

Central Valley Regional Water Quality Control Board
15/16 March 2007 Board Meeting

Response to Comments for Sterling Caviar LLC
Tentative Waste Discharge Requirements

The following are Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (Orders) for Sterling Caviar LLC. Public comments regarding the proposed Orders were required to be submitted to the Regional Water Board office by 5 February 2007 in order to receive full consideration.

The Regional Water Board office received comments regarding the tentative Order from the California Sportfishing Protection Alliance. The comments are summarized below, followed by staff responses.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

COMMENT No. 1: The Proposed Compliance Schedules for the new or recommencing discharge included in the proposed Permit and Cease and Desist Order violate the California Toxics Rule (CTR), the SIP and Federal Regulations.

The commenter states that the Discharger has been discharging illegally and should be considered a New Source subject to New Source requirements. These requirements include complying “immediately upon commencement of discharge with effluent limitations derived from the criteria” in the CTR rule. In addition, the commenter states that the SIP does not allow compliance schedules for new dischargers.

RESPONSE:

The commenter states that the Discharger is a New Source. Staff disagree with this assertion and view the Discharger as an existing source that has not previously been permitted. The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP), defines a New Discharger as follows “NEW DISCHARGER includes any building, structure, facility, or installation from which there is, or may be, a discharge of pollutants, the construction of which commenced after the effective date of this Policy.” The Discharger commenced operations and discharge in 1986, prior to the effective date of the SIP (2000). Clearly, the Discharger does not meet the New Discharger definition in the SIP. The California Toxics Rule (CTR) also defines new and existing dischargers (FR, Vol. 65, No. 97, May 18, 2000, pg. 31703). It states, in part,; “*New and Existing Dischargers:* The provision allows compliance schedules only for an “existing discharger” which is defined as any discharger which is not a “new California discharger.” A “new California discharger” includes “any building, structure, facility, or installation from which there is, or may be, a ‘discharge of pollutants’, the construction of which commences after the effective date of this regulation.” These definitions are modeled after the existing 40 CFR

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122.2 definitions for parallel terms, but with a cut-off date modified to reflect this rule. Only “new California dischargers” are required to comply immediately upon commencement of discharge with effluent limitations derived from the criteria in this rule. For “existing dischargers” whose permits are reissued or modified to contain new or more stringent limitations based upon certain water quality requirements, the permit could allow up to five years, or up to the length of a permit, to comply with such limitations. The provision applies to new or more stringent effluent limitations based on the criteria in this EPA rule.” The Discharger does not meet the definition of a New Discharger in either the SIP or the CTR and, therefore, by definition must be an existing discharger. As defined in the SIP and the CTR, existing dischargers are allowed compliance schedules in certain circumstances. The proposed compliance schedules in the tentative permit comply with applicable regulatory requirements.

COMMENT No. 2: The proposed Permit is based on an incomplete Report of Waste Discharge (RWD) and in accordance with Federal Regulations 40 CFR 122.21(e) and (h) and 124.3(a)(2), the State’s *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), and California Water Code Section 13377, the permit should not be issued until the discharge is fully characterized and a protective permit can be written.

RESPONSE:

The Discharger has submitted a complete permit application for their NPDES permit in compliance with all State and Federal requirements (NPDES Form 2B - Application for permit to discharge wastewater from concentrated animal feeding operations (CAFOs) and aquatic animal production facilities). In addition, the Discharger has submitted analytical results for CTR and other parameters to assist in characterizing the discharge. As stated in 40 CFR § 122.21(e)(1), “The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity.” 40 CFR § 124.3(a)(2) states, “The Director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. See §§270.10, 270.13 (RCRA), 144.31 (UIC), 40 CFR 52.21 (PSD), and 122.21 (NPDES).” Accordingly, staff has concluded a complete NPDES permit application was submitted by the Discharger and the wastewater has been adequately characterized in compliance with the regulations cited above.

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COMMENT No. 3. The proposed Permit is based on inadequate California Environmental Quality Act (CEQA) document.

RESPONSE

The purpose of the CEQA document is not to justify the discharge, the discharge is already occurring. Therefore, the environmental base condition to evaluate any environmental effects must include the existing unpermitted discharge to surface waters. The purpose of the initial study/negative declaration was to consider all environmental effects of adopting an NPDES permit to regulate the discharge to surface waters. The proposed NPDES permit requires protection of all beneficial uses, so the environmental condition can only get better with adoption of the proposed permit. Consequently, there are no significant environmental effects due to the Regional Water Board adopting the proposed NPDES permit. An initial study/negative declaration is clearly the appropriate CEQA document for adoption of a new NPDES permit for the Sterling Caviar LLC Elverta Facility.

The commenter also comments that the proposed Cease and Desist Order (CDO) does not contain a compliance date for manganese. This is an error in the proposed CDO. When listing the constituents in the compliance schedule, manganese was inadvertently left out. This will be corrected in the agenda version of the CDO.

COMMENT No. 4. The proposed Permit contains a flawed Antidegradation Policy analysis for a “new” facility that does not comply with the Board’s Antidegradation Policy, Federal Antidegradation Regulations and the Clean Water Act.

The commenter states that the antidegradation analysis in the proposed Permit is deficient. In addition, the commenter states “...the Regional Board establishes an unparalleled level of absurdity in stating that because Sterling Caviar has discharged illegally for a period of time; the discharge of waste to surface water does not constitute a “new” discharge.” The commenter states yet again that the wastewater has not been properly characterized and that the antidegradation policy must be applied whenever the Regional Board takes an action that will lower water quality.

RESPONSE

The response to Comment No. 1 specifically discusses how the Facility does not meet the regulatory definition of a new discharger according to the SIP

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and the CTR. As mentioned in the response to Comment No. 2, the Discharger has submitted a complete permit application and also supplemental CTR monitoring that allows for a full characterization of the wastewater. Water quality-based effluent limitations (WQBELs) are included in this permit for constituents that have concentrations that exceed applicable water quality criteria.

This permitting action will regulate an existing discharge with new effluent limitations and practices that will improve water quality. Therefore, staff have determined the antidegradation analysis for this Facility was sufficient.

COMMENT No. 5. The proposed Permit fails to contain an Effluent Limitation for acute toxicity that allows mortality that exceeds the Basin Plan water quality objective and does not comply with Federal regulations at 40 CFR 122.44(d)(1)(i).

RESPONSE

The Basin Plan specifies a narrative objective for toxicity, requiring that “*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*” Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Regional Water Board. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for “experimental water” as defined in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, et al. 1992).

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters.

Numeric water quality criteria, or Basin Plan numeric objectives currently are not available for many of the aquaculture drugs and chemicals used by aquaculture facilities. Therefore, the Regional Water Board uses the narrative water quality objective for toxicity from the Basin Plan as a basis for determining “reasonable potential” for discharges of these drugs and chemicals. USEPA’s *Technical Support Document Water Quality-based*

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Toxics Control (TSD) specifies two toxicity measurement techniques that can be employed in effluent characterization; the first is Whole Effluent Toxicity (WET) testing, and the second is chemical-specific toxicity analyses. WET requirements protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “*no toxics in toxic amounts*” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and generally measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. For fish hatcheries WET testing is used most appropriately when the toxic constituents in an effluent are not completely known; whereas chemical-specific analysis is more appropriately used when an effluent contains only one, or very few, well-known constituents.

Due to the nature of operations at the Facility, its effluent is expected to be very consistent. Inputs into the system are limited to groundwater, oxygen, feed, and, occasionally, therapeutents. Therefore, the Regional Water Board is using a chemical-specific approach to determine “reasonable potential” for discharges of aquaculture drugs and chemicals. As such it is not necessary to include an acute toxicity effluent limitation or require acute or chronic WET testing.

COMMENT No. 6. The proposed Permit does not contain Effluent Limitations for chronic toxicity and therefore does not comply with Federal regulations at 40 CFR 122.44(d)(1)(i).

RESPONSE

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region¹ that contained numeric chronic toxicity effluent limitations. As a result of this petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, “*In reviewing this petition*

¹ In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

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and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.” The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process.

Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, the proposed Order requires that the Discharger meet best management practices for compliance with the Basin Plan’s narrative toxicity objective, as allowed under 40 C.F.R. 122.44(k).

Due to the nature of operations at the Facility, its effluent is expected to be very consistent. Inputs into the system are limited to groundwater, oxygen, feed, and, occasionally, therapeutents. Therefore, the Regional Water Board is using a chemical-specific approach to determine “reasonable potential” for discharges of aquaculture drugs and chemicals. As such it is not necessary to include an acute toxicity effluent limitation or require acute or chronic WET testing.

COMMENT No. 7. The proposed Permit does not contain Effluent Limitations for total suspended solids (TSS) and therefore does not comply with Federal regulations 40 CFR 122.44(d)(1)(i).

RESPONSE

The tentative permit controls total suspended solids through the implementation of Best Management Practices (BMPs). The BMPs work in conjunction with the numerical effluent limitations to control the discharge of pollutants to the receiving water. 40 CFR § 122.44(d)(1)(i) states: “*Water quality standards and State requirements*: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

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(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

No criteria or standards have been developed for TSS, therefore, it is not possible to determine if TSS is discharged at a level to cause, or have the reasonable potential to cause or contribute to an excursion above a water quality standard or narrative criteria that does not currently exist. Water quality-based effluent limitations (WQBELs) are infeasible in such circumstances. In addition to WQBELs, NPDES permits contain effluent limitations and procedures that are technology-based. Technology-based effluent limitations (TBELs) are also developed in conjunction with WQBELs. The more stringent effluent limitation, either TBEL or WQBEL, are placed in the NPDES permit. Where WQBELs are infeasible due to no promulgated criteria or standards or are not protective, the TBEL is placed in the permit. In the case of this permit, the TBELs are those contained in 40 CFR Part 451, Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category. The Discharger is subject to these national technology-based regulations. In the promulgation of this regulation, the U.S. EPA determined that numerical limitations for TSS were not required. The U.S. EPA has determined that the management practices required in 40 CFR Part 451 and in this permit are designed to limit the amount of solids discharged to receiving waters and fulfill all regulatory requirements.

COMMENT No. 8. The Discharge adds the antibiotic Oxytetracycline to fish food which in turn is discharged to surface waters. The Order does not contain an Effluent Limitation for Oxytetracycline which violates Federal Regulation 40 CFR 122.4(a), (d), and (g).

The commenter also states that “the allowance for the Discharger to use this antibiotic with(out)(sic) limitation is contrary to Federal Regulation, 40 CFR 122.4 (a), (d) and (g) require that no permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA, when imposition of conditions cannot ensure compliance with applicable

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water quality requirements and for any discharge inconsistent with a plan or plan amendment approved under Section 208(b) of the CWA.”

RESPONSE

There has been a great deal of interest in the use of disease control chemicals at aquaculture facilities. Staff has reviewed NPDES permits for aquaculture facilities in the states of Oregon, Idaho, and Washington, in addition to California and other states. None of these states have promulgated water quality standards for these types of chemicals, oxytetracycline included. In the cases of previously adopted permits in California, Oregon, Idaho, and Washington, the control and monitoring of these disease control chemicals is maintained through Best Management Practices and stringent monitoring requirements. As discussed in the response to Comment No. 7, the Best Management Practices (BMPs) found in this permit for the use and reporting of disease control drugs are contained in 40 CFR Part 451, Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category. In development of the above mentioned regulation, the U.S. EPA did not develop numerical limitations for these chemicals but instead developed management practices to ensure the proper storage, handling, and disposal of drugs and chemicals.

While research is currently being conducted on the possible aquatic and human health impacts of these types of chemicals, no criteria exist to establish defensible numerical WQBELs. The use of non-numerical control mechanisms is expressly allowed in the Title 40 of the Code of Federal Regulations. The requirements in this permit for the control and monitoring of disease control drugs such as oxytetracycline comply with the regulations and are fully supportive of the Clean Water Act.

COMMENT No. 9. The proposed Permit does not contain Effluent Limitations for ammonia and therefore does not comply with Federal regulations 40 CFR 122.44(d)(1)(i) and (ii).

RESPONSE

Staff conducted a reasonable potential analysis of the discharge and, based on analytical data, did not find reasonable potential for ammonia to cause, or contribute to an excursion above water quality standards. The reasonable potential analysis was conducted using the procedures detailed in the SIP. Since there was no reasonable potential to cause, or contribute to an excursion above water quality standards, effluent limitations for ammonia were not included in the tentative permit. However, monthly monitoring

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requirements for ammonia are contained in the tentative permit to ensure the discharge does not impact receiving waters.

COMMENT No. 10. The proposed Permit contains a flawed reasonable potential analysis for electrical conductivity (EC) and total dissolved solids (TDS) and does not comply with Federal regulations at 40 CFR 122.44(d)(1)(i) and (ii).

RESPONSE

As stated in the response to Comment No. 9, the reasonable potential analysis was conducted according to the procedures laid out in the SIP. Neither electrical conductivity (EC) nor total dissolved solids (TDS) showed reasonable potential to cause, or contribute to an excursion above water quality standards. Therefore, no final effluent limitations were placed in the tentative permit for EC or TDS. However, monitoring requirements for both EC and TDS are contained in the tentative permit to ensure the discharge does not impact receiving waters.

COMMENT No. 11. The proposed Permit Effluent Limitations are not limited for mass contrary to Federal Regulations and advise from U.S. EPA.

RESPONSE

40 CFR § 122.25(f) states:

Mass limitations. (1) All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass except:

(i) For pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass;

(ii) When applicable standards and limitations are expressed in terms of other units of measurement; or

(iii) If in establishing permit limitations on a case-by-case basis under §125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation (for example, discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.

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(2) Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.

40 CFR § 122.25(f)(1)(ii) states that mass limitations are not required when applicable standards are expressed in terms of other units of measurement. All the pollutants with numerical effluent limitations in this tentative permit are based on water quality standards and objectives. These are expressed in terms of concentration. Pursuant to 40 CFR § 122.25(f)(1)(ii), expressing the effluent limitations in terms of concentration is expressly allowed and is in no way contrary to Federal Regulations.

COMMENT No. 12. The proposed Permit does not comply with the Board's Antidegradation Policy by failing to require an assessment of groundwater quality.

RESPONSE

The commenter states that the Discharger utilizes land disposal via percolation and questions whether the fish rearing facilities are unlined. Staff disagree with the assertion that the Discharger utilizes land disposal. The Discharger's effluent exits the facility through Outfall 001 and is a surface water discharge, hence the need for a NPDES permit. It is unreasonable to assume that the Board must conduct a groundwater antidegradation analysis for every discharge to surface waters.

Since the Discharger's operations take place in tanks and not unlined ponds, groundwater impacts are negligible.

COMMENT No. 13. The Discharge is not providing BAT contrary to Federal Regulations and the Clean Water Act.

RESPONSE

The following technology-based effluent limit discussion is excerpted from the U.S. EPA NPDES Permit Writer's Course with emphasis added in certain areas.

When developing effluent limits for a NPDES permit, a permit writer must consider limits based on both the technology available to remove the pollutants from the discharge (i.e. technology-based effluent limits), and limits that are protective of the designated uses of the receiving water as established in the applicable water quality standards (i.e. water quality-

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based effluent limits). Technology-based effluent limits are based on the “zero-discharge” performance goal of the CWA. The concept in the CWA is that as technology improved, dischargers would move toward the goal of zero discharge of pollutants. This concept is reflected in the increasing stringency of performance-based requirements in the CWA. Technology-based requirements depend on the type of facility, not on the receiving water for the discharge. Because these requirements are based on the performance of actual treatment systems or even process changes, they are not site-specific. Technology-based limits do not depend on the location of the facility or the receiving water for the discharge. EPA establishes national technology-based standards for various categories of facilities, putting all facilities of a specific type on equal footing. Water quality-based limits, on the other hand, are specifically designed to meet the water quality standards for the waterbody receiving the discharge and are not dependent on the type of facility.

Technology-based requirements are developed in one of two ways: through national technology-based standards developed by EPA Headquarters (Secondary treatment standards for **POTWs** - 40 CFR Part 133 or Effluent guidelines for non-POTWs (**industrial facilities**) - 40 CFR 405-471); or in the absence of national standards, technology-based requirements are developed on a case-by-case basis.

Section 301 of the CWA requires EPA develop technology based standards based on best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT). The premise of the Clean Water Act was that dischargers were going to be moving from basically no treatment to some relatively simple treatment to, by 1985, zero discharge of pollutants. The standards are also different from one another. BPT regulates conventional, nonconventional, and toxic pollutants. BCT regulates only conventional pollutants and BAT regulates only nonconventionals and toxics. BPT (the first level of control Congress required) had a compliance deadline of July 1, 1977; while BAT & BCT required compliance by March 31, 1989. The 1989 date obviously is beyond the “zero discharge of pollutants by 1985” goal. Congress retained the goal but realized that the statutory deadlines for achieving more stringent levels of control needed to shift to a date after 1985.

The facility is subject to 40 CFR Part 451, Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category. The technology-based requirements contained in the regulation (BPT, BCT, and BAT) are

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contained in the tentative permit. Therefore, the tentative permit fulfills all regulatory requirements with respect to the development and implementation of technology-based requirements.