

December 29, 2008

Attention: Spencer Joplin
California Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Drive, Suite 200
Ranch Cordova, CA 95670-6114

Submitted by: mail and FAX (916-464-3291)
Subject: Administrative Civil Liability Complaint R5-2008-0626

Dear Mr. Joplin,

I am a homeowner in Serene Lakes whose wastewater is processed by DSPUD on behalf of Serene Lakes' water district (Sierra Lakes County Water District). I want to insure that the wastewater, which my household is partly responsible for, is properly treated by the DSPUD waste water treatment plant (WWTP) before it is discharged into the South Yuba River.

The South Yuba River below the DSPUD discharge plant is a scenic treasure of the Sierra. It is enjoyed by the public as well as the residents of Kingvale, Plavada, Rainbow, Big Bend and Cisco Grove. It is the centerpiece of the riverside campground just north of Big Bend. Because much of the river's flow from November through July is effluent from DSPUD's treatment plant, it is extremely important that the discharge neither threatens human or fishery safety, nor does it contribute to algae, fungal or slime growth that renders the river unsightly and unusable by the public.

Since 2002, when the plant upgrade started, DSPUD has had many violations, mostly involving excessive ammonia and nitrate discharges into the South Yuba River. More recent problems have been a failure in the surface spray irrigation system that dumped effluent directly into the river, and a problem that released high coliform levels into the river. These violations are disturbing, but my hope is that DSPUD will be able to fix their treatment and operations issues in order to preserve the health of the South Yuba River. With this in mind I would like to add my comments to complaint R5-2008-0626.

A complaint about excessive algae growth in the South Yuba River was filed on June 19, 2008 by nearby residents. Their action has resulted in complaint R5-2008-0626 issued by your office concerning DSPUD. I feel DSPUD's response to that complaint is deficient, and more stringent measures need to be imposed in order to prevent future violations.

Questions regarding DSPUD's response to algae growth:

DSPUD's response to the algae bloom is confusing and inadequate. Their consultants, ECO:LOGIC, in a field survey conducted after the algae complaint was filed, states:

"it is a reasonable conclusion that the DSPUD effluent discharge was at least a major contributing factor to a reportedly rare, highly unusual, transient growth of filamentous green algae in the South Yuba..."

They reached this conclusion because the offending algae growth was present below the discharge point and not above. Their final conclusion, however, states:

"The rareness of the June 2008 growths, their limited spatial and temporal extent, their die-off under conditions normally conducive to biostimulation, and their relative absence at the effluent discharge point (compare Images 11 and 15) all suggest that this is not a typical effluent nutrient biostimulation problem; and accordingly, it is recommended that the problem not be addressed as such."

In other words, they say the algae growth was due to the effluent, but then conclude that the algae growth wasn't due to an effluent problem. Their message seems to be: the algae growth was a rare event and went away, so what's the problem? No attempt was made to find and fix any effluent problem, or to explain why there was also excessive algae growth in their clarifiers. No evidence was presented that would say that the two growths were independent, when the obvious conclusion is that the same nutrients spike stimulated both growths.

An obvious conclusion, and a more likely one, is that there was an undetected transient discharge in late May or early June of excessive ammonia, nitrates or phosphates which fed the algae blooms in both the river and the clarifiers. The bloom then died away, as ECO:LOGIC observed, when the transient discharge went away. What has been done to look for a WWTP operational failure during that period? Could it have gone unnoticed? Could there have been a nutrient spike in the effluent? Could someone have pumped their septic tank into the sewer? Should monitoring be increased to detect such an event?

Another possibility is that there were excess phosphates in the discharge during that period. Phosphates were detected in the July 2nd samples, but since monitoring phosphates is not required, it is possible that a transient dose of phosphates may have fed the algae growth. Perhaps phosphates should be monitored and, if present in excessive amounts, a public awareness program initiated to promote the use of low or no-phosphate products in the DSPUD service area. For example, does Boreal or Sugar Bowl have laundry facilities that may use high phosphate detergents?

DSPUD's denitrification problem needs solved:

DSPUD claims in their response to the NOV that their solution to the nitrate level problem in the discharge is dilution. They do not even attempt to address what can be done to fix the WWTP process. Instead they blame cold weather, erratic peak weekend to low mid-week flow variations, and I&I for their treatment problems, and then ask for dilution credits to make the problem disappear. DSPUD should be asked to show a plan to fix the treatment process, not dilute the problem.

DSPUD does not seem to have a problem nitrifying ammonia into nitrates. The WWTP's current issue seems to be the denitrification of nitrates to nitrogen. This is born out by the violations subject to penalties, where there were seven nitrate violations and just a single ammonia violation.

The violation data also shows that the WWTP was able to perform without violation during the months of January, February, March and April of 2008. That there were no violations during these months is especially surprising, as DSPUD consistently blames the WWTP problems on cold temperatures, erratic flows and I&I during the winter and spring months. Yet, January through May are the worst months for these conditions, so one would expect to see violations during these months, but there weren't any. Instead the violations were during the low and relatively consistent flow months of June, July, October, November and December. Obviously, cold temperatures could not be blamed for violations in June and July.

The violation data raises questions as to the validity of DSPUD's claim that cold temperatures, erratic flows and I&I are causing the denitrification problem. DSPUD needs to be asked to fix the denitrification problem during low flow months, not grasp at excuses.

Dilution is not a solution:

The South Yuba River Citizen League (SYRCL) issued a report dated September 30, 2008 addressing DSPUD's discharge violations. As pointed out in that report, the South Yuba River does not have enough flow to sufficiently dilute the effluent except during the spring snowmelt months of March, April and May. Their data shows that the river could be 40% effluent during the months of October through January, and between 15% and 30% during the months of June and July. The high effluent

content of the river during June and July is particularly disturbing because the recreational use of the river is high during these months, thereby increasing the risk of human exposure to toxins in the effluent.

The pattern of violations also argues against dilution. As mentioned before, the discharge violations occurred in the months of June, July, October, November and December, which are the months with the lowest river flow, and the least potential for dilution. Again, DSPUD should be asked to fix the nitrate problem, and not be allowed to claim that dilution makes the problem go away.

Surface irrigation should start earlier and be phased in:

The SYRCL report points out that DSPUD has no incentive to switch from river discharge to surface irrigation as early as is possible. DSPUD should be asked to make its best efforts to stop discharging into the river by June 1st. This would minimize the potential for human contact with effluent in June and July, and should also prevent a repeat of this year's algae bloom.

The schedule to switch to spray irrigation should also be phased. If the full effluent flow cannot be sprayed on June 1st, then a partial switch should be feasible, i.e., start spraying as much as the terrain can take on June 1st, and then incrementally increase the spray to the full 100% as soon as conditions warrant.

The phased start may require a little more effort, and may require modifications to the DSPUD pumping system, but the expenses would be justified by the benefits of decreasing the June discharge into the river.

Suggestions:

DSPUD's response to the violations seems to be to ignore problems, pretend there won't be any more algae growths, and then claim dilution will make everything OK. Instead I recommend that the water quality control board should ask DSPUD to:

- 1) Determine if there could have been a WWTP failure in May or June that caused the algae bloom, and then institute policies and procedures that would prevent a repeat occurrence of that failure.
- 2) Start monitoring phosphate levels and if needed initiate a public awareness drive to use phosphate free soaps and detergents.
- 3) Stop blaming cold temperatures, erratic flows and I&I for nitrate level violations and determine what will stabilize the denitrification process.
- 4) Switch to, or phase-in, surface irrigation starting June 1st.

Obviously, no expansion of the plant should be allowed until the nitrate problem has been fixed, and measures have been taken to reduce the effluent discharge into the South Yuba River, especially in the month of June.

Thank you for the opportunity to comment.

Sincerely,

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