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**California Department of Public Health**

DRINKING WATER FIELD OPERATIONS BRANCH  
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EDMUND G. BROWN JR.  
Governor

December 19, 2013

Mr. Bill Koehler, General Manager  
Redwood Valley County Water District  
P.O. Box 399  
Redwood Valley, CA 95470

**RE: Annual Inspection**  
**SN: 2310008**

Dear Mr. Koehler:

This letter is in regards to the California Department of Public Health (Department) annual inspection of Redwood Valley County Water District (District) public water system on November 21, 2013. The purpose of this letter is to inform you of the results of our inspection and the actions necessary for the water system to be in full compliance with the applicable sections of the California Health and Safety Code (CHSC), the California Code of Regulations (CCR), and the provisions of the Domestic Water Supply Permit (Permit) issued for the operation of the public water system. We appreciate your cooperation and the information you and your operators provided during our inspection.

**1. Coagulant Alarm**

During the Department inspection, it was revealed that the coagulant flow alarm has been non-functional since 2012. The District is in violation of Section 64659 (a)(1) of the California Code of Regulation which requires an alarm device to provide warning of a coagulant failure. This requirement was also in the District's water supply permit 02-013-09P2310008, Section 3(e).

The coagulant injection piping is located in a vault that floods during rain events. The flooding has caused the coagulant flow alarm to become non-functional. Measures taken by the District to minimize flooding in the vault have failed. The District's has plans, but no set date to move the static mixer and coagulant injection point above ground. The District is required to have the coagulant injection system and static mixer above ground by April 1, 2014 along with a working coagulant flow alarm or equivalent.

## 2. Alarm Testing

The Department requires major alarms (i.e., coagulant, turbidity, chlorine) to be tested at least once per month and documented in the monthly reports sent to this Department. It was indicated that the operators receive regular calls on alarm events that are addressed each month and therefore, do not regularly test alarms. Each of the major alarms must be verified at least once per month. This can be done directly by testing the alarm or indirectly by responding to an alarm event in that month. Either method or combination thereof is satisfactory to this Department. The District is required to document in the monthly reports that the coagulant, turbidity and chlorine alarms are in working order.

## 3. Insufficient Staffing Level

The Department is concerned that current plant staffing for the District's water treatment and distribution facilities is inadequate to ensure that the plant and distribution system can be properly operated and maintained to produce safe water reliably throughout the year. With only two full time operators and one manager it is apparent that the District doesn't have adequate resources for plant and distribution operation and maintenance. In addition, the District has not complied with permit provisions for developing distribution and plant operation plans which is likely due to lack of resources.

Below in the table are the staffing levels (excluding office employees) for various plants of similar treatment and size.

Plant	# of Connections	Manager	Certified Operators	Non Certified Operators	Total
A	2,300	1	4	2	7
B	2,142	1	3	0	4
C	1,763	1	3	2	6
D	1,628	1	3	0	4
E	1,500	1	3	0	4
F	1,340	1	2	0	3
G	1,219	1	3	0	4
H	1,064	1	3	0	4
I	450	1	2	0	3
J	245	0	2	0	2

F: Redwood Valley Water District

Plants with a total staffing of 4 are the bear minimum to properly operate and maintain the system. In our interviews with the managers of these plants, most stated that an additional operator (total 5) is what is truly needed to operate the treatment plant and distribution system and to keep up with year-round maintenance.

Based on the District's current total staffing of 3, the Department must require the District to conduct an evaluation of its staffing needs for the treatment plant and distribution system. The evaluation must include the following elements:

- Review of the duty statements of existing personnel assigned to work at the treatment plant and in the distribution system and a comparison of the duty statements versus the duties the staff actually perform.
- A compilation of all the duties/tasks required to operate and maintain the treatment plant and distribution system. This must include the amount of time to perform each duty/task and the frequency at which each duty/task must be performed. Maintenance tasks must be performed in accordance with manufacturer's recommendations.
- The total number of personnel hours required to operate and maintain the treatment plant and distribution system per week, per month, and per year based on the required duties/tasks that were identified.
- The staffing level necessary to complete the duties/tasks identified in the analysis as well as necessary to provide reliable back-up.

This evaluation must be completed and submitted to the Department by **March 1, 2014**. The Department may waive the requested evaluation if the District decides to hire a full-time operator.

#### 4. **Flushing and Valve Exercise Plan**

Per water supply permit 02-03-09P2310008, Section 13, the District was required to submit a flushing and valve exercise plan to the Department by March 1, 2010. According to our records, a plan was not submitted. This results in the District being in violation of their water supply permit. The District is required to submit a plan to this Department by **April 1, 2014**. For any delays on the submittal of the plan, a letter shall be submitted to the Department justifying its postponement and provide a new submittal date for review and approval.

#### 5. **Operations Plan**

Per water supply permit 02-03-09P2310008, Section 13, the District was required to update its operations plan to the Department by June 30, 2010. According to our records, a plan was not submitted. Therefore, the District is in violation of their water supply permit. The District is required to submit a plan to this Department by **June 30, 2014**. For any potential delays on the submittal of the plan, a letter shall be submitted to the Department justifying its postponement and provide a new submittal date for review and approval.

**6. Filter Surveillance**

Based on the filter surveillance evaluation conducted on October 3, 2013, it was noted that the freeboard distance from top of the filter media to the bottom of the surface wash nozzle was 13 inches for Filter 3. The bed expansion test results showed between 5.5 to 7 inches of media bed expansion (see attachments). This means that the surface wash system for Filter 3 is most likely in effective in cleaning the top portion of the media. Based on the results, the Department recommends that media be added to filter 3 to a freeboard measurement of 4 inches.

**7. Source Water Chemical Monitoring**

The Department electronically sent the District it chemical monitoring schedule. According to our data base, perchlorate, chloride and sulfate were not monitored. According to the District, these constituents were monitored during the required period. Please contact your State laboratory to have these constituent resubmitted electronically.

**8. Source Water Turbidity Monitoring**

The District has a Hach Surface Scatter turbidity instrument for the source water that is currently not being used due to issues with suspended solids buildup in the instrument's body causing erratic turbidity values. Solids buildup in the turbidity body is not uncommon. To keep the instrument in working order, other utilities develop a maintenance plan which requires daily flushing and scrubbing of the instrument to minimize solids buildup that interferes with the turbidity readings. The Department recommends that the District implement a maintenance plan and put the turbidity instrument back into service to see if this solves the problem.

As always, thank you for you and your staff's efforts to provide safe potable water to your customers. If you have any questions, please feel free to call Guy Schott at (707) 576-2732.

Sincerely,



Michelle Frederick, P.E.  
District Engineer  
Mendocino District Office

Attachments (filter surveillance graphs)