ITEM: 36

SUBJECT: E. & J. Gallo Winery, Fresno Winery, Fresno County

BOARD ACTION: *Consideration of revised Waste Discharge Requirements*

BACKGROUND: E. & J. Gallo Winery (Gallo) owns and operates the Fresno Winery on the eastern edge of the City of Fresno. Wine making and distillation activities have occurred at the Winery since the 1930s. Gallo submitted a 14 May 2012 Report of Waste Discharge prepared by Kennedy/Jenks Consultants (Kennedy/Jenks) for the discharge from the Gallo's Fresno Winery (Winery). The Winery is regulated by Waste Discharge Requirements (WDRs) Order 94-103. WDRs Order 94-103 is outdated and does not reflect the existing discharges at the Winery or proposed wastewater management practices. Gallo has made numerous changes to the Winery itself and its processing and disposal of wastewater since the adoption of the WDRs, including the addition of a third waste stream and construction of a wastewater treatment system.

Historically, Gallo discharged all of its winery wastewater to surrounding land application areas. Currently, winery wastewater (both treated and untreated) is discharged to either the Fresno/Clovis Regional Wastewater Treatment Facility (Fresno WWTF) or to 433 acres of adjacent land application areas to irrigate crops/vineyards. The Winery typically produces from 350 to 400 million total gallons of wastewater annually, with about 80 percent discharged to the Fresno WWTF. For example, in 2011, Gallo produced about 365 million gallons of wastewater, of which about 319 million gallons were discharged to the Fresno WWTF and 46 million gallons were applied to the land application areas.

The Winery currently produces three primary wastewater streams:

1. General process wastewater;

2. Crusher/press wastewater (seasonal); and

3. Stillage wastewater.

Gallo installed an anaerobic treatment system it calls the Fresno Anaerobic Treatment System (anaerobic treatment system) in 2007 to treat its general process and most of its stillage wastewater prior to discharge to the Fresno WWTF or to the land application areas. The effluent data indicates the anaerobic treatment system reduces the biochemical oxygen demand (BOD) and concentrations of the discharge, but the electrical conductivity (EC) results remain about the same. Crusher/press wastewater is not treated and is discharged directly to some of the land application areas.

A fourth waste stream, ion exchange regenerate, is produced at the Winery, but it is not directly land applied. Gallo historically discharged spent ion exchange regenerate to lands immediately south of the Winery. The discharge degraded/polluted groundwater underlying the former land application area and downgradient of the Winery with salinity and sulfates.

The direct discharge to land of the spent ion exchange regenerate was discontinued in 1994, and it is currently discharged onto the compost for moisture control purposes. In 2012 and 2013, Gallo applied an average of 8.3 million gallons for moisture control of the compost.

Gallo estimates it will generate about 410 million gallons of wastewater annually and will discharge 356 million gallons to the Fresno WWTF, while 54 million gallons will be land applied to the land application areas annually. The wastewater is to be comprised of about 33.1 million gallons of crusher/press wastewater generated during the crush season (August through November), and about 21.1 million gallons of blended general process and stillage wastewater that are treated by Gallo's anaerobic treatment system.

Gallo monitors an 11-well groundwater monitoring network in the vicinity of the Winery and land application areas. The groundwater results indicate that past discharges of winery wastewater contribute to and/or have caused the degradation/pollution of groundwater in the downgradient wells with EC, total dissolved solids (TDS), and nitrate as nitrogen. The groundwater monitoring results also suggest that discharges of ion exchange regenerate to the composting facility have degraded/polluted groundwater underlying and downgradient of the composting facility with sulfates in addition to EC, TDS, and nitrate as nitrogen. However, some groundwater monitoring results show areas of improvement such as downgradient MW-8, which has seen decreasing concentrations of sulfate, EC, and TDS since the discontinuation of the discharge of the ion exchange regenerate to the land application areas in 1994.

The proposed Order contains the following requirements to ensure that discharges of winery wastewater do not contribute to the existing pollution/degradation of the underlying groundwater beneath and downgradient of the Winery:

- Effluent Limitation B.1 that limits the discharge of wastewater to the 433-acre land application areas to 54.2 million gallons annually.

- Land Application Area Specification D.2 that requires application of waste constituents at reasonable agronomic rates to minimize the degradation of groundwater.

- Land Application Area Specification D.3 that limits BOD loading to no more than 250 lbs/ac/day on a 7-day cycle average.

- Provision G.11 that requires Gallo to submit a Salinity Management Plan with its proposed salinity source reduction goals.

- Provision G.12 that requires Gallo to submit a Nutrient Management Plan to ensure wastewater, irrigation water, commercial fertilizers and

soil amendments are applied at agronomic rates.

- Provision G.13 that requires Gallo to submit a work plan and time schedule for the installation of a vadose-zone monitoring system for any land application area that receives wastewater with a BOD cycle average greater than 150 lbs/ac/day.

- Provision G.15 that requires Gallo to submit a work plan assessing the adequacy of the existing groundwater monitoring well network.

To address discharges from the composting facility that may continue to contribute to the groundwater degradation/pollution, this Order contains a compliance schedule in Provision G.14 that requires Gallo to:

i. Demonstrate that the composting facility is exempt from Title 27 requirements; or

ii. Implement modifications to the composting facility so that is exempt from Title 27 requirements; or

iii. Submit a work plan and a time schedule for the composting facility to comply with Title 27 requirements.

ISSUES: The Board received comments from Ms. JoAnne Kipps. Revisions were made to address some of the comments. Full responses to comments are included in the Response to Comments in the agenda package. A short summary of issues and Staff's responses follow:

1. Ms. Kipps comments that Gallo's past discharge practices have degraded groundwater with salts and polluted groundwater with nitrates, and the continued discharge will continue to cause degradation and pollution. Ms. Kipps states that adoption of a tentative order in the absence of a formal enforcement order to address groundwater degradation and pollution is inconsistent with the State Water Board's Enforcement Policy.

   Board staff responds that Gallo has made many improvements to its waste handling operations, including the installation of an anaerobic treatment system to treat its process wastewater and stillage, which reduced the volume of wastewater discharged to the land application areas by 60 to 80%. Gallo is proposing to implement additional land management practices, and will be required by the tentative WDRs to expand the coverage of its groundwater monitoring network and to evaluate and rectify problems that may be caused by the composting facility. The tentative WDRs are consistent with the progressive enforcement concept in the Enforcement Policy.

2. Ms. Kipps also comments that the current operation of the composting facility should be placed under an enforcement order as Gallo will not allow it to comply with various specifications of this Order when first issued.

Board staff responds that, as discussed in the preceding response, the proposed WDRs include a compliance schedule to bring the facility into full compliance. Provision G.14, requires Gallo to address deficiencies associated with its composting facility.

3. Ms. Kipps comments that the proposed WDRs do not address the issue of potassium loading, and requests the issue be addressed in an enforcement order.

   Board staff responds that existing soil data does not indicate that the current discharge practices have resulted in excess potassium concentrations in soil beneath the land application areas. Groundwater in the downgradient wells does contain potassium in concentrations higher than found in upgradient groundwater, but the concentrations are declining and do not contribute significantly to violations of water quality objectives.

RECOMMENDATION Adopt the proposed WDRs.

Mgmt. Review _____
Legal Review __PEP__
16/17 April 2015
1685 E. Street
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