

ATTACHMENT A

CITY OF STOCKTON COMMENTS
ON
TENTATIVE WASTE DISCHARGE REQUIREMENTS
FOR THE
CITY OF STOCKTON
REGIONAL WASTEWATER CONTROL FACILITY
SAN JOAQUIN COUNTY

KEY ISSUES AND CONCERNS

Submitted April 25, 2014

I. PROPOSED NITRATE PLUS NITRITE LIMITATION

The Tentative Order includes a proposed average monthly effluent limitation of 10 milligrams per liter (mg/L) for nitrate plus nitrite (as N). According to the Fact Sheet, the effluent limitation is being proposed because “the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Primary MCL,” and because the discharge has reasonable potential to also “cause or contribute to an exceedance of the Basin Plan’s¹ narrative water quality objectives for biostimulatory substances and taste and odors.” (Tentative Order, p. F-57.) The Tentative Order appears to deny a mixing zone and dilution credits for compliance with the maximum contaminant level (MCL) for nitrate because of concerns regarding nitrate as a nutrient rather than a drinking water constituent. Ultimately, the Tentative Order includes the proposed limit of 10 mg/L because treatment technologies exist that can bring about compliance, and because the Tentative Order proposes to find that the limit is within the “zone of reasonableness.” (*Id.*, p. F-58.)

Such justifications are problematic for several reasons. The Tentative Order states that it is denying the mixing zone requested by the City of Stockton (City) for compliance with the primary MCL for nitrate, but decouples the municipal (MUN) use protected by the MCL from the MCL itself. This is improper, as the State Water Resources Control Board (State Board) has explained in a precedential order. To the extent that the proposed effluent limitation is based on narrative water quality objectives other than the primary MCL, the Tentative Order fails to properly interpret the stated applicable narrative objectives to identify a water quality-based effluent limitation (WQBEL). In this regard, the Tentative Order also asserts that there is no assimilative capacity for additional loading of nutrients, at unspecified locations in “the Delta.” This is not supported by evidence, and continued discharges of nitrate from the City’s Regional Wastewater Control Facility (RWCF) would *not* constitute “additional” loadings. In fact, the seasonal 26/30 mg/L limitations proposed in Nitrate Option 1 represent a 25-35 percent reduction in permitted effluent nitrate concentrations, relative to the current permit. The Tentative Order also improperly relies on a non-precedential State Board Order and inapplicable case law to claim that the proposed limit is appropriate because it is within a “zone of reasonableness.” Fundamentally, the Tentative Order also fails to include specific findings based

¹ *Water Quality Control Plan for the Sacramento and San Joaquin River Basins - Fourth Edition* (Basin Plan).

on evidence in the record to support the proposed effluent limit and denial of a mixing zone. For these and other reasons, the 10 mg/L nitrate plus nitrite (as N) effluent limit should not be adopted. Nitrate Option 1 is justified and appropriate.

The discussion following and other attachments provide further comment and evidence as to these issues.

A. The Tentative Order's Denial of a Mixing Zone for Compliance with the Primary MCL is Improper

Page F-57 of the Tentative Order identifies three reasons for finding reasonable potential. In doing so, it identifies three relevant water quality objectives: chemical constituents, biostimulatory substances, and taste and odors. Of the three identified water quality objectives, the Tentative Order associates only one, the chemical constituents objective, with a numeric criterion. In that case, the Tentative Order identifies the primary MCL of 10 mg/L for the sum of nitrate plus nitrite (as N), which is incorporated by reference in the chemical constituents objective. (Tentative Order, p. F-57.) The Tentative Order finds reasonable potential as it relates to the primary MCL because the maximum effluent concentration was higher than the primary MCL of 10 mg/L. Assuming applicability of the State Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), and the SIP's procedures for determining reasonable potential, the City does not dispute the finding of reasonable potential for nitrate plus nitrite as it relates to the MUN beneficial use and chemical constituents objective, as expressed in the primary MCL.

The primary MCL for nitrate exists to protect consumers of water from excessive concentrations of nitrate, which can cause adverse health effects. However, it is unnecessary to meet the MCL at end-of-pipe in order to prevent adverse effects from consumption of nitrate plus nitrite. As reflected on page F-22 of the Tentative Order, the City "requested a mixing zone for nitrate plus nitrite for compliance with the DPH Primary MCL implementing the Basin Plan's narrative chemical constituent objective for the protection of the MUN beneficial use." (See also Tentative Order, p. F-20 [describing the City's request for a mixing zone for the MCL].) The City provided appropriate studies to support a mixing zone and dilution credit as it relates to the MUN beneficial use. Further, the existing permit for the RWCF includes a mixing zone and dilution credit for nitrate, which results in a current nitrate plus nitrite limit of 40 mg/L. (See, e.g., Order No. R5-2008-0154, pp. F-37 to F-38.) The City proposed new seasonal limits for nitrate plus nitrite of 26 mg/L (as N) for the period of April-September, and 30 mg/L (as N) for October-March. The requested mixing zone would extend from 1.4 miles upstream to 1.7 miles downstream of the RWCF's outfall.

The Tentative Order does not appear to dispute that, for the protection of human health from nitrate plus nitrite, a mixing zone is justified. (See Tentative Order, pp. F-21 to F-22.) However, the Tentative Order states that, "the requested mixing zone for nitrate plus nitrite is denied." (*Id.*, p. F-23.) The denial of the mixing zone that was requested by the City is not due to a concern over nitrates/nitrites in drinking water or concentrations of nitrates/nitrites in the requested mixing zone. Rather, it is based on concerns regarding nitrates and nitrites as nutrients in the aquatic ecosystem, and alleged resultant effects of nutrient loading. (*Ibid.*)

The City believes that this is exactly what the State Board has determined the Central Valley Regional Water Quality Control Board (Regional Board) may *not* do. Specifically, in its Order WQ 2012-0013,² the State Board evaluated the denial of a mixing zone for compliance with the MCL, and concluded that denial for reasons unrelated to the potential for excessive concentration of nitrates in drinking water was improper:

In the Permit, the Central Valley Water Board set the final effluent limitation equal to U.S. EPA's primary maximum contaminant level (Primary MCL) for drinking water for nitrate as nitrogen of 10 mg/L without allowance for a mixing zone and dilution credit.⁹³

. . . The Central Valley Water Board concluded that, following full nitrification, the discharge will have reasonable potential to exceed the Primary MCL for nitrate and may necessitate denitrification. Nitrate generates two relevant concerns. First, excessive nitrates in drinking water pose a human health concern, particularly for human fetuses and infants. Second, excessive nitrogen in the form of nitrates can contribute to excessive algal growth and change the ecology of a waterbody. The Central Valley Water Board denied a mixing zone stating that it did so to protect beneficial uses, specifically municipal and domestic supply (MUN), and because a human health mixing zone for nitrate does not comport with the SIP's requirements.

The District contends that an effluent limitation equal to the Primary MCL is unnecessary to protect the MUN beneficial use. We agree with the District to the extent that it relates to protecting human health from nitrate. The Central Valley Water Board states that there is sufficient dilution available in the Sacramento River that, after mixing, the river will not exceed the nitrate drinking water standard.⁹⁴ Therefore, it appears that solely for the protection of human health from nitrate, an effluent limitation equal to the Primary MCL was not necessary since the standard of 10 mg/L would have been met at the boundaries of an appropriately sized mixing zone.

The District further contends that the denial of a mixing zone for nitrate is improper, in part, because "the denial [of a human health mixing zone] has nothing to do with the merits of a human health mixing zone."⁹⁵ Again, we agree with the District. In this case, the water quality objective for which a mixing zone was denied is based on human health. However, the reasons for denying the mixing zone were related to aquatic and ecological impacts. This does not comport with what the Basin Plan and TSD specify in allowing or denying mixing zones.⁹⁶

A mixing zone can be denied if it is determined that the receiving water already exceeds the water quality objective that was used to establish the effluent

² *In the Matter of Own Motion Review of Waste Discharge Requirements Order No. R5-2010-0114 for Sacramento Regional Wastewater Treatment Plant*, State Board Order WQ 2012-0013.

limitation or “to compensate for uncertainties in the protectiveness of the water quality criteria.”⁹⁷ With respect to nitrate, however, the receiving water provides assimilative capacity and dilution to meet the water quality objective that protects human health requirements. The Permit’s Findings do not support a conclusion that there are uncertainties in the protectiveness of the water quality objective from a human health perspective. As a result, the denial of a mixing zone relying on the Primary MCL for the protection of human health is inappropriate.

. . . The decision to grant or deny a mixing zone for a pollutant should, in each analytical step, consider the use that is being protected by the applicable water quality objective. With respect to ammonia, the uses were aquatic life, the criteria were designed to protect aquatic life, and the mixing zone was denied based on other relevant information that the recommended 1999 Criteria were not protective of aquatic life. Each step was tied to the aquatic life use. In contrast, with respect to nitrate, the use was MUN beneficial use, the water quality objective was to protect human health, but the mixing zone was denied based on information that nitrate discharges have biostimulatory effects unrelated to drinking water protection through implementation of the Primary MCL. The last analytical step for nitrates uncoupled the use to be protected from the objective providing the protection. (Order WQ-2012-0013, pp. 27-29 [footnotes including footnote numbering from original].)

⁹³ Throughout this discussion, when referring to the nitrate limitation and Primary MCL level of 10 mg/L, we mean the result to be expressed as nitrate as nitrogen, as opposed to the equivalent result of 45 mg/L expressed as NO₃ (nitrate). The reason for the 4.5 factor difference is because the ratio of atomic weights between NO₃ (62.5 mg) and N (14 mg) is approximately 4.5.

⁹⁴ Central Valley Water Board’s Response to Petitions for Review of Waste Discharge Requirements Order No. R5-2010-0114 (SWRCB/OCC File A-2144(a) and A-2144(b)), p. 62.

⁹⁵ District’s Petition for Review of Waste Discharge Requirements Order No. R5-2010-0114 (SWRCB/OCC File A-2144(a)), p. 125.

⁹⁶ TSD [U.S. EPA Technical Support Document for Water Quality-based Toxics Control], p. 33 states: “In the general case, where a State has both acute and chronic aquatic life criteria, as well as human health criteria, independently established mixing zone specifications may apply to each of the three types of criteria. The acute mixing zone may be sized to prevent lethality to passing organisms, the chronic mixing zone sized to protect the ecology of the waterbody as a whole, and the health criteria mixing zone sized to prevent significant human risks. For any particular pollutant from any particular discharge, the magnitude, duration, frequency, and mixing zone associated with each of the three types of criteria will determine which one most limits the allowable discharge.”

⁹⁷ TSD, p. 34.

It is possible that the proposed denial of a mixing zone is to be read as a denial related to the narrative water quality objectives referenced in the Tentative Order, and further discussed below. If so, the necessary inference is that a nitrate plus nitrite concentration of 10 mg/L equates to the narrative water quality objectives. If that is the case, allowance of the mixing zone requested by the City would result in only a small area where the narrative water quality objectives are not attained, and the criteria for granting a mixing zone would be met outside that

zone. Yet the Tentative Order's discussion of nutrient effects is not related to the area of the requested mixing zone.

In Order WQO 2004-0013,³ the State Board stated: "In prior orders, we have held that while regional boards have discretion in allowing mixing zones and dilution credits, they must explain the denial of a mixing zone based on the facts of the discharge." (*In the Matter of the Petition of Yuba City*, State Board Order WQ 2004-0013 at p. 10.) Here, the proposed denial is not well or clearly explained. In addition, statements in the Tentative Order that are ostensibly reasons for the denial are not supported by the evidence, as discussed later in this document and in other attachments to the City's comments.

B. The Tentative Order Fails to Properly Interpret Stated Applicable Water Quality Objectives

The Tentative Order finds that the "most stringent water quality objectives are the Basin Plan's narrative biostimulatory substances objective and narrative taste and odor objective." (Tentative Order, p. F-23.) Such a finding is not improper *per se*. If this statement is correct, it is appropriate to evaluate reasonable potential, and develop WQBELs, based on the narrative water quality objectives. However, the Tentative Order departs from applicable law and policy in interpreting such objectives to determine reasonable potential, calculate WQBELs, and consider whether a mixing zone and dilution credits should be applied.

1. The Tentative Order Fails to Comply With State and Federal Regulations

Applicable federal regulations provide that WQBELs are to be adopted if "a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard" (40 C.F.R. § 122.44(d)(1)(ii).) The Tentative Order identified the narrative biostimulatory substances and taste and odor objectives as the most stringent water quality standards (Tentative Order, p. F-23), and finds reasonable potential for discharges from the RWCF for both of these narrative standards. (*Id.*, p. F-57.)

However, the Tentative Order does not properly interpret the two narrative objectives at issue in order to determine reasonable potential and calculate numeric WQBELs. Specifically, the Tentative Order's failure to identify any numeric criteria to interpret the two identified narrative objectives is inconsistent with both the Regional Board's own regulations and federal regulations. With respect to the Regional Board's regulations, the Basin Plan contains a "Policy for Application of Water Quality Objectives," which includes the Regional Board's adopted regulatory policy for interpreting and applying narrative water quality objectives. The Policy in general provides that the Regional Board must adopt numeric limits in order to implement narrative objectives, and that such limits will be determined on a case-by-case basis. (Basin Plan, pp. IV-16.00-18.00.) "To evaluate compliance with the narrative water quality objectives, the Regional Water Board considers, on a case-by-case basis, direct evidence of beneficial use

³ The City requests that the Regional Board take official notice of all State Board and Regional Board orders, regulations, and policies cited herein.

impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant **numerical criteria** and guidelines developed and/or published by other agencies and organizations In considering such criteria, the Board evaluates whether the specific numerical criteria, which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective” (Basin Plan, p. IV-17.00, emphasis added.) The Tentative Order does not follow this required procedure.

Applicable federal regulations state that where a state has not established a numeric water quality criterion for a specific chemical pollutant, and the pollutant in question has been found to have reasonable potential to cause an excursion above a narrative standard, that the permitting authority “must establish effluent limits using one or more of the following options:” (40 C.F.R. § 122.44(d)(1)(vi).) These options include use of the Clean Water Act (CWA) section 304(a) criteria and others. Based on the findings in the Tentative Order, the option that appears to be applicable here is the one that provides for interpretation of a narrative objective by using a state policy for interpreting a narrative criterion. (See 40 C.F.R. § 122.44(d)(1)(vi)(A); see also Tentative Order, p. F-13 [“With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: . . . (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board’s ‘Policy for Application of Water Quality Objectives’)”].)

Under either the Basin Plan or federal regulations, the Regional Board is required to interpret the narrative objective with a numeric criterion using other relevant information in order to calculate a WQBEL.⁴ Under 40 Code of Federal Regulations section 122.44(d)(1)(vi)(A), the numeric effluent limits must be established using a “*calculated numeric water quality criterion*” Such a criterion *may* be derived from a state policy that interprets the narrative criterion.⁵ But there must be a calculated numeric criterion used to establish the effluent limitation. The Tentative Order fails to identify or calculate any numeric criteria that would be applicable and appropriate for interpreting the narrative objectives for biostimulatory substances and taste and odor. (See Tentative Order, pp. F-57 - F-58.) Rather than making such an interpretation in conformance with state and federal regulations, the Tentative Order makes unsubstantiated, generalized statements with respect to nutrients, and then adopts an effluent limit of 10 mg/L for nitrate plus nitrite based on the capabilities of available technologies. A limit based on “technical capability” is not a WQBEL that is derived in a manner consistent with applicable law. Further, a 10 mg/L effluent limitation is not a technology-based limit required under federal law. (See 40 C.F.R. § 133.102.) A limit based on

⁴ In addition to being legally necessary to calculate effluent limitations where reasonable potential has been determined, the identification and consideration of numeric criteria to translate the narrative water quality objective is appropriate and applicable to the analysis of reasonable potential, both under the Basin Plan and under federal permitting procedures. (See TSD, p. 62 [“Although the provisions of 40 CFR 122.44(d)(1)(vi) are presented in the context of permit limit development, these same considerations should be applied in characterizing effluents in order to determine whether limits are necessary.”].)

⁵ The Basin Plan policy itself does not explicitly interpret the biostimulatory substances criterion or taste and order criterion.

technical capability that is not a technology-based limit required by federal law cannot be adopted absent compliance with Water Code section 13241 and the adoption of findings related to factors specified in Water Code section 13241.

2. The Tentative Order's Finding of "Reasonableness" to Support the Limit Does Not Comply With the Law

The Tentative Order concludes that the nitrate plus nitrite limit is "appropriate and is within the zone of reasonableness." (Tentative Order, p. F-58.) The Tentative Order effectively asserts that any effluent limitation landing within a "zone of reasonableness" is lawful, even if applicable regulations have not been followed. To the contrary, an evaluation of the reasonableness of a conclusion is relevant only when the Regional Board has followed the law applicable to calculating effluent limitations in the first instances. If that has occurred, a court may evaluate whether the conclusion is reasonable. But "zone of reasonableness" is not an independent ground or procedure for developing permit limits, and in any event the concept is not used properly in the Tentative Order.

In connection with its "zone of reasonableness" discussion, the Tentative Order makes reference to State Board Order WQ 2012-0013, and case law cited in that order. (Tentative Order, p. F-58.) These references appear to be made to support an argument that in light of scientific uncertainty, the Regional Board may adopt any effluent limit it determines is appropriate as long as it fits within a "zone of reasonableness." (*Ibid.*) The reasoning provided here is problematic: the portion of State Board Order cited by the Tentative Order is non-precedential; and, under such reasoning, a regional water quality control board could adopt any limit for any pollutant as long as the regional water quality control board's action is deemed to be reasonable on a gross basis. Further, to support this position, the Tentative Order relies on plainly inapplicable case law. Indeed, the recent federal case cited by the Tentative Order is entirely counter to any notion that the legal process for development of WQBELs can be bypassed.

First, the Tentative Order cites the *Upper Blackstone* case for the proposition that an effluent limitation within the "zone of reasonableness" should not be overturned. (Tentative Order, p. F-58, fn. 2.) However, in that case, U.S. EPA *followed* applicable regulations in developing a WQBEL. The Tentative Order fails to observe that the U.S. EPA first found that discharge from the publicly-owned treatment works (POTW) had *reasonable potential* to cause or contribute to an excursion above Massachusetts and Rhode Island water quality standards, and that (after a comprehensive analysis) the U.S. EPA concluded lower limits were necessary to achieve compliance with state water quality standards. (See *Upper Blackstone Water Pollution Abatement Dist. v. U.S. Env'tl. Prot. Agency* (1st Cir. 2012) 690 F.3d 9, 18 (*Upper Blackstone*)). Further, the case clearly identifies that the U.S. EPA translated applicable narrative criteria into numeric limits under section 122.44(d)(1)(vi) of title 40 of the Code of Federal Regulations. (*Ibid.*) It was **this** limit that the court then found to be reasonable. (*Id.* at pp. 26-29.) The interpretation of the narrative objectives, and the establishment of a numeric WQBEL based on this interpretation, is lacking in the Tentative Order.

Second, in upholding the U.S. EPA's action in *Upper Blackstone*, the court reviewed the process of analysis employed by the U.S. EPA, which included use of a peer-reviewed model, evaluation of the model results in comparison to relevant receiving water quality data, information to address known shortcomings in the model, and many sources of other information to formulate the limits in question. (*Upper Blackstone*, *supra*, 690 F.3d at pp. 25-26.) The court also looked to see if the U.S. EPA had followed proper procedures, which the court concluded it had. (*Id.* at pp. 27-28.) Ultimately, the court found that the WQBELs were justified by the record and within the zone of reasonableness. (*Id.* at p. 29.) Thus, the court upheld the limits the U.S. EPA adopted in that permit, which the U.S. EPA had found necessary to meet state water quality standards. (*Id.* at pp. 28-29.) The WQBELs that the U.S. EPA calculated were reasonable based on the record. The court did not hold that a limit is lawful if based on technical attainability. The "zone of reasonableness" test applied to the determinations made in the proper application of applicable regulations. The court did not establish a procedure to *bypass* applicable regulations based on a subjective evaluation that a permit is reasonable overall.

The City emphasizes that it does *not* maintain that the mere fact of scientific uncertainty prevents the adoption of WQBELs. The City *does* maintain that the Regional Board must follow applicable legal requirements in the adoption of effluent limitations and must "show its work." Only when that has occurred would it be relevant to consider whether a 10 mg/L effluent limitation is within a "zone of reasonableness."

In sum, the Tentative Order finds the effluent limitation for nitrate plus nitrite here as being reasonable because it can be met with known treatment technologies. (Tentative Order, p. F-58.) There is no support for such limits under state or federal law. Effluent limitations adopted to ensure compliance with federal law are technology-based, or water quality-based. The limit in issue is located in the Tentative Order within the section devoted to water quality-based limits, and the rationale discusses a finding of reasonable potential for potential excursions of narrative water quality objectives. (Tentative Order, p. F-57.) Thus, such limit clearly is held out as falling within the "water quality-based" category. The Regional Board must comply with legal requirements applicable to establish WQBELs, which the Tentative Order does not do.

C. The Nitrate Plus Nitrite (as N) Limit Is Not Supported By the Evidence in the Record or Appropriate Findings Based on the Record

Beyond the inconsistencies with regulatory requirements described above, the Tentative Order's conclusions are not supported by the evidence. They are often vague, and the Tentative Order fails to include findings that would bridge the analytical gap between "the raw evidence and ultimate decision or order." (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515 (*Topanga*).

Here, the Tentative Order fails to include findings that provide for the legal justification for the limit in question, and it fails to reference information from the record to support any such findings. For example, the Tentative Order makes the following very generalized statements without including any record references to support such statements:

- “Increased nutrient loads can create excessive algal growth in the Delta, resulting in impacts to municipal drinking water supplies. Increased algal growth can result in increased concentrations of total organic carbon that negatively impacts municipal drinking water suppliers, because it may result in the creation of harmful byproducts during chlorination These impacts are occurring, therefore, any increased nutrient loading contributes to the impairment of the beneficial uses.” (Tentative Order, p. F-23.)
- “There is evidence in the record that eutrophication is a problem in the Delta, therefore, there is no assimilative capacity for additional loading of nutrients, such as nitrate.” (Tentative Order, p. F-57.)
- “The Central Valley Water Board is concerned with the effects of the discharge of nutrients, including nitrate and nitrite, on biologically sensitive aquatic resources and critical habitats, as are present in the Sacramento-San Joaquin Delta (Delta) and the impact of nutrients on the use of the water for municipal uses. The recent decline in pelagic fishes in the Delta is referred to as the Pelagic Organism Decline (POD) The current science is not certain on the precise factors causing the POD.” (Tentative Order, pp. F-57 - F-58.)
- “Since the Delta is presently exhibiting cultural eutrophication at the current nutrient loading levels, discharge at the current nutrient loading will not be protective of downstream beneficial uses. Nutrient reduction is necessary to protect the beneficial uses of the Delta.” (Tentative Order, p. F-58.)

Other than these generalized statements, the Tentative Order provides no reference to data, studies, or other technical information in support of its finding of reasonable potential, or adoption of an effluent limit of 10 mg/L for nitrate plus nitrite. Notably, the generalized references in the Tentative Order to the “Delta,” a massive area, are not specific as to location.

On the other hand, the City has provided the Regional Board with extensive evidence and information that clearly indicates that nitrate plus nitrite loading from the RWCF does not increase algae abundance. Data collected by the City as well as studies conducted by others conclusively demonstrate that algae biomass and cell density are substantially lower in the reach of the San Joaquin River influenced by the discharge than in areas upstream of the discharge.

Overall, generalized statements located in section IV.C.2.c.v of the Fact Sheet indicate the Regional Board’s concern with effects of the discharge of nutrients, including nitrate and nitrite, on biologically sensitive aquatic resources and critical habitats, and on water for municipal uses.

Although it is true that in certain environments increased nutrient loads can result in excessive algal growth, contrary to the statement made in the Tentative Order, this has not been demonstrated in the reach of the San Joaquin River influenced by the RWCF discharge specifically, or for the Delta generally. The Tentative Order merely suggests that nitrate plus nitrite loading could contribute to excessive algal growth, but fails to cite any scientific evidence

that links nitrate plus nitrite loading from the RWCF to excessive algal growth or other ecological changes that would adversely affect beneficial uses. As detailed in Attachment C to the City's comments, studies to date have shown that increased nutrient loads generally do not affect algal growth in the Delta, and that nitrate plus nitrite loading from the RWCF does not increase algae abundance. Data collected by the City (see Attachment D to the City's comments) as well as studies conducted by others conclusively demonstrate that algae biomass and cell density are substantially lower in the reach of the San Joaquin River influenced by the discharge than in areas upstream of the discharge.

In the City's study, provided as Attachment D, it was concluded that there was sufficient evidence to grant a mixing zone and dilution credit consistent with state mixing zone policies contained in the Basin Plan and SIP. Considering the fact that the year-long field study was developed in coordination with Regional Board staff to specifically determine if a nitrate plus nitrite mixing zone could be renewed, it was surprising that this study only received superficial acknowledgement in the Tentative Order's Fact Sheet discussion. This is especially surprising considering that the study, provided as Attachment D, found the following:

- There was no positive association between chlorophyll *a* concentrations and nitrate plus nitrite concentrations in the vicinity of the RWCF outfall. In fact, overall algal biomass and cell density are lower downstream of the RWCF outfall in comparison to upstream of the RWCF outfall, a phenomenon that has been previously documented in the scientific literature and uniquely attributed to local river hydrodynamics. The sudden increased depths associated with the Stockton Deep Water Ship Channel (DWSC) immediately downstream of the RWCF discharge results in the settling and loss of algal biomass, a phenomenon completely unrelated to nutrients.
- The density of potentially harmful algal species (i.e., those known to contribute to taste and odor issues in water supplies) observed in river samples were generally greater, or did not significantly change, upstream of the RWCF discharge in comparison to downstream of the RWCF discharge.

Given the above, there is no basis to conclude that nitrate plus nitrite loading from the RWCF contributes to increased algae growth in the San Joaquin River, adverse changes to the river's ecology, or causes impacts to municipal drinking water supplies.

Moreover, independent studies have shown that nutrients very rarely, if ever, control algal growth in the Delta as a whole. As discussed in greater detail in Attachment C to the City's comments, nutrients in the Delta are at levels that do not control, or limit, the growth of algae. This means that increasing or decreasing nitrate plus nitrite in the Delta does not correspond to an increase or decrease in algal growth and biomass, as is proffered in the Tentative Order. Rather, the primary limiting factors for growth of algae include the availability of light, grazing (particularly by filter feeders), hydraulic residence time, and water temperature. In fact, nutrient levels in the Delta would have to be an order of magnitude lower than they currently are for nutrients to regularly control algae abundance.

In failing to link the RWCF discharge to increased or excessive algal growth, the Tentative Order more egregiously fails to acknowledge that algae levels in the Delta have historically been, and continue to be, *lower* than in most other temperate river-dominated estuaries. In fact, food limitation due to lack of algae is a concern with regard to the Delta pelagic organism decline (POD).

In the peer reviewed scientific journal *San Francisco Estuary and Watershed Science* (Vol. 3, Issue 1, March 2005) page 1-22, the topic of nutrients and algal biomass in the San Joaquin River was specifically addressed by Dr. Alan Jassby. In his article addressing phytoplankton regulation in the San Joaquin River, Dr. Jassby states:

Most estuaries exhibiting eutrophic conditions are also moderately to highly influenced by anthropogenic nutrient inputs (e.g., wastewater treatment plant effluent and agricultural drainage), which have therefore been identified as the most important management targets on a national basis. It is natural to assume that such a course is also warranted for the San Joaquin River because of intense agriculture and animal husbandry throughout its watershed, resulting in nutrient inputs within and upstream of the estuary. However, many uncertainties surround the regulation of phytoplankton biomass in tidal rivers, and regional differences in nutrient sources and estuarine functioning are significant. Cloern (2001) has emphasized the spectrum of estuarine responses to increased nutrient loading—from resistant to highly sensitive. He showed that a variety of attributes can act as a filter to modify effects of excessive nutrients, including strength of tidal mixing, magnitude of horizontal transport, water clarity, and abundance of benthic suspension-feeders. *The early conceptual model linking nutrient loading inexorably to biomass accumulation, derived largely from experience with lakes, is now understood to be inadequate for understanding estuarine systems, including their tidal river reaches.*

What, then, controls phytoplankton biomass in the tidal San Joaquin River upstream of major diversions and low dissolved oxygen conditions; how will reduction in nutrient loading affect existing phytoplankton levels; and what other opportunities exist to manage phytoplankton in this river reach? Strategies for phytoplankton regulation in this subregion of the estuary must also consider the negative consequences of *low* phytoplankton biomass. The tidal river is one of the few productive habitats for an estuarine food web that otherwise appears to be relatively unproductive and food-limited (Sobczak et al. 2002), and the small centric diatoms that dominate the reach are a highly nutritious base for the food web supporting higher organisms. *The goal, then, should not be to aim for arbitrarily low levels, but rather to explore ways in which phytoplankton biomass can be regulated more finely, if possible.*” (Emphasis added.)

Principles of administrative law require the Regional Board to include in the Tentative Order specific findings that link the evidence in the record with the ultimate decision. (See *Asociacion de gente Unida por el Agua v. Central Valley Regional Water Quality Control Bd.* (2012) 210 Cal.App.4th 1255, 1268 (AGUA).)

For the findings to be adequate, the Regional Board must discuss the evidence used to support a finding. (*Topanga, supra*, 11 Cal.3d at p. 516.) Reference may be adequate where the Regional Board refers to specific documents in the administrative record that explain the Regional Board's rationale. But, "mere conclusory findings without reference to the record are inadequate." (*Environmental Protection Information Center v. Cal. Dept. of Forestry & Fire Protection* (2008) 44 Cal.4th 459, 517 (*EPIC*)). The weight of the evidence must also support the findings. (Code Civ. Proc., § 1094.5; *AGUA, supra*, 210 Cal.App.4th at p. 1268.)

As presented in the discussion above and in greater detail in the accompanying attachments, all available scientific information, including a focused study conducted by the City, supports that the renewal of a more limited nitrate plus nitrite dilution credit and associated mixing zone for the RWCF (relative to that included in the current permit) would *not* result in excessive algal growth, adverse ecological changes, or impacts to municipal drinking water supplies in the Delta. The Tentative Order does not refute or even discuss this information and instead offers conclusory findings as justification for the ultimate decision.

The ultimate decision to deny a mixing zone for nitrate plus nitrite based on the vague and conclusory findings presented in the Tentative Order appears even more arbitrary when considering the Waste Discharge Requirements for Nutrients from Municipal Wastewater Discharger to San Francisco Bay (Nutrient WDRs), recently adopted by the San Francisco Bay Regional Water Quality Control Board (San Francisco Water Board) on April 9, 2014. In that order (No. R-2-2014-0014), the San Francisco Water Board explains the nutrient enrichment in the San Francisco Bay and relevant conditions affecting the nutrient levels, including phytoplankton growth and biomass accumulation; the effect of oceanic oscillations on benthic predators; trends in the clam population and clam grazing; decreases in turbidity; increased light penetration; and mixing of the water column. (Nutrient WDRs, pp. F-7 to F-8.) Notwithstanding the well-characterized nature of the problem and the expenditure of nearly a million dollars to study nutrient impacts on San Francisco Bay since July 2012 (*id.* at p. F-17), the San Francisco Water Board determined that still more information is needed. The San Francisco Water Board found that there is "insufficient evidence to conclude that nutrients cause or contribute to excursions of the narrative water quality objective for biostimulatory substances." (*Id.* at p. F-13; see also San Francisco Water Board, Response to Written Comments on Nutrient WDRs (Apr. 9, 2014), p. 11.) "Several years may be needed to determine an appropriate level of nutrient control and to identify management actions necessary to protect San Francisco Bay beneficial uses." (Nutrient WDRs, p. F-8.)

The City does not contend that the Nutrient WDRs adopted by the San Francisco Water Board are binding on this Regional Board. Further, the San Francisco Water Board's findings apply specifically to waters within its jurisdiction. However, the Nutrient WDRs serve as a valuable comparison to evaluate the adequacy of the findings in the Tentative Order and the very tenuous bridge between these statements and the decision to impose the limits in issue. Findings such as "increased nutrient loads can create excessive algae growth" and "high algae levels can impact water treatment plants" are conclusory, are not supported by the evidence before the Regional Board, and do not support the ultimate decision. This conclusory analysis is an abuse of discretion.

Accordingly, the City requests that the Regional Board grant the requested nitrate plus nitrite dilution credit and associated mixing zone for compliance with the MCL, consistent with the best available scientific information on this matter, and in recognition of the large economic impact to the City that would result from including a more restrictive nitrate plus nitrite permit limitation in the renewed permit than is necessary to provide reasonable protection of beneficial uses.

D. The Costs of Meeting 10 mg/L-N Average Monthly Effluent Limitation Are Excessive

In addition to the legal and regulatory concerns expressed above, the City is also concerned with the practical implications with respect to costs and financing associated with meeting the proposed limit, which would force the City to build denitrification facilities. Such implications are especially of concern in light of the City's other efforts and needs related to facility improvements. These other efforts are summarized here.

On August 9, 2011, the City Council adopted Resolution 11-0221, which approved and adopted the \$150 million dollar Regional Wastewater Control Facility Capital Improvement and Energy Management Plan (CIEMP). The CIEMP lists 46 near-term projects at the RWCF required to maintain compliance with the National Pollutant Discharge Elimination System (NPDES) permit, extend the useful life of existing facilities, improve working conditions, and recommends a number of energy projects. On July 10, 2012, the City Council passed Motion 2012-07-10-1503, which authorized the issuance of Professional Services Request for Proposals to complete the engineering design and environmental analysis of the RWCF CIEMP, and authorized the City Manager to apply to the State Board's Clean Water State Revolving Fund Program to aid in the financing of the RWCF CIEMP.

The City Council authorized the Professional Services Contract on March 5, 2013 (Motion 2013-03-05-1203) to prepare and provide a California Environmental Quality Act (CEQA) Environmental Impact Report, and CEQA Plus document. The CEQA documents will provide the necessary environmental coverage to allow the start of construction for the projects identified in the CIEMP.

Among the many projects, the CIEMP identified numerous necessary improvements for the Headworks. The start of construction for the estimated \$25 million dollar Headworks Rehabilitation Project is anticipated in early 2015.

On January 23, 2014, the Municipal Utilities Department solicited proposals for the preparation of pilot and technical studies, preparation of design documents, and delivery of engineering services during construction for the Tertiary Facility projects identified in the CIEMP. The City Council authorized the preparation of pilot studies for the RWCF Tertiary facilities as specified in the CIEMP and to meet regulatory requirements; and to prepare pre-design documents in anticipation of the next step of this project on April 15, 2014. At the conclusion of the pre-design, City staff will evaluate the options for project delivery, which could include design/bid/build or design/build to meet the time schedule order delivery schedule and take that recommendation back to the City Council in late summer 2014.

City Council approved a motion authorizing the City Manager to execute a Professional Services Agreement with a programmer on April 1, 2014. The volume of projects and complexity in programming and integrating new equipment with the existing SCADA system requires a master plan and system integrator. The purpose of the SCADA Master Plan and System Integrator is to:

- (a) Identify deficiencies and outdated equipment;
- (b) Provide a roadmap for future expansions of the SCADA system;
- (c) Develop protocols and requirements for new SCADA equipment that each design project will follow;
- (d) Ensure that new SCADA equipment installed is compatible with existing equipment; and
- (e) Ensure that CIEMP projects communicate seamlessly with the existing SCADA system.

The SCADA Integrator will work with each consultant team designing a CIEMP project. Specifically, the SCADA Integrator and Design Consultant will work in collaboration to create programs that support the intention of the engineering design, incorporate fail safe status, establish alarms and automatic controls, and establish protocols to meet applicable NPDES permit and equipment requirements. On August 27, 2013, the City Council passed Motion 2013-08-27-1203, which approved findings to authorize the issuance of a Professional Services Request for Proposals (RFP) to complete the project, in accordance to Council Policy 300-1. The SCADA system enhances the City's ability to operate the wastewater treatment plant efficiently, assists in identifying any problems with equipment instantaneously, and aids in minimizing NPDES permit violations.

The CIEMP projects that are underway account for just about 35 percent of the \$150 million plan. The projects are replacing equipment and systems that are nearing the end of their useful life. In some cases, City staff are concerned that equipment failure could occur and thus projects associated with such concerns are being fast-tracked. Considering these planned upgrades and needs already identified in the CIEMP, the possibility of further enhancing the plant for nitrate removal at a cost, at net present worth, ranging from \$195 million to \$252 million creates practical and financial challenges that could derail the infrastructure improvements in the CIEMP.

Accordingly, the City finds that disruption of the CIEMP for denitrification upgrades that provide no demonstrable benefit to the environment to be inappropriate.

E. The City's Proposed Nitrate plus Nitrite Limitation Is Appropriate and Protective

Modeling (DSM2) of nitrate concentrations under a scenario granting the requested dilution credit and mixing zone (i.e., existing RWCF performance-based concentrations) and a scenario where RWCF effluent concentrations are held to the proposed 10 mg/L-N AMEL was conducted to show the relative difference in Delta nitrate plus nitrite levels with and without a dilution credit. As detailed in Attachment C, restricting the nitrate plus nitrite AMEL to

10 mg/L-N, when compared to the City's requested AMELs, would result in a reduction on the order of 0.35 mg/L-N in long-term average nitrate plus nitrite contributions to the DWSC near Rough and Ready Island, and substantially lesser reductions at other Delta locations, typically about 0.1 mg/L-N or less, which consequently is below typical analytical reporting limits. In the areas that would show the greatest reduction (i.e., in the mixing zone), as indicated previously, algae levels are already low due to other factors (i.e., hydrodynamics and grazing). As described previously and in other materials, because nitrate plus nitrite levels are not controlling algal biomass in the San Joaquin River or Delta, maintaining current nitrate levels in the effluent would not result in excessive algal growth, adverse ecological changes, or impacts to municipal drinking water supplies in the Delta. Imposing a 10 mg/L-N AMEL, however, would result in great, yet unnecessary, economic costs. (See Attachment E to the City's comments.) There is simply no justification to impose such costs on the City when no evidence exists to demonstrate a corresponding benefit to water quality and beneficial uses.

II. OTHER KEY ISSUES AND CONCERNS

A. Limitations and Discharge Requirements

Final ammonia effluent limitations (Tentative Order, p. 4, Table 4). The maximum daily ammonia mass limitation for November is in error. Based on permitted effluent concentration and flow, it should be over 4,600 pounds per day.

Interim Nitrate Plus Nitrite Effluent Limitation (Tentative Order, p. 5, Table 5). Table 5 presents the limit as an interim maximum daily effluent limitation (MDEL), but the corresponding discussion in the Fact Sheet (p. F-79) presents the limit as an interim AMEL. The City does not agree that the proposed final limit is appropriate, and thus an interim limit is unnecessary. However, if the Regional Board does adopt a final limit with which the RWCF cannot comply, it appears that the interim limit should be made to be consistent with the basis of calculation stated on page F-79. Further, the date for application of the interim effluent limit is incorrect in that it would end on 30 December 2023, which is six months prior to the date specified in the compliance schedule. The date needs to be changed to 1 June 2024.

Interim Total Mercury Effluent Limitation (Tentative Order, p. 5, § IV.A.2.a). The City is concerned with the approach to the calculation of the total mercury mass limitation, specifically the flow and effluent quality data used to derive the performance-based limitation.

The City is concerned that historical discharge rates, rather than the permitted discharge rate, were used in the calculation of the mass limitation. The current discharge rate is approximately 26 million gallons per day (mgd), less than one-half the permitted discharge rate of 55 mgd. A performance-based mass limitation derived using anything less than the permitted flow will put the City in jeopardy of non-compliance in the future. To maintain compliance with the annual mass limitation calculated using historical flows requires an associated decrease in mercury effluent concentrations in the future as the discharge rate increases. The City is participating in the required components of the mercury Total Maximum Daily Load (TMDL) implementation program; however, the City cannot be assured that future actions to control mercury will result in a 50 percent reduction in effluent concentrations, nor has it been

determined this is necessary for achievement of Delta methylmercury objectives, as studies remain ongoing. The City requests the use of permitted flow in the derivation of the interim mercury mass limitation.

Further, basing the interim total mercury limitation on the most recent (i.e., January 2009–December 2012) effluent mercury data unfairly penalizes the City for recently completed treatment plant upgrades. As discussed in the Methylmercury Basin Plan Amendment Staff Report, the purpose of the Phase I interim mercury mass limitations is to minimize increases in ambient Delta methylmercury concentrations during the interim period when Phase I control studies are taking place. (Regional Board, Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin Delta Estuary; Staff Report (April 2010), p. 121.) As discussed in the companion Methylmercury TMDL Staff Report, upgrades completed at the RWCF in 2006 corresponded with an 83 percent decrease in average total mercury concentrations and 91 percent decrease in average methylmercury concentrations. (See Regional Board, Sacramento-San Joaquin Delta TMDL for Methylmercury; Staff Report (April 2010) (TMDL Staff Report), p. 100.) Despite this improvement in post-upgrade effluent quality, the RWCF's methylmercury wasteload allocation was derived based on effluent quality prior to these upgrades (i.e., August 2004–July 2005). This decision to base the methylmercury wasteload allocation on data representative of effluent quality prior to these 2006 upgrades was made in large part so as to “ensure that the dischargers are not unfairly penalized for making early improvements to their discharges.” (TMDL Staff Report, p. 182.) The City's 2006 upgrades were an “early improvement” for which the City was not to be penalized, and the City requests that the interim total mercury mass limitation be derived based on pre-upgrade effluent quality (prior to July 2005). Otherwise, as currently calculated in the Tentative Order, the interim total mercury effluent limitation is overly restrictive and incongruent with the method used in deriving the RWCF's formal methylmercury wasteload allocation.

Pretreatment Requirements (Tentative Order, p. 17). Item “i” of the pretreatment requirements specifies a timetable of six months to implement new federally required pretreatment actions, if a timetable is not otherwise specified in 40 Code of Federal Regulations Part 403 or subsequent revisions. Depending on the code updates, this may not be possible, for example, if a study must be performed or if a sewer use ordinance must be updated in order to comply with the code update. This is new language relative to the current National Pollutant Discharge Elimination System (NPDES) permit and puts the City at risk of non-compliance for unforeseen actions beyond its control. However, the City appreciates the incorporation of the timetable, as it protects against the potential for immediate compliance if no timetable is associated with the revision. Therefore, the City requests the timetable be changed from six months to one year, as this would reasonably allow for time to implement any new actions.

Nitrate Plus Nitrite Compliance Schedule (Tentative Order, p. 21). The City has identified several issues with the nitrate plus nitrite Compliance Schedule. These issues include:

- The “Complete Financing Plan” deadline comes too soon in the overall schedule of activities. This activity necessarily should come after the preferred treatment option is selected and preliminary design is complete. This is necessary in order for preferred

project costs to be developed. Once an estimate of those project costs is made, the City would be able to begin its evaluation of possible needed financing options. Further, the City does not believe that a separate Rate Analysis Report is necessary and requests that such milestone be removed.

- The “Approval of Project by City Board” compliance schedule deadline inappropriately encumbers the Stockton City Council with approving certain items. Giving the City Council a deadline to act puts the Regional Board in a position of micromanaging the City’s governing body. The Regional Board should leave the necessary steps for City Council approval of projects to the City’s discretion.

The following modifications to the nitrate plus nitrite compliance schedule should be made to address the noted issues.

| | <u>Task</u> | <u>Date Due</u> |
|---------------|---|---|
| i. | Submit Method of Compliance Workplan. Submit workplan that ensures compliance with final effluent limitations for nitrate plus nitrite by the final compliance date. | 31 December 2014 |
| ii. | Submit and Implement Pollution Prevention Plan (PPP) for Nitrate Plus Nitrite in accordance with Water Code section 13263.3(d)(3). The PPP shall be prepared and implemented in accordance with Attachment F, Section VI.B.3. | 31 December 2014 |
| iii. | Progress Reports. The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final compliance date. | 30 June , annually, beginning June 2015 until final compliance |
| iv. | Rate Analysis Report. Submit a report with the annual progress report that includes the following: 1) Identification of the funding alternatives and sources, such as revenue bonds, State Revolving Fund loan, etc.; and 2) An evaluation of the source of rate revenue necessary to fund the selected compliance project(s). | 30 June 2015 |
| v. | Complete Financing Plan. Submit with the annual progress report a financing plan for the selected compliance project(s) and a schedule for obtaining funding. | 30 June 2016 |
| vi-iv. | Complete Treatment Technology Evaluation and Pilot Testing. Submit with the annual progress report confirmation of compliance with this task. | 30 June 2016 |
| vii-v. | Select Preferred Treatment Option and Complete Preliminary Design. Submit with the annual progress report confirmation of compliance with this task. | 30 June 2017 |
| vi. | Rate Analysis Report. Submit a report with the annual progress report that includes the following: (1) identification of the funding alternatives and sources, such as revenue bonds, State Revolving Fund | 30 June 2019 |

| | | |
|----------------------|--|--------------------------------|
| | loan, etc.; and (2) an evaluation of the source of rate revenue necessary to fund the selected compliance project(s). | |
| vii.vi. | Complete Financing Plan. Submit with the annual progress report a financing plan for the selected compliance project(s) and a schedule for obtaining funding. | <u>30 June 2019</u> |
| viii.vii. | Complete CEQA Documentation for Implementation of the Preferred Treatment Option. File CEQA Submit environmental documents to the State Clearinghouse and submit notice of determination. | 31 December 2019 |
| ix.viii. | Award Construction Bid. Submit a letter confirming and describing detailed information on awarded construction bid process (e.g. date awarded, company, etc.). | 31 December 2020 |
| x.ix. | Obtain Funding. Submit with the annual progress report confirmation of compliance with this task. | 30 June 2021 |
| xi. | Approval of Project by City Board. Submit with the annual progress report confirmation of compliance with this task that includes a summary of the outcome of the City Board meeting (e.g., resolution on compliance alternative). | 30 June 2021 |
| xii.x. | Complete Construction of Preferred Treatment Option. Submit construction approval documentation. | 31 December 2023 |
| xiii.xi. | Final Compliance. Submit report demonstrating compliance with the final effluent limits for nitrate plus nitrite. | 1 June 2024 |

B. Attachment E – Monitoring and Reporting Program (MRP)

Pond(s) Monitoring Requirements (Tentative Order, p. E-11, Table E-9). The list of constituents to be monitored includes constituents unrelated to the treatment pond odor control requirements of Provision VI.C.4.c, Treatment Pond Operating Requirements. As noted in section VII.E.3 of the Fact Sheet, the rationale for inclusion of Pond Monitoring is to ensure the proper operation of the ponds for the control of odors. In general, the City contends that there is no basis for any pond monitoring as the plant has received no odor complaints in the past five years. Further, such requirements are not driven by discharge standards. Accordingly, the burden, including costs, of such monitoring requirements do not bear a reasonable relationship to the need or the benefits to be obtained. Nor has the Regional Board justified such monitoring with the terms of Water Code section 13267. More specifically, electrical conductivity, ammonia, nitrate, nitrite, Kjeldahl nitrogen, boron, chloride, iron, manganese, and sodium are not parameters causing or contributing to odors. These parameters are holdover parameters from the previous permit (Order No. R5-2008-0154) related to the requirement to characterize background groundwater quality. As discussed in the Fact Sheet of Order No. R5-2008-0154, the reason for this pond monitoring was to assess the impacts of percolate on groundwater, a task that was completed as part of the previously submitted *Background Groundwater Quality Characterization Technical Report*. As indicated on page 21 of the Tentative Order, this Technical Report was completed and submitted to the Regional Board on March 22, 2013, and

served as the basis for determining continued groundwater monitoring requirements as presented in the MRP.

Continued pond monitoring for these groundwater quality characterization constituents is not necessary in order for the City to effectively conduct the Tentative Order required BPTC Technical Evaluation. (See Tentative Order, p. 21.) As such, all Table E-9 pond monitoring requirements related to the following constituents should be eliminated from Table E-9: electrical conductivity, total dissolved solids, ammonia, nitrate, nitrite, Kjeldahl nitrogen, boron, chloride, iron, manganese, and sodium. They are not justified or consistent with Water Code section 13267.

To the extent that monitoring for such constituents is not removed, at the very least the constituents listed in Table E-9 should match the list of constituents to be monitored in actual groundwater samples, which are those listed in Table E-6. This would equate to monitoring for freeboard, pH, DO, electrical conductivity, total dissolved solids, nitrate, nitrite, and Kjeldahl nitrogen at a frequency of two times per year.

C. Attachment F – Fact Sheet

Rationale for Interim Nitrate plus Nitrite Effluent Limitation (Tentative Order, p. F-79, § IV.E.3 and Table F-17). The discussion explaining the rationale for the calculated interim nitrate plus nitrite effluent limitation contains several factual errors and inconsistencies not noted in the City's overall discussion of concerns regarding this proposed limitation. These include:

- As previously noted, the discussion describes the calculated interim limit to be a performance-based AMEL, while the interim limit in Table 5 of the Effluent Limitations and Discharge Specifications section of the Permit describes the calculated interim limit as a MDEL. If an interim limit is necessary, this inconsistency should be corrected.
- The various statistics presented in Table F-17 have been input incorrectly. Based on the data used in the reasonable potential analysis, the MEC for nitrate plus nitrite is 28.02, not 23.2. Correspondingly, the standard deviation is 4.88, not 3.88, and the CV is 0.27, not 0.28. Under the cited U.S. TSD procedure set forth in the TSD, the multiplier for a dataset with these parameters would be 1.08, as correctly presented in the table, and the interim nitrate plus nitrite limit would be 31 mg/L-N.
- To arrive at the necessary multiplier, TSD Table 3-1 cannot be used because the actual dataset includes more values than the dataset used to develop the table. Instead, the equations of TSD section 3.3.2 were used. The following are suggested corrections in the discussion if interim limits are necessary in light of a final limit with which the RWCF cannot comply:

3. **Interim Limits for Nitrate plus Nitrite, as N.** The interim effluent limitation for nitrate plus nitrite consists of a statistically-calculated performance-based AMEL derived using sample data provided by the Discharger. The interim effluent limitation was developed using the

statistical approach provided in the TSD. The TSD provides guidance on estimating the projected maximum effluent concentration using a lognormal distribution of the observed effluent concentrations at a desired confidence level, as detailed in Section 3.3.2 of the TSD. The equations of Section 3.3.2 multipliers in Table 3-1 of the TSD were used to calculate the 99th percent confidence level and 99th percentile of the dataset based on the number of effluent samples and the coefficient of variation. The calculated multipliers from the table were was multiplied by the highest observed effluent concentration to estimate the maximum expected effluent concentration; this value was used as the interim AMEL.

Final Paragraph Regarding Collection System (Tentative Order, p. F-88). The final paragraph discussing the City's collection system is not consistent with Provision VI.C.5.c. The final paragraph should be deleted in its entirety and the addition explaining that, "The Discharger has applied and has been approved for coverage under Order 2009-0003-DWQ" should be added, as shown below.

ii. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on May 2, 2006. The Monitoring and Reporting Requirements for the General Order were amended by Water Quality Order WQ 2008-0002-EXEC on February 20, 2008. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions. The Discharger has applied for and has been approved for coverage under Order 2006-0003-DWQ for operation of its wastewater collection system.

~~Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, section VI.C.5. For instance, the 24 hour reporting requirements in this Order are not included in the General Order. The Discharger must comply with both the General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the General Order by December 1, 2006.~~

Pond Monitoring (Tentative Order, p. F-94). As indicated above, the pond monitoring needs to be substantially revised. In conjunction with such changes, the discussion in the Fact Sheet regarding pond monitoring also needs to be revised. Moreover, as previously discussed regarding the need for, and type of pond monitoring, measurement of electrical conductivity is not necessary in order to ensure the proper operation of the ponds for the control of odors. Lastly, monitoring of odors is not included in the MRP. This section should be corrected as shown below:

3. Pond Monitoring

Treatment pond monitoring is required to ensure proper operation of the storage pond. Weekly monitoring for freeboard, pH, ~~electrical conductivity~~, and dissolved oxygen ~~and daily monitoring for odors~~ has been retained from Order R5-2008-0154.

D. Time Schedule Order (TSO)

The City has been working diligently to comply with the terms and conditions of Time Schedule Order R5-2013-0101. Through those efforts, the City has determined that several of the internal due dates within the TSO need to be revised to ensure compliance with such milestones. Specifically, the City requests that the following due dates be revised:

Item v. **Design and construct infrastructure and programming improvements identified by evaluations, studies and modeling.** Change 1 April 2016 to 10 October 2016.

Item vi. **Start-up and testing of upgrades consistent with compliance with DBCM and BDCM standard.** Change 28 February 2017 to 28 August 2017.