

MEMORANDUM

TO: Regional Water Quality Control Board, Region 1

FROM: Brelje & Race Consulting Civil Engineers

SUBJECT: Draft Order No. R1-2014-0041: General Waste Discharge Requirements for Discharges Of Wine, Beverage And Food Processor Waste To Land
B&R File No. 0005

DATE: August 20, 2014

The Region 1 Regional Water Quality Control Board has issued draft General Waste Discharge Requirements (WDRs) for discharges of wastes to land by wine, beverage and food processors. The proposed General WDRs would replace the existing General WDRs for wineries as well as be applied to all other processors of beverages and food who discharge to land. The draft WDRs were announced July 7, a public information meeting was held July 15, and comments are being accepted through August 21, 2014.

Brelje & Race has represented numerous clients in their permit negotiations with the Regional Board, including many food and beverage processors. We have designed process waste treatment systems and land application systems. We strongly support the Regional Board in its effort to protect the ground and surface waters of Region 1. We also have an understanding of the challenges that food and beverage processors face in managing their businesses sustainably while protecting the lands and waters that they, too, depend upon.

We have reviewed the subject draft General WDRs and applaud the effort to develop a general WDR that will be applicable to many varied food and beverage processors. The attached comments are offered in the hopes that the final general WDRs will be effective in protecting groundwater quality without imposing record-keeping and reporting efforts that are disproportionate to the benefits they might offer. The Regional Board staff may need more time to come to an understanding with the community of food and beverage processors as to what requirements are appropriate.

The attached comments are submitted as general comments and do not represent any particular processor's concerns.

Comments by Brelje & Race Consulting Civil Engineers:

Draft General Waste Discharge Requirements for Discharges Of Wine, Beverage And Food Processor Waste To Land

No.	Subject	Draft language	Comments
1.	Minimum qualifying discharge	Eligible facilities discharge “1,500 gpd or greater, as measured during the peak production period for the facility, on a day when flows are suspected to be the greatest.”	<p>1. The criterion is vague and subject to misunderstanding. Who decides the day that flows are “suspected to be the greatest”? Was maximum month average flow considered?</p> <p>2. The proposed minimum discharge would be typical for a winery producing in the range of 5,000 to 7,500 cases of wine per year. This is a very small winery.</p> <p>3. Under the proposed criteria, a winery would typically discharge approximately 225,000 gallons per year (based on 1500 gpd in peak month, peak month comprising 20% of annual wastewater production). A non-winery facility meeting the same criteria, but whose discharge does not vary much during a year, might discharge 550,000 gallons or more per year. These discharges are (1) not equivalent, and (2) very small compared to most entities regulated by the Regional Board.</p> <p>4. A criteria based on total annual flow would be more reflective of a facilities’ potential impact to groundwater.</p> <p>5. We feel that the degree of regulation should be reflective of the potential harm. Why has the threshold been set so low?</p>

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2.	BOD loading	BOD land application is limited to a daily maximum of 60 ppd/ac., based on “literature values for BOD loading in land disposal systems for food processing systems.”	<p>We appreciate that the Regional Board staff is aware of issues with potential metals mobilization that can result from over-application of BOD-rich wastewater in soils that are prone to minerals leaching. However, land treatment of BOD in wastewater is a long-practiced and proven method. We are concerned that this valuable, low-tech, and low-energy-using method may be dismissed due to concerns about metals mobilization that may not be well-founded in science or recognition of particular dischargers’ practices.</p> <ol style="list-style-type: none"> 1. What are the referenced “literature” sources? 2. What is the regulatory authority for this limit? 3. Has the potential leaching of minerals due to changing oxidation/reduction potential from overloading with BOD been demonstrated to occur in Region 1? If so, at what location? Are conditions at this location applicable to all dischargers’ land application sites? 4. Could the limits be tailored to recognize the difference between different application methods (spray will oxidize the water as it is applied) and timing (application on an intermittent schedule can allow vadose zone to oxidize)? <p>We feel that the proposed BOD loading limits are premature and recommend further consideration before implementation.</p>
3.	New constituent limits	The draft permit imposes limits for ammonia, nitrate, nitrite, total dissolved solids, sodium and chloride.	Virtually none of the permittees have previously been required to test for these constituents in their effluent. Dischargers do not know whether they will be able to comply with the new limits. Based on our experience with permits for municipal dischargers, we suggest that the WDR establish an initial testing period of five years for gathering data, followed by an evaluation of the data, and if necessary a period to reach compliance prior to implementation of limits.

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4.	Costs to dischargers	The draft WDR requires monthly testing for potential constituents in effluent, during months when discharge takes place.	<p>1. Monthly costs for laboratory testing alone, disregarding costs of sample collection, travel, and reporting, have been quoted at \$350 for each month that land application is taking place. Land application can reasonably be expected to take place 10 months during a year, leading to an annual cost of \$3,500 for testing alone. For a 5,000 case winery producing wine that retails for \$35 per bottle, and operating at the industry average 6.9% profit, laboratory testing costs would reduce the net pre-tax income from wine sales by 6 percent. Is this reasonable?</p> <p>2. If testing indicates that one or more of the subject constituents does not occur at levels in exceedance of the proposed limits, could the permit provide for testing frequency to be reduced after an initial year of sampling?</p> <p>3. In addition to sampling and testing the effluent, dischargers would be required to analyze hydraulic, BOD, nitrogen and salt loading, and to measure crop planting and harvesting in tons per year. What does tons of planted crop mean? Is someone who grows hay required to measure in tons? All this measurement and calculation requires considerable time and effort outside the business of producing food and/or beverages. Is this effort really useful in protection of groundwater?</p>

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5.	Coliform limit	The permit requires that “collection, treatment, storage, reuse and disposal of process wastewater and solids shall not cause groundwater to: 1. Exceed a total coliform organism level of 1.1 MPN/100mL as a 7-day median”	The coliform limit is based upon the <i>Basin Plan</i> , which in turn draws the limit from Title 22 standards for drinking water. This limit, in both the <i>Basin Plan</i> and the draft WDRs, may reflect a lack of understanding of groundwater microbiology. Coliform exists in the soil and groundwater to the depth where the groundwater is oxygenated. When there is no oxygen, coliform die. This is one reason for the requirement for seals on wells – to keep shallow groundwater from contaminating deeper groundwater. Title 22 recognizes the need to use shallow groundwater, and surface water, for drinking water, through the “Surface Water Treatment Rule.” Surface water treatment includes filtration and disinfection for coliform removal. Shallow groundwater is not expected to be free of coliform. When the Regional Board requires monitoring wells to assess the impact of discharges on groundwater, the wells are expected to be shallow, to pick up on immediate impacts. Groundwater from these shallow wells is virtually certain to contain coliform. We feel strongly that this requirement should be removed from the draft WDR and should be clarified in the <i>Basin Plan</i> .
6.	Individual permits	The draft WDR states that “The Executive Officer may require any Permittee covered under these General WDRs to apply for and obtain individual WDRs.”	Under what conditions would a permittee be required to have individual WDRs? Under what conditions may a permittee retain individual WDRs? Will permittees currently permitted for overland treatment be required to go under the General WDRs?
7.	Facility Specific Salt and Nutrient Management Plan (FSNMP)	The draft WDRs require FSNMPs for facilities that discharge above ground, to include “Nutrient Budget Calculations that will establish the nutrient application practices for each crop in each land application area” and “a Salt and Pollutant Minimization component, which identifies all contribution sources of salinity and other pollutants entering into the process wastewater and the steps that will be taken to reduce these inputs.”	As discussed in the third comment under No.4, above, this proposed requirement entails considerable effort on the permit-holder. We can see that the effort may lead to improvements in production practices that may reduce salt and nutrient concentrations in wastewater, but we doubt the value of incremental changes to small discharges. It may be more reasonable to limit to FSNMP requirement to larger producer-dischargers.

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8.	TDS limit	The draft WDR includes an effluent limit for TDS of 450 mg/L.	<p>It appears from the text that the concern is salinity. In that case, should the limit be for fixed TDS, not total TDS?</p> <p>What happens if the facility cannot produce its product without creating a wastewater high in TDS?</p> <p>What happens if the only way a facility can reduce the effluent TDS to meet the proposed limit would be to make a change in their process that would be so costly as to significantly increase the price of their product?</p> <p>What happens if the source water is high in TDS? Will the limit be adjusted to recognize that the processor starts with high TDS?</p>
9.	Information collection	The draft MRP include reporting of information including processing season and volumes, production volumes, chemical use (types and volumes), and crop planting and harvesting quantities.	These requirements go beyond wastewater quality or flows. They impose additional information collection, organization and reporting on the processors. What is the purpose of these requirements? Under what authority is the Regional Board privileged to collect this sort of information?
10.	Sludge depth	The draft MRP requires measurement of the depth of solids accumulation in the bottom of each pond annually.	<p>If a pond has accumulated a lot of settled solids, the effective processing volume can be reduced. This will become apparent as gradually decreasing effluent quality. Why is the measurement of solids needed each year?</p> <p>Measurement of the depth of sludge requires use of a boat and “sludge judge” or more elaborate and expensive means. To get an accurate assessment of the volume of accumulated solids, one must take multiple measurements. This not a task that a food or beverage processor can be expected to perform accurately, and the cost for a technical assessment could easily be \$1,000 or more. Could the measurement be performed at longer intervals, perhaps five years? Could the requirement be based upon previous years’ results? If a pond is over-sized, a deeper accumulation of solids may not cause deterioration of effluent quality. Could the requirement be based upon changes in pond effluent quality?</p>