



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board
Division of Drinking Water

July 17, 2015

System No. 4500006

Certified Mail
7012 3460 0003 1113 1427

Shasta County Department of Public Works
1855 Placer Street
Redding, CA 96001

Attn: Eric Wedemeyer, Supervising Engineer

TRANSMITTAL OF COMPLIANCE ORDER NO. 01-02-15R-005

The State Water Resources Control Board Division of Drinking Water has issued the Shasta County Service Area No. 2 – Sugarloaf a compliance order, which is attached.

If you have any questions regarding this matter, please call staff engineer Steve Watson at (530) 224-4828 or me at (530) 224-4800.

A handwritten signature in black ink, appearing to read "Michael J. McNamara".

Michael J. McNamara, P.E.
Lassen District Engineer
Drinking Water Field Operations Branch

cc: Bruce Burton, Assistant Deputy Director, DDW

Enclosure: Compliance Order No. 01-02-15R-005

KEC \ 4500006 Shasta CSA No. 2 – Sugarloaf \ File: Enforcement

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER

TO: Shasta County Community Services Area No. 2 – Sugarloaf
1855 Placer Street
Redding, CA 96001

Attn: Eric Wedemeyer, Supervising Engineer

COMPLIANCE ORDER NO. 01-02-15R-005,
FOR
VIOLATION OF CALIFORNIA CODE OF REGULATIONS,
TITLE 22, SECTION 64652 – WATER SYSTEM NO. 4500006

Issued on July 17, 2015

The State Water Resources Control Board (hereinafter “Board”), acting by and through its Division of Drinking Water (hereinafter “Division) and the Deputy Director for the Division, hereby issues this compliance order (hereinafter “Order”) pursuant to Section 116655 of the California Health and Safety Code (hereinafter “CHSC”), to Shasta County Community Services Area No. 2 – Sugarloaf (hereinafter “CSA”) for violation of CHSC Section 116555(a)(1) & (a)(3) and Title 22, California Code of Regulations (hereinafter “CCR), Section 64652.

1 **APPLICABLE AUTHORITIES**

2

3 **CHSC, Section 116655 states in relevant part:**

4 (a)Whenever the department determines that any person has violated or is
5 violating this chapter, or any permit, regulation, or standard issued or adopted
6 pursuant to this chapter, the director may issue an order doing any of the
7 following:

8 (1) Directing compliance forthwith.

9 (2) Directing compliance in accordance with a time schedule set by the
10 department.

11 (3) Directing that appropriate preventative action be taken in the case of a
12 threatened violation.

13 (b) An order issued pursuant to this section may include, but shall not be limited
14 to, any or all the following requirements:

15 (1) That the existing plant, works, or system be repaired, altered, or added to.

16 (2) That purification or treatment works be installed.

17 (3) That the source of the water supply be changed.

18 (4) That no additional service connection be made to the system.

19 (5) That the water supply, the plant, or the system be monitored.

20 (6) That a report on the condition and operation of the plant, works, system, or
21 water supply be submitted to the department.

22

1 **CHSC, Section 116555(a)(1) & (3) states in relevant part:**

2 (a) Any person who owns a public water system shall ensure that the system
3 does all of the following:

4 (1) Complies with primary and secondary drinking water standards...

5 (3) Provides a reliable and adequate supply of pure, wholesome, healthful, and
6 potable water.

7

8 **CCR, Title 22, Section 64652 provides in relevant part:**

9 (a) A supplier using an approved surface water shall provide multibarrier
10 treatment that meets the requirements of this chapter and reliably ensures at
11 least, between a point where the raw water is not subject to recontamination
12 by surface water runoff and a point downstream before or at the first
13 customer:

14 (1) A total of 99.9 percent reduction of *Giardia lamblia* cysts through filtration
15 and disinfection;

16 (2) A total of 99.99 percent reduction of viruses through filtration and
17 disinfection; and

18 (3) A total of 99 percent removal of *Cryptosporidium* through filtration.

19

1 **CCR, Title 22, Section 64653 provides in relevant part:**

2 (a) All approved surface water utilized by a supplier shall be treated using one of
3 the following filtration technologies unless an alternative process has been
4 approved by the State Board pursuant to subsections (e), (f), (g) and (h):

- 5 (1) Conventional filtration treatment;
6 (2) Direct filtration treatment
7 (3) Diatomaceous earth filtration; or
8 (4) Slow sand filtration

9 (e) An alternative to filtration technologies specified in subsection (a) may be
10 used provided that the supplier demonstrates to the State Board that the
11 alternative technology:

- 12 (1) Provides a minimum of 99 percent *Giardia lamblia* cyst removal, 90
13 percent virus removal for the supplier serving more than 500 persons,
14 and 99 percent *Cryptosporidium* removal; and
15 (2) Meets the turbidity performance standards established by the State
16 Board, as determined from the alternative filtration technology
17 demonstration conducted pursuant to subsection (f). The turbidity
18 performance standards shall not be less stringent than the turbidity
19 performance standards established in subsection (c)(1).

20 (f) The alternative filtration technology demonstration shall be based on the results
21 from a prior equivalency demonstration or a testing of a full scale installation that is
22 treating a water with similar characteristics and is exposed to similar hazards as the
23 water proposed for treatment. A pilot plant test of the water to be treated may also be

1 used for this demonstration if conducted with the approval of the State Board. The
2 demonstration shall be presented in an engineering report prepared by a qualified
3 engineer.

4 5 STATEMENT OF FACTS

6
7 The CSA supplies domestic water to the Sugarloaf subdivision in Lakehead. The
8 sources of domestic water are from an unnamed creek and a groundwater supply
9 well. The CSA's surface water treatment plant uses an "in-line filtration" treatment
10 process to serve approximately 160 individuals through 60 water service connections.
11 The treatment process consists of injecting a coagulant polymer and chlorine
12 disinfectant just prior to filtration through four single media sand pressure filters.

13
14 As of July 1, 2013, the Federal Long-Term 1 Enhanced Surface Water Treatment
15 Rule (LT1ESWTR) became effective as a state regulation. The LT1ESWTR
16 requirements have been incorporated into the state's Surface Water Treatment
17 Regulations (hereinafter SWTR) contained in Title 22, Chapter 17 (Surface Water
18 Treatment), CCR. The LT1ESWTR provides increased public health protection
19 against microbial pathogens, specifically the protozoan *Cryptosporidium* including
20 requiring water system treating surface water sources to provide a minimum of 99%
21 removal of *Cryptosporidium* through filtration.

22

1 In-line filtration is a technology in which a coagulant is injected into a raw water supply
2 immediately upstream of filters, without the provision of flash mix and/or flocculation
3 processes. This type of filtration does not meet the definition of any of the approved
4 filtration technologies listed in CCR Section 64653. As an alternative filtration
5 technology, therefore, water systems that use in-line filtration must demonstrate that
6 their treatment facilities provide 99% removal of *Giardia* and 90% removal of viruses
7 as required under Section 64653. In addition, these filtration plants must demonstrate
8 their ability to provide the required 99% removal of *Cryptosporidium* required under
9 the LT1ESWTR.

10

11 Past experience with performing particle count studies at treatment plants using in-
12 line filtration indicates that many of these facilities failed to provide a 2-log reduction of
13 particles in the *Cryptosporidium* size range (2-5 microns), even while in compliance
14 with the turbidity performance criteria (0.3 NTU at 95 percentile). Therefore,
15 evaluations of such water treatment plants need to provide a means of demonstrating
16 compliance with the pathogen removal requirements that go beyond simply meeting
17 the turbidity performance criteria. Other than meeting turbidity performance criteria,
18 the CSA has not demonstrated compliance with the pathogen removal requirements.

19

20 Two approaches to demonstrating compliance are to determine whether the plant's
21 performance meets the *Cryptosporidium* Action Plan goals; specifically, whether or
22 not the effluent turbidity is able to consistently achieve an effluent turbidity of 0.10
23 NTU at the 95th percentile or to perform a particle count study of the plant's influent

1 and effluent to determine whether it is achieving a 99% reduction of particles in the
2 size range at the 95th percentile. Under either approach, sufficient data must be
3 collected to provide a valid statistical analysis and to reflect seasonal changes in
4 water quality.

5
6 Section 64650 (d) of the SWTR states, "If at any time the Department determines that
7 a water supplier is not in compliance with the requirements of this chapter, the
8 supplier shall submit for Department approval a plan and schedule to modify its
9 system to meet the requirements of this chapter. The supplier shall submit the plan
10 and schedule within 90 days of receipt of the Departments determination."

11
12 **DETERMINATIONS**

13
14 Based on the above Findings of Fact, the Division of Drinking Water finds that the
15 CSA has violated Section 64652, Chapter 17, Title 22, of the CCR. Specifically, the
16 CSA has not demonstrated that the system provides filtration treatment that reliably
17 ensures at least a total of 99% removal of *Cryptosporidium* through filtration.

18
19 **DIRECTIVES**

20
21 Shasta County CSA No. 2 – Sugarloaf is hereby directed to take the following actions:

- 22 1. (a) Identify and provide either an alternate source of supply (i.e., groundwater)
23 or filtration treatment that provides effective reduction of all pathogenic

1 organisms that may be present in the raw water supply. The treatment must
2 provide at least 99.9% reduction of Giardia cysts and 99.99% reduction of
3 viruses through filtration and disinfection, and a total of 99% removal of
4 *Cryptosporidium* through filtration. A letter describing the proposed treatment
5 method shall be submitted to the Division of Drinking Water for approval no
6 later than October 1, 2015 and shall be in operation no later than December 1,
7 2016.

8
9 OR

10

11 (b) Demonstrate that the CSA's treatment plant is capable of providing at least
12 99.9% reduction of Giardia cysts, 99.99% reduction of viruses through filtration
13 and disinfection, and a total of 99% removal of *Cryptosporidium* through
14 filtration, and that the CSA's filtration process complies with the requirements
15 for alternative filtration technologies set forth in Section 64653(f) of the CCR;
16 i.e. provide 99% reduction of giardia cysts and cryptosporidium, and 90%
17 reduction of viruses. A letter describing the proposed demonstration study
18 shall be submitted to the Department for approval no later than October 1,
19 2015.

20

21 2. By September 1, 2015, submit, for approval, a notice that will be used to
22 provide notification to the customers of the failure to comply with Section
23 64652, Chapter 17, Title 22 of the CCR as required in Section 64666, Chapter

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31

17, Title 22 of the CCR in accordance with Section 64464.3 (a) (2) and (b) (1), Chapter 15, Title 22 of the CCR. The public notification shall be published in a local newspaper no later than October 1, 2015 and the first mailed notice shall be sent to all the CSA customers no later than October 1, 2015. The mailed notice shall be repeated on a quarterly basis until compliance is achieved.

3. The CSA shall submit to the Division of Drinking Water a plan and schedule for complying with this Order by October 1, 2015.

4. The CSA shall submit an interim operations plan for the Sugarloaf plant by September 1, 2015.

All submittals required by this Order shall be submitted to the Division at the following address:

Michael McNamara, P.E.
District Engineer, Lassen District
Drinking Water Field Operations
State Water Resources Control Board
Division of Drinking Water
364 Knollcrest Drive, Suite 101
Redding, CA 96002

As used in the Order, the date of issuance shall be the date of this Order; and the date of service shall be the date of service of this Order, personal or by certified mail, on the CSA.

1 The Division reserves the right to make such modifications to this Order and/or to
2 issue such further order(s) as it may deem necessary to protect public health and
3 safety. Such modifications may be issued as amendments to this Order and shall be
4 deemed effective upon issuance.

5
6 Nothing in this Order relieves the CSA of its obligation to meet the requirements of the
7 California Safe Drinking Water Act (SDWA), or any regulation, standard, or permit
8 issued thereunder.

9

10

PARTIES BOUND

11

12 This Order shall apply to and be binding upon the CSA, its owners, shareholders,
13 officers, directors, employees, agents, contractors, successors, and assignees.

14

15

SEVERABILITY

16

17 The directives of this Order are severable, and the CSA shall comply with each and
18 every provision thereof, notwithstanding the effectiveness of any other provision.

19

20

21

22

23

24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the Board to: issue a citation with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the Board; and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the Board. The Board does not waive any further enforcement action by issuance of this Order.

7/17/2015
Date

Richard L. Hinrichs
Richard L. Hinrichs, P.E., Chief
Northern California Section
Division of Drinking Water
State Water Resources Control Board

CERTIFIED MAIL No. 7012 3460 0003 1113 1427

