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October 20, 2016

**Via Electronic Mail**

Jay Simi  
Central Valley Water Board  
Water Resources Control Engineer  
(916) 464-4833  
[Jay.Simi@waterboards.ca.gov](mailto:Jay.Simi@waterboards.ca.gov)

**RE: PG&E's Comment Letter – 303(d) List Revisions  
2014 Proposed Changes to the Integrated Report - 303(d) List & 305(b) Report**

Dear Mr. Simi:

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on this important document.

PG&E has evaluated the Line of Evidence (LOE) for listing three segments of the Yuba River based on pH data presented by the Central Valley Regional Water Quality Control Board in its decision fact sheets. It is our opinion, that due to insufficient number of measured exceedances or lack of quality data, these listings are not justified at this time. The Board's listing policy includes specific criteria which must be met and our analysis found that not only has the data criteria requirement not been met, but that much of the data used is not of sufficient quality due to instrumentation errors, as well as a lack of documentation as to the collection time of the samples.

Consequently, there is insufficient evidence to support the pH listing for the following river segments and PG&E requests that they NOT be included on the Board's proposed 303(d) list as impaired due to pH exceedances:

- **Yuba River, South Fork (headwaters to Englebright)**
- **Yuba River, Lower**
- **Yuba River, South Fork (Headwaters to Spaulding Lake)**

We have attached the details of our analysis and provided a summary below.

## Summary of PG&E's Specific Concerns:

### **Attachment A: Yuba River, South Fork (headwaters to Englebright) – List on 303(d) List for pH, Decision ID 58480**

- Data provided in the hyperlink for Line of Evidence (LOE) 59393 do not match the data called out in the LOE for pH.
- We reviewed the data collected between 2001 and 2010 for the stations listed in the factsheet LOE and were unable to verify the same data count that the state shows in the determination. We sorted the data by year and stations listed in the factsheet, then sorted for only useable data. We obtained a total count of 289 available daily average samples. In these data, we only found 16 samples that were less than 6.5 for pH. Since only 16 of 289 daily averages exceed the criterion, not 39 of 153 as shown on the factsheet, we concluded that these data would not meet the requirements for listing per the Listing Policy.
- The data source includes narrative indicating that some of the data collected during the study are not reliable due to instrument errors. It appears that some of the unreliable data may have been used in making the determination and these data should be excluded (refer to *pH Meter QA/QC Report- 2011* provided with the correct dataset).
- In addition, the timing of the sample collection is not clear in the dataset and it is difficult to determine if the data represent a true daily average versus a snap shot of current conditions. It is important to make this determination based on data collected at different times during the day because pH will fluctuate throughout the day due to natural processes (generally low in the morning and high in late afternoon). For example, a series of pH values collected only in the early morning (rather than distributed throughout the day) and then used to calculate a “daily” average may produce values that appear to be lower than basin plan objectives.

### **Attachment B: Yuba River, Lower – List on 303(d) List for pH, (Decision ID 54958)**

- It appears that the LOE 59383 may have used data that were marked “unreliable” to make the determination for pH.
- We reviewed the available data collected between 2001 and 2010 for the stations listed in the factsheet LOE and were unable to verify the same data count that the state shows in the determination. We sorted the data by year and stations listed in the factsheet, then sorted for only useable data. We obtained a total count of 139 available daily average samples. In these data, we only found 8 samples that were less than 6.5 for pH. Since only 8 of 139 daily averages exceed the criterion, not 24

of 118 as shown on the factsheet, we concluded that these findings would not meet the requirements for listing per the Listing Policy.

- The data source includes narrative indicating that some of the data collected during the study are not reliable due to instrument errors. It appears that some of the unreliable data may have been used in making the determination and these data should be excluded (refer to *pH Meter QA/QC Report- 2011* provided with the correct dataset).
- In addition, the timing of the sample collection is not clear in the dataset and it is difficult to determine if the data represent a true daily average versus a snap shot of current conditions. It is important to make this determination based on data collected at different times during the day because pH will fluctuate throughout the day due to natural processes (generally low in the morning and high in late afternoon). For example, a series of pH values collected only in the early morning (rather than distributed throughout the day) and then used to calculate a “daily” average may produce values that appear to be lower than basin plan objectives.

**Attachment C: Yuba River, South Fork (Headwaters to Spaulding Lake) –List on 303(d) pH, (Decision ID 54786)**

- Data provided in the hyperlink for Line of Evidence (LOE) 59390 do not match the data called out in the LOE for pH
- We reviewed the available data collected between 2001 and 2010 for the stations listed in the factsheet LOE and were unable to verify the same data count that the state shows in the determination. We sorted the data by year and stations listed in the factsheet, then sorted for only useable data. We obtained a total count of 77 available daily average samples. In these data, we only found 13 samples that were less than 6.5 for pH. Since only 13 of 77 daily averages exceed the criterion, not 64 of 129 as shown on the factsheet, we concluded that these findings may not support listing. The significant reduction in number of quality samples casts doubt on whether there is sufficient data available to support listing at this time.
- The data source includes narrative indicating that some of the data collected during the study are not reliable due to instrument errors. It appears that some of the unreliable data may have been used in making the determination and these data should be excluded (refer to *pH Meter QA/QC Report- 2011* provided with the correct dataset).
- In addition, the timing of the sample collection is not clear in the dataset and it is difficult to determine if the data represent a true daily average versus a snap shot of current conditions. It is important to make this determination based on data collected at different times during the day because pH will fluctuate throughout the day due to natural processes (generally low in the morning and high in late afternoon). For example, a series of pH values collected only in the early morning

(rather than distributed throughout the day) and then used to calculate a “daily” average may produce values that appear to be lower than basin plan objectives.

**References**—the following references were utilized in our evaluation:

Regional Water Quality Control Board – Central Valley Region. 2016. *Draft California 2014 Integrated Report (303(d) List/305(b) Report) Category 5 List of Water Quality Limited Segments*, Draft September 2016.

Regional Water Quality Control Board – Central Valley Region. 2016. *Proposed California 303(d)/305(b) Integrated Report Supporting Information (2014) – Appendix F: Decision Fact Sheets for Region 5, September 2016*.

State Water Resources Control Board (SWRCB) 2015. Water Quality Control Policy for Developing California’s Clean Water Act Section 303(d) List, Amended February 3, 2015.

Yuba Watershed Council, 2008. *Citizen Water Monitoring Quality Assurance Project Plan for the Yuba Watershed Monitoring Committee*, June 30, 2008, Revision 1.3.

Yuba Watershed Council, 2011. pH Meter QA/QC Report – 2011.

Again, we thank you for this opportunity to provide comments, and welcome any questions or concerns you may have regarding our analyses and recommendations. If you have any specific questions regarding our analyses, please feel free to contact Ed Cheslak at 925-785-1374.

Sincerely,



Carrell Gill  
Director, Hydro Licensing

Attachments

## Attachment A

**Yuba River, South Fork (headwaters to Englebright)** – List on 303(d) List for pH

New Decision by State (Decision ID 58480) for 2014 List

**Source:** Unknown

**TMDL:** 2027

**Water Quality Objective / Guideline** From the Basin Plan, pH levels should not be lower than 6.5 or higher than 8.5

**Lines of Evidence (LOE):** Four lines of evidence are available in the administrative record to assess this pollutant. 40 of the 165 samples exceed the COLD, one of the 12 samples exceed each of the MUN and Water Contact Rec water quality objective.

1. **LOE 59393:** Thirty-nine of the 153 daily averaged samples exceeded the water quality objective for pH in this water body (they were below 6.5). Samples collected at the following sites: 11 - Langs Xing 13 - Abv Humbug Ck 14 - Blw Humbug Ck 15 - Purdon Xing 19 - Jones Bar 29 - Keleher 30 - Edwards 31 - 49 Bridge 33 - Bridgeport 42 - Canyon Ck SY 48 - Wash Bridge 49 - Abv Poorman Ck 50 - Abv Purdon; Samples collected between 1/13/2001 and 8/9/2010.

CITIZEN WATER MONITORING QUALITY ASSURANCE PROJECT PLAN FOR THE YUBA WATERSHED  
MONITORING COMMITTEE (June 30, 2008)

### PG&E COMMENTS

The data that is referenced in this line of evidence do not match the data that are being called out. It appears that the wrong data set was attached via hyperlink to the LOE 59393. The correct data set should be the same as that listed in LOE 59383 for Decision ID 54958. When reviewing and sorting the correct data set for the stations listed (from 2001-2010) in the factsheet, it appears that 16 of 289 “useable” samples are less than pH 6.5 and the data may not meet the requirements for listing when only “useable” data is included.

Much of the pH data collected in this study were collected using meters and probes that were determined to be old and unreliable and resulted in erroneous data for pH at many of the stations in many of the years (as documented in the pH Meter QA/QC Report- 2011).

It is also not known when these data were collected during the day and if they represent a true average of daily pH or are more representative of a snapshot in the diel cycle for pH since pH will fluctuate throughout the day. When collecting data for pH it would be better to have a more representative data set that shows how pH may change at a location throughout the day due to various natural processes.

When aquatic plants convert sunlight to energy during photosynthesis, they remove carbon dioxide from the water. This can raise the pH of a stream. Since photosynthesis occurs only when light is present, the highest pH often occurs in the late afternoon. Likewise, lowest pH levels will occur just before sunrise. The

table of data used for the assessment does not provide the timing of the samples. If samples were collected only at one time during the day, they may be representative of a snapshot of the change in pH rather than a true daily average.

## Attachment B

**Yuba River, Lower** – List on 303(d) List for pH

New Decision by State (Decision ID 54958) for 2014 List

**Source:** Unknown

**TMDL:** 2027

**Water Quality Objective / Guideline** From the Basin Plan, pH levels should not be lower than 6.5 or higher than 8.5.

**Lines of Evidence (LOE):** One line of evidence is available in the administrative record to assess this pollutant. 24 of the 118 samples exceed the water quality objective.

1. **LOE 59383:** Twenty-four of the 118 daily averaged samples exceeded the water quality objective for pH in this water body (they were below 6.5). Samples collected at the following sites: 16 - Parks Bar 17 - Blw Daguerre 18 - Hallwood Blvd 20 - Simpson Ln Br; Samples collected between 1/13/2001 and 8/7/2010.

CITIZEN WATER MONITORING QUALITY ASSURANCE PROJECT PLAN FOR THE YUBA WATERSHED  
MONITORING COMMITTEE (June 30, 2008)

### PG&E COMMENTS

When reviewing the data for pH that was referenced by LOE 59383 it appears that some data that were marked as 'Do Not Use' may have been included in the assessment. When looking at each individual year and highlighting the pH values that are less than 6.5 for the stations in the factsheet between 2001 and 2010 there are only 8 of 139 samples that are less than 6.5 that are also considered good data. This would not satisfy the requirements for listing on the 303(d) list.

Much of the pH data collected in this study were collected using meters and probes that were determined to be old and unreliable and resulted in erroneous data for pH at many of the stations in many of the years (as documented in the pH Meter QA/QC Report- 2011).

It is also not known when these data were collected during the day and if they represent a true average of daily pH or are more representative of a snapshot in the diel cycle for pH since pH will fluctuate throughout the day. When collecting data for pH it would be better to have a more representative data set that shows how pH may change at a location throughout the day due to various natural processes.

When aquatic plants convert sunlight to energy during photosynthesis, they remove carbon dioxide from the water. This can raise the pH of a stream. Since photosynthesis occurs only when light is present, the highest pH often occurs in the late afternoon. Likewise, lowest pH levels will occur just before sunrise. The table of data used for the assessment does not provide the timing of the samples. If samples were collected only at one time during the day, they may be representative of a snapshot of the change in pH rather than a true daily average.

## Attachment C

**Yuba River, South Fork (Headwaters to Spaulding Lake)** – Drum/Spaulding, possibly Narrows Relicensing ---  
- List on 303(d) List for Copper and pH

New Decision by State (Decision ID 54786) for 2014 List

**Source:** Unknown

**TMDL:** 2027

### **Water Quality Objective / Guideline**

**Lines of Evidence (LOE):** One line of evidence is available in the administrative record to assess this pollutant. 64 of the 129 samples exceed the water quality objective.

1. **LOE 59390:** Sixty-four of the 129 daily averaged samples exceeded the water quality objective for pH in this water body (they were below 6.5). Samples collected at the following sites: 10 - Indian Springs 28 - Hampshire Rcks 38 - Plavada 39 - Van Norden Dam 41 - Yuba HeadH20 43 - Rainbow Bend 44 - Kingvale 58 - Lola Montez Br 61 - Abv DSPUD discharge 62 - Blw DSPUD discharge. Samples collected between 1/13/2001 and 8/9/2010.

CITIZEN WATER MONITORING QUALITY ASSURANCE PROJECT PLAN FOR THE YUBA WATERSHED  
MONITORING COMMITTEE (June 30, 2008)

### **PG&E COMMENTS**

The data that are referenced in this line of evidence do not match the data that are being called out. It appears that the wrong data set was attached via hyperlink to the LOE 59390. The correct data set should be the same as that listed in LOE 59383 for Decision ID 54958. When reviewing the correct data set for the stations listed in the factsheet (sorted for useable data only between 2001-2010), it appears that 13 of 77 “useable” samples are less than pH 6.5 and would therefore meet the requirements for listing based on the data.

However, it is not known when these data were collected and if they represent a true average of daily pH or are more representative of a snapshot in the diel cycle for pH since pH will fluctuate throughout the day. When collecting data for pH it would be better to have a more representative data set that shows how pH may change at a location throughout the day due to various natural processes.

In addition, much of the pH data collected in this study were collected using meters and probes that were determined to be old and unreliable and resulted in erroneous data for pH at many of the stations in many of the years (as documented in the pH Meter QA/QC Report- 2011). Only data that are marked as “reliable” should be used to make the determination.