Donner Summit Public Utility District

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February 11, 2009

Donner Summit Public Utility District
Board of Directors
P.O. Box 610
Soda Springs, CA 95728

Sierra Lakes County Water District
Board of Directors
P.O. Box 1039
Soda Springs, CA 95728

RE: DSPUD Response to SYRCL Comments Dated September 30, 2008

Dear District Boards:

On September 15, 2008 the Regional Water Quality Control Board, Central Valley Region (RWQCB) issued a notice of Discharger Permit Summary and Infeasibility Report for the Donner Summit Public Utility District Wastewater Treatment Plant. The RWQCB required that questions or comments be received by September 30, 2008. The Donner Summit Public Utility District (DSPUD) provided comments through its consulting engineers ECO:LOGIC. The South Yuba River Citizens League (SYRCL) also provided comments to the RWQCB in a report dated September 30, 2008.

It is the responsibility of the RWQCB permitting staff to respond to all comments received. However, I have been asked by the Board of Directors of the DSPUD and Sierra Lakes County Water District to provide a response to SYRCL's September 30, 2008 comments. Each response is in the same order as presented by Mr. Reedy, SYRCL Science Director.

The Record of Non-Compliance

I will not deny that there is legitimate criticism of the DSPUD's record of violations from 2000 to 2006 (which have been rectified as described below). The Science Director's motives however, are not clear considering the qualifiers he issues and ambiguous claims he makes especially given that Mr. Reedy admits that his analysis of and speculations about alleged District violations are based on incomplete and unconfirmed data.

BOARD MEMBERS: ~Cathy A. Preis, President ~Rachel Tolmachoff, Vice President ~Bob Sherwood, Secretary ~ Philip Gamick~ Dave Oneto

DISTRICT STAFF: Thomas G. Skjelstad, General Manager ~ Jim King, Chief Plant Operator ~ Julie Bartolini, Office Manager

Documented Non-Compliance

It is worth noting that with the exception of one total coliform organism violation, none of the 68 violations between 2000 and 2006 have been repeated. These 2000-2006 violations included pH, BOD, total coliform organisms, and total suspended solids. This marked improvement is due to upgrades to the wastewater treatment plant that were started in 2003.

There must be confusion about the District's admitted inability to consistently meet its nitrate limits and relationship to the algal bloom which occurred in June of 2008. SYRCL's Science Director states, "*In summary, the September 4, 2008[ECO:LOGIC] Report acknowledged the inability of the WWTP to meet effluent limitations for nitrates, yet claimed no connection of this problem with the biostimulation or algal blooms in the river.*" In an effort to support this point he goes on to quote directly from the September 4 Report, "*The nitrate limitation has no connection to biostimulation within the South Yuba River.*" In fact, the District's nitrate ***limitation*** is based on human health risks and not aquatic life criteria. ECO:LOGIC makes the following statement in their July 11, 2008 report, "*Based on field observations, 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...*". To summarize, 1) the DSPUD admits its effluent was a major contributor to the algal bloom, 2) The nitrate ***limitation*** is set based on human health risks and not for the purpose of preventing biostimulation, and 3) the RWQCB staff concluded the bloom presented no risk to human health.

The District has requested dilution credits for nitrates in the new discharge permit. The tentative draft permit has three options: dilution credit for nitrate and dichlorobromethane, no dilution credit for nitrate, or no dilution credits for any constituents. This request by the District is supported by 50 years of recorded stream flows. This option is allowed under the State Implementation Plan and is not unique to DSPUD. In fact, other Nevada County dischargers including Grass Valley and Nevada City have requested or are seeking dilution credits. It is my understanding that both cities discharge into waters that eventually feed the Yuba River.

It is correct that at the time of the State inspection, algae was found in the clarifiers at Plant 1 and 2. This was due to a temporary problem with the filter system -- a problem that did *not* result in the District exceeding its turbidity limits. In SYRCL's report, the Science Director chose to select a limited portion from the September 4, 2008 ECO:LOGIC report and stated "*...effluent turbidity is, and has been, within the regulated parameters.*" This selection does not adequately quote the entire ECO:LOGIC report and in fact, the District believes that the following selection should also have been included "*In fact, if effluent turbidity can be maintained, the presence of algae and other*

growths in the clarifiers would only serve to improve biological treatment of the wastewater, including reducing the concentrations of nutrients in the effluent."

Additional Data- Supported Violations

Chlorine

The District uses chlorine gas to disinfect the effluent in order to control coliform bacteria. Chlorine is introduced as the effluent reaches the chlorine contact basins and de-chlorinated prior to river discharge. Readings of the chlorine are taken as the effluent reaches the contact basins and again as the effluent leaves the basins for the river. In the event of chlorine content, >0.002 mg/l, the effluent is automatically diverted to the emergency storage tank and the on-duty operator (24/7) is contacted to immediately address the issue.

The SYRCL Science Director states that 62 chlorine violations occurred during May 1-31, 2003 and again during January 1-31, 2004. A review of District documents reveals that a transcribing error was made from May 1-31, 2003. The chlorine levels that were recorded were for the chlorine used to disinfect the effluent **as it reaches** the contact basin which would be higher since the point is to disinfect the effluent. The District was contacted by the Regional Board staff, Melissa Hall, in 2005 after she reviewed the District's reports. District staff reviewed all documents and determined that the data reported was the initial chlorine dosage to the effluent for disinfection and not the <0.002 mg/l or Non-Detect of the final effluent. A revised copy of the report for May 2003 was sent to Melissa Hall and included data recording charts and daily laboratory sheets. This information satisfied Ms. Hall's inquiry.

The District has reviewed all of its data and documentation for the period of January 1-31, 2004 and can find no indication of chlorine leaving the plant in the final effluent. All values for the final effluent showed a <0.002 mg/l for chlorine. SYRCL's claims about this time period are suspect.

If the District's effluent had contained 544 lbs. of chlorine and 486 lbs. of chlorine in May of 2003 and again in January 2004, respectively, as SYRCL alleges, this would have resulted in a severe impact to aquatic life that would have been noticed within a 24 – 48 hour period and could possibly have stretched for miles on the South Yuba River. This fact was not examined or mentioned by the Science Director.

Coliform Organisms
The Science Director repeats the record of coliform violations which have already been documented. The sampling for coliform is a sensitive test and even the smallest amount of contamination during sampling or setup can potentially return inaccurate results. It should also be noted that the coliform test is an indicator of the potential presence of coliform bacteria; a positive test does not automatically mean that the discharge is dangerous to human contact. We are concerned stewards of the river and we acknowledge that the District has had coliform violations in the past and may, despite our best efforts, have coliform violations from time to time in the future.

pH
The District acknowledges that on July 5, 2006 the effluent grab sample returned a pH value of 5.0. The District installed an automated pH monitoring and control system to automatically feed a caustic solution to raise the pH and prevent further incidents.

The Science Director also states that "*the discharge shall not have a pH of less than 6.5 nor greater than 8.5*". His report that a pH of 6.5 was recorded on thirteen occasions is irrelevant.

Total Suspended Solids
The District did violate its TSS limits on June 14, 2006 and subsequently was fined for this violation. We also exceeded our monthly limit in May of 2007 even though the effluent TSS values were well below the daily limitations.

Turbidity
Mr. Reedy is correct that the Notice of Adoption Cease and Desist Order and Renewed Waste Discharge Requirements NPDES No. CA0081621, Waste Discharge Requirements Order No. R5-2002-0088 and Cease and Desist Order No. R5-2002-0089, Section I Provisions, Paragraph 5 states:
New effluent limitations for turbidity have been included in this Order. In order to comply with these limits, it will be necessary for the discharger to modify the existing treatment facility. To allow for these modifications a time schedule to comply with these new limits is included. The Discharger shall comply with the following time schedule to complete the necessary improvements and fully comply with the new discharge limits.

Task	*Compliance Date*
Submit Work Plan and Time Schedule	*90 days after permit adoption*
Identify and Scope of Projects	*1 January 2003*
Complete Facility Modifications	*1 April 2007*
Full Compliance	*1 June 2007*

The District came into full compliance with its turbidity requirements on April 2007, which was two months ahead of the *full* compliance date. To date, the District has not exceeded its turbidity limits and does not expect to exceed its turbidity limits. The District does not understand why SYRCL's Science Director would choose to reference turbidity history since he had copies of the Cease and Disorder documents and the associated time schedule. In other words, the District didn't exceed receiving water limitations for the dates that he cites because there were no limits. Nevertheless it supports the fact that treatment at the District's wastewater treatment plant has improved.

As an aside, the 114NTU measured on 12/31/2005 came during a period when all of Northern California was experiencing heavy flooding in the range of a 25 year storm. Precipitation measured at the Sierra Snow Lab between 12/21/2005 and 1/01/2006 exceeded 35 inches. This explains the District's flow of 0.922MGD for that date. I believe that everyone would agree that the South Yuba River at the headwaters probably looked like a chocolate milk shake during this event.

Survival/Bioassays
The District acknowledges that the February 2, 2004 bioassay test showed a 0% survival for minnows, ceriodaphnia dubia. However, as was pointed out above under sub-section Chlorine, there is no record of a month-long chlorine violation during January of 2004.

Nitrate Violations Since April 2007
The record of the District's difficulty to denitrify and its efforts to comply is well established and much has been written about this issue. More information may be found at the District's website www.dspud.com.

Other Possible Violations of Waste Discharge Requirements

Discharge When Land Disposal Possible
In this sub-section SYRCL suggests that there is some financial advantage to the District to forgo land discharge of treated effluent. The Science Director makes no attempt to support his claim perhaps because he knows that this is not true.

During river discharge, the District is required to take samples of the South Yuba twice a week for certain constituents. The cost of the samples and labor to collect them is not incurred during land disposal. Additionally, we discontinue feeding certain chemicals such as sulfur dioxide (for de-chlorination) and alum during spray irrigation. My guess is that the power costs associated with land disposal (we have to pump the effluent to the ski hill) is offset by the costs to discharge to the river. The SYRCL Science Director, Mr.

Mr. Reedy, is aware of this trade-off because we informed him of such during one of his tours of the District's wastewater treatment plant. He also is aware that although we are not required to continue sampling for ammonia and nitrates during land disposal, we continue to do so because of our commitment to the human and environmental health and the aesthetics of the watershed.

Using precipitation records to make the point that weather conditions warrant earlier land disposal may seem possible but the District is obligated to rely on site **data** and **real-time conditions**. By permit, the District cannot begin land disposal when snow is on the ground or when there is visible standing water or runoff. Furthermore, the Science Director states that "*hydrologic conditions on the slopes of Soda Springs Ski Area are unique to the area*". While not unique, the ski hill utilized for land disposal is a north facing slope and it is well known that *north* facing slopes can hold snow and moisture much longer than south facing slopes. In the Sierra Nevada it is not uncommon for snow to remain into late fall on some slopes. These conditions are the overriding factors that determine when we can and cannot dispose to land.

Risk of Spill Events due to Limitations of Storage
The District has operated its plant for 20 years and not once has the emergency storage tank proved inadequate, which includes periods of flooding. The District is on record acknowledging that additional storage requirements may be needed if algal blooms continue, which would lead to getting out of the river earlier.

Compliance with the California Toxics Rule
As far as I know, the District has complied fully with the CTR reporting.

Undetected Violations due to Insufficient Monitoring
It seems that the Science Director has more of a complaint with the monitoring requirements or lack thereof as established by the RWQCB than with the District. His suggestion that the monitoring data available from the District is insufficient to "thoroughly" evaluate the magnitude and frequency with which some pollutants exceed limitations is pretentious and a separate matter from the successful *operation* of the DSPUD wastewater treatment plant. The District has full faith and confidence in the RWQCB to set the monitoring requirements which are based on policies developed by scientists, engineers and other qualified experts. Our obligation is to operate in accordance with those requirements while also keeping a keen eye to the health of our surrounding environment.

The District does take a number of in-house daily samples. The results are used to make any modifications to the treatment process, in order to meet its discharge requirements.

Any in-house sampling is meaningless to the RWQCB as they only accept results from a certified, licensed laboratory.

Reporting Requirements
In a December 12, 2006 letter to Ms. Diana Messina of the RWQCB, the District asked for a time extension to submit its Report of Waste Discharge. This was necessary because on November 28, 2006, the District released its previous consulting engineer which left no time to meet the December 1, 2006 deadline. This extension was granted by the RWQCB.

The District did provide progress reports to the RWQCB as required. It is not for the District to answer SYRCL's other inquiries regarding compliance projects and accountability.

Other Comments on the Discharge Permit Summary: Plant Performance, Denial, and Distorted Dilution
Since this section addresses the District's request for dilution credits for nitrates, I have asked ECO:LOGIC to provide a response.

The Donner Summit Public Utilities District (DSPUD) and Sierra Lakes County Water District (SLCWD) Boards of Directors have requested that the comments of Gary Reedy, Science Director, South Yuba River Citizens League, entitled "Other Comments on the Discharger Permit Summary: Plant Performance, Denial, and Distorted Dilution" dated September 30, 2008, be addressed.

Mr. Reedy correctly cites the finding of California Water Quality Control Board, Central Valley Region, Order No. R5-2002-0088 that the Regional Water Board believed in 2002 that the permitted 2002 increase in volume and mass of pollutants to be discharged would not 1) have significant impacts on aquatic life, or 2) cause violations of water quality objectives. This belief was conditioned on DSPUD complying with the effluent and receiving water limitations of the Order. DSPUD has not been able to comply with all effluent limitations, reliably. DSPUD has made capital improvements under the current Order to improve compliance with the current effluent limitations. DSPUD is committed to making further improvements until compliance with the Regional Water Board Order is achieved.

Currently, the Order is scheduled for renewal and revision, as may be appropriate, based on new information from all parties about the South Yuba River, wastewater disposal planning, wastewater operations, and Regional Water Board water quality objectives. It is necessary for the Regional Water Board to issue the new Order so that DSPUD knows

what effluent limitations it needs to comply with in the future. Only with the new effluent limitations being known can DSPUD planning for compliance (both technical planning and financial planning) progress past the current level of conceptual development.

The basis for Mr. Reedy's statement, "The stated agenda of DSPUD is expansion of wastewater discharge without the operational improvements necessary to protect water quality conditions in the South Yuba River" is unknown. DSPUD in its 2007 Report of Waste Discharge requested no expansion in capacity or discharge to the river over what is permitted in the current 2002 Order. The 2002 permitted capacity currently is not utilized fully; therefore, expanded sewer service is possible, but only if there are credible assurances that the expanded sewer service will be compliant with Order requirements. Regarding the new Order, DSPUD in its Report of Waste Discharge presented new information, new regulatory matters, and new operational strategies warranting re-evaluation of the current effluent limitations. DSPUD proposed that dilution limits be placed on its discharge to the South Yuba River so as to receive dilution credits under the State Implementation Policy. If the effluent limitations are changed in any manner (either more or less stringent), then re-evaluation of the treatment facilities, including the Brentwood Industries equipment, for compliance with the new effluent limitations will be necessary.

DSPUD acknowledges that some biostimulation observed in the South Yuba River in June 2008 tracked back to its effluent discharge point. DSPUD agrees that June/July 2008 river conditions at monitoring station R2 downstream of the effluent discharge point were objectionable, and that DSPUD must act to avoid causing, contributing to, or exacerbating such objectionable conditions in the future. However, the objectionable conditions observed in June/July 2008 may be more complicated than simply a matter of effluent nitrate concentrations:

1. Growths, but not the objectionable growths at R2, tracked back to the upstream DSPUD effluent discharge point. At the effluent discharge point, the effluent discharge "plume" began to cross the river, and in doing so created a gradient of nutrient concentrations from "background" river conditions to almost undiluted effluent. Across this gradient, conditions similar to those at R2 should have occurred, but no band of comparably objectionable growth was observed. It is not known at present whether comparably objectionable growths were absent because of substrate differences, water depth or velocity differences, solar exposure differences, nutrient concentration differences, etc.
2. As just noted, the objectionable growths of live algae that were observed in mid-June were mostly dead and decaying by the end of June even though the DSPUD

effluent discharge had continued throughout this period. River flows decreased significantly during this period such that effluent percentages in the river increased significantly and effluent nutrient concentrations in the river would have increased significantly. Under a condition of increasing effluent nutrients, the objectionable growths died-off, counter to what would be expected under a nutrient causation hypothesis.

3. These same types of growths (but not at objectionable levels) reappeared in the river in September and October 2008, prior to DSPUD beginning its effluent discharge to the river in November 2008. R2 was monitored daily to determine if the addition of effluent starting on November 3, 2008 would cause the already present autumn algae growths to increase. The addition of effluent to the river had no observed impact on the algae present. If effluent did not cause the autumn growths to increase, then effluent may not have caused the spring growths to increase to the levels observed.

Mr. Reedy states, "The evidence that a biostimulation event has never occurred previously is anecdotal and weak." DSPUD expects that the effluent discharge is causing some biostimulation because the effluent undoubtedly does have, and will continue to have, more nutrients and minerals than snowmelt. DSPUD is acting to avoid contributing to or exacerbating "objectionable growths" in the river as observed in June/July 2008.

Though judged "anecdotal and weak" by Mr. Reedy, he provides no evidence to refute the foregoing statement by this "third party" having no connection to DSPUD. Mr. Reedy provides no evidence that objectionable growths are a regular event in the river at or about this location. Additionally, neither DSPUD nor the Regional Water Board states that the discharge does not cause biostimulation. The receiving water limitation that DSPUD is obligated to comply with regarding biostimulation reads:

The discharge shall not cause the following in the receiving water: fungi, slimes, or other objectionable growths.

Mr. Reedy states "While the pattern of denial exhibited by DSPUD is troubling, none of their distortions is more threatening than the claim that the South Yuba River provides greater than 20:1 dilution for their effluent discharge." The current Order places no dilution limits on the DSPUD effluent discharge. DSPUD has requested that dilution limitations be placed on its effluent discharge and that effluent limitations be adjusted to reflect those required levels of dilution.

There is no question that Cisco Grove river flow data are only an indicator of possible river flows at the DSPUD effluent discharge point. That is why DSPUD has proposed both effluent dilution limits and installing an accurate stream gage at the effluent discharge point as part of a cross-river effluent diffuser project. DSPUD believes that this approach may be the best way to provide real-time protection for the river in a manner affordable to its constituency.

Regarding future effluent limitations and effluent dilution requirements (which are inter-related via the State Implementation Policy), DSPUD planning for compliance with these forthcoming requirements includes the following concurrent steps and resulting alternatives:

1. Receive the new Order so that DSPUD knows all of the new and revised limitations placed on the discharge that will affect the design of the improvement project.

2. Considering that growths (apparently of the same genus as the June 2008 objectionable growths) appeared in the river in autumn 2008 (low solar exposure conditions) with no effluent being present in the river, it suggests that heavier growths of these organisms will be present in some springs even if the effluent is absent. Therefore, unless DSPUD can either treat its effluent to a quality comparable to snowmelt runoff (including nutrient and micro-nutrient levels), or cease its effluent discharge when these seasonal growths begin to occur, it is a reasonable hypothesis that DSPUD will contribute to or exacerbate some future objectionable growth condition whether it be in 2009, or 5 to 10 years hence. Treating effluent to snowmelt quality requires reverse osmosis (or equal) treatment, which is expensive to build, maintain, and operate. Constructing effluent storage for use when spring growths begin to occur appears to be more sustainable, but involves taking land for the effluent storage reservoir(s).

Richard E. Stowell, P.E., Ph. D.

At the beginning of this section, Mr. Reedy states, "*The record of non-compliance and documents by DSPUD indicate that the plant manager is willing to falsely characterize the performance of their WWTP in an attempt to influence public opinion and regulators*". My initial inclination was to ignore this comment altogether and file it as more unsubstantiated allegations by SYRCL's Science Director, Mr. Reedy. However, as General Manager of the District I cannot and will not allow a comment of this type, about a staff member, go without a response.

The Donner Summit Public Utility District employs some of the most qualified, dedicated, and professional operators found in the Sierra Nevada. By nature they are outdoorsmen. They enjoy and care for the environment in which they work and play. Everyday they hold themselves to the highest standards of their chosen profession. The State of California lays down very strict rules for all wastewater treatment plant operators.

And I am proud to say that each and every one of the District's operators meet these rules daily.

At the bottom of every monthly monitoring report, which is sent to the RWQCB and signed by the Plant Manager, is the following statement:
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, ***including possibility of fine and imprisonment for knowing violations".*** (emphasis added)

In general, SYRCL's report chronicles the already established history of DSPUD's violations yet it casts suspicion towards the DSPUD and indirectly towards the competency of RWQCB staff, rather than focus on the health of the South Yuba River. Very little of the report discusses the conditions of the river or addresses the permit summary. SYRCL's website declares that since 2006 they have added monitoring stations at upper Castle Creek and along the South Yuba river downstream of the Donner Summit wastewater plant, yet Mr. Reedy's report does not mention the monitoring program and results of those efforts.

The DSPUD, on its own, has decided to expand its sampling efforts on the South Yuba River and is now sampling twice a week for nitrate as N, phosphate as P, and total phosphorous as P. The sampling points are above, and below our discharge point, and at the Towle Mountain Bridge. This sampling will continue through the summer months when we do not discharge to the river. We believe that our enhanced efforts will assist in understanding that section of the South Yuba River and protecting the health of this treasured waterway. Results will be posted on our website for the public to review.

Please feel free to contact me if you have any questions or need additional information.

Respectfully,

Thomas G. Skjelstad
General Manager