NOTICE OF INTENT GUIDANCE FOR THE NITRATE CONTROL PROGRAM'S INDIVIDUAL PERMITTING APPROACH (PATH A)

PURPOSE

In 2019, the Central Valley Water Board (Board) established new regulations that will affect all Board-issued permits that regulate nitrate discharges. These new regulations are called the "Nitrate Control Program." The Nitrate Control Program requires permittees to choose between an individual permitting approach (Path A) or an approach that allows permittees to work together to reduce nitrate impacts in local areas (Path B).

As the Board begins to implement the Nitrate Control Program, the Board is issuing Notices to Comply (NTC). A Notice to Comply legally requires a permittee to tell the Board which approach they will choose.

The purpose of this document is to help permittees understand the requirements of the individual approach (Path A), which is expected to be technically challenging and expensive for many permittees in the Central Valley Region.

TIMELINE

Within **425 days** of receiving the NTC (please refer to the specific date listed in your letter), permittees must submit a Notice of Intent and all necessary documents to the Board.

BEFORE CHOOSING A PATHWAY

Before deciding which compliance approach, or pathway, to choose, the Board recommends that you visit the website https://www.cvsalinity.org/nitrate-program/for-permittees/ for information. Please note that if your discharge is causing nitrate impacts to groundwater, Path A may require you to undertake some or all of the following:

- Significantly upgrade your facility (i.e., denitrification/nitrification capabilities)
- Conduct extensive regular monitoring of your discharge and of local groundwater
- Provide replacement drinking water to local residents [1]
- Provide the Board with a rigorous technical hydrogeologic justification of what groundwater will look like in your area in 20 years

Path B, the collaborative approach, was developed so that individual permittees could cooperatively marshal resources to address nitrate impacts. Path B was developed collaboratively with many industries and stakeholders that saw advantages to this approach. However, the Board retained Path A as an option for those permittees that have high-quality discharges that meet nitrate drinking water standards or who have the resources to tackle localized nitrate issues on their own. The https://www.cvsalinity.org/nitrate-program/for-permittees/ website has more information

[1] Both Path A and Path B dischargers must provide replacement drinking water to affected residents.

on the Path B approach and how you can get involved with other permittees in your area that are developing “Management Zones” to work together to meet the requirements of the Nitrate Control Program.

BY CHOOSING PATH A, YOU WILL BE REQUIRED TO SUBMIT AN INITIAL ASSESSMENT NITRATE REPORT THAT INCLUDES AND/OR CONSIDERS THE FOLLOWING:

1. **General Information (can be found in the NTC)**
    - Facility ID(s)
    - Facility Name(s)
    - CV-SALTS ID

2. **Characterizing Your Area of Contribution and Assessing Ambient Water Quality Conditions in the Groundwater Shallow Zone**

You must characterize your area of contribution to determine the locations where your discharge and groundwater meet and where the presence of the discharge can be detected. The characterization should be conducted in the groundwater Shallow Zone, which is the depth of the shallowest 10% of the domestic wells in an area.

The Shallow Zone can be determined by using available sources such as:

- Domestic well completion records from the Department of Water Resources or County sources,
- The State Water Board Groundwater Ambient Monitoring and Assessment (GAMA) program,
- The Irrigated Lands Regulatory Program (ILRP) trend monitoring program, or
- High-resolution data developed by the Central Valley Salinity Coalition.

Facility-specific investigations can also be used. You will be required to provide methods and sources used to determine the Shallow Zone, groundwater flow direction, and the area of contribution. The Board highly recommends that a California-licensed Professional Geologist perform these analyses.

Once the Shallow Zone, groundwater flow direction, and the area of contribution have been determined, you must determine the ambient nitrate concentrations in the Shallow Zone. For the purposes of the Nitrate Control Program, nitrate and other forms of nitrogen speciation (e.g., total inorganic nitrogen (TIN) and total Kjeldahl nitrogen (TKN)) should be used to determine ambient conditions for these constituents in the Shallow Zone. This is because, under certain ambient groundwater conditions, other forms of nitrogen may be converted to nitrate. Estimate the impact of nitrate in your discharge on groundwater in the Shallow Zone over a 20-year planning horizon using one of several available options:

- Use readily available data and information to calculate ambient nitrate concentrations for the shallowest ten percent (10%) of the domestic water supply

wells in the Upper Zone of a groundwater basin/sub-basin as defined and established in *Region 5: Updated Groundwater Quality Analysis and High Resolution mapping for Central Valley Salt and Nitrate Management Plan* (June 2016),

- Conduct a site-specific or area-specific evaluation based on various types of available data and information, including but not limited to, depth and age of domestic wells in the area of contribution, groundwater table, well completion report data, and other available and relevant information, or
- An equivalent alternative approved by the Central Valley Water Board's Executive Officer.

Period of Record for Data Analysis – It is recommended that data from the past 5-10 years should be utilized for the analysis. The frequency of water quality analysis used should be sufficient to characterize trends in groundwater quality in the Shallow Zone and there should be no significant data gaps. Include or consider the following:

- Provide a table summarizing the data. The table should include basic statistical analysis, including monthly and annual minimum, maximum, mean, and median values for nitrate and other nitrogen species in mg/L-N.
- Provide a table summarizing the nitrate and other nitrogen species concentration trends and whether concentrations are decreasing/increasing, and information to support the trend analysis.
- Provide a map with labels identifying the names and boundaries of basin/sub-basins and the locations of domestic wells.
- Provide a map that shows the area of contribution now and over a 20-year planning horizon.
- Provide sources for the data used.
- Include all data utilized with the report as an appendix. Data should include name of domestic well, DWR Bulletin 118 groundwater basins/sub-basins the wells are located in, date, and any other pertinent information.

3. Determine if your nitrate discharge is causing or contributing to nitrate impacts in any public water supply well or domestic well

You must conduct a survey of the area where your discharge occurs to identify if water from any public water supply or domestic wells has nitrate levels that exceed the drinking water standard (10 mg/L-N), and determine if your discharge is causing or contributing to the nitrate exceedance(s).

- To identify drinking water wells that may exceed the nitrate drinking water standard, you may use Google Earth to identify locations of domestic wells, the State Water Board's GeoTracker database, State Water Board Division of Drinking Water information, State Water Board Groundwater Ambient Monitoring and Assessment information, local County Public Health Department information, and other data sources.

- Provide a table summarizing the number of drinking water wells exceeding the nitrate drinking water standard, including the name of the drinking water well, DWR Bulletin 118 groundwater basins/sub-basins the wells are located in, sampling dates, and any other pertinent information. The table should include basic statistical analysis, including monthly and annual minimum, maximum, mean, and median values for nitrate in mg/L-N.
- Provide a map with labels identifying the names and boundaries of basin/sub-basins and the locations of domestic wells.
- Provide sources for the data used.

4. Develop an Early Action Plan (EAP) if applicable

If your discharge is causing or contributing to an exceedance of a drinking water standard in a public water supply well or domestic well, then you must prepare and submit an EAP with your initial assessment and a NOI to the Central Valley Water Board. The EAP must include the following:

- A process to identify affected residents and the outreach utilized to ensure that impacted groundwater users are informed of and given the opportunity to participate in the development of proposed solutions,
- A process for coordinating with others that are not dischargers to address drinking water issues, which must include consideration of coordinating with affected communities, domestic well users and their representatives, the State Water Board Division of Drinking Water, local planning departments, local county health officials, sustainable groundwater management agencies, and others, as appropriate,
- Specific actions and a schedule of implementation to address the immediate drinking water needs of those initially identified within the area of contribution for an individual permittee that are drinking groundwater that exceeds nitrate standards and that do not otherwise have interim replacement water that meets drinking water standards, and
- A funding mechanism for implementing the EAP, which may include seeking funding from local, state, and federal funds that are available for such purposes.

Implementation of the EAP should begin as soon as reasonably feasible, but no later than 60 days after submittal, unless an objection is received from the Central Valley Water Board. Guidance on EAP development and implementation was developed as part of an Early Implementation Grant for two Priority 1 Management Zones. The document is available at the cvsalinity.org website.

5. Categorize the Discharge

Based on the impact of your discharge in the Shallow Zone and the quality of the discharge, you are required to categorize your nitrate discharge into one of the five categories described below.

If your discharge is categorized as Category 4 or 5, you must identify and propose an Alternative Compliance Project (ACP) as outlined in Step 6 of this guidance.
Explanation of each category:

- Category 1 (Your wastewater discharge is high-quality and is not causing any nitrate degradation): Nitrate concentration of your discharge as it reaches the Shallow Zone must be lower than the applicable nitrate water quality objective (<10 mg/L-N) and must be lower than the average nitrate concentration in the Shallow Zone. The average nitrate concentration in the Shallow Zone may be less than, equal to, or greater than the applicable water quality objective, but because your discharge itself is less than the objective, and less than the average concentration in the Shallow Zone, it will improve water quality conditions. Nitrate discharges in this category are considered to not increase nitrate levels in the Shallow Zone, thus an ACP is not required.
- Category 2 (Your discharge may be slightly above the drinking water standard, but because it is so minor and/or because high-quality groundwater recharge is abundant, your discharge is only causing *de minimis* impacts, and groundwater already meets drinking water standards): Your nitrate discharge in combination with other nitrate discharges to the same Shallow Zone will not cause the average concentration of nitrate in the Shallow Zone to exceed a nitrate trigger of 75% of the applicable water quality objective. Your discharge may be above the applicable water quality objective (>10 mg/L-N), but your discharge will use less than 10% of available assimilative capacity, and your discharge along with other discharges of nitrate to the Shallow Zone (over a 20-year planning horizon) will not cause the Shallow Zone to exceed 75% of the applicable water quality objective.

  Any degradation that will occur due to your discharges must be supported with an antidegradation analysis. Such analysis needs to be part of the initial assessment, unless the Central Valley Water Board previously granted the use of assimilative capacity was supported with an antidegradation analysis.

  Nitrate discharges in this category have little adverse impact on groundwater quality in the Shallow Zone, thus an ACP is not required. However, some form of groundwater monitoring may be required to continue to monitor nitrate impacts on the Shallow Zone.
- Category 3 (Your discharge is above the drinking water standard, but because high-quality groundwater recharge is abundant, you are able to demonstrate that the most sensitive portion of the aquifer will remain below 75% of the drinking water standard decades into the future): Concentrations of nitrate in your discharge may be greater than the applicable water quality objective (>10 mg/L-N) and the impact of your discharge of nitrate is more than *de minimis* (i.e., use more than 10% of available assimilative capacity). Further, your discharges cannot cause the average nitrate concentration in the Shallow Zone to exceed 75% of the applicable water quality objective over a 20-year planning horizon.

  Like Category 2, use of assimilative capacity must be supported with an antidegradation analysis and must be part of the initial assessment.

Nitrate discharges in Category 3 will generally be determined by the Central Valley Water Board to be consistent with the Nitrate Control Program, and an ACP will not be required. However, you will likely be required to conduct additional monitoring to ensure that the trigger level of 75% of the applicable water quality objective is not being exceeded.

- Category 4 (Your discharge is above the drinking water standard, but because high-quality groundwater recharge is abundant, you are able to demonstrate that the most sensitive portion of the aquifer will remain between 75% of the drinking water standard and the drinking water standard decades into the future – extensive monitoring may be required to ensure that assumptions are accurate, and an alternate compliance project is also needed): Your discharge will cause the average nitrate concentration in the Shallow Zone to exceed the 75% trigger, but not the applicable water quality objective over the 20-year planning horizon (e.g., Shallow Zone will be between 7.5 mg/L and 10 mg/L in 20 years).

  The request for use of assimilative capacity must be supported with an antidegradation analysis and must be part of the initial assessment. An ACP is required when requesting the use of assimilative capacity because your discharge will cause the average nitrate concentration in the Shallow Zone to exceed the 75% trigger.

- Category 5 (Your discharge is above the nitrate drinking water standard and will continue to impact groundwater, but instead of collaborating with other permittees in your area to set up a Management Zone that will provide nearby residents with a source of replacement drinking water, monitor groundwater quality, and upgrade facilities, you are choosing to assume all of these obligations on your own): Nitrate concentrations in your discharge exceed the applicable water quality objective (10 mg/L-N) as it reaches the Shallow Zone and the Shallow Zone has no assimilative capacity, or your discharge causes the Shallow Zone to exceed 10 mg/L-N. In this case, you must submit an application that meets the requirements set forth in the Exceptions Policy in order to be granted an Exception to permit the discharge. The granting of an exception is an alternative permitting approach that must be accompanied by an ACP.

6. Proposing an Alternative Compliance Project

Required for Category 4 and Category 5 Permittees

The Central Valley Water Board requires permittees that develop and implement an ACP to support the request of an allocation of assimilative capacity, above a trigger level, or to authorize an exception to meeting nitrate limitations. The request for Alternative Compliance must be accompanied by sufficient documentation to verify that the proposed approach meets the goals of the Nitrate Control Program.

An ACP is a project proposed by a permittee that must assure short and long-term safe drinking water supplies while moving toward long-term managed restoration by reducing nitrate discharge within the basin or sub-basin. ACPs may include both emergency actions (e.g., bottled water) in the short-term, permanent solutions in the intermediate term (such as reliable well-head treatment or connection to or integration with nearby

municipal water providers), and efforts to re-attain the water quality objective over the long-term.

For more information and guidelines for proposing an acceptable ACP, please refer to Appendix H of the 2018 Staff Report. To request a copy, please email cvsalts@waterboards.ca.gov.