INFORMATION SHEET

ORDER NO. R5-2007-____
INTERSTATE FIVE UTILITY COMPANY WWTF
KERN COUNTY

TENTATIVE ORDER

Background
The Interstate Five Utility Company (Discharger) owns and operates a wastewater collection, treatment, and disposal facility (WWTF) to provide sewerage services to eight gas stations, three fast food restaurants, four motels, two truck washing facilities, and one residence at the junction of Interstate Five and Highway 58. The WWTF has an average daily flow of 0.11 million gallons per day (mgd).

Waste Discharge Requirements (WDRs) Order No. 98-005 adopted by the Regional Water Board on 23 January 1998, limits the discharge to 0.19 mgd. The WDRs establish effluent limits on a monthly basis for 5-day biochemical oxygen demand (BOD_5), and settleable solids (SS).

The WWTF consists of the wastewater collection system; influent pump station; headworks with a grinder; two extended aeration package treatment plants (Treatment Units 1 and 2) operated in parallel followed by a third package treatment plant (Treatment Unit 3); and three evaporation and percolation ponds (Ponds 1 through 3). The Discharger may also operate all Treatment Units in parallel, but typical operation is described above. Pond 1 overflows into Pond 2 and total almost 2 acres. Pond 3 is 8 acres, and 800 feet north of Ponds 1 and 2.

The Discharger is not increasing discharge flow or changing the nature and character of the discharge, but the WDRs need to be updated to reflect its current WWTF and Regional Water Board plans and policies.

Water Recycling
The Discharger recycles undisinfected secondary-treated effluent on approximately 23 acres of pasture (hereafter Use Area) owned by the Discharger for grazing horses and non-milking cattle. The Use Area is graded to collect all tailwater in Ponds 1 and 2, preventing off site discharges. The discharge has not been characterized for total nitrogen.

Solids and Biosolids Disposal
Screenings are ground at the headworks. However, if the grinder is not operating, must be manually removed from the Treatment Units and placed in a dumpster prior to disposal at an offsite landfill. Currently, wasted sludge from the secondary clarifier is pumped to an aerobic digester chamber for further treatment and then pumped and hauled offsite for disposal at an authorized facility. Historically, the Discharger dried the sludge onsite and then applied it to areas surrounding the WWTF.

Groundwater Conditions
Regional groundwater is approximately 100 feet below ground surface and flows generally to the north, northwesterly, with perched groundwater table at about 20 ft bgs. In the discharge vicinity, the “modified E-clay” layer occurs at about 350 to 400 feet bgs. Shallow groundwater in the discharge vicinity varies in quality with respect to salinity (EC 941 to 4,400 µmhos/cm) and nitrate as N (<0.2 to 27 mg/L). However, groundwater data within the area is limited. The

closest monitoring wells are at the Buttonwillow Landfill, about 3 miles northwest of the WWTF. Shallow background monitoring wells at the Landfill show an EC of about 2,500 µmhos/cm.

Generally, water quality is better in the confined aquifer below the E-clay. Wells in the area are likely perforated above and below the E-clay.

The Discharger is currently not required to monitor groundwater, so water quality data within the immediate vicinity of the WWTF in the uppermost groundwater and groundwater just above the E-clay layer is limited.

Compliance History

The Discharger exceeds the effluent limitation for BOD_5 specified in WDRs Order No. 98-005 Discharge Specification B.10. Quarterly SMRs from January 2006 through March 2007 show the following quality.

Date	BOD_5 (mg/L)	Date	BOD_5 (mg/L)
Jan-06	32	Sep-06	32
Feb-06	80	Oct-06	50
Mar-06	66	Nov-06	86
Apr-06	NS[1]	Dec-06	23
May-06	13	Jan-07	32
Jun-06	NS	Feb-07	150
Jul-06	48	Mar-07	16
Aug-06	33		

[1] Not sampled

The elevated effluent BOD_5 concentrations are sporadic and may be due, in part, to organic and hydraulic overloading from the fluctuations in flow from the variance in traffic from travel during peak holiday and summer seasons. A recent inspection of the WWTF indicated that overall operation and maintenance of the WWTF could be improved. Currently, only two of the three package plants are operating. The Discharger was issued a Notice of Violation (NOV) on 9 July 2007 for not adequately maintaining the WWTF and for violations of the BOD_5 limitation. Formal enforcement is not be considered at this time, as the most violations can likely be resolved informally, and with some minor improvements.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The Basin Plan indicates that the greatest long-term problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. The Regional Water Board encourages proactive management of waste streams by dischargers to control addition of salt through use, and has established an incremental EC limitation of

500 µmhos/cm or a maximum of 1,000 µmhos/cm, as the measure of the maximum permissible addition of salt constituents through use.

Discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000 µmhos/cm, a chloride content of 175 mg/L, or boron content of 1.0 mg/L.

Antidegradation
The antidegradation directives of State Water Board Resolution No. 68-16 (Resolution No. 68-16), "Statement of Policy With Respect to Maintaining High Quality Waters in California," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Policy and procedures for complying with this directive are set forth in the basin plan.

The discharge is an existing discharge and will not change in character or volume from that allowed by WDRs Order No. 92-035. The overall mass of constituents, and therefore, the potential to impact water quality, remain unchanged.

The WWTF provides treatment and control by incorporating low salinity source water; effluent recycling, secondary treatment of the wastewater, appropriate biosolids storage and disposal practices, and an Operation and Maintenance (O&M) manual.

Title 27
Title 27, California Code of Regulations (CCR), Section 20005 et seq. (Title 27) contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for full containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent in a classified waste is acceptable under Title 27 regulations.

Discharges of domestic sewage and treated effluent can be treated and controlled to a degree that will not result in unreasonable degradation of groundwater. For this reason, they have been conditionally exempted from Title 27. Treatment and storage facilities for sludge that are part of the WWTF are considered exempt from Title 27 under section 20090(a), provided that the facilities not result in a violation of any water quality objective. However, residual sludge (for the purposes of the proposed Order, sludge that will not be subjected to further treatment by the WWTF) is not exempt from Title 27. Solid waste (e.g., grit and screenings) that results from treatment of domestic sewage and industrial waste also is not exempt from Title 27. This residual sludge and solid waste are subject to the provisions of Title 27.

Accordingly, the municipal discharge of effluent and the operation of treatment or storage facilities associated with a municipal wastewater treatment plant can be allowed without

requiring compliance with Title 27, but only if resulting degradation of groundwater is in accordance with the Basin Plan.

CEQA
The Discharger is not increasing discharge flow or changing the nature and character of the discharge, therefore the issuance of this Order is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et, seq.) and the State CEQA guidelines (Title 14, Division 6, California Code of Regulations, as amended).

Proposed Order Terms and Conditions

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions
The proposed Order prohibits discharge to surface waters and water drainage courses.

The proposed Order would carry over the current Order's monthly average daily discharge flow limitation. The proposed Order would prescribe effluent limits for BOD_5 and total suspended solids (TSS), The Basin Plan specifies varying levels or treatment based on site-specific conditions. The proposed Order does not include the Basin Plan's 80 percent removal standard for BOD and TSS, each, as the discharge is a privately owned treatment facility and in an isolated area that posses little risk of nuisance. A minimum BOD and TSS limit of 40 mg/L, each is sufficient to prevent nuisance and for use as an irrigation water on certain types of crops. The secondary treatment technology being implemented will result in an effluent of at least that quality, and will likely be higher than that reflected in the effluent limitations.

The proposed Order would establish an effluent limitation for EC that reflects the Regional Water Board policy for managing the salts within the Tulare Lake Basin. The EC of the effluent (1100 µmhos/cm based on one sample) is, in general less than the receiving water (941 to 4400 µmhos/cm), but slightly greater than source water (380 µmhos/cm) plus 500 µmhos/cm. Although the discharge is primarily domestic wastewater, it is a commercial discharge, and therefore does not have the same elements of a municipal wastewater treatment facility. As a non-municipal WWTF, it should not be expected to meet the salinity standard of 500 µmhos/cm plus source water EC. The Discharger is not required to monitor effluent EC. Based on a single sample collected ruing an inspection, the effluent EC is greater than the 1000 µmhos/cm. Insufficient data exists to adequately characterize the discharge. Therefore, the WDRs require effluent EC monitoring, and if EC appears to exceed the limit, the Executive Officer may issue a letter pursuant to CWC Section 13267 requiring the Discharger to submit salinity reduction evaluation.

The discharge requirements regarding dissolved oxygen and freeboard are consistent with Regional Water Board policy for the prevention of nuisance conditions, and are applied to all such facilities.

The proposed WDRs would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not

cause or contribute to exceedances of these objectives or natural background water quality, whichever is greater.

Monitoring Requirements
Section 13267 of the CWC authorizes the Regional Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. In recent years there has been an increased emphasis on obtaining all necessary information, assuring the information is timely as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Section 13268 of the CWC authorizes assessment of civil administrative liability where appropriate.

The proposed Order includes monitoring of the effluent, ponds, sludge, use area, and water supply. The monitoring is necessary to evaluate water quality and the potential extent of the degradation from the discharge.

The Discharger is currently not required to monitor nitrogen; therefore, there is very little data on nitrogen concentrations. Nitrogen monitoring is necessary to determine the nitrogen loading rates to the Use Area. The proposed monitoring and reporting program require effluent monitoring of total nitrogen quarterly for the first two years to obtain a statistically representative sample (e.g., eight data points). Once the effluent is characterized, nitrogen monitoring would no longer be required.

Reopener
The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The proposed Order would set limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.

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