitted along with the NOI has been deleted. The submittal of wastewater agreements has been added to the first year's annual report requirement.

A map that outlines the production area features such as animal housing and retention ponds, and the extent of the land application area (cropland) is important for establishing the configuration of the bovine operation and identifying elements of the Order that are relevant to the operation. The requirement for submittal of a map with the NOI has not been changed. Note that a base map printed from an air photo image available on the internet, with hand drawn features added (e.g., scale, north arrow, cropland, production area, lagoon(s), etc.), will satisfy the map requirement in the Order.

Comment: The Regional Board should provide or develop new, standardized, and user friendly reporting forms for Annual Reports, Nutrient Management Plans, and Waste Management Plans. The use of existing forms developed for dairies are not appropriate. (Comments AGCC 8 and DC 8)

RESPONSE: The Board does not require reports to be submitted in a particular form, although the Monitoring and Reporting Program ("General Provisions") of the Order specifies all regulatory documents, submissions, materials, data, monitoring reports, and correspondence, other than the Notice of Intent, shall be converted to a searchable Portable Document Format (PDF) before submittal.

At this time, funding is not available to pay for the development of forms like the California Central Valley Dairy Waste and Nutrient Management Application (Merced County tool). The Board is committed to pursuing funding for the development of such forms for use by bovine operations. Meanwhile, Board staff is available to review and provide feedback on applications and tools, such as modifications of the Merced County tool, if developed by other entities.

Comment: The Farm Evaluation Survey (FES) and the Farm Water Quality Plan (FWQP) (MRP-Attachment B) seem partially redundant. We suggest these be combined or one of them be eliminated. (Comment DC 18)

RESPONSE: The Farm Water Quality Plan and Farm Evaluation Survey form do require some of the same information, but the majority of required information does not overlap and serves different purposes. The Farm Evaluation Survey is not required from Dischargers that don't farm land or that farm land already covered under the ILRP. It provides valuable information, including a description of the entire operation, farm management practices that minimize waste discharge to offsite surface water, pollution and nuisance prevention, and methods used to eliminate

sediment discharges. The Farm Water Quality Plan is only required from those Dischargers whose cropland has a potential to discharge pesticides to surface water.

Comment: The Order requires that records are kept on-site for only five years, yet the monitoring program lasts six years. Records should be required to be maintained for longer than the length of the monitoring program in order to allow the Regional Board time to review records from the entire time groundwater was being monitored. (Comment CWC 12)

RESPONSE: Information that is not required to be submitted to the Board and which can be discarded by the Discharger after five years is not necessary for implementation of the groundwater monitoring program requirements. The results of groundwater monitoring programs will be summarized and submitted to the Board annually, and will be kept at the Board with other facility records for as long as they are needed in accordance with State record retention policies.

Comment: Under the Reporting Provisions of Section K, Required Reports and Notices, a Discharger has 30 days to provide information the Regional Board requests. This amount of time is excessive; documentation should be furnished to the Regional Board within two weeks unless the Discharger can show they are acting in good-faith and need more time to gather records, not to exceed 30 days total. (Comment CWC 13)

RESPONSE: Section K.2.c, has been modified to read:

“Any Discharger authorized to discharge waste under this Order shall furnish, within 30 days, any information the Central Valley Water Board may request, to determine whether cause exists for modifying, revoking, and reissuing, or terminating their authorization for coverage under this Order. The Executive Officer may specify a longer time schedule if it is determined that allowing more than 30 days is reasonable. The Discharger shall, upon request, also furnish to the Central Valley Water Board, **within two weeks**, copies of records required to be kept by this Order.”

Topic: Land Application Issues

Comment: The 1.4 applied-removed ratio should be removed in favor of a system that requires measuring and reporting application and removal practices. (Comments AGCC 6, DC 6, IAS 3)

RESPONSE: The requirement of 1.4 in the Order is a target and it is recognized that it is not always achievable. The basis for the 1.4 ratio is the University of California Cooperative Extension report² where it was indicated that the appropriate nitrogen

² Managing Dairy Manure in the Central Valley of California, University of California Agricultural and Natural Resources Publication 9004.

loading rate that minimizes nitrogen leaching and maximizes nitrogen harvest is between 140 to 150 % of the nitrogen harvested. Additional provisions are detailed in the Monitoring and Reporting Program (MRP) of this Order for conditions where nitrogen application higher than 140% of the crop nitrogen removal is needed to obtain a crop yield typical for the soils and other local conditions (see MRP Table 2, Plant Tissue). The MRP also includes a requirement to evaluate land application practices and propose improvements as appropriate where nitrogen application higher than 140% of the crop nitrogen removal occurs.

Comment: The Order proposes that bovine operations with cropland be allowed to enroll the cropland in the Irrigated Lands Regulatory Program (ILRP) coalitions. Before adopting the Order, the Regional Board should conduct scoping meetings with ILRP coalition leaders to determine concerns and possible solutions for those concerns for enrolling bovine operations in existing ILRP coalitions. (Comments AGCC 10 and DC 11)

RESPONSE: Enrollment in the ILRP is one option for facilities to comply with some of the Bovine Feedlot Order requirements, but enrollment is not required. Board staff recognizes that concerns may exist and we are available to facilitate meetings between Confined Bovine Feedlot Operations, ILRP coalitions, and interested stakeholders to develop possible solutions to those concerns.

Comment: We are especially pleased by the requirements for flowmeters. (Comment CWC 14)

RESPONSE: Comment noted.

Comment: We are especially pleased by the new requirements for annual cropland soil sampling (for nitrogen). (Comment CWC 15)

RESPONSE: Comment noted.

Comment: Soil nitrogen testing frequency should be reduced from annually to every three to five years. This is an expensive test that provides comparatively little information compared to its cost. (Comment DC 17)

Comment: The requirement for plant tissue sampling and analysis should be removed. Growers should use university and/or industry standard nitrogen content of crops harvested and not laboratory analysis from each field each year. (Comment IAS 4)

RESPONSE: The requirement for annual soil sampling and analysis will be retained. Knowing the amount of nutrients in the soil is a useful guide for the amount of nutrients to be applied. In farming systems where more than one cropping is practiced annually, it is very reasonable to require annual soil sampling and analysis; these reasonably inexpensive (estimated at \$24/sample) tests provide very useful

data for developing and implementing a sound Nutrient Management Plan. Note that the soil tests require only one analytical component, total nitrogen.

The Regional Board recognizes that laboratory analysis of the crops harvested represents only a minute portion of what is harvested from the field. However, if a sample is collected with precision and accuracy, and sampled and handled within the appropriate timeframe, the analytical results are more representative of what is occurring at the field level than are valley-wide data, data from within California in general, or data from other states. University and/or industry standard nitrogen content of crops harvested may be representative of controlled studies and not on-site data and individual farming practices. Farming operations associated with animals are unique when compared to farming covered under the Irrigated Lands Regulatory Program (ILRP). Animal farming operations generate manure on a daily and year-round basis. The manure produced is stored until it is needed for plant application; depending on management of the manure, it may or may not be immediately plant-available when applied. In contrast, ILRP operations purchase nutrients in the form of fertilizer or manure when needed and apply nutrients that may be immediately plant-available. Due to the variability of nutrient applications in the form of manure and process wastewater, the requirement for more precise and site-specific nutrient management, which includes plant tissue analysis, at animal facilities has been retained in the Order.

Topic: Monitoring and Reporting Program (MRP) Issues

Comment: The requirement to sample for general minerals in wastewater and solid manure in Table 2 (MRP) and discharges of wastewater to ponds in Table 3 (MRP) should be every 5 years instead of every 2 years. (Comment DC 14)

Comment: Once a baseline is set for both general minerals and nutrients/TDS in discharges to ponds in Table 3 (MRP), testing should not be required to continue. No purpose for ongoing testing has been identified. (Comment DC 15)

RESPONSE: The Order already includes a specific method to address changes to monitoring requirements if it is believed that such requirements are not necessary. As stated in Monitoring Requirements A.1. General Monitoring Requirements (p. MRP-3) of the Order, "If monitoring consistently shows no significant variation of a constituent concentration or parameter, the Discharger may request that the MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency."

The requirement to sample pond contents at most facilities has been changed from an annual requirement to a one-time event. This will provide a baseline of pond concentrations, while the Representative Monitoring Program more fully

characterizes the range of concentrations as part of evaluating management practices. Facilities that apply wastewater to land will continue to be required to sample the pond contents as part of the Nutrient Management Plan.

Comment: Remove the requirement for testing of Total Kjeldahl Nitrogen in plant tissue. This appears to be a technical error. (Comment DC 16)

RESPONSE: The commenter is correct. The requirement to analyze plant tissue for Total Kjeldahl Nitrogen has been removed from the Order.

Comment: We suggest that nitrate analysis of wastewater only be required if the pond is aerated, consistent with the previous Dairy Order. Pond water is not likely to contain significant amounts of nitrate due to its anaerobic nature. (Comment DC 19)

RESPONSE: Staff concurs and has changed the text to read:

Quarterly during one application event:

Laboratory analyses for nitrate-nitrogen (**only when wastewater pond is aerated**), ~~total~~ ammonia-nitrogen, total Kjeldahl nitrogen, total phosphorus, total potassium, and total dissolved solids.

Topic: Pond Issues

Comment: The Order should provide a streamlined approval for single geo-synthetic lagoon liners, just as has been done for double-lined retention ponds. (Comments AGCC 5 and DC 5)

RESPONSE: The Bovine General Order provides a two-tiered approach for retention pond design. Tier 1 is a double liner constructed with 60-mil high density polyethylene or material of equivalent durability with a leachate collection and removal system between the two liners. The Tier 1 design is accepted to be protective of water quality because any leakage through the primary (top) liner will be captured by the secondary liner and collected and removed through the leachate collection and removal system. Head on the secondary liner resulting from leachate passing through a defect in the primary liner would be minimal and not promote rapid seepage through any defect encountered in the secondary liner.

Tier 2 (including the option for a Preapproved Tier 2) is a retention pond design which has been demonstrated through an engineering report to be protective of groundwater quality. While single-lined synthetic pond designs would likely provide more groundwater protection than an unlined pond, there are no known studies that

fully evaluate the ability of a single liner design to protect groundwater quality under all circumstances.

The Bovine General Order provides a process for a Preapproved Tier 2 pond liner design. Once such a design is approved by the Executive Officer, facilities that meet the applicable criteria for soil type, groundwater conditions, and operating conditions would not be required to obtain further approval.

Comment: The Tier II pond language is vague, with the result that the documentation, engineering, and burden of proof may be so onerous that, de facto, only the Tier I option will be available. (Comment CCA 3)

RESPONSE: The language providing the acceptance criteria for Tier 2 and Preapproved Tier 2 pond liner designs is not prescriptive in order to allow for design flexibility. The burden of proof for accepting Tier 2 and Preapproved Tier 2 liner designs is necessary because any design requires a performance evaluation to demonstrate that the design will be protective of water quality. Moreover, a given Tier 2 design may be acceptable for the operational and site conditions at a given project site, but not for others.

Comment: Data from seepage reports prepared pursuant to the Dairy Representative Monitoring Program further suggest the ineffectiveness of unlined ponds. Improvements to unlined ponds must be implemented on a more accelerated timeline than what is set forth in the Order. It is not clear at what point in the monitoring process a pond will be considered insufficiently protective of groundwater such that it must be upgraded or replaced. (Comment CWC 10)

Comment: For Limited Time and Limited Population Operations, it is unclear at what point these operations will have to replace any leaky or out-of-date ponds. These Operations should have to upgrade or replace their ponds on a similar time schedule as Full Coverage Operations. (Comment CWC 11)

RESPONSE: Although this Order allows time for the implementation of the requirements of the Order, Dischargers may be required to make changes in their management practices sooner than the schedules in the Order if data become available from other monitoring programs that identify practices that are not protective of groundwater quality (Section N, Time Schedule for Compliance).

The Executive Officer has the discretion to require Limited Time Operations or Limited Population Operations to line or otherwise upgrade ponds any time data indicate that the Operation poses a greater threat to water quality than what is consistent with the Limited Time or Limited Population tiers (see Finding 6 of the tentative Order).

Otherwise, information gathered by the Representative Monitoring Program will be applied to these other lower-threat tiers as applicable to be protective of water quality.

Comment: The Tier I pond design should be expanded to include a pond consisting of a single liner constructed with 60-mil HDPE or material of equivalent durability in conjunction with a leachate collection and removal system (LCRS) on engineered subgrade below the synthetic liner. While this system may not be as effective as an LCRS between two synthetic liners in detecting very small leaks, such leaks could be regarded as sufficiently small to be found consistent with Resolution 68-16....It is clear that single liner ponds provide a vast leakage risk reduction over earthen liner ponds. (Comment DC 5)

RESPONSE: The commenter's proposed design implies that an engineered subgrade would serve as a substitute for the secondary 60-mil HDPE geomembrane in the Tier 1 design. However, this is not the case and the subgrade could not be considered as an equivalent component. The performance of the proposed design would likely vary from one project site to another according to the inherent engineering properties of any given engineered subgrade (e.g., hydraulic conductivity); hence, the proposed design could not be universally accepted as a prescriptive standard.

The proposed pond liner design could, however, be presented as a Preapproved Tier 2 design subject to the approval process if demonstrated to be protective for certain types of facilities, depending on site conditions.

Comment: Other entities (not just Representative Monitoring Programs) such as engineering firms or other qualified experts should be allowed to propose pond designs for approval by the Executive Officer for inclusion in "pre-approved Tier II ponds". (Comment DC 13)

RESPONSE: Pond specification 10 will be revised to include this option:

"Preapproved Tier 2: A Representative Monitoring Program **or other entity** may develop and propose a pond design that is demonstrated to be protective of water quality under certain specified site or operational conditions. The design and demonstration shall be based on representative data such as leakage calculations and monitoring of groundwater at dairies with such ponds. Following approval by the Executive Officer, use of this design under the specified site and operational conditions would not require additional leakage calculations or individual groundwater monitoring wells unless specifically required by the Executive Officer. The Discharger shall obtain written approval by the Executive Officer prior to construction or use of such a pond."

Comment: Organic bovine operations cannot use synthetic herbicides to control weeds around wastewater ponds. Mowing weeds should be allowed as an alternative. (Comment CCOF 1)

RESPONSE: The Order requires wastewater pond embankments be visually inspected to identify and remediate problems related to odor, breeding of mosquitos, damage from burrowing animals, damage from equipment during removal of solid manure, embankment settlement, erosion, seepage, excess weeds, algae, and vegetation. In order to inspect and identify the issues referenced above, the wastewater pond embankments must be relatively clear of weeds. The proposed Order does not specify methods of compliance and if mowing adequately exposes the pond embankments for inspection then it is allowed.

Topic: Upgrading of Practices

Comment: The Order should incorporate the recommendations for best management practices proposed in the Central Valley Salt and Nutrient Management Plan (SNMP) considered by the Board on March 9, 2017. The Representative Monitoring Program section of the Order should be updated to track with these modifications and to identify tools, practices, and strategies that strengthen an operator's ability to reduce impacts to groundwater. (Comments AGCC 9 and DC 10)

RESPONSE: The Board is in the process of developing, but has not yet adopted, amendments to the Basin Plans to incorporate the strategies for addressing salts and nitrates that have been identified in the SNMP. Strategies that are proposed in the SNMP and that are currently under consideration may:

- Alter the way the Board calculates available assimilative capacity for nitrate, which could result in new or modified requirements for nitrate management;
- Require dischargers to implement actions identified under an interim salinity permitting approach; and/or
- Establish alternate compliance approaches that would allow dischargers to participate in efforts to provide drinking water to local communities in consideration for longer compliance time schedules.

Language recognizing that these strategies are under consideration has been added to the General Order. Should the Board adopt amendments to the Basin Plan to effectuate such strategies, these waste discharge requirements may be amended or modified to incorporate any newly-applicable requirements.

Comment: Most Confined Animal Feeding Operations (CAFOs) in the state will not be able to comply with the Waste Management Plan requirements as they are currently written. The CAFO facilities, unlike dairy facilities, do not generate wastewater as part of their daily operations. The tentative Order greatly exceeds current federal, state, and local requirements for wastewater storage and will place insurmountable costs to each

CAFO to comply with wastewater storage. The Order should be amended to reduce the wastewater storage requirements to those that are economically feasible while meeting state, local, federal regulations to manage storm water from the CAFO facilities. (Comment IAS 2)

RESPONSE: Although most non-dairy bovine operations do not continuously generate wastewater, they generate manure on a daily basis. It is not uncommon to have bovine operations located at former dairy sites where the lagoon and flush systems may still be in use. Additionally, most bovine operations cannot avoid rain contacting manured areas (e.g., corrals or staged manure) and usually generate significant wastewater runoff (rain blended with manure). It is important to note that, in enforcement cases where Board staff discovered bovine operations discharging off-property and collected samples, the sample results consistently exceed the deleterious threshold of the Fish and Game Code.

The acute toxicity criterion for ammonia-nitrogen, set by US EPA as of 2013, is 17 mg/L. In comparison, sample results for discharges from three bovine operations had ranges for total dissolved solids, ammonia as N, and undissociated ammonia as follows:

Total dissolved solids – 1,910 to 4,560 mg/L,
Ammonia-nitrogen - 18.3 to 230 mg/L, and
Undissociated Ammonia - 0.052 to 1.91 mg/L.

Manure wastewater or runoff from a bovine operation can pose a significant threat to surface and groundwater if not managed correctly. Therefore, Confined Bovine Feeding Operations in the full coverage tier within the Central Valley Region must comply with the requirements set forth in the Bovine General Order for producing a Waste Management Plan and its corresponding implementation timelines.

Comment: Update the section of the Order about Representative Monitoring Programs (RMPs) to require RMPs to identify tools, practices, and strategies that enhance an operator's ability to reduce impacts to groundwater. The current language states, in essence, that the RMP shall identify management practices that are protective of groundwater quality-and those management practices that not protective-toward eliminating those non-protective practices and adopting those that are protective. In fact, no single practice, by itself, is protective, and often the relative effectiveness of practices is determined by how diligently they are implemented, site-specific conditions, and their use in combination with other practices. Even when conditions are ideal, impacts to groundwater may occur. (Comment DC 9)

RESPONSE: The Basin Plans established by the Central Valley Water Board require that waste management practices be protective of water quality such that groundwater meets the water quality objectives adopted to protect designated beneficial uses. Board staff recognizes that a variety of factors can influence the degree to which a practice is protective or functions as intended. If the CV-SALTS

process identifies alternative compliance strategies, the Bovine General Order can be reopened to incorporate those strategies.

Comment: Improvements identified through programs such as the Dairy Representative Monitoring Program must be implemented at bovine operations on a more accelerated timeline than what is set forth in the Order. (Comment CWC 7)

RESPONSE: Per Section N. Time Schedule For Compliance, paragraph 4, an accelerated timeline for modification of management practices may be required if data from representative monitoring programs identify practices that are not protective of groundwater quality.

Comment: "As short as practicable" may only reflect technical and economic issues for the Discharger and not proper consideration of the economic impact to nearby communities which are or could be impacted by nitrate contamination of their drinking water source. (Comment CWC 3)

RESPONSE: This Order is anticipated to regulate hundreds of different confined bovine facilities throughout the Central Valley Region. The Board has found that, in its experience regulating confined bovine facilities, the time needed to assess the effectiveness of water quality controls and install them tends to be very site-specific. Given the diverse constraints facing the facilities to be regulated under this Order, having a single set of deadlines for modification of waste management practices that is applicable to all regulated facilities would inevitably result in the Board either holding some facilities to impossible time schedules or allowing some facilities more time than they actually needed to implement the modified practices.

Instead, this Order authorizes the imposition of time schedules for an individual facility that are "as short as practicable" - a determination made by Board staff and the Executive Officer based on the facility's specific circumstances as well as consideration of the impact to nearby communities. Additionally, the implementation of the identified management practices must be supported with appropriate technical and/or economic justification. Note that the Order states "In no case may time schedules extend beyond 10 years from the date that the Summary Representative Monitoring Report (SRMR) is approved by the Executive Officer." For further information, please refer to response to the previous comment.

Topic: Miscellaneous

Comment: A Representative Monitoring Program (RMP) is very important. (Comments CCA 6 and CWC 9)

RESPONSE: Staff concurs. With a Representative Monitoring Program (RMP) applicable to bovine operations, data developed from monitoring groundwater at one

facility can be applied to other facilities in a constructive manner such that costs can be shared. Implementation of necessary improvements based on the RMP results will be applicable to all bovine operations covered by the RMP and not just those operations where data were actually collected.