



# California Regional Water Quality Control Board Central Valley Region

Karl E. Longley, ScD, P.E., Chair

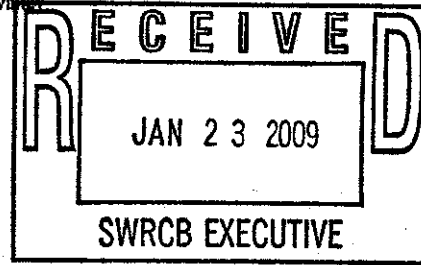
2/3/09 Bd Mtg Item 11  
City of Lodi - A-1886  
Deadline: 1/23/09 by 12 noon



Arnold Schwarzenegger  
Governor

Linda S. Adams  
Secretary for  
Environmental  
Protection

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114  
Phone (916) 464-3291 • FAX (916) 464-4645  
<http://www.waterboards.ca.gov/centralvalley>



23 January 2009

Ms. Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24<sup>th</sup> Floor 95814  
Sacramento, CA 95812-0100

## COMMENTS FOR PETITION OF WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2007-0113 FOR THE CITY OF LODI WHITE SLOUGH WASTEWATER TREATMENT PLANT, SWRCB/OCC FILE NO. A-1886 - 3 FEBRUARY 2009 STATE WATER RESOURCES CONTROL BOARD MEETING

Thank you for the opportunity to comment on the 23 December 2008 draft State Water Board Water Quality Order (Draft Order) referenced above.

The Central Valley Regional Water Quality Control Board (Regional Water Board) has serious concerns with the Draft Order, and particularly with the application of Title 27 to a wastewater reclamation site. The requirement that wastewater reclamation projects must demonstrate full compliance with groundwater water quality objectives before a Title 27 exemption can be granted would hamper reclamation and reuse of wastewater statewide, at a time when the Water Boards and others are working to maximize reclamation and reuse of waste streams. Despite this, the Draft Order does not address the Title 27 exemption for reclamation and reuse. We request that the State Water Board return the Draft Order to staff to rewrite the discussion of the Title 27 exemptions, as discussed in the following comments. We also provide suggested language for a number of sections of the Draft Order to provide additional clarity. For ease of reference, suggested language changes are shown in italics.

An overarching issue in the Draft Order is the difference between a waste that is exempt from regulation under Title 27 and can be regulated by Non-15<sup>1</sup> waste discharge requirements, and a waste that must be regulated under Title 27. The Central Valley Region has approximately 1100 Non-15 dischargers, so defining how to regulate these facilities is important to us.

The Draft Order finds a number of deficiencies in the characterization of the various waste streams and the groundwater at the City of Lodi White Slough Wastewater Treatment Plant (Lodi WWTP). These deficiencies were also identified by the Regional Water Board, and monitoring and studies are required in Lodi's permit, Order No. R5-2007-0113 (Permit) to provide adequate characterization for future permitting decisions. There is no significant disagreement on the technical evaluation of the Lodi WWTP groundwater conditions and data needs.

<sup>1</sup> The term "Non-15 WDRs" refers to WDRs that are not subject to Cal. Code of Regs., title 23, division 3, chapter 15 or title 27, division 2.

In summary, we suggest the following revisions:

- Revise the discussion of Title 27 to state that Section 20090, subdivision (h) of Title 27 applies to the beneficial reuse of the facility's waste streams, which must be required to comply with water quality objectives but regulated as a Non-15 discharge.
- Revise the discussion of Title 27 to state that Section 20090, subdivision (a) of Title 27 applies to the facility's treatment and storage ponds and are required to comply with water quality objectives but are to be regulated as a Non-15 discharge.
- Remove the implication that, unlike Title 27 discharges, Non-15 discharges must meet water quality objectives in first-encountered groundwater under the disposal areas.
- Modify statements that groundwater quality objectives established for electrical conductivity are 700  $\mu\text{mhos/cm}$  (agricultural supply) or 900 (municipal and domestic supply), without a site-specific evaluation.
- Delete Conclusions 3 and 8 regarding the preconditions for an exemption under Title 27.
- Clarify the findings regarding discharges of non-nutritive wastes (salts).
- Remove the implication that tertiary treatment is necessary for land discharges and reclamation of wastewater.
- Clarify that monitoring for constituents with maximum contaminant levels or criteria under the California Toxics Rule or National Toxics Rule is required only for constituents expected to be part of the waste stream.
- Designate this Order as non-precedential.

**Determination of Background Groundwater Quality.** Before providing specific comments on the Draft Order, we will discuss one of the most significant difficulties in determining whether a discharge to land should be regulated under Title 27 or Non-15, the quality of the background groundwater. There are many sites where determination of background is difficult. Soil geology can produce complex groundwater flow patterns, so the traditional "upgradient/downgradient" evaluation does not work well as groundwaters of different qualities intermingle beneath a large site. There can be seasonal changes in quality, elevation, and flow direction of the groundwater. At Lodi's site, there really is no "upgradient" in the normal sense with which to establish a background water quality. Deep groundwaters predominantly move to the east from Delta waters towards the pumping depression near Lodi. Shallow groundwaters predominantly move away from disposal areas, presumably due to mounding of percolated wastewater. At many sites, decades of agricultural, industrial, or other human activity have changed groundwater quality, often with the same constituents in the discharge being evaluated. Sometimes the best sites for wells are not accessible due to freeways, rivers, property boundaries, etc.

The Draft Order correctly states that the burden of proof of determining "background" water quality conditions is on the discharger. However, this determination can be a difficult, lengthy and expensive task. Additional study of the background groundwater quality at the Lodi WWTP is necessary, and that work is required by the adopted NPDES Permit. It must be recognized, however, that it may be technically or economically impossible to fully characterize background for some sites, and that judgment will be needed to determine when available information is adequate to conclude that a discharge is meeting groundwater quality objectives. If the background must be fully characterized before a Title 27 exemption can be

granted, many Non-15 facilities will have to be regulated under Title 27. This will impact both industrial and municipal Non-15 facilities throughout the State.

**Point of Application of Groundwater Quality Objectives.** Defining the location where groundwater quality objectives apply is a key part of determining whether or not groundwater quality objectives are being met.

When wastewater percolates through the soil, the uppermost layer of groundwater will consist mostly of the percolated wastewater. If the wastewater exceeds water quality objectives for salt or other constituents that move relatively unchanged through the soil column, then the uppermost layer of groundwater will probably exceed water quality objectives. If we focus on the water quality of the uppermost groundwater layer directly beneath the land storage or application area, then unnecessarily stringent effluent limitations will be needed. This is certainly protective of the quality of the uppermost groundwater underlying the facility, but it may not be reasonable or necessary to protect beneficial uses.

The California Water Code requires the protection of beneficial uses of ground and surface waters. It is recognized under the Water Code, Anti-Degradation Policy, and other regulations and policies that prevention of any and all degradation of groundwater quality is not always feasible. The very uppermost groundwater layer beneath a waste treatment, storage or disposal area is normally not put to beneficial use. The groundwater will need to move horizontally to a location where a well extracts the groundwater for use. As the groundwater moves horizontally, there will be some dispersion and diffusion of waste constituents into the surrounding groundwater, diluting the concentration of the waste constituents. When the groundwater is pumped for use, the extraction well will have a screened interval that integrates groundwater from various depths, effectively diluting the uppermost groundwater with deeper groundwater.

We are not advocating the release of pollutants to groundwaters at levels that exceed assimilative capacity within a reasonable area. We are not advocating protection of groundwater quality only at the current points of use of that groundwater. But we are questioning whether it is reasonable to focus on groundwater that is predominantly percolated wastewater as the compliance point for water quality objectives, with the resultant overly stringent effluent limitations for the wastewater, or necessity of construction of Title 27 containment facilities for many of these waste streams. Even under Title 27, the Point of Compliance with groundwater Water Standards for a Waste Management Unit is not beneath the storage/disposal area, but is "at the hydraulically downgradient limit of the [Waste Management] Unit". (Cal. Code of Regs. Tit. 27, § 20405(a).)

For Lodi, it is not reasonable to look within mounded wastewater to evaluate groundwater impacts. (See, Draft Order, pp. 13-14.) We should step back some distance for that evaluation, recognizing that municipal, domestic or agricultural use of the mounded wastewater is unlikely and Lodi's groundwater evaluation may demonstrate the availability of assimilative capacity within a reasonable distance from the mound.

**Exemption for Agricultural Land Application.** The Draft Order concludes the only potentially applicable Title 27 exemptions are section 20090, subdivisions (a), (b) and (f). However, the land discharges at the facility fall into two distinct categories: discharges to the storage ponds, and land application to the agricultural fields. The agricultural land application

falls within the exemption for recycling or other beneficial reuse under subdivision (h). (Cal. Code of Regs., tit. 27, § 20090, subd. (h); see also, tit. 23, § 2511, subd. (h).) Subdivision (h) states,

(h) Reuse—Recycling or other use of materials salvaged from waste, or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of this division.<sup>2</sup>

The Statement of Reasons for Chapter 15<sup>3</sup> explains,

Comment: These prescriptive standards will eliminate beneficial reuse of wastes. [56b, 219a]

Response: The regulations should not interfere with beneficial reuse of waste. Subsection 2511(h) contains an exemption for recycling. The regulations simply lay out ground rules that must be followed for disposal, or treatment, or storage of wastes which could affect the quality of waters of the State. To the extent that dischargers of such wastes must bear the potential cost of long-term monitoring and potential leakage cleanup, such dischargers may be encouraged to find means to recycle those wastes rather than dispose of them. To that extent, the increased cost of disposal will encourage beneficial reuse.

(SOR, II.B.3, p. 12.)<sup>4</sup>

“Recycled water’ means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.” (Ca. Wat. Code § 13050, subd. (n).) In addition to recycled water, subdivision (h) exempts other beneficial reuse of “materials ... produced by waste treatment.” Since the agricultural land application is a beneficial reuse, we request the Draft Order be revised to add a conclusion that subdivision (h) exempts the reuse of wastewater at the land application area, and that the Regional Water Board must regulate such reuse through Non-15 waste discharge requirements that protect the underlying groundwater.

Lodi’s land application of wastewater to agricultural fields is a reclamation/recycling operation. Lodi’s NPDES permit would allow this volume of wastewater, with appropriate treatment, to be

<sup>2</sup> The proviso applies only to discharges from the recycling or treatment processes; discharges of residual waste that result from the reuse are regulated under Non-15 or recycling requirements.

<sup>3</sup> The State Water Board initially promulgated land discharge regulations in 1984 as chapter 15 of division 3 of Title 23 of the California Code of Regulations (at that time, the California Administrative Code). A 1997 revision moved the regulations for non-hazardous wastes to Title 27 with only editorial changes to the exemptions. (1997 SOR, p. 4, discussing section 20090.) Since this is the only revision of the regulation by the State Water Board, and the revision had no regulatory effect, the SOR from the initial adoption in 1984 still clarifies the intent of this provision.

<sup>4</sup> The Regional Water Board requests the State Water Board to take official notice of the Statements of Reasons for Chapter 15 and Title 27. (Cal. Code of Regs., tit. 23, § 648.2.) Copies of the relevant provisions are attached for convenience.

discharged to the Delta. We request the Draft Order be modified to avoid encouraging additional surface water discharges.

**Sewage/Treatment Plant Exemptions.** As discussed in the Permit Fact Sheet at F.1 (page F-56), the exemption in Title 27, Section 20090(a) is applicable to Lodi's land discharges. We acknowledge that the wording of this exemption is not completely clear and is subject to interpretation. The exemptions states:

(a) Sewage – Discharges of domestic sewage or treated effluent which are regulated by [waste discharge requirements]..., and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with [Title 27].

Wastewater received by a municipal wastewater treatment plant is predominantly human waste, but Lodi, like most other municipal wastewater treatment plants, also receives industrial and commercial wastewater. Thus, the first part of section 20090(a) refers to "domestic sewage or treated effluent." In Lodi's case, some of the industrial and commercial wastewater is received through pipelines that also carry human wastes, and some of the industrial and commercial wastewater is received directly at the WWTP through dedicated pipelines that do not commingle with human wastes. A municipal wastewater treatment plant is the entirety of the facility,<sup>5</sup> so all the wastewater discharged to the ponds can be regulated under this exemption. All wastewater is treated at an appropriate level of treatment for that waste. Wastes discharged in the dedicated industrial line are subject to pretreatment requirements prescribed by the City.

In addition, the section 20090(a) exemption has two parts. It exempts "discharges of domestic sewage or treated effluent" that are regulated by WDRs or a waiver, and that are consistent with applicable water quality objectives. It separately exempts treatment or storage facilities associated with municipal wastewater treatment plants. This second part of the exemption is not subject to the requirement that the discharge meet water quality objectives. From a water quality standpoint, this distinction has little meaning because *all* discharges regulated under Water Code section 13263 must meet water quality objectives, whether they are regulated under the Non-15 program or Title 27. The Draft Order does not distinguish the two types of exemption, and reads the phrase, "*and treatment or storage facilities associated with municipal wastewater treatment plants*" out of the regulation.

In the 1984 Statement of Reasons for the land disposal regulations, State Water Board staff stated:

Unlined ponds associated with wastewater treatment are known to cause water quality problems in areas of porous materials, such as volcanic rock. Concrete, while generally a great improvement over unlined facilities, has a finite porosity and a tendency to crack, and so cannot always be assumed to provide containment. The majority of treatment and storage facilities associated with *municipal* (emphasis added) wastewater

---

<sup>5</sup> See, e.g., 40 CFR § 403.3(q).

treatment facilities are, however, well-designed and maintained to prevent unauthorized discharge. Therefore, staff has revised the proposed regulations (Section 2511(a)) to exempt treatment or storage facilities associated with municipal wastewater treatment. The other activities, such as burial of grease and grit from headworks are not exempted from the requirements of this subchapter.

(1984 SOR, pages 1.39 – 1.40.) Based on information contained in the SOR, State Water Board staff recognized that storage and treatment structures at some municipal wastewater treatment facilities were known to cause water quality problems. State Water Board staff also recognized that concrete containment structures, which are used for both treated and untreated sewage at wastewater treatment facilities, would not always provide containment of sewage. Even with this knowledge, the regulations specifically exempt municipal, but not non-municipal, wastewater treatment facilities from Title 27 requirements.

Furthermore, the basis for Title 27, California Water Code (CWC) section 13172, states, "To ensure adequate protection of water quality and statewide uniformity in the siting, operation, and closure of waste disposal sites, *except for sewage treatment plants* (emphasis added)..." This section lists the waste and facility classifications for land disposal (i.e., Title 27) facilities. In its SOR for the sewage exemption, the State Water Board stated simply, "Sewage treatment plants are exempt from section 13172 of the CWC." (SOR, Page 1.6)

Moreover, Lodi's treatment and temporary storage of biosolids in the storage ponds or the lined biosolids stabilization lagoon are not subject to the limitation for "residual sludges or solid waste from wastewater treatment facilities" in 20090(a). This limitation requires Title 27 containment for the ultimate disposal of sludge or biosolids produced during the treatment process; it does not apply to the treatment process itself. This is consistent with 40 C.F.R. Part 503, which regulates "final use or disposal of sewage sludge generated during the treatment of domestic sewage in a treatment works." (40 C.F.R. § 503.1; see also, § 503.9(w).)

Thus, the exemption provided in Title 27, Section 20090(a) applies to Lodi's discharges to the ponds.

### **Establishing Compliance with Water Quality Objectives.**

As described above, the ponds and agricultural areas are exempt under the second part of subdivision (a) or under subdivision (h). Therefore, the permit need not include findings, and the record need not include evidence, that the discharges already comply with these requirements. However, Lodi must still determine background, and the Permit must require that the discharge not cause nuisance, degradation or exceedances of groundwater quality objectives. (Wat. Code § 13263, subd. (a).) Even if the State Water Board concludes that the applicable exemption is subdivision (b) of section 20090, or that subdivision (a) only applies to "treatment or storage facilities associated with municipal wastewater treatment plants" if they "are consistent with applicable water quality objectives," then the Permit already meets these requirements, as well as the substance of the Action on Remand required in the Draft Order. (Draft Order, p. 17.)

The Groundwater Limitations of the Order require the discharge to be consistent with the Basin Plan, including water quality objectives. (Groundwater Limitations V.B.) The Land

Discharge Specifications impose additional requirements to protect groundwater quality. (Specifications IV.B.1. through B.5.) Provision VI.C.2 of the Permit *already* includes a time schedule that will ensure the Discharger meets these requirements, as required on page 17 of the Draft Order. As discussed on pages 3-4 of the Draft Order, the Permit Provisions establish a schedule for completion of an Industrial Influent Characterization Study; Background Groundwater Quality and Groundwater Degradation Assessment Study, including a complete background characterization by 1 August 2010; a Best Practicable Treatment or Control (BPTC) Evaluation Workplan by 1 December 2010, if groundwater degradation is occurring or threatening to occur; completion of BPTC facility modifications within four years after approval of the BPTC evaluation, unless the Executive Officer approves a longer schedule; and a Land Discharge Organic Loading Study. Completion of the Background Groundwater Quality and Groundwater Degradation Assessment Study and facility modifications triggers the listed Groundwater Limitations in Section V.B.c of the Permit.

The issue here is simply whether the Title 27 exemption becomes applicable when the permit is issued with requirements that will achieve compliance with water quality objectives, or after Lodi completes the studies and any necessary upgrades, and demonstrates that groundwater quality meets water quality objectives. Applying the exemption from the outset (while still requiring Basin Plan compliance) avoids requiring the discharger to install Title 27 liners as the "default" if the discharger is unable to demonstrate background, isolate the impacts of the pond discharges or for other reasons cannot show compliance with water quality objectives during the required time schedule. Even under Non-15 requirements, pond liners may ultimately be necessary if other treatment or controls are ineffective. The only practical difference is what findings the order must include. Regulating the land discharges under the Non-15 program affords Lodi a greater degree of flexibility in determining how to comply with the Basin Plan, consistent with Water Code section 13360.

**Groundwater Quality Objectives.** As discussed in the Draft Order, the applicable salinity objectives are the greater of naturally occurring background, or the objectives that would otherwise apply. (Draft Order, pp. 9-10.) The Draft Order correctly concludes that information on background water quality "is essential in order to define the applicable water quality objectives." (Draft Order, p. 10.) The Draft Order then makes the contradictory assumption that the objectives for agricultural use and municipal supply are 700  $\mu\text{mhos/cm}$  and 900  $\mu\text{mhos/cm}$ , respectively. The Draft Order concludes that the discharge does not comply with the Basin Plan due to exceedances of these "objectives."

Without information on background, the Regional Water Board cannot determine the applicable objective. In addition, there is insufficient evidence to determine the appropriate salinity objectives without regard to background.<sup>6</sup> The municipal supply limitation of 900  $\mu\text{mhos/cm}$  is based on the lowest recommended secondary taste and odor standard for public water systems. Concentrations below this level "are desirable for a higher degree of consumer acceptance." (Cal. Code of Regs., tit. 22, § 64449, subd. (d)(1) and Table 64449-B.) However, concentrations up to the "Upper" limit of 1600  $\mu\text{mhos/cm}$  "are acceptable if it is neither reasonable nor feasible to provide more suitable waters." (*Id.*, subd. (d)(2).) The short-

<sup>6</sup> The Fact Sheet discussion of surface water salinity objectives uses 700  $\mu\text{mhos/cm}$  and 900  $\mu\text{mhos/cm}$  as screening levels for purposes of deriving effluent limitations. Since the lowest potentially-applicable screening levels were being met on average in the effluent, there was no reason to consider whether these numbers were too stringent.

term limit of 2,200  $\mu\text{mhos/cm}$  is acceptable pending construction of treatment facilities. (*Id.*, subd. (d)(3).) The Basin Plan incorporates all three of these limits in Table 64449-B (and retains the word "ranges" in the table's title), and does not require the Regional Water Board to use the lowest end of the range as the objective in any particular case. Without the additional data that the City will provide in the *Background Groundwater Quality and Groundwater Degradation Assessment Study* [Provision VI. C. 1. d.], the Regional Water Board cannot determine whether 900  $\mu\text{mhos/cm}$ , or some higher concentration within the secondary MCL range, is an appropriate limit for this site.

Similarly, the 700  $\mu\text{mhos/cm}$  agricultural goal is the most stringent possible objective, but is not appropriate in every case. (Order WQ 2004-0010 (City of Woodland), pp. 4-9; *Policy for Application of Water Quality Objectives*, Basin Plan p. IV-16.00.) Although the permit states that salt-sensitive crops are grown in the area, factors such as soil type and precipitation influence the appropriate numeric interpretation of the agricultural supply objective.

Since there is insufficient data to determine the applicable salinity objectives, the conclusion that applicable objectives have been exceeded is unsupported. We therefore suggest the following language changes:

1. p. 7 – last full paragraph: " ...*The monitoring that has been performed to date is inadequate to demonstrate compliance or to determine applicable groundwater quality objectives for salinity. Further, the limited evidence that is in the record indicates that, at a minimum, discharges from the unlined storage ponds at the Facility have released waste constituents to groundwater at concentrations that exceed the applicable nitrate objective.*"
2. p. 13 – second paragraph: "The value was 1,750 micromhos per centimeter ( $\mu\text{mhos/cm}$ ). The City contends that the potentially elevated EC levels ..."
3. p. 14 – first full paragraph: Delete "and EC" from the second-to-last sentence.
4. p. 21 – Delete paragraph 4. Paragraph 3 already concludes that the evidence is inadequate to support the Title 27 exception; the additional language in Finding 4 is not necessary. In the alternative, Finding 4 could be revised to strike "and EC levels" and add the following sentence: "There is inadequate evidence in the record to determine applicable EC objectives, and therefore the City has not demonstrated that such levels are being met."

**Contention 4.a., Disposal of Biosolids.** The last two sentences of this section of the Draft Order should be deleted or better explained:

"An additional concern related to the land application of the biosolids wastewater mixture is that, except for nitrogen compounds and potassium, the majority of the TDS is non-nutritive. Because plants do not have a significant intake of these salts, they tend to move unchanged down to groundwater."

(Draft Order, p. 16.) This statement is correct and is at the heart of the salinity problem facing the Central Valley. Wastes and reclaimed wastewater contain salts that are not used by plants or bind to soil, so the salts move to surface and ground waters and can impact



beneficial uses. Yet, at the same time, dischargers are encouraged to reuse organic materials as soil amendments and fertilizers to divert those waste streams from landfills, and wastewater reclamation is encouraged to reduce the use of better quality waters for irrigation. Water Code section 13523.5 states: "A regional board may not deny issuance of water reclamation requirements to a project which violates only a salinity standard in the basin plan." This indicates the Legislative intent to encourage reclamation of wastewater even if there are exceedances of salinity water quality objectives. The Regional Water Board is working to reduce salinity impacts to surface and ground waters, and has included requirements in Lodi's Permit to minimize any salinity impacts on the groundwater. The Lodi Permit requires the City to reduce the salinity of its wastewater, which will reduce the concentration of salts applied to land. Effluent Limitations IV.B.1 and 2 limit the hydraulic and nitrogen loading on the agricultural fields. The purpose of these limitations is to limit the application of wastewater to no more than required to grow the crops being irrigated, which also limits the amount of salt applied to the land.

*The intent of the two sentences at the end of the biosolids discussion on page 16 is unclear, and we recommend they be removed.*

**Contention 4.c., Secondary Wastewater.** This discussion combines two issues, possibly leading to confusion about the State Water Board's direction. The first paragraph recites CALSPA's two concerns: that the waste stream has not been properly characterized, and that secondary effluent can be expected to have more contaminants and at higher concentrations than tertiary effluent. We agree with both statements. Not all waste streams have been adequately characterized, which is why the Permit requires expanded monitoring and studies. And we agree that wastewater that has received secondary treatment will generally have higher concentrations of waste constituents than wastewater that has received tertiary treatment.

What is unclear is the first sentence of the next paragraph: "CALSPA's concern has merit." (Draft Order, p. 17.) This reference is unclear. If the "concern" is inadequate wastewater characterization, then the Regional Water Board agrees with this concern. If the "concern" is that secondary wastewater is being applied to the fields, then we disagree. An undisinfected secondary level of treatment is acceptable for irrigation of the crops grown by Lodi, which include fodder, fiber and feed crops not used for human consumption. (Cal. Code of Regs., tit. 22, §§ 60304, subd. (d), 60301.900.) We disagree that tertiary treatment is necessary for land application of this waste absent site-specific evidence that such treatment is necessary to protect the groundwater. Tertiary treatment will not reduce nitrate or salt loading from the discharge, as compared to secondary treatment. We request clarification that the State Water Board is not establishing a tertiary treatment standard to protect the underlying groundwater.

*We suggest this section be retitled "Wastewater Characterization;" that the last sentence of the first paragraph be deleted; and that the first sentence of the second paragraph be revised to read, "CALSPA's concern about wastewater characterization has merit." Also, Conclusion No. 7 should be changed to read, "The secondary waste streams have...." to clarify that it is not an issue of secondary wastewater, per se, but that all waste streams discharged to the pond or irrigation areas should be better characterized. These changes will clarify that the issue is inadequate wastewater characterization, and not the level of treatment that the wastewater has received.*

**Scope of Monitoring.** There are two statements in the Draft Order that imply a need to routinely monitor broad ranges of constituents. The last sentence of the middle paragraph on page 10 states, "there are no data for the great majority of pollutants with maximum contaminant levels identified in the Title 22 regulations." The paragraph at the top of page 11 states, "One sampling event is unlikely to provide sufficient data to assess the potential impacts of discharging priority pollutants on groundwater." Not all waste streams can reasonably be expected to contain the full suite of chemicals with primary MCLs or that are on the priority pollutant list. Professional judgment is exercised in determining the type and frequency of monitoring that is appropriate based on the type and volume of the waste stream, likelihood that the chemicals are present in significant concentrations, beneficial uses that could be impacted, attenuation/dilution that exists, and other factors. CWC Section 13267(b)(1), under which most monitoring occurs, states: "The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports." The Regional Water Board cannot, therefore, require large numbers of broad spectrum scans (at considerable expense to the discharger) without justification. The *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) requires such routine scans for priority pollutants for NPDES dischargers once every five years, but the land disposal discharge at Lodi is not subject to the SIP. Moreover, unlike requirements for land discharges, NPDES monitoring requirements are issued under section 13383, which does not require a cost justification. When the Regional Water Board does require a limited number of scans, as was required of Lodi, the Board understands that this limited amount of data is not sufficient to fully characterize the waste and potential water quality impacts. The results of the scans are used to require additional pollutant-specific monitoring as appropriate, following review of the scan data.

The Draft Order does not contain specific directives for monitoring, so we are not proposing changes to the Draft Order. If the NPDES Permit is remanded, it is not our intent to require expanded monitoring without adequate justification because we do not read the Draft Order to require that.

**Request for Non-precedential Status.** The Lodi site is unique because, among other things, there are significant legacy impacts from longstanding agricultural activities in the area; reliable upgradient groundwater monitoring data are not available, because the Delta is upgradient of the site; and impacts of groundwater withdrawals, Delta influences and the groundwater mound under the facility make background characterization unusually difficult. Due to the fact-specific nature of these issues, we request the State Water Board to designate the order in this matter as non-precedential.

**Response to CALSPA Letter dated 16 January 2009.** CALSPA submitted comments on the Draft Order on 16 January 2009. The last paragraph of the letter references compliance determination language that was not included in Lodi's permit. Consideration of that provision is therefore outside of the record for the Lodi matter and beyond the scope of CALSPA's petition. The Regional Water Board submitted a response to CALSPA's petition of the City of Stockton permit (SWRCB/OCC No. A-1971(a)) on 20 January 2008. The Stockton permit includes the compliance determination language cited in CALSPA's letter, and the petition response addresses this issue. We request the State Water Board to defer consideration of this language until it considers the Stockton petition or another permit that actually includes the language in question.

If you have any questions, please contact Kenneth Landau at (916) 464-4726 or  
klandau@waterboards.ca.gov.



PAMELA C. CREEDON  
Executive Officer

Attachment: Excerpts from Statement of Reason

cc: & Attach Mr. Bill Jennings, California Sportfishing Protection Alliance  
Mr. Mike Jackson, Esq., Law Office of Mike Jackson  
Mr. Andrew Packard, Esq., Law Office of Andrew Packard  
Mr. Doug Eberhardt, Chief, Permits Office, U.S. EPA, Region 9  
Ms. Elizabeth Miller Jennings, Esq., Office of Chief Counsel, State Water Board  
Mr. Wally Sandelin, City of Lodi Department of Public Works

Mining wastes are regulated under a separate article of the subchapter because the characteristics of the wastes and the volume of waste involved. Mining operations are tied to the vicinity of ore deposits and the volumes of waste involved make it impractical to transport wastes to distant waste management units. Furthermore, mining wastes would overwhelm the capacity of such units. Therefore, the special provisions for mining wastes have been used to integrate applicable provisions from the remainder of Subchapter 15 (e.g., the provisions regarding alternatives to prescribed standards, monitoring closure, and compliance procedures).

#### 2511 Exemptions

##### Specific Purpose

This section exempts certain discharges from regulation under Subchapter 15. The regulations in this subchapter are primarily concerned with containment of wastes which cannot be discharged to sewers or to waters of the State. Discharges of other wastes are regulated under requirements which implement basin plan objectives and statewide water quality control policies (e.g., Ocean Plan, etc.). This section specifies situations involving discharges of waste to land for which Subchapter 15 requirements are not appropriate. These exemptions were included at the request of various dischargers who were concerned that their discharges might become entangled in inappropriate requirements despite the unexpressed intent of the State Board staff.

Effluent from treatment facilities is controlled under the National Pollutant Discharge Elimination System (NPDES) permit system, or under waste discharge requirements which implement basin plan water quality objectives. More to the point, sewage and wastewater discharged to treatment facilities or to subsurface

disposal systems (which could arguably be regulated under Subchapter 15) is also exempt. Treatment facilities generally operate as enclosed systems often with concrete-lined ponds, etc. Discharges are limited to effluent and residual sludge. Sewage treatment plants are exempt from Section 13172 of the Water Code. Subsurface disposal systems, like treatment facilities, generally limit discharges to effluent from seepage pits or leachlines and are implementing basin plan objectives. Other enclosed treatment facilities, such as concrete-lined API separators (used at oil production and refining facilities to remove oil from surface runoff), are also exempt from the requirements of subchapter 15.

Discharges of untreated wastewater, such as agricultural return flows, to percolation and evaporation ponds may be subject to Subchapter 15, or not, depending on the comparative water quality of the discharged wastewater and the surface or ground waters which could be affected by the discharge. The nondegradation policy could be interpreted to countenance discharges of wastewater which could affect water quality where regional boards are satisfied that such discharges are in the public interest (e.g., preferable to alternative methods of wastewater management) and consistent with protection of identified beneficial uses. Where no past, present, or future beneficial uses have been identified, nondegradation does not preclude discharges which could result in some degradation.

Underground injection of waste is regulated under a different program and is therefore exempt from the provisions of Subchapter 15. Cleanup activities by, or under the supervision of, public agencies often do not involve waste management units which have been approved for discharges of waste. In the case of a spill or illegal discharge, the site has been selected without regard for its geologic characteristics. In any event, cleanup activities involve extraordinary measures

and should not be constrained by categories, classifications, and requirements intended for implementation through administrative permitting. Nonetheless, the siting criteria, construction standards, monitoring requirements, and provisions for closure and post-closure maintenance, contain relevant guidance for various aspects of emergency response activities. Siting criteria may be used to determine whether on-site containment is feasible; if on-site containment is feasible and cost-effective, then applicable construction standards should be used to develop a closure and post-closure maintenance plan which reflects the performance standards for closure and post-closure maintenance of classified units; and in any event, monitoring should be based on Article 5 of Subchapter 15.

Methane gas recovery at landfills alleviates a potential problem by removing gas which could exert disruptive pressure on covers and create a condition of nuisance if it were released. Condensate from gas recovery may be returned to the landfill from which it came, or to another landfill under appropriate conditions.

Return to the landfill of origin does not constitute a discharge of waste to land independently subject to the regulations in Subchapter 15. Separate discharge requirements are necessary because the methane gas recovery operator may not be the discharger named as responsible for landfill operations in the waste discharge requirements for the landfill. Discharges to another landfill are limited to amounts which comply with the provisions governing discharges of liquid in Subsection 2520(d) of Subchapter 15, and must be under waste discharge requirements. Recycling processes, including use of nonhazardous decomposable waste as a soil amendment, do not constitute a discharge of waste as described in Subsection 2510(a) of Subchapter 15, although recycling operations may result in discharges of residual wastes which are subject to these regulations.

Drilling mud sumps are used for relatively short periods for storage and disposal of mud and cuttings from drilling operations. Well drillers often do not know in advance where wells will be located and, therefore, cannot develop the necessary background data on water quality. Furthermore, the solids in drilling muds are of low permeability and, once residual liquids are removed, will not present a significant threat to water quality, unless hazardous constituents are discovered in the residual wastes. In that case, the solid waste would have to be removed from the sump and discharged as contaminated soil in accordance with applicable provisions of Subchapter 15.

#### Factual Basis

Discharges of sewage and treated effluent do not unreasonably affect the quality of surface or ground water if managed according to waste discharge requirements which implement basin plan objectives or the technology-based effluent limitations promulgated by EPA under Section 301 of the Clean Water Act (33 USC §1311, "Effluent Limitations"). Properly managed discharges can be accommodated by the assimilative capacity of waters of the State without degradation of water quality.

Injection of waste fluids to underground formations which contain water can be adequately regulated under waste discharge requirements which implement basin plan objectives. Injection of wastes to non-water-bearing formations for containment requires consideration of technical factors which were not in development of the new regulations for Subchapter 15. For example, potential for fluid migration as a result of injection pressure.

Unanticipated discharges of waste call for expedient and cost-effective response by responsible agencies. On-site treatment, storage, or containment may be an

development of the new regulations for Subchapter 15. For example, potential for fluid migration as a result of injection pressure.

Unanticipated discharges of waste call for expedient and cost-effective response by responsible agencies. On-site treatment, storage, or containment may be an appropriate strategy in addition to or in lieu of removal even though the site would not qualify for approval as a classified waste management unit. In such a context, regional boards must be able to prescribe appropriate containment and monitoring measures, using the proposed regulations as guidelines rather than mandated standards.

Methane gas removal from waste management units is desirable. Condensate discharges would involve a minimal volume of fluid, but may contain waste constituents in excess of applicable effluent limitations for discharges to waters of the State. Since the condensate is essentially leachate from the landfill, and since <sup>a</sup>certain moisture content is essential for methane gas generation, the State Board authorizes returning condensate to the landfill from which it comes, or to a leachate collection and removal system. If methane collection involves several <sup>a</sup>landfill cells within a single facility, all of which contain similar wastes, the collected condensate will not be significantly different from the condensate from each individual cell. However, the volume of collected condensate could reach a level which would significantly affect the moisture content of the receiving landfill cell. Increased fluid in landfills could conceivably overstress the leachate collection and removal system and cause failure. the volume of condensate from other cells which can be placed in the receiving waste management unit is therefore restricted.



2511 (continued)

Response: The regulations specifically state, under Subsection 2510(a), that "The regulations in this subchapter pertain to water quality aspects of waste discharge to land". Provisions for discharge of wastewater to land, other than pursuant to these regulations, are given in Subsection 2511(b). Beneficial reuse of materials which would otherwise be categorized as waste is discussed in Subsection 2511(f).

Comment: Sewage sludge should be exempted from these regulations.  
[78a,54c,31b]

Response: Sewage sludge may contain high concentrations of lead and cadmium. Acidic conditions, such as in landfills containing leachate, can mobilize these metals, allowing them to move into the leachate and creating a potential for ground water degradation.

Comment: All operations associated with permitted wastewater treatment and discharge facilities should be exempted from Subchapter 15 (e.g., raw sewage ponds and burial or grease and grit from sewage treatment pond headworks.) [12a,4a,204a,33b] Wastewater treatment ponds should not be exempt from assessment for potential to cause ground water contamination even if the pond is used for an NPDES permitted treatment process. The need for regulating treatment impoundments is substantiated by the ground water contamination caused in part by leaking NPDES permitted treatment ponds operated by Stauffer Chemical Company in Richmond. [207a]

Response: Unlined ponds associated with wastewater treatment are known to cause water quality problems in areas of porous materials, such as volcanic rock. Concrete, while generally a great improvement over

2511 (continued)

unlined facilities, has a finite porosity and a tendency to crack, and so cannot always be assumed to provide containment. The majority of treatment and storage facilities associated with municipal wastewater treatment facilities are, however, well-designed and maintained to prevent unauthorized discharge. Therefore, staff has revised the proposed regulations (Section 2511(a)) to exempt treatment or storage facilities associated with municipal wastewater treatment. The other activities, such as burial of grease and grit from headworks are not exempted from the requirements of this subchapter.

**Comment:** Exempting discharges of treated effluent from wastewater treatment facilities is overly broad.[67a]

**Response:** Direct or indirect discharges to waters of the state (e.g., outfalls, percolation ponds, and spray fields) will not be regulated under this subchapter. Such discharges may be authorized under waste discharge requirements which implement applicable basin plans. This provision explicitly requires discharges to be consistent with water quality control plan objectives for receiving waters. Basin plans prohibit discharges of toxic materials which could impair beneficial uses of water (surface or ground).

**Comment:** How will the determination of discharges to injection wells "pursuant to the (federal) UIC program" be determined?[2b,207a]

**Response:** Discharges to injection wells require consideration of factors much different than those for discharge to the surface of the land. Therefore, discharges to injection wells, although not the storage of such liquids prior to injection, are exempt from the provisions