

Central Valley Regional Water Quality Control Board

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Bill Navarre
Interim Director of Community Development
Siskiyou County
808 S. Main Street
Yreka, CA 96097

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE CRYSTAL GEYSER BOTTLING PLANT, SCH#2016062056, MOUNT SHASTA, SISKIYOU COUNTY

The Crystal Geyser Water Company (Discharger) is proposing the operation of a Crystal Geyser Bottling Plant (Facility) in the City of Mt. Shasta, California. The Discharger purchased an existing bottling facility in 2013 in the City of Mt. Shasta and is proposing to make various modifications to the existing facility to produce bottled water, flavored water, sparkling water, juice, and tea products (hereinafter Project). The Central Valley Regional Water Quality Control Board (Central Valley Water Board) is a responsible agency for review and approval of this Project, as defined by the California Environmental Quality Act (CEQA). On 13 January 2017 we received your request for comments on the *Crystal Geyser Bottling Plant Project Draft Environmental Impact Report* (Draft EIR). The Central Valley Water Board's comments fall into three categories: 1) onsite wastewater discharges to land; 2) discharges to the City of Mt. Shasta Wastewater Treatment Plant (City's WWTP), and 3) storm water discharges related to site activities.

Onsite Wastewater Discharges to Land (Options 2, 3, and 4)

The Draft EIR references three general categories of wastewater: 1) domestic wastewater (faucets, drinking fountains, sinks, bathrooms, etc.), 2) industrial process wastewater (Clean-In-Place water, boiler discharge, cooling tanks, etc.), and 3) industrial rinse wastewater (filter backwash, bottle rinse discharge, and floor wash). Four different options for wastewater treatment and disposal are considered in the Draft EIR: Option 1 involves offsite treatment and disposal of all wastewater types by discharge to the City of Mt. Shasta Wastewater Treatment Plant (City's WWTP). Comments pertaining to Option 1 can be found in a following section later in this response letter. Options 2, 3 and 4 present alternatives where a portion of the wastewater produced at the Facility would be treated and discharged onsite. All four options include sending domestic wastewater flows offsite to the City's WWTP. Central Valley Water Board staff have reviewed the different options for proposed wastewater treatment and disposal and have the following comments:

- *Wastewater Treatment Option 2*

Historically, the Facility has been allowed to discharge wastewater consisting of bottle rinse water and incidental floor wash water to an onsite leach field under Waste Discharge Requirements (WDRs) Order 5-01-233 adopted by the Central Valley Water Board on 7 September 2001. Option 2 describes the discharge of industrial rinse wastewater to the onsite

leach field, as permitted by the existing WDRs, whereas domestic wastewater and industrial process wastewater would be treated and disposed at the City's WWTP. Proposed flow rates for the industrial rinse wastewater with one bottling line would range from 5,000 to 25,000 gallons per production day (gppd), and with two bottling lines, effluent flows would range from 10,000 to 50,000 gppd. The existing leach field was designed for a 72,000 gpd capacity and would be adequate for Option 2, as proposed.

Option 2 wastewater flows could be permitted under the existing WDR, however this permit is approximately 15 years old and is scheduled to be updated. On 30 September 2015 the Discharger submitted a Report of Waste Discharge (RWD) to the Central Valley Water Board, which stated that floor wash water would be treated and disposed of offsite as part of the industrial process wastewater. The Central Valley Water Board's 30 October 2015 Supplemental Monitoring and Reporting Program (MRP) acknowledged this change and deemed effluent characterization incomplete without site-specific data. The Supplemental MRP established monitoring requirements necessary before and after startup of the facility to provide sufficient effluent characterization and groundwater quality data. Should Option 2 include floor wash water, the Central Valley Water Board would require an updated RWD and possibly revise the Supplemental MRP.

- *Wastewater Treatment Option 3*

In addition to the onsite discharge of industrial rinse wastewater described in Option 2, Option 3 includes onsite disposal of the industrial process wastewater discharge from the production of sparkling water and flavored water. The process water would flow to a series of two below-grade concrete holding tanks, pass through a pH neutralization system, and then discharge to the onsite leach field. Unlike Option 2, Option 3 would require adoption of revised WDRs for leachfield discharge. Appendix H Technical Memorandum Describing Effluent-Groundwater Mixing Simulations presents an evaluation of potential impacts on shallow groundwater quality using a groundwater mixing model and effluent concentrations from other Crystal Geyser facilities producing identical products.

In a 2 November 2016 response to the Administrative Draft EIR, Central Valley Water Board staff requested that the groundwater mixing analysis be used to explore worst-case conditions by testing hydraulic conductivity values at the lower end of the anticipated range of values. Using the average hydraulic conductivity value, 265 feet/day, the groundwater model showed possible increases in TDS, sodium and chloride concentrations in groundwater of 15 mg/L and 4-5 mg/L respectively. Using a more conservative conductivity value yielded potential increases of TDS, sodium and chloride of 30 mg/L and 15-16 mg/L respectively. Table 2 of Appendix H of the Draft EIR shows that the concentrations of these constituents remain well below MCLs for drinking water quality standards. As in Option 2, effluent characterization is deemed incomplete until sufficient site-specific data can be evaluated.

Central Valley Water Board staff has identified a discrepancy in the monitoring well names for wells MW-1, MW-2 and MW-3. Figure 3-9 shows the same well names as the WDRs and the 2001 Mitigated Negative Declaration where MW-1 is located northeast, or upgradient, of the leach field area. Geosyntec reporting dating from First Quarter 2015 to present, however, shows MW-3 as the upgradient well. The groundwater mixing model appears to use TDS, sodium and chloride concentrations for the two downgradient wells, called out in Appendix H as MW-1 and MW-2. Central Valley Water Board staff requests that the Draft EIR include clarification of this confusion in monitoring well names.

Option 3 would require an expansion of the existing leach field to accommodate greater discharge volumes. Combined flow rates for the industrial rinse wastewater and the industrial process wastewater range from 25,000 gppd to 79,000 gppd for one bottling line and from 50,000 gppd to 150,000 gppd for two lines. Appendix H states that peak discharges are infrequent and do not occur simultaneously. The existing leach field was originally designed for expansion to a 108,000 gpd capacity. The Central Valley Water Board is concerned the proposed leach field expansion may not provide sufficient capacity for peak discharges when production expands to two bottling lines.

• *Wastewater Treatment Option 4*

As in Option 3, Option 4 entails onsite treatment and discharge of industrial process wastewater and industrial rinse wastewater, but includes all product lines: sparkling water, flavored water, and flavored teas and juices. Option 4 includes upgrading the onsite wastewater treatment system to include a membrane bioreactor (MBR) and reverse osmosis (RO) to treat wastewater to drinking water standards. This system would produce waste streams for offsite disposal, including solid wastes (0.1 to 0.3 cubic yards/week) and high TDS RO reject water (2,000 to 4,000 gpd). The treated wastewater likely would require reconstitution (mineral addition) either by adding calcium chloride and sodium carbonate or by passing over a calcite bed. As with Option 3, this alternative would require that new WDRs be adopted.

The treated water reconstitution is necessary for use of process water to irrigate two, 10-acre tree orchards located to the north and east of the bottling facility. Although Appendix H refers to 20 acres of grass fields, Appendix J describes 20 acres of trees to be watered from May through October. The Appendix J Tech Memo demonstrates that the volumes and quality of the proposed treated and reconstituted process water would sustain these two small orchards. Please note, however, that the land application area discharge would be considered as a new discharge to land. The Central Valley Water Board recommends that the Draft EIR include an evaluation of potential impacts from this land application area.

During the wet season all wastewater would be treated and disposed of at the expanded onsite leach field (capacity 108,000 gpd). Again the Central Valley Water Board is concerned that the expanded leach field might present a capacity limitation given peak production flows when two bottling lines are in operation. In addition, Figure 3-10 shows a flow meter in the discharge line to the leach field. The Central Valley Water Board would require regular flow monitoring and reporting for discharges to the leach field as well as to each land application area.

City of Mt. Shasta Wastewater Treatment Plant (Options 1 & 2)

The City of Mt. Shasta Wastewater Treatment Plant (City's WWTP) is regulated by the Central Valley Water Board pursuant to Waste Discharge Requirements (WDRs) Order R5-2012-0086, NPDES Permit No. CA0078051, and Time Schedule Order (TSO) R5-2012-0087. The WDRs and TSO regulate, amongst other things, the discharge volume and quality of treated wastewater from the City's WWTP to the Sacramento River.

Wastewater Flows

Section 4.12.1.1 of the Draft EIR claims flow design capacity at the City's WWTP to be 0.75 million gallons per day (mgd) average dry-weather flow and 3.56 mgd peak wet-weather flow. These flow values are inconsistent with those in WDRs Order R5-2012-0086.

Section 3.5.1 of the Draft EIR describes the proposed operations of the Facility. It is anticipated that single bottling line operations would begin in 2017 with the production of sparkling water only. Tea and juice production is proposed to begin sometime in 2018 or 2019. A second bottling line operation is proposed to be installed within five to seven years.

Section 3.5.8.1, Table 3-1 of the Draft EIR shows projected wastewater generation from the Facility as follows:

Alternative	Wastewater Generation		
	Domestic Wastewater Flows	Industrial Process Wastewater Flows	Industrial Rinse Wastewater Flows
Initial Phase (one bottling line)	300 gpd	20,000-54,000 gppd	5,000-25,000 gppd
Full Production (two bottling lines)	600 gpd	40,000-100,000 gppd	10,000-50,000 gppd
*gpd=gallons per day, gppd=gallons per production day			

The Draft EIR proposes four wastewater treatment options. These options, as they pertain only to wastewater discharge sent to the City's WWTP, are as follows:

- Option 1: Domestic, industrial process, and industrial rinse wastewaters all sent to the City's WWTP
- Option 2: Domestic and industrial process wastewater sent to the City's WWTP
- Options 3 and 4: Only domestic wastewater sent to the City's WWTP

The *Draft City of Mt. Shasta Industrial Wastewater Permit* (Draft EIR, Appendix I) prescribes that a metered wastewater flow of no more than 24,000 gpd from the Facility to the City's WWTP shall be permitted at all times. This flow restriction is discussed further under mitigation measure 4.12-1 in the Draft EIR. This measure explains that wastewater flow will be metered through an underground holding tank, and that the City may adjust or eliminate the permitted daily wastewater flow to the City's WWTP in the future. If the Facility utilizes wastewater treatment options 1 or 2, it appears that storage of excess industrial wastewater would be required until it can be metered out to the City's WWTP collection system. The Draft EIR specifies a holding tank size; however, given that wastewater generation from the Facility will likely often exceed the permitted flow to the City's collection system, please provide further clarification in the EIR describing how the Facility will handle the storage of generated wastewater when 1) the City will issue a permit restricting the Facility wastewater flows to 24,000 gpd at all times and 2) considering the City has the discretion to further restrict and/or prohibit flows to the City's WWTP whenever the City deems necessary.

Wastewater Constituents

Appendix I of the Draft EIR contains a table of effluent limitations to be imposed on the Facility by the City before it can discharge industrial wastewater to the City's WWTP and collection system. Appendix I imposes, in part, the following effluent limits on the Facility:

Parameter	Units	Daily Maximum	Limitation Basis
Copper (T)	ug/L	6.54	NPDES Permit Limit
Zinc (T)	ug/L	7.12	NPDES Permit Limit
pH	SU	6.5-8.5	NPDES Permit Limit

The *Onsite Wastewater Treatment Technical Memorandum* (Draft EIR, Appendix D) provides anticipated effluent quality data for products to be produced at the Facility. A subset of that data, as collected from Crystal Geyser facilities in Calistoga and Bakersfield, is presented in the following table:

Parameter	Units	Sparkling Water	Tea	Juice
Copper (T)	ug/L	ND	20	32
Zinc (T)	ug/L	0.11	24	110
pH	SU	6.95	9.51	7.34

Although Appendix D of the Draft EIR asserts that the elevated levels of copper and zinc can be attributed to the aging pipe systems of the Calistoga and Bakersfield facilities, and that the Facility in Mt. Shasta will have all new piping, it is unclear whether the Facility will be able to comply with the copper and zinc limits required by the City's industrial wastewater permit presented in Appendix I of the Draft EIR. Furthermore, the City's WWTP is currently unable to achieve compliance with final effluent limits for copper and zinc and is facing the termination of their interim final effluent limits for copper and zinc in 2017. Although tea and juice production are not projected to begin until 2018 or 2019, these proposed dates will likely precede the completion of the City's WWTP improvements that will bring them into compliance with the final effluent limits for copper and zinc.

Overall, given the City WWTP's current challenges with respect to effluent limits for copper and zinc, Central Valley Water Board staff is concerned with the potential for additional loading of copper and zinc to the City's WWTP due to Facility operations, and requests that the Draft EIR, specifically Section 4.12.1.3 and Impact 14.12-1, be revised to provide a brief discussion regarding current compliance challenges at the City's WWTP, and how Crystal Geyser's discharge would not cause problems.

Wastewater Conveyance Facilities

The *Mt. Shasta Sewer Improvements Technical Memorandum* (Draft EIR, Appendix L) provides a sewer capacity analysis for the section of the City's collection system that the Facility would affect with the contribution of additional wastewater flows. This section contains portions of line that are known by the City as bottlenecks in the collection system. The City has also experienced occasional sanitary sewer overflows in other areas of the collection system, most recently in January and February 2017, which appeared to not be analyzed in Appendix L, indicating the potential for other undersized pipes in the City's collection system when considering wet weather flows. Given the strong evidence that other areas of the City's collection system are likely undersized when subject to wet weather flows, it is likely that in the future, when the City upsizes these pipes to accommodate more flow, that even more flow will occur in the main interceptor line to which the Facility will be discharging. In view of this, and that the proposed project could ultimately result in increased flows of 0.1 mgd or more to the collection system, Central Valley Water Board staff wishes to emphasize the importance of collection system upgrades as described in options P1 and P2 of the Draft EIR.

Storm Water-Related Concerns Related to On-Site Construction Activities

Clean Water Act (CWA) Section 401, Water Quality Certification

The Central Valley Water Board has regulatory authority over wetlands and waterways under both the Federal Clean Water Act (CWA) and the California Water Code, Division 7 (CWC).

Discharge of dredged or fill material to waters of the United States requires a CWA Section 401 Water Quality Certification from the Central Valley Water Board. Typical activities include any modifications to these waters, such as stream crossings, stream bank modifications, filling of wetlands, etc. 401 Certifications are issued in combination with CWA Section 404 Permits issued by the Army Corps of Engineers. The proposed project must be evaluated for the presence of jurisdictional waters, including wetlands and other waters of the State. Steps must be taken to first avoid and minimize impacts to these waters, and then mitigate for unavoidable impacts. Both the Section 404 Permit and Section 401 Water Quality Certification must be obtained prior to site disturbance.

Stream, Wetland, and Riparian Setbacks and Buffer Zones

To ensure the protection of the Beneficial Uses of waters of the State, we recommend that the Discharger establish and incorporate appropriate setbacks and buffers as protective measures for any on-site stream habitat, wetlands, riparian areas, and species of special concern. Buffer width is important as a measure of pollutant removal effectiveness, and to maintain wildlife. Wider buffers offer increased detention times, infiltration rates, and diversity of soil, vegetation, and wildlife. Buffers should be sized to protect both water quality and wildlife habitat needs.

General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (CGP)

Construction activity, including demolition, resulting in a land disturbance of one acre or more must obtain coverage under the CGP. The Project must be conditioned to implement storm water pollution controls during construction and post-construction as required by the CGP. To apply for coverage under the CGP the property owner must submit Permit Registration Documents electronically prior to construction. Detailed information on the CGP can be found on the State Water Board website:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/gen_const.shtml

If you have any questions or comments pertaining to wastewater treatment and disposal, please contact me at (530) 224-3208, or by email at george.low@waterboards.ca.gov. For questions pertaining to waste discharge to the city utilities, please contact Jeremy Pagan at (530) 224-4850, or by email at jeremy.pagan@waterboards.ca.gov. For questions pertaining to the Clean Water Act, setbacks, or storm water management during construction, please contact Lynn Coster at (530) 224-2437, or by email at lynn.coster@waterboards.ca.gov. These contact persons can also be contacted at the footer address.



George Low, P.G.
Senior Engineering Geologist
Waste Discharge Requirements Unit

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cc: Bibiana Alvarez, Analytical Environmental Services, Sacramento