

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

TIME SCHEDULE ORDER NO. R6V-2021-0015

**ISSUED TO
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
HOT CREEK FISH HATCHERY
MONO COUNTY**

The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) finds that:

1. The California Department of Fish and Wildlife (Discharger) owns and operates the Hot Creek Fish Hatchery (Facility), located at 121 Hot Creek Hatchery Road, Mammoth Lakes, CA. The Facility is on 135 acres of land owned by the Los Angeles Department of Water and Power and on 66 acres of land leased by the United States Forest Service.
2. The Facility consists of two hatcheries (used for egg incubation, hatching, and rearing fingerlings), two spawning houses, fingerling tanks, fingerling troughs, brood ponds, production ponds, four production raceways, and three settling ponds. On an annual basis, approximately 1.5 million trout and 10 million domestic eggs are produced at the Facility. In addition, 1.75 million wild trout eggs are incubated annually at the Facility.
3. The hatchery operates as a flow-through system; no water is recirculated. Influent flow is obtained from four springs, while effluent is discharged to three locations into Hot Creek (Discharge Points EFF-001, EFF-002, and EFF-003) and from one location to a tributary to Hot Creek (Discharge Point EFF-004). The effluent contains unused fish food, fish excrement, and fish health additives.
4. The *Water Quality Control Plan for the Lahontan Region* (Basin Plan), as amended, designates beneficial uses for waters of the Region. The beneficial uses for Hot Creek are municipal and domestic supply; agricultural supply; industrial service supply; groundwater recharge; contact water recreation; non-contact water recreation; commercial and sportfishing; aquaculture; cold freshwater habitat; wildlife habitat; rare, threatened, or endangered species; migration of aquatic organisms; and spawning, reproduction, and development.
5. On March 10, 2021, the Lahontan Water Board adopted Waste Discharge Requirements (WDR) Order No. R6V-2021-0014 (NPDES No. CA0102776) to regulate the discharge from the Facility to Hot Creek. Board Order No. R6V-2021-0014 prescribes waste discharge requirements and rescinds those previously prescribed by Board Order No. R6V-2006-0027.
6. Section IV. A.1.a of Board Order No. R6V-2021-0014 contains a new effluent limitation for total nitrogen, applicable to Discharge Points EFF-001, EFF-002, EFF-003, and EFF-004. The new total nitrogen (as N) effluent limitation is 0.30 mg/L as an annual average.

NEED FOR TIME SCHEDULE EXTENSION

7. The Basin Plan contains numeric water quality objectives for Hot Creek (at County Road) for total nitrogen. These objectives are applied as annual average and 90th percentile objectives. Based on monitoring data collected between 2014 and 2019, the maximum observed effluent annual average and downstream receiving water concentrations of total nitrogen consistently exceeded the annual average water quality objective of 0.30 mg/L (see Finding 18). Therefore, it is expected that the Discharger will not be able to consistently comply with the new total nitrogen effluent limit in WDR Order R6V-2021-0014.
8. Monitoring data collected between 2014 and 2019 show that the influent springs consistently contain total nitrogen concentrations above the water quality objective of 0.30 mg/L, as shown in Table 1. Investigations by the Lahontan Water Board and the Discharger suggest that the water quality of the four Hatchery influent springs could be influenced by anthropogenic sources. Caffeine has been detected in one of the springs, the sugar substitute sucralose was detected at high concentrations in two of the springs, and the pharmaceuticals metformin and quinoline were detected in all four of the springs.

Table 1: Influent Springs Total Nitrogen (as N) Concentration, mg/L¹

Year	INF-001	INF-002	INF-003	INF-004
2014	0.420*	0.439*	<0.421*	0.586*
2015	<0.328*	0.343*	<0.397*	0.472*
2016	<0.352*	<0.492*	<0.397*	0.461*
2017	<0.629*	0.381*	0.893*	0.777*
2018	0.316*	0.267	0.308*	<0.17
2019	0.275	0.246	0.364*	0.368*

¹ Values reported with asterisk (*) exceed the annual average effluent limitation of 0.3 mg/l.

Data summarized from the Discharger’s semi-annual monitoring reports.

9. It is possible that the water quality of the influent springs may be adversely impacted by the Discharger’s onsite wastewater disposal ponds. The Discharger’s domestic wastewater is treated by two septic tanks followed by disposal in four percolation/evaporation basins that are immediately upslope of two influent springs (INF-003 and INF-004). This Order requires that the Discharger investigate whether the wastewater disposal ponds are impacting the water quality of the springs. The wastewater ponds are not currently regulated by the Lahontan Water Board, and therefore this Order also requires the Discharger to submit a Report of Waste Discharge.

10. The Mammoth Community Water District's treated domestic wastewater discharge to Laurel Pond may also be impacting the water quality of the springs. Laurel Pond is approximately one-mile upslope of the Hatchery's springs and is used to percolate/evaporate secondary-treated wastewater from the community of Mammoth Lakes. Data provided by the four groundwater monitoring wells associated with Laurel Pond shows that groundwater downgradient of the pond contains elevated concentrations of nitrogen when compared to groundwater upgradient of the pond. Discharges of wastewater from the Sierra Business Park and the Mammoth Yosemite Airport may also be adversely impacting the water quality of the Hatchery springs.
11. It is appropriate to allow the Discharger time to investigate whether the Hatchery's influent springs could be influenced by onsite sources, and if so, take steps to address the situation. Taking such steps may allow the Discharger to comply with the new total nitrogen effluent limitation prescribed by Board Order No. R6V-2021-0014. The Lahontan Water Board acknowledges that once sources are addressed, it may take additional time for the groundwater to recover and the nitrogen concentrations in the influent springs to be reduced.

MANDATORY MINIMUM PENALTIES

12. Water Code section 13385, subdivisions (h) and (i) require the Lahontan Water Board to impose mandatory minimum penalties (MMPs) upon dischargers that violate certain effluent limitations. Water Code section 13385(j)(3) exempts a discharge from MMPs *"where the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300 or 13308, if all the [specified] requirements are met...for the purposes of this subdivision, the time schedule may not exceed five years in length..."*
13. In accordance with Water Code section 13385, subdivision (j)(3), the Lahontan Water Board finds that:
 - a. This Order specifies the actions that the Discharger is required to take to correct the violations that would otherwise be subject to Water Code sections 13385(h) and (i).
 - b. Based upon results of effluent monitoring, the Discharger is not able to consistently comply with the effluent limitation for total nitrogen.
 - c. This limitation is based on new requirements that became applicable to the waste discharge after the effective date of the waste discharge requirements, and after July 1, 2000, for which new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.
 - d. To comply with the final effluent limitation for total nitrogen, the Discharger has determined that installation of additional treatment facilities is infeasible at this time and source control measures must be investigated.

- e. This Order establishes a time schedule to bring the waste discharge into compliance with the final effluent limitation that is as short as possible, taking into account technological, operational, and economic factors that affect design, development, and implementation of the control measures that are necessary to comply with the effluent limitation.
14. By statute, a Cease and Desist Order or Time Schedule Order may provide protection from MMPs for no more than five years, except as provided in Water Code section 13385(j)(3)(C)(ii).
15. Compliance with this Order exempts the Discharger from MMPs for violations of the final effluent limitation found in Board Order No. R6V-2021-0014 for total nitrogen from **May 1, 2021** (the effective date of Board Order No. R6V-2021-0014) until **April 30, 2026** (five years from the effective date of Board Order No. R6V-2021-0014). The Discharger has not previously been protected from MMPs for violations of the total nitrogen effluent limitation.
16. In accordance with Water Code section 13385(j)(3)(C)(i), the total length of protection from MMPs for the total nitrogen effluent limitation does not exceed five years.
17. This Order provides a time schedule for completing the actions necessary to ensure compliance with the final effluent limitation for total nitrogen contained in Board Order No. R6V-2021-0014 or provide information to allow the final effluent limitation to be revised in a future Order. Since the time schedule for completion of actions necessary to bring the waste discharge into compliance exceeds one year, this Order includes interim effluent limitations and interim requirements and dates for their achievement.
18. This Order includes a performance-based interim effluent limitation for total nitrogen. The Basin Plan contains both an annual average objective of 0.3 mg/L and a 90th percentile objective of 1.5 mg/L for total nitrogen in Hot Creek (at County Road). As shown in Table 2, below, monitoring data from 2014 through 2019 shows that the Discharger cannot consistently comply with the annual average objective in the receiving water downstream of the hatchery (monitoring location RSW-002). However, as shown in Table 3, the effluent discharged from points EFF-001, EFF-002, EFF-003, and EFF-004 has not exceeded the 90th percentile water quality objective for Hot Creek, and the Discharger should be able to consistently comply with the 90th percentile water quality objective for Hot Creek at monitoring location RSW-002. Therefore, the value of the 90th percentile water quality objective for total nitrogen in Hot Creek of 1.5 mg/L, will be the interim effluent limitation, as an annual average, for total nitrogen.

Table 2: Annual Average Total Nitrogen (as N) Concentrations, mg/L

Year	EFF-001	EFF-002	EFF-003	EFF-004	RSW-001	RSW-002	Annual Average Water Quality Objective
2014	0.77*	0.81*	0.54*	0.62*	0.20	0.65*	0.3
2015	0.58*	0.49*	0.52*	0.49*	0.17	0.46*	
2016	0.58*	0.62*	0.39*	0.56*	0.27	0.31*	
2017	0.84*	0.86*	0.66*	0.73*	0.27	0.50*	
2018	0.85*	0.92*	0.36*	0.49*	0.30*	0.60*	
2019	0.71*	0.71*	0.38*	0.43*	0.26	0.55*	

Note: Values reported with asterisk (*) exceed the 0.30 mg/L water quality objective.

Table 3: 90th Percentile Total Nitrogen (as N) Concentrations, mg/L

Year	EFF-001	EFF-002	EFF-003	EFF-004	RSW-001	RSW-002	90 th Percentile Water Quality Objective
2014	1.05	1.05	0.73	0.81	0.41	0.93	1.5
2015	0.64	0.51	0.90	0.59	0.19	0.65	
2016	0.82	0.98	0.47	0.77	0.30	0.39	
2017	1.21	1.25	0.97	0.91	0.36	0.65	
2018	0.94	1.01	0.43	0.57	0.31	0.72	
2019	0.74	0.71	0.38	0.50	0.26	0.60	

19. The Lahontan Water Board finds that the Discharger can maintain compliance with the interim effluent limitation included in this Order. Interim effluent limitations are established when compliance with the final effluent limitations cannot be achieved by the existing Facility. Discharge of constituents in excess of the final effluent limitation, but in compliance with the interim effluent limitation, may degrade water quality. The interim effluent limitation, however, establishes an enforceable ceiling concentration until compliance with final effluent limitation can be achieved or the Regional Board revises the effluent limitation in a future Order.
20. If the interim effluent limitation contained in this Order is exceeded, then the Discharger is subject to MMPs for that particular exceedance as it will no longer meet the exemption in Water Code section 13385, subdivision (j)(3). It is the intent of the Lahontan Water Board that a violation of the interim annual effluent limitation subjects the Discharger to only one MMP for that annual averaging period.

OTHER REGULATORY REQUIREMENTS

21. Water Code Section 13300 states: *Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements.*
22. Water Code Section 13267 states in part: *In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of those reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.*
23. The Discharger owns and operates the Hot Creek Fish Hatchery which is subject to this Order. The technical and monitoring reports required by this Order are necessary to establish compliance with Board Order No. R6V-2021-0014 and to determine compliance with this Order. Submittal of the technical and monitoring reports will allow the Lahontan Water Board to monitor and track the Discharger's actions to correct and obtain compliance with the final effluent limitation and to ultimately maintain and protect beneficial uses. There are costs associated with submittal of the reports, including costs associated with conducting monitoring and with preparation of the report itself. The burden, including costs, of these reports bears a reasonable relationship to the need for the report and the benefits to be obtained from the technical and monitoring reports required by this Order.
24. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code § 21000 et seq.) ("CEQA") in accordance with California Code of Regulations, title 14, section 15321(a)(2). In addition, issuance of this Order is exempt from the provisions of CEQA pursuant to Water Code section 13389, since the adoption or modification of a NPDES permit for an existing source is statutorily exempt and this Order only serves to implement a NPDES permit. (*Pacific Water Conditioning Ass'n, Inc. v. City Council of City of Riverside* (1977) 73 Cal.App.3d 546, 555-556).
25. The Lahontan Water Board has notified the Discharger and interested agencies and persons of its intent to issue a Time Schedule Order to establish a time

schedule to provide compliance with waste discharge requirements, and has provided them with an opportunity to submit their written comments and recommendations.

IT IS HEREBY ORDERED THAT:

1. This Order shall become effective on May 1, 2021 (the effective date of Board Order No. R6V-2021-0014).
2. Pursuant to Water Code sections 13300 and 13267, the Discharger shall comply with the following time schedule to submit reports and ensure compliance with the final effluent limitation for total nitrogen.
 - a. **By February 1, 2022, and annually thereafter**, the Discharger shall submit Annual Progress Reports documenting the steps taken to comply with this Order during the previous calendar year. The reports shall describe the completion of tasks, progress of any construction, evaluation of the effectiveness of implemented measures and/or studies, and contain an assessment of whether additional measures and/or studies are necessary to meet the final compliance date.
 - b. The Discharger shall investigate, and if necessary, remediate groundwater impacts from the four onsite wastewater disposal ponds.
 - i. By **July 1, 2021**, the Discharger shall submit a Report of Waste Discharge to enroll the Hatchery's onsite wastewater treatment system under Lahontan Water Board Order No. R6T-2020-0015, the *General Waste Discharge Requirements for Limited Domestic Wastewater Treatment Systems*. The Report of Waste Discharge is found as Attachment 2 to the Order, at: https://www.waterboards.ca.gov/lahontan/board_decisions/adopted_orders/2020/r6t_2020_0015_go_limited_domestics.pdf
 - ii. By **August 1, 2021**, the Discharger shall submit a *Groundwater Monitoring Well Installation and Sampling Workplan (Workplan)* prepared by a California Registered Civil Engineer or California Registered Geologist with experience in hydrogeology. The Workplan shall propose placement of at least three monitoring wells (at least one well upslope and at least two wells downslope of the ponds), located such that groundwater gradient and potential impacts may be determined. The Workplan shall contain the information found in Section 1 of Attachment A to this Order. Quarterly groundwater monitoring shall be proposed, with constituents to include total nitrogen, pH, total dissolved solids, and total coliform organisms. The upgradient monitoring well shall also be monitored twice yearly for caffeine, sucralose, metformin and quinoline. Upon approval by Lahontan Water Board staff, the groundwater monitoring wells shall be installed, surveyed, and sampled.
 - iii. By **December 1, 2022**, the Discharger shall submit a *Groundwater Monitoring Well Report of Results* prepared by a California Registered Civil

Engineer or California Registered Geologist with experience in hydrogeology. The *Report of Results* shall contain the information found in Section 2 of Attachment A to this Order, except for the laboratory analytical results.

- iv. The groundwater monitoring wells shall be sampled on a quarterly basis from the 4th quarter 2022 through the 3rd quarter 2024. By **February 1, May 1, August 1, and November 1 of the years 2023 and 2024**, the Discharger shall submit quarterly *Groundwater Monitoring Reports* that are prepared by a California Registered Civil Engineer or California Registered Geologist with experience in hydrogeology and contain the information listed Section 2.G of Attachment A of this Order. At a minimum, the wells shall be sampled for the constituents listed in Item 2.b.ii, above. If required by the Executive Officer, or if desired by the Discharger, the monitoring wells shall continue to be sampled beyond the 3rd quarter 2024. All monitoring results shall be submitted to the State Water Board's Geotracker database (https://www.waterboards.ca.gov/ust/electronic_submittal/index.html).
 - v. By **February 1, 2025**, the Discharger shall submit a report evaluating the groundwater quality in the vicinity of the onsite wastewater disposal ponds and the influent springs. The report shall be prepared by a California Registered Civil Engineer or California Registered Geologist with experience in hydrogeology and shall reference the data obtained from the groundwater monitoring and influent spring monitoring (required under the WDRs). If the data shows that the wastewater ponds have adversely impacted groundwater quality, then the report shall also propose remedial measures and a time schedule for implementation. The Discharger may use the result of this evaluation in its request for a dilution credit and associated mixing zone or water quality variance.
 - c. The Annual Report (Item 2a, above) that is due by **February 1, 2023** shall include a preliminary analysis as to whether the Discharger will request a dilution credit and associated mixing zone, or water quality standards variance for total nitrogen in its Report of Waste Discharge for the next NPDES permit update. A discussion of each of these options, as well as the information needed to permit them, is found in Attachments B and C to this Order. The Annual Report shall describe the basis for the Discharger's request and include a description of the dilution credit and mixing zone study, and/or water quality variance study for total nitrogen that the Discharger will conduct in support of its request.
 - d. The Annual Report (Item 2a, above) that is due by **February 1, 2025** shall contain the results of the dilution credit and mixing zone, and/or water quality variance study for total nitrogen, if applicable.
3. By **April 30, 2026** (five years from the effective date of the WDRs), the Discharger shall comply with the Final Effluent Limitation for total nitrogen.

4. Discharge from points EFF-001, EFF-002, EFF-003, and EFF-004 shall not exceed the following interim effluent limitation, which shall apply in lieu of the corresponding final effluent limitation found in Board Order No. R6V-2021-0014. The interim effluent limitation is effective from **May 1, 2021** (the effective date of Board Order No. R6V-2021-0014) until **April 30, 2026** (five years from the effective date of Board Order No. R6V-2021-0014), or whenever the Discharger is able to come into compliance, whichever is sooner.

Parameter	Units	Annual Average ¹
Nitrogen, Total (as N)	mg/L	1.5

¹ Arithmetic mean of all data collected in a calendar year

5. Any person signing a document submitted under this Order shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

6. In accordance with the California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain work plans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain the professional's signature and/or stamp of the seal.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350, and 13385. The Lahontan Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Lahontan Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday,

Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

https://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.html
or will be provided upon request.

I, Michael R. Plaziak, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on March 10, 2021.



MICHAEL R. PLAZIAK, PG
EXECUTIVE OFFICER
LAHONTAN REGIONAL WATER
QUALITY CONTROL BOARD

Attachment A: Information required for a Groundwater Monitoring Well Workplan and Installation Report

Attachment B: Information needed for Dilution Credits and a Mixing Zone

Attachment C: Information needed for a Water Quality Standards Variance

ATTACHMENT A to TSO No. R6V-2021-0015

Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports

Prior to installation of any groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after approval of the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report that includes the information contained in Section 2, below. All workplans and reports must be prepared under the direction of, and signed by, a registered geologist or civil engineer licensed by the State of California.

SECTION 1 - Monitoring Well Installation Workplan and Groundwater Sampling and Analysis Plan

The monitoring well installation workplan shall contain the following minimum information:

A. General Information

1. Purpose of the well installation project,
2. Brief description of local geologic and hydrogeologic conditions,
3. Proposed monitoring well locations and rationale for well locations,
4. Topographic map showing facility location, roads, and surface water bodies,
5. Large scaled site map showing all existing onsite wells, proposed wells, surface drainage courses, surface water bodies, buildings, waste handling facilities, utilities, and major physical and man-made features.

B. Drilling Details

1. Onsite supervision of drilling and well installation activities,
2. Description of drilling equipment and techniques,
3. Equipment decontamination procedures,
4. Soil sampling intervals (if appropriate),
5. Logging methods, which shall comply with ASTM D2488-93 *Method for Visual Classification, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)* for field work.

C. Monitoring Well Design – Diagram and Narrative. Proposed well construction details:

1. Borehole diameter,
2. Casing and screen material, diameter, and centralizer spacing (if needed),
3. Type of well caps (bottom cap either screw on or secured with stainless steel screws),
4. Anticipated depth of well, length of well casing, depth and thickness of saturated zones, and length and position of perforated interval,
5. Thickness, position and composition of surface seal, sanitary seal, and sand pack,
6. Anticipated screen slot size and filter pack.

D. Well Development (at least 48 hours after sanitary seal placement)

1. Method of development to be used (i.e., surge, bail, pump, etc.),
2. Parameters to be monitored during development and record keeping technique,
3. Method of determining when development is complete,
4. Disposal of development water.

E. Well Survey - Horizontal and Vertical Coordinates

1. Name of the Licensed Land Surveyor or Civil Engineer,
2. Datum for survey measurements,
3. List of well features to be surveyed: top of casing, horizontal and vertical coordinates, etc.,
4. Accuracy: Horizontal within 0.1 foot and Vertical within 0.01-foot.

F. Water Level Measurement

1. The elevation reference point at each monitoring well must be within 0.01 foot,
2. Ground surface elevation at each monitoring well must be within 0.01 foot,
3. Method and time of water level measurement must be specified.

G. Sampling and Laboratory Analysis

Describe the proposed groundwater sampling, field tests, QA/QC, and laboratory analysis.

H. Proposed Schedule for Completion of Work

SECTION 2 - Monitoring Well Installation Report

The monitoring well installation report must provide the minimum information listed, below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved workplan.

A. General Information:

1. Purpose of the well installation project,
2. Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells,
3. Number of monitoring wells installed and copies of County Well Construction Permits,
4. Topographic map showing facility location, roads, surface water bodies,
5. Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details – Narrative and Graphic

1. Onsite supervision of drilling and well installation activities,
2. Drilling contractor and driller's name,
3. Description of drilling equipment and techniques,
4. Equipment decontamination procedures,
5. Soil sampling intervals and logging methods,
6. Well boring log:
 - a. Well boring number and date drilled,
 - b. Borehole diameter and total depth,

- c. Total depth of open hole (same as total depth drilled if no caving or back-grouting occurs),
- d. Depth and thickness of saturated zones,
- e. Depth to first encountered groundwater and stabilized groundwater depth,
- f. Detailed description of soils encountered, using ASTM D2488-93 *Method for Visual Classification, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) for Field Work*.

C. Well Construction Details – Diagram and Narrative: Well construction details.

1. Well number, date started, date completed, geologist's name
2. Total depth drilled
3. Drilling Contractor and driller name and address
4. Depth of open hole (same as total depth drilled if no caving occurs)
5. Method and materials of grouting excess borehole
6. Footage of hole collapsed
7. Length of slotted casing installed
8. Depth of bottom of casing
9. Depth to top of sand pack
10. Thickness of sand pack
11. Depth to top of bentonite seal
12. Thickness of bentonite seal
13. Thickness of concrete grout
14. Boring diameter
15. Casing diameter
16. Casing material
17. Size of perforations
18. Well elevation at top of casing
19. Initial and stabilized depth to groundwater
20. Date of water level measurement
21. Monitoring well number
22. Date drilled

E. Well Development

1. Date(s) and method of development of each well,
2. Method of development,
3. How well development completion was determined,
4. Volume of water purged from well and method of development water disposal,
5. Field notes from well development.

F. Well Survey Results

1. Description of the measuring points (i.e. ground surface, top of casing, etc.),
2. Coordinate system, epochs, benchmarks, horizontal controls, accuracy, and precision,
3. Vertical survey results with casing elevation with the cap removed within ± 0.01 foot accuracy,
4. Horizontal survey results with coordinates within ± 0.1 foot accuracy,
5. California Registered Civil Engineer or Licensed Surveyor's report, field notes, and stamp/signature in an appendix,

6. Tabulated installation data with well number(s), date well installed, datum, horizontal coordinates, vertical coordinates, ground surface elevation, total depth drilled, elevation of top of screen, elevation of bottom of screen, completed well depth, and if applicable, depth of pump inlet.

G. Laboratory Analytical Results

All analytical reports prepared for the Discharger's facility must contain, at a minimum, the information within this section.

1. Tabulated field and analytical data with sample location identification numbers, water quality objectives or standards, field/analytical results, and highlighted data that is outside water quality objectives or standards,
2. Appendix with laboratory reports, Constituents of Concern (COCs), and laboratory signatures on reports,
3. Laboratory reports showing results, reporting units, MDLs, PQLs, "trace" results, flagged results, matrix effects, and QA/QC results,
4. Site map(s) showing iso-concentration lines for COCs,
5. Discussion of results including, but not limited to, discussion of violations, exceedances, if all field and monitoring parameters were sampled and analyzed, description of groundwater flow direction, comparison of analysis and field sampling results to background and water quality goals, list of potential constituents of concern at each sampling location, and other relevant discussions,
6. Certification statement signed by an authorized representative,
Report signed and stamped by California-licensed engineer or geologist.

ATTACHMENT B to TSO No. R6V-2021-0015

Information Needed for Dilution Credit and Mixing Zone

Introduction

If approved, this option would allow a mixing zone for total nitrogen, which would result in less stringent effluent limitations based on an appropriate dilution credit. The premise for this option is that the discharged constituent(s) will mix with the receiving water and the mixed water can meet the water quality objectives at the end of a designated mixing zone.

If the Discharger desires to use this option, then it must provide flow and concentration data for both the effluent and the receiving water to determine if a dilution credit can be provided. Additional information required includes a determination of the quality of the mixing zone, the size of mixing zone proposed, and data at the end of the proposed mixing zone to verify water quality objectives will be met. The mixing zone may not exhibit any adverse effects listed in the Section 1.4.2.2 A of the SIP (see below).

Section 1.4.2 of the *Policy for Implementation of Toxics Standard for Inland Surface Water, Enclosed Bays and Estuaries of California*, also known as the Statewide Implementation Plan (SIP) includes the details on mixing zones and dilution credits.

To assist the Discharger, this Attachment contains an excerpt from the SIP explaining the process for developing dilution credits and a mixing zone. Following that is an analysis developed by PG Environmental, a contractor for the Lahontan Water Board. The Discharger may use the information from PG Environmental as a starting point for developing its own dilution credit and mixing zone study.

A. SIP Excerpt

(Words or terms which have an asterisk (*) in front of them are defined in Appendix 1 of the SIP).

1.4.2 Mixing Zones and Dilution Credits

With the exception of effluent limitations derived from TMDLs, in establishing and determining compliance with effluent limitations for applicable human health, acute aquatic life, or chronic aquatic life priority pollutant criteria/objectives or the toxicity objective for aquatic life protection in a RWQCB basin plan, the RWQCB may grant *mixing zones and *dilution credits to dischargers in accordance with the provisions of this section. To the extent permitted by applicable law, mixing zones may be considered for TMDL-derived effluent limitations. Effluent limitations based on a TMDL shall meet the mixing zone conditions specified in section 1.4.2.2.A.

The applicable priority pollutant criteria and objectives are to be met throughout a water body except within any mixing zone granted by a RWQCB. The allowance of mixing zones is discretionary and shall be determined on a discharge-by-discharge basis. A RWQCB may consider allowing mixing zones and dilution credits only for discharges with a physically identifiable point of discharge that are regulated through an NPDES permit issued by the RWQCB.

1.4.2.1 Dilution Credits

The dilution credit, D, is a numerical value associated with the mixing zone that accounts for the receiving water entrained into the discharge. The dilution credit is a value used in the calculation of effluent limitations (described in section 1.4). Dilution credits may be limited or denied on a pollutant-by-pollutant basis, which may result in a dilution credit for all, some, or no priority pollutants in a discharge. Before establishing a mixing zone and a dilution credit for a discharge, it must first be determined if, and how much (if any), receiving water is available to dilute the discharge. In determining the appropriate available receiving water flow, the RWQCBs may take into account actual and seasonal variations of the receiving water and the effluent. For example, a RWQCB may prohibit mixing zones during seasonal low flows and allow them during seasonal high flows. However, for year-round mixing zones, the mixing zone and dilution credit shall be determined using the parameters specified in Table 3.

Table 3. Effluent and Receiving Water Flows for Calculating Dilution Ratios

In calculating a dilution ratio for:	Use the critical receiving water flow¹ of:	Use the discharged effluent flow of:
Acute aquatic life criteria/objectives	*1Q10	*maximum daily flow during period of discharge
Chronic aquatic life criteria/objectives Chronic toxicity objective for aquatic life ²	*7Q10	*four-day average of daily maximum flows during period of discharge
Human health criteria/objectives	*harmonic mean	*long-term arithmetic mean flow during period of discharge

1 U.S. EPA's *biologically-based receiving water flows may be used in place of these critical receiving water flows where sufficient data are available.

2 These objectives are included in RWQCB basin plans and may address both chronic and acute toxicity to aquatic life. The flows in Table 3 apply to the chronic component of the objective

The approach to making a mixing zone determination also depends on whether a discharge is *completely-mixed or *incompletely-mixed with the receiving water as discussed below.

Completely Mixing Discharges

For completely-mixed discharges, as determined by the RWQCB and based on information provided by the discharger, the amount of receiving water available to dilute the effluent shall be determined by calculating the *dilution ratio (i.e., the critical receiving water flow divided by the effluent flow) using the appropriate flows in Table 3. In no case shall the RWQCB grant a dilution credit that is greater than the calculated dilution ratio. The dilution credit may be set equal to the dilution ratio only if the site-specific conditions concerning the discharge and the receiving water do not indicate that a smaller dilution credit is necessary to protect beneficial uses and meet the conditions of this Policy. If, however, dilution ratios that are calculated using the Table 3 parameters are inappropriate for use due to site-specific issues, the mixing zone and dilution credit shall be determined using site-specific information and procedures detailed for incompletely-mixed discharges.

Incompletely-Mixed Discharges

Dilution credits and mixing zones for incompletely-mixed discharges shall be considered by the RWQCB only after the discharger has completed an independent mixing zone study and demonstrated to the satisfaction of the RWQCB that a dilution credit is appropriate. Mixing zone studies may include, but are not limited to, tracer studies, dye studies, modelling studies, and monitoring upstream and downstream of the discharge that characterize the extent of actual dilution. These studies may be conducted in accordance with the procedures outlined in Appendix 5.

1.4.2.2 Mixing Zone Conditions

A mixing zone shall be as small as practicable. The following conditions must be met in allowing a mixing zone:

A. A mixing zone shall not:

- (1) compromise the integrity of the entire water body;
- (2) cause *acutely toxic conditions to aquatic life passing through the mixing zone;
- (3) restrict the passage of aquatic life;
- (4) adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws;
- (5) produce undesirable or nuisance aquatic life;
- (6) result in floating debris, oil, or scum;
- (7) produce objectionable color, odor, taste, or turbidity;
- (8) cause *objectionable bottom deposits;
- (9) cause nuisance;
- (10) dominate the receiving water body or overlap a mixing zone from different outfalls; or
- (11) be allowed at or near any drinking water intake. A mixing zone is not a *source of drinking water. To the extent of any conflict between this determination and the Sources of Drinking Water Policy (SWRCB Resolution No. 88-63), this determination supersedes the provisions of that policy.

B. The RWQCB shall deny or significantly limit a mixing zone and dilution credit as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements. Such situations may exist based upon the quality of the discharge, hydraulics of the water body, or the overall discharge environment (including water column chemistry, organism health, and potential for bioaccumulation). For example, in determining the extent of or whether to allow a mixing zone and dilution credit, the RWQCB shall consider the presence of pollutants in the discharge that are *carcinogenic, *mutagenic, *teratogenic, *persistent, *bioaccumulative, or attractive to aquatic organisms. In another example, the RWQCB also shall consider, if necessary to protect the beneficial uses, the level of flushing in water bodies such as lakes, reservoirs, enclosed bays, estuaries, or other water body types where pollutants may not be readily flushed through the system. In the case of multiple mixing zones, proximity to other outfalls shall be carefully considered to protect the beneficial uses.

If a RWQCB allows a mixing zone and dilution credit, the permit shall specify the method by which the mixing zone was derived, the dilution credit granted, and the point(s) in the receiving water where the applicable criteria/objectives must be met. The application for the permit shall include, to the extent feasible, the information needed by the RWQCB to make a determination on allowing a mixing zone, including the calculations for deriving the appropriate receiving water and effluent flows, and/or the results of a mixing zone study. If the results of the mixing zone study are unavailable by the time of permit issuance/reissuance, the RWQCB may establish interim requirements in accordance with section 2.2.2.

B. Analysis by PG Environmental (January 6, 2020; updated August 17, 2020)

This option considers the feasibility of allowing a mixing zone for total nitrogen, which would allow for less stringent effluent limitations based on an appropriate dilution credit.

Chapter 4 of the Basin Plan authorizes the establishment of mixing zones for non-CTR pollutants where the conditions listed on Basin Plan, page 4-3 are satisfied. In order to authorize a mixing zone, the Discharger would need to conduct a mixing zone study that characterized the available upstream receiving water flows and demonstrate compliance with the Basin Plan conditions for a mixing zone.

Basin Plan, Table 2-1 identifies Hot Creek as a perennial stream. Per Basin Plan, page 2-6, this descriptor distinguishes perennial streams from ephemeral streams. Thus, it is assumed that flows in Hot Creek are available year-round. However, the Fact Sheet for Order No. R6V-2009-0016 states, “the discharge provides the vast majority of the source water for Hot Creek; therefore, no credit is being allowed for dilution...” Thus, it is uncertain whether sufficient dilution flows are present in Hot Creek to provide for a mixing zone.

In order to calculate effluent limitations with a dilution credit, the receiving water must have assimilative capacity (i.e., background concentrations must be less than the applicable water quality objective). As shown in Tables 4 through 5, the upstream receiving water appears to have assimilative capacity for total nitrogen based on monitoring data collected at Monitoring Location R-001 from 2014 through 2019.

Table 4.

Summary of Observed Annual Average Total Nitrogen Concentrations, mg/L

Year	M-001	M-002	M-003	M-004	R-001	R-002
2014	0.77	0.81	0.54	0.62	0.20	0.65
2015	0.58	0.49	0.52	0.49	0.17	0.46
2016	0.58	0.62	0.39	0.56	0.27	0.31
2017	0.84	0.86	0.66	0.73	0.27	0.50
2018	0.85	0.92	0.36	0.49	0.30	0.60
2019	0.71	0.71	0.38	0.43	0.26	0.55

Note: Annual Water Quality Objective is 0.30 mg/L.

Table 5.

Summary of Observed 90th Percentile Total Nitrogen Concentrations

Year	M-001	M-002	M-003	M-004	R-001	R-002
2014	1.05	1.05	0.73	0.81	0.41	0.93
2015	0.64	0.51	0.90	0.59	0.19	0.65
2016	0.82	0.98	0.47	0.77	0.30	0.39
2017	1.21	1.25	0.97	0.91	0.36	0.65
2018	0.94	1.01	0.43	0.57	0.31	0.72
2019	0.74	0.71	0.38	0.50	0.26	0.60

Note: 90th Percentile Water Quality Objective is 1.5 mg/L

ATTACHMENT C TO TSO R6V-2021-0015

Information Needed for a Water Quality Standards Variance

Introduction

The purpose of a variance from the total nitrogen water quality objectives is to provide a Discharger time to determine if and how measures may be implemented to ultimately comply with the water quality objectives. If there is no long-term or short-term solution which would allow the Discharger to comply with the water quality objectives, then another solution may need to be considered in conjunction with any variance requested. If a variance is authorized, the Water Board must evaluate the variance every three years for the triennial review process and every five years with the NPDES permit update.

The following is a short summary of the information the Lahontan Water Board will need from the Discharger in order to meet the requirements in the *Water Quality Control Plan for the Lahontan Region* (Basin Plan) and federal requirements for a variance from a water quality objective.

1. Provide information on why the total nitrogen water quality objective is not attainable, including:
 - a. The estimated cost to treat for the constituent, and any adverse impact from a treatment system.
 - b. The influent concentrations from the springs into the facility.
 - c. The effluent concentrations from the facility.
 - d. Note any source that could be contributing to the total nitrogen concentration in the influent springs.
 - e. If remedial efforts have been implemented to reduce the source of total nitrogen into the influent springs; provide an analysis with an estimate of the time to see an impact or improvement, if any, on the influent concentration.
2. Provide information on the impact or supporting information on why no adverse impact is occurring to any for the following beneficial uses:
 - a. Municipal and domestic water supply
 - b. Propagation of fish and wildlife
 - c. Recreation purposes
 - e. Agriculture
 - f. Industrial
 - g. Navigation
3. Provide the interim effluent conditions that reflect the greatest pollutant reduction achievable in the effluent.
4. If no additional feasible pollutant control technology can be identified, provide the interim effluent conditions that reflects the greatest pollution reduction.

To assist the Discharger, this Attachment includes excerpts from the Basin Plan and Code of Federal Regulation (CFR), 40 CFR section 131.14, both of which contain the

requirements for a variance to the water quality objectives. Following that is an analysis developed by PG Environmental, a contractor for the Lahontan Water Board. The Discharger may use the information from PG Environmental as a starting point for developing a request for a water quality variance.

A. Excerpt from the Basin Plan (p. 3-17)

Variances from Water Quality Objectives

The USEPA allows states to grant variances from water quality standards under the narrow circumstances summarized below. Such variances must be “built into” the standards themselves, and thus variances cannot be granted in California without Basin Plan amendments.

According to the USEPA, variances from standards “are both discharger and pollutant specific, are time-limited, and do not forego the currently designated use.” The USEPA recommends use of variances instead of removal of beneficial uses when the State believes that standards can ultimately be attained. Variances can be used with NPDES permits to ensure reasonable progress toward attainment of standards without violation of Clean Water Act Section 402(a)(1), which requires NPDES permits to meet applicable water quality standards.

The USEPA “has approved State-adopted variances in the past and will continue to do so if:

- a. each individual variance is included as part of the water quality standard;
- b. the State demonstrates that meeting the standard is unattainable based on one or more of the grounds outlined in 40 CFR 131.10 (g) for removing a designated use;
- c. the justification submitted by the State includes documentation that treatment more advanced than that required by sections 303(c)(2)(A) and (B) has been carefully considered, and that alternative effluent control strategies have been evaluated;
- d. the more stringent State criterion is maintained and is binding upon all other dischargers on the stream or stream segment;
- e. the discharger who is given a variance for one particular constituent is required to meet the applicable criteria for other constituents;
- f. the variance is granted for a specific period of time and must be rejustified upon expiration but at least every three years (Note: the 3-year limit is derived from the triennial review requirements of section 303(c) of the Act.);
- g. the discharger either must meet the standard upon the expiration of this time period or must make a new demonstration of “unattainability”;
- h. reasonable progress is being made toward meeting the standards; and
- i. the variance was subjected to public notice, opportunity for comment, and public hearing. (See section 303(c)(1) and 40 CFR 131.20.) The public notice should contain a clear description of the impact of the variance upon achieving water quality standards in the affected stream segment.”

(The “section” references in the quoted language above are to the Clean Water Act. As used in this language, “criteria” and “criterion” are equivalent to California’s “water quality objective[s]”.)

B. Excerpt from 40 CFR 131.14

Note that 40CFR 131.14 uses “water quality standards.” This term may be interchanged with “water quality objectives”.

§ 131.14 Water quality standards variances.

States may adopt WQS variances, as defined in § 131.3(o). Such a WQS variance is subject to the provisions of this section and public participation requirements at § 131.20(b). A WQS variance is a water quality standard subject to EPA review and approval or disapproval.

(a) Applicability.

(1) A WQS variance may be adopted for a permittee(s) or water body/waterbody segment(s), but only applies to the permittee(s) or water body/waterbody segment(s) specified in the WQS variance.

(2) Where a State adopts a WQS variance, the State must retain, in its standards, the underlying designated use and criterion addressed by the WQS variance, unless the State adopts and EPA approves a revision to the underlying designated use and criterion consistent with §§ 131.10 and 131.11. All other applicable standards not specifically addressed by the WQS variance remain applicable.

(3) A WQS variance, once adopted by the State and approved by EPA, shall be the applicable standard for purposes of the Act under § 131.21(d) through (e), for the following limited purposes. An approved WQS variance applies for the purposes of developing NPDES permit limits and requirements under 301(b)(1)(C), where appropriate, consistent with paragraph (a)(1) of this section. States and other certifying entities may also use an approved WQS variance when issuing certifications under section 401 of the Act.

(4) A State may not adopt WQS variances if the designated use and criterion addressed by the WQS variance can be achieved by implementing technology-based effluent limits required under sections 301(b) and 306 of the Act.

(b) Requirements for Submission to EPA.

(1) A WQS variance must include:

(i) Identification of the pollutant(s) or water quality parameter(s), and the water body/waterbody segment(s) to which the WQS variance applies. Discharger(s)-specific WQS variances must also identify the permittee(s) subject to the WQS variance.

(ii) The requirements that apply throughout the term of the WQS variance. The requirements shall represent the highest attainable condition of the water body or waterbody segment applicable throughout the term of the WQS variance based on the documentation required in (b)(2) of this section. The requirements shall not result in any lowering of the currently attained ambient water quality, unless a WQS variance is necessary for restoration activities, consistent with paragraph

(b)(2)(i)(A)(2) of this section. The State must specify the highest attainable condition of the water body or waterbody segment as a quantifiable expression that is one of the following:

(A) For discharger(s)-specific WQS variances:

(1) The highest attainable interim criterion; or

(2) The interim effluent condition that reflects the greatest pollutant reduction achievable; or

(3) If no additional feasible pollutant control technology can be identified, the interim criterion or interim effluent condition that reflects the greatest pollutant reduction achievable with the pollutant control technologies installed at the time the State adopts the WQS variance, and the adoption and implementation of a Pollutant Minimization Program.

(B) For WQS variances applicable to a water body or waterbody segment:

(1) The highest attainable interim use and interim criterion; or

(2) If no additional feasible pollutant control technology can be identified, the interim use and interim criterion that reflect the greatest pollutant reduction achievable with the pollutant control technologies installed at the time the State adopts the WQS variance, and the adoption and implementation of a Pollutant Minimization Program.

(iii) A statement providing that the requirements of the WQS variance are either the highest attainable condition identified at the time of the adoption of the WQS variance, or the highest attainable condition later identified during any reevaluation consistent with paragraph (b)(1)(v) of this section, whichever is more stringent.

(iv) The term of the WQS variance, expressed as an interval of time from the date of EPA approval or a specific date. The term of the WQS variance must only be as long as necessary to achieve the highest attainable condition and consistent with the demonstration provided in paragraph (b)(2) of this section. The State may adopt a subsequent WQS variance consistent with this section.

(v) For a WQS variance with a term greater than five years, a specified frequency to reevaluate the highest attainable condition using all existing and readily available information and a provision specifying how the State intends to obtain public input on the reevaluation. Such reevaluations must occur no less frequently than every five years after EPA approval of the WQS variance and the results of such reevaluation must be submitted to EPA within 30 days of completion of the reevaluation.

(vi) A provision that the WQS variance will no longer be the applicable water quality standard for purposes of the Act if the State does not conduct a reevaluation consistent with the frequency specified in the WQS variance or the results are not submitted to EPA as required by (b)(1)(v) of this section.

(2) The supporting documentation must include:

(i) Documentation demonstrating the need for a WQS variance.

(A) For a WQS variance to a use specified in section 101(a)(2) of the Act or a sub-category of such a use, the State must demonstrate that attaining the designated use and criterion is not feasible throughout the term of the WQS variance because:

(1) One of the factors listed in § 131.10(g) is met, or

(2) Actions necessary to facilitate lake, wetland, or stream restoration through dam removal or other significant reconfiguration activities preclude attainment of the designated use and criterion while the actions are being implemented.

(B) For a WQS variance to a non-101(a)(2) use, the State must submit documentation justifying how its consideration of the use and value of the water for those uses listed in § 131.10(a) appropriately supports the WQS variance and term. A demonstration consistent with paragraph (b)(2)(i)(A) of this section may be used to satisfy this requirement.

(ii) Documentation demonstrating that the term of the WQS variance is only as long as necessary to achieve the highest attainable condition. Such documentation must justify the term of the WQS variance by describing the pollutant control activities to achieve the highest attainable condition, including those activities identified through a Pollutant Minimization Program, which serve as milestones for the WQS variance.

(iii) In addition to paragraphs (b)(2)(i) and (ii) of this section, for a WQS variance that applies to a water body or waterbody segment:

(A) Identification and documentation of any cost-effective and reasonable best management practices for nonpoint source controls related to the pollutant(s) or water quality parameter(s) and water body or waterbody segment(s) specified in the WQS variance that could be implemented to make progress towards attaining the underlying designated use and criterion. A State must provide public notice and comment for any such documentation.

(B) Any subsequent WQS variance for a water body or waterbody segment must include documentation of whether and to what extent best management practices for nonpoint source controls were implemented to address the pollutant(s) or water quality parameter(s) subject to the WQS variance and the water quality progress achieved.

(c) Implementing WQS variances in NPDES permits. A WQS variance serves as the applicable water quality standard for implementing NPDES permitting requirements pursuant to § 122.44(d) of this chapter for the term of the WQS variance. Any limitations and requirements necessary to implement the WQS variance shall be included as enforceable conditions of the NPDES permit for the permittee(s) subject to the WQS variance.

C. Analysis by PG Environmental (January 6, 2020; updated August 17, 2020)

40 CFR 131.14 allows for states to adopt water quality standards variances, subject to EPA review and approval, and specifies the requirements for submission to EPA. In February 2019, the State Water Board adopted Part 3 of the Water Quality Control Plan for Inland Surface Water, Enclosed Bays, and Estuaries of California—Bacteria

Provisions and A Water Quality Standards Variance Policy (Variance Policy), which allows for water quality standards variances consistent with the federal rule.

A water quality standards variance is a time-limited designated use and criterion for a specific pollutant, from a specific source or for a specific water body, that reflects the highest attainable condition for a specific time period. EPA suggests that a water quality standards variance can be used when it is uncertain how much progress can be achieved, but it is known that some progress is possible, and the permitting authority does not want to give up on working toward water quality improvement.

This appears to be an appropriate mechanism for the Facility. Efforts to comply with the nitrate plus nitrite effluent limitations under the TSOs have not identified an effective solution for achieving compliance. However, the Lahontan Water Board has identified potential sources of contamination in the intake water and it is possible that, in the future, the intake water concentrations could be reduced to a level that does not pose a water quality concern for discharges from the Facility.

To pursue a water quality standards variance, the Lahontan Water Board would need to demonstrate that the variance meets the requirements specified at 40 CFR 131.14. EPA has developed a [Water Quality Standards Variance Building Tool](#) to help states determine whether a water quality standards variance is an appropriate tool for a particular situation. If the variance term is greater than 5 years, the Lahontan Water Board would need to re-evaluate the variance every 5 years.

PG anticipates that development of a water quality standards variance request package for submittal to EPA will be a resource-intensive exercise. Thus, PG recommends that Lahontan Water Board pursue a water quality standards variance only after all other options for flexibility have been considered.