ITEM: 12

SUBJECT: Syngenta Seeds, Inc., Woodland Seed Processing Facility

BOARD ACTION: *Consideration of New Waste Discharge Requirements*

BACKGROUND: Syngenta Seeds, Inc. (the Discharger) operates a seed crop production and seed washing facility 1.5 miles south of Woodland. The Discharger grows peppers, tomatoes, watermelons, cantaloupe, and squash on approximately 130 acres, including several greenhouses. Beginning in July and continuing intermittently through October, the crops are harvested and processed to remove their seeds. On average, approximately 4,000 gallons per day of process wastewater is discharged to a 1.6-acre wastewater land application area, where it is land applied by a sprinkler system. Approximately 190 tons of residual fruit solids are applied to the Discharger's cropland each year. A manure spreader is used to apply the solids to the fields, and the fields are disked to incorporate the waste.

The proposed Order includes loading rate limits for nitrogen and biochemical oxygen demand; interim effluent limits for electrical conductivity and chloride; and a requirement to implement an approved Salinity Evaluation and Minimization Plan. Based on the limited volume of the discharge, the seasonal nature of the discharge, the character of the waste, and site-specific soil and groundwater conditions, groundwater monitoring is not required unless the discharge changes significantly, the Discharger fails to achieve its salinity reduction goals, or new information regarding the threat to groundwater quality becomes available.

ISSUES: The California Sportfishing Protection Alliance (CSPA) is contesting the proposed Order. The major issues discussed in the public comments are summarized below:

CSPA Comment: *"Finding No. 32 concludes that since the discharge has been ongoing for only 4-years, degradation may be caused by neighboring agricultural practices. This is contrary to the fact the Discharger has been operating illegally for 36 years as presented in Finding No. 3. The discharge of reverse osmosis brine and boiler blowdown alone would be sufficient to be the cause of a significant portion of the groundwater degradation. The conclusion in Finding No. 32 is not based on the facts presented in the Findings".*

The proposed Order was revised to address this comment. The Discharger has been discharging to the land application area that will be regulated by the proposed WDRs for the last four years. Details about historical facility operations and discharges are not known except that some process wastewater was discharged into the existing septic systems, which are 500 feet or more west of the current land application area. The groundwater samples analyzed to support the Report of Waste Discharge were located in and around the current land application area. Staff agrees

that the limited groundwater data do not conclusively demonstrate the source of the apparently poor groundwater quality at the site. It may be naturally occurring, the result of agricultural practices, the result of the previous discharges, or some combination of the three. Finding No. 33 was revised to reflect this uncertainty.

The reverse osmosis (RO) water treatment units are small and are used in lieu of conventional ion exchange water softeners, so they do not add salinity and may act as salinity source control measures. Most of the deionized water provided by the RO systems will be discharged with the facility's waste streams along with the reject brine, so there should be little or no increase in salinity from use of the RO systems. The boiler is about twice the size of a typical residential water heater and is not used continuously. Because the boiler supply water has been deionized by RO, the Discharger can minimize the use of anti-scaling chemicals in the boiler, resulting in blowdown that is less saline than that of boilers using softened water. For this facility, the use of the RO systems instead of traditional water softening is an acceptable best practicable treatment and control method. This clarification was added to Finding No. 44.

CSPA Comment: *"Compliance with California Code of Regulations Title 27 is not discussed in the proposed WDR".*

Finding No. 49 was added to address this comment.

CSPA Comment: *"The discharge has likely caused or at a minimum contributed to exceedance of Basin Plan water quality objectives for electrical conductivity, dissolved solids, nitrate nitrogen, and sodium and therefore does not meet the test of being in compliance with requirements of the Basin Plan".*

The proposed Order was not revised to address this comment. There is not sufficient groundwater data to conclude that the prior discharge has degraded groundwater quality. As noted above and in Finding Nos. 33 and 37, the limited data available suggests that groundwater beneath the current land application area is not of the highest quality, and there appears to be significant spatial variability in groundwater quality between the three groundwater sampling points. It is possible that the previous discharges have caused or contributed to this condition. Accordingly, the proposed WDRs impose conditions and limits that will be more protective of groundwater quality:

1. Nitrogen loading is limited to the amount that the perennial grass cover can utilize;
2. The Discharger is required to mow the grass cover and remove the clippings so that salts and nitrogen removed by the grass are not returned to the soil. Clippings were not previously removed.
3. Biochemical oxygen demand (BOD) loading is limited to prevent anaerobic soil conditions.

4. Effluent electrical conductivity and chloride cannot increase over the current concentrations.
5. The Discharger must develop and implement an approved Salinity Evaluation and Minimization Plan by February 2009. Among other things, the plan must include an analysis of measures that can be taken to further reduce the flow-weighted EC of the discharge to 1,000 umhos/cm.

CSPA Comment: *"The discharge has also not been shown to be in compliance with the Basin Plan incorporated Antidegradation Policy (68-16). The Antidegradation Policy requires that an allowance for any degradation must be shown to be in the interest of the people of the state, must not exceed water quality standards and that the discharge must provide best practicable treatment and control (BPTC) of the discharge. None of the tests of the Antidegradation Policy have been met. The proposed WDR should not be adopted".*

The proposed Order was revised to address this comment. Since staff first became aware of this facility in 2004, the Discharger has changed its operations to reduce the threat to water quality: a land application area was brought into use (and later expanded); a finer wastewater screen was installed, a sprinkler irrigation system was installed, and perennial grass was planted in the wastewater land application area. These measures have reduced the salinity load to the wastewater land application area and provided nitrogen removal.

Additionally, the discharge volume and land application area are quite small (up to 11 inches of wastewater per year is applied to one acre of land), so it is unlikely that the current discharge is degrading groundwater. It is more likely that degradation, if any, is caused by surrounding agricultural land uses.

However, staff agrees that the Discharger has not demonstrated that degradation should be allowed. The proposed WDRs do not allow degradation and impose effluent salinity limits that will not allow the salinity of the waste to increase over current levels while the Discharger develops and implements its Salinity Evaluation and Minimization Plan. Provision G.1.b was revised to require the Executive Officer's approval of the plan and to impose a deadline for its implementation.

Mgmt. Review _____
Legal Review ___LTO____

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