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DATE: January 23, 2006

SUBJECT: QUESTIONS AND ANSWERS ABOUT WATER QUALITY REGULATION
AND THE FOOD PROCESSING INDUSTRY

INTRODUCTION

On July 11, 2005, the State Water Resources Control Board (State Water Board) conducted a public workshop to receive comments on practices for the management and disposal of food processing and winery waste through land application and other means. On August 17, 2005, Board Member Baggett asked this office to prepare an analysis, written in a "Question and Answer" format, of the legal requirements applicable to this area.

BACKGROUND

Due to the large amount of agricultural production in California and the types of products grown, California contains some of the largest food processing plants in the nation. These plants generate by-products and waste. The disposal practices of the food processing industry are distinguished from other industries because many of the by-products of the industry are beneficially reused. The discharges are seasonal. The discharge can be both point source and nonpoint source in nature.

Methods of waste disposal may include: disposal ponds, land application, discharge to domestic sewers, direct discharge to surface water after treatment, and underground injection. These disposal options can result in adverse impacts to groundwater or surface water if not properly regulated. For example, application of wastewater to crops can affect groundwater if the soil and crops do not remove or take up salt and other wastes before reaching the underlying groundwater. Surface water can be affected if runoff carries wastes offsite or if there is a direct

or indirect discharge without adequate treatment. The State Water Resources Control Board and Regional Water Quality Control Boards (California Water Boards) regulate these discharges to protect water quality.

ISSUES

The attached Question and Answer document is structured to address three underlying issues:

1. The legal authority for the California Water Boards to regulate the food processing industry;
2. Specific legal requirements applicable to the food processing industry; and
3. How can requirements be consistently applied throughout California?

Attachment

cc: **[All via email]**

State Water Board Members
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Tom Howard, EXEC
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Gordon Innes, DWQ
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FOOD PROCESSING QUESTIONS AND ANSWERS

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FOOD PROCESSING QUESTIONS AND ANSWERS

I. GENERAL AUTHORITY TO REGULATE

1. Q. What general legal authority governs the protection of the waters of the state?

A. The state's water quality law is known as the Porter-Cologne Water Quality Control Act.¹ (Wat. Code, §§ 13000 et seq.) This law establishes that the quality of all the waters of the state shall be controlled and protected for use and enjoyment by the people of the state. (*Id.*)

2. Q. To whom does the Porter-Cologne Act grant the authority to regulate water quality?

A. The Porter-Cologne Act states that the State Water Resources Control Board and the regional water quality control boards (collectively, the California Water Boards) have the primary authority to regulate water quality. (Wat. Code, § 13001.)

3. Q. Who is subject to regulation by the California Water Boards?

A. Any person discharging waste that could affect the quality of the waters of the state is subject to regulation. (Wat. Code, § 13260.) The phrase "waters of the state" is broadly defined to include any surface or groundwater within the boundaries of the state. (Wat. Code, § 13050, subd. (e).) "Waste" is broadly defined. (Wat. Code, § 13050, subd. (d).) "Person" is also broadly defined, and includes companies and individuals engaged in food processing. (Wat. Code, § 13050, subd. (c).)

4. Q. What are some of the regulatory options to address food processing wastes that are available to the California Water Boards?

A. Regional water boards have regulatory options available to them including adoption of: waste discharge requirements, either individually or through general waste discharge requirements (Wat. Code, § 13263); conditional waivers (Wat. Code, § 13269); water reclamation requirements (Wat. Code, § 13523); monitoring or technical report requirements to determine whether the discharge could affect water quality or to demonstrate compliance with waste discharge requirements or conditional waivers (Wat. Code, § 13267); and cleanup and abatement orders (Wat. Code, § 13304). The State Water Board also has the ability to issue waste discharge requirements (Wat. Code, § 13263, subd. (j)), conditional waivers (Wat. Code, § 13269), and cleanup and abatement orders (Wat. Code, § 13304).

¹ Hereinafter, all references to the Porter-Cologne Act mean the Porter-Cologne Water Quality Control Act.

Some food processing facilities may have a conveyance system that discharges process wastewater to waters subject to Clean Water Act jurisdiction. These discharges of wastewater, whether treated or not, to a surface water are generally subject to Clean Water Act permitting requirements. (Wat. Code, § 13377.) In addition, some facilities that discharge only storm water runoff (and not process wastewater) are subject to Clean Water Act permitting requirements. The California Water Boards cannot waive waste discharge requirements for discharges subject to the Clean Water Act, and must issue waste discharge requirements that serve as a National Pollutant Discharge Elimination System (NPDES) permit. (Wat. Code, §§ 13376, 13377.)

5. Q. Are the disposal practices of the food processing industry within the regulatory purview of the California Water Boards?

A. Yes. The specific statutes listed above and the overall breadth of the Porter-Cologne Act plainly allow the California Water Boards to regulate such practices.

6. Q. Are the disposal practices of the wine industry within the regulatory purview of the California Water Boards?

A. Yes. The Porter-Cologne Act makes no distinction between whether the source of the discharge is from the food processing industry or the wine industry. The specific water quality requirements may vary between the two industries based on their respective threat to water quality. The balance of this Questions and Answers document uses “food processing industry” to mean traditional food processing industries and the wine industry.

II. SPECIFIC REGULATORY REQUIREMENTS

A. Waste Disposal to Land Regulations

7. Q. Where can I find the California Water Boards’ Waste Disposal to Land Regulations?

A. The “waste disposal to land” regulations are contained in Title 27 of the California Code of Regulations. They contain provisions of a general nature as well as very detailed prescriptive requirements. These prescriptive requirements are written to limit the water quality impacts of discharging waste to land for treatment, storage, or disposal. (Cal. Code Regs., tit. 27, § 20080.)

8. Q. Are there any exemptions to the Waste Disposal to Land Regulations?

A. Yes. The regulations contain a number of broad exemptions. The exemptions include:
(1) discharges of wastewater to land, using such methods as evaporation and percolation ponds, provided that certain conditions are met, including regulation of the discharge through waste discharge requirements, water reclamation

requirements or a conditional waiver, each of which must ensure that the discharge complies with the applicable basin plan (Cal. Code Regs., tit. 27, § 20090, subd. (b));

- (2) underground injection pursuant to the federal Underground Injection Control Program (Cal. Code Regs., tit. 27, § 20090, subd. (c)); and
- (3) use of nonhazardous, decomposable waste as a soil amendment pursuant to applicable best management practices, provided that a regional water board may issue waste discharge requirements or reclamation requirements for such use (Cal. Code Regs., tit. 27, § 20090, subd. (f)).

9. Q. Do the prescriptive requirements of Title 27 typically apply to the common disposal options of the food processing industry?

- A. No. Evaporation ponds, percolation ponds, or subsurface leachfields are common disposal options for the food processing industry. In lieu of the specific regulatory requirements of Title 27, regional water boards use waste discharge requirements, water reclamation requirements, and conditional waivers to regulate these disposal practices. Because of the broad exemptions described in question 8, the prescriptive requirements of Title 27 do not generally apply to these common disposal practices. Thus, regional water boards will generally not require food processors to implement the specific requirements in Title 27 for liners, leachate collection and removal systems, financial assurance mechanisms for corrective action and closure, and post-closure monitoring and maintenance.

B. Resolution 68-16 – Maintaining High Quality Waters

10. Q. What is the major purpose of Resolution 68-16?

- A. The State Water Board adopted Resolution 68-16, often called the antidegradation policy, to help ensure protection of high quality waters.

11. Q. What are the main provisions of Resolution 68-16?

- A. Resolution 68-16 provides that high quality waters should not be degraded except when accompanied by best practicable treatment or control to minimize impacts and a finding that the highest water quality consistent with the maximum benefit of the people of the state will be maintained. The policy places a limit on the degree of degradation: the discharge may not cause or contribute to a violation of any water quality objective or otherwise unreasonably affect beneficial uses.

12. Q. Is Resolution 68-16 applicable to the food processing industry?

- A. Yes. The policy is applicable to discharges to both surface and groundwater and thus applies to food processing operations.

C. Regional Water Quality Control Plans (basin plans)

13. Q. Do basin plans contain waste disposal provisions that are applicable to the food processing industry?

- A. Generally, yes. For example, the Central Valley Water Board's basin plans encourage the reuse or reclamation of wastewater through land disposal. Its "Sacramento and San Joaquin" basin plan requires dischargers to consider disposal to land, instead of to surface water, whenever practicable and based on the quality of the wastewater. Its "Tulare" basin plan states that discharge to surface water is unacceptable when it is feasible to reduce the use of fresh irrigation water by discharging wastewater to land at reasonable agronomic rates.

D. Discharges to Waters of the United States

14. Q. How is a food processing facility regulated if it discharges process wastewater to a water of the United States?

- A. Discharges of pollutants to waters of the United States must have waste discharge requirements that serve as a Clean Water Act NPDES permit. (Wat. Code, § 13377.) Most courts have broadly construed the waters subject to Clean Water Act protection. At the least, the Clean Water Act protects navigable waters and the watercourses tributary to navigable waters. California is within the U.S. Court of Appeals for the Ninth Circuit. The Ninth Circuit has interpreted the Clean Water Act's jurisdiction to extend to ephemeral streams (i.e., those that only flow intermittently) and irrigation ditches that are tributary to navigable waters. Wetlands and waterbodies adjacent to navigable waters may also lie within the Clean Water Act's jurisdiction and a facility should confer with its regional water board if there is a question whether a discharge is to a water of the United States.

15. Q. What are the regulatory requirements for a food processing facility if it discharges process wastewater directly to a water of the United States?

- A. NPDES permits will include effluent limitations that describe the quality of wastewater that may be discharged and monitoring to ensure the discharger complies with permit requirements. (33 U.S.C. § 1342.) Effluent limitations are typically numeric restrictions on specific pollutants or water quality parameters. (33 U.S.C. § 1362(1).) In certain instances, NPDES permits may authorize the use of best management practices in lieu of numeric effluent limitations. (40 C.F.R. § 122.44(k).) Effluent limitations include technology-based effluent limitations designed to identify the water quality expected through the application of specific technological standards. For the food processing industry, technological standards are likely to include effluent limitations for biochemical oxygen demand (BOD) and total suspended solids (TSS). Where the U.S. Environmental

Protection Agency has adopted effluent limitations guidelines for an industry, the California Water Boards incorporate those effluent limitations guidelines into waste discharge requirements. (See, e.g., 40 C.F.R. Parts 405 (Dairy Products Processing Point Source Category), 406 (Grain Mills Point Source Category) and 407 (Canned And Preserved Fruits And Vegetables Processing Point Source Category).) In addition, NPDES permits must include any more stringent effluent limitation necessary to implement the regional water boards' basin plans. (Wat. Code, § 13377.)

16. Q. Can food processing facilities be subject to industrial storm water requirements?

- A. Yes. The federal Clean Water Act requires NPDES permit coverage for “discharges associated with industrial activity.” If a food processing facility is categorized under any of the numerous Standard Industrial Classification (SIC) codes applicable to food processors, it should seek NPDES permit coverage for its storm water discharges. Relevant SIC codes are listed in State Water Board Order No. 97-03-DWQ (see question 17) and include: 202 (Dairy Products); 203 (Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties); 2084 (Wineries); and 209 (Miscellaneous Food Preparations and Kindred Products).

17. Q. Where can I find the State Water Board's Industrial Storm Water Permit?

- A. Most industrial storm water permittees obtain coverage under Order No. 97-03-DWQ, the State Water Board's General Industrial Storm Water Permit (General Permit). The General Permit can be found at <http://www.waterboards.ca.gov/stormwtr/industrial.html>. General Permit requirements include: implementation of the best management practices (BMPs) identified in the facility's Storm Water Pollution Prevention Plan, effluent monitoring, payment of annual fees, and compliance with water quality standards for the receiving water.

18. Q. Are all food processing facilities subject to industrial storm water requirements?

- A. Yes. All facilities within SIC Group 2 (Food and Kindred Products) are subject to the industrial storm water requirements. There are some narrow exemptions, including if all storm water runoff flows to a sanitary sewer or if, under the General Permit that will be reissued soon, the facility qualifies for a “no-exposure” exemption. Such exemptions will be available to facilities that submit certification in compliance with the permit, demonstrating that there is no exposure of any storm water runoff.

19. Q. Can the California Water Boards waive these permit requirements for discharges subject to the Clean Water Act?

- A. No. As explained in response to question 4, for discharges regulated by the federal Clean Water Act, the California Water Boards must issue waste discharge requirements that serve as an NPDES permit.

E. Discharge to Municipal Sewers

20. Q. If a food processing facility discharges directly to a publicly owned treatment works (POTW), will it be directly regulated by a regional water board?

- A. Generally, no. The California Water Boards do not generally regulate such “indirect discharges.” Publicly Owned Treatment Works (POTW) generally require indirect dischargers, such as food processing facilities, to pretreat their wastes so as to ensure compliance with federal and local pretreatment requirements and that the POTW meets its own discharge requirements. Before commencing any discharge of food processing waste to a sanitary sewer, the food processor should determine whether its local wastewater authority has any applicable requirements.

III. HOW CAN REQUIREMENTS BE CONSISTENTLY APPLIED THROUGHOUT CALIFORNIA AND RECOMMENDATIONS

21. Q. How does the Porter-Cologne Act provide for statewide consistency within a regional framework?

- A. After identifying regional differences in precipitation, topography, population, agriculture, and other factors, the Porter-Cologne Act states that a statewide program for water quality control can be administered most effectively on a regional basis, within a framework of statewide coordination and policy. (Wat. Code, § 13000.) The Porter-Cologne Act contemplates that the regional water boards will have the primary responsibility for regulating waste discharges. For this reason, the regional water boards have a full complement of regulatory powers. In contrast, State Water Board typically exercises its regulatory powers only during the petition process. (Wat. Code, § 13320, subd. (c).)

The ability of nine semi-autonomous regional water boards to administer and enforce water quality laws provides them substantial flexibility to tailor water quality protection to the needs of a particular region, and allows them latitude to experiment with different regulatory approaches. The petition process described at Water Code section 13320 guarantees statewide oversight by granting interested persons the right to seek State Water Board review of these regulatory actions. The petition process, combined with other State Water Board powers, thus provides for statewide consistency while allowing for the regional strategies to be tailored and tested within each region.

22. Q. What factors should the State Water Board consider in determining whether statewide or regional requirements are suitable for regulating waste discharges from the food processing industry?

- A. The State Water Board could determine that statewide general waste discharge requirements or a statewide conditional waiver are appropriate. In making this

determination, the State Water Board could consider whether: (1) the characteristics of food processing industry waste discharges are sufficiently similar throughout the state, (2) the water quality threat from food processing industry waste discharges are sufficiently similar, (3) the programmatic efficiencies from general waste discharge requirements outweigh the benefits of regional or site-specific requirements, and (4) matters of fairness justify consistent, statewide requirements. Even with statewide general waste discharge requirements or a general conditional waiver, the varying water quality objectives in different regions would likely result in different management practices required to comply with the requirements. It is also possible that within individual regions the cumulative effects of multiple food processing industry discharges will require more rigorous requirements. Similarly, site-specific characteristics at an individual facility may require the regional water board to apply more rigorous requirements. Finally, while the State Water Board has the legal authority to issue statewide conditional waivers, it is unlikely to do so because byproduct water from food processing activities often contains high levels of pollutants, especially salts or organic materials.

23. Q. When is it appropriate to impose monitoring requirements without corresponding discharge requirements?

- A. Where there is only a slight potential for water quality impacts and so long as there is not a Clean Water Act permit requirement, monitoring alone may be appropriate. The extent and frequency of the monitoring must be reasonably related to the potential benefits of the information sought. In most cases, it should focus on constituents associated with such discharges. General waste characteristics such as biochemical oxygen demand (BOD) and total dissolved solids (TDS) are likely to be of concern in most instances.

24. Q. When is it appropriate to regulate food processing discharges by individual or general waste discharge requirements, or by conditional waiver?

- A. Either waste discharge requirements or a conditional waiver would be appropriate to regulate discharges by the food processing industry. Because byproduct water from food processing activities often contains high levels of pollutants, especially salts or organic materials, it is most appropriately regulated through waste discharge requirements. After an appropriate technical analysis, the California Water Boards could determine that a conditional waiver of waste discharge requirements for food processing wastewater sufficiently protects the waters of the state. The decision to regulate the food processing industry through waste discharge requirements or a conditional waiver would be based on the likelihood of adverse water quality impacts, which could be assessed based upon analysis of the operation involved, the proximity to similar facilities, existing receiving water quality, monitoring results, depth to groundwater, or other appropriate factors.

25. Q. How should the California Water Boards regulate the discharge of food processing wastewater to disposal ponds?

A. While the California Water Boards have the authority to regulate food processing industries' discharges of waste, the appropriate regulatory mechanism is ultimately a policy decision. Technical staff of the California Water Boards would need to determine whether conditional waivers of waste discharge requirements would be sufficient to protect water quality. If it can be determined that depth to groundwater is great and the likelihood of impacts is small, regulation can be limited. At a minimum, freeboard and construction practices should protect the integrity of the disposal system, considering relevant site-specific factors. In addition, runoff should be diverted away from the disposal ponds. Where water quality impacts are likely to occur, the California Water Boards must regulate the discharge with more stringent conditions. At a minimum, these must require the operator to discharge in compliance with all applicable state and federal requirements.

26. Q. How should the California Water Boards regulate "land application" of food processing wastewater?

A. Land application, e.g., crop irrigation, is the most widely used, and usually least expensive, management practice employed by the food processing industry to dispose of byproducts and wastewater. Again, the appropriate regulatory mechanism is ultimately a policy decision. That policy decision likely will vary depending on whether the waste being applied is a solid waste being used as a soil amendment or liquid wastewater. The extent of regulation should be governed by the potential for adverse impacts. Assuming the potential water quality impact of irrigating with food processing wastewater is minor, the State Water Board has previously concluded that reducing the demand on groundwater and surface water sources through such irrigation is in the public interest. Consideration should be given to using existing conditional waiver(s) to regulate land application.

Where water quality impacts are likely to occur, operators should be required to prepare and follow management plans. Management plans must establish application rates appropriate to the strength of the waste/by-product, the crop or land being used, and other appropriate agronomic factors. Monitoring should be required as necessary to evaluate compliance with applicable requirements.

27. Q. What steps can the California Water Boards take if disposal of food processing waste causes or contributes to water quality problems?

A. If the disposal of food processing waste causes water quality problems, the California Water Boards should require the operator to take appropriate corrective action. The California Water Boards may issue a cleanup and abatement order to require cleanup or abatement of the effects of the disposal. (Wat. Code, § 13304.) To prevent recurring water quality problems, the California Water Boards could issue other appropriate orders discussed in this document, including conditional waivers or waste discharge

requirements. Additional enforcement action may be warranted as directed by the State Water Board's Enforcement Policy.