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STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER

TO: City of Los Angeles Department of Water and Power
Box 51111, Room 1455
Los Angeles, CA 90051

Attn: Mr. Martin L. Adams
Senior Assistant General Manager, Water System

CITATION FOR VIOLATION OF CALIFORNIA CODE OF REGULATIONS, TITLE
22, SECTION 64430
WATER SYSTEM NO. 1910067
CITATION NO. 04_15_16C_001_1910067_05and41a
Issued on April 20, 2016

Section 116650 of the California Health and Safety Code authorizes the issuance of a citation to a public water system for violation of the California Safe Drinking Water Act (Health and Safety Code, Division 104, Part 12, Chapter 4, commencing with Section 116270) (hereinafter "California SDWA"), or any regulation, standard, permit or order issued or adopted thereunder.

1 The State Water Resources Control Board, acting by and through its Division of
2 Drinking Water (hereinafter "Division") and the Deputy Director for the Division
3 (hereinafter "Deputy Director"), hereby issues a Citation to the City of Los Angeles
4 Department of Water and Power (hereinafter "LADWP") (mailing address: Box 51111,
5 Room 1455, Los Angeles, CA, 90051), for failure to comply with Section 64430 of
6 Title 22, California Code of Regulations (CCR).

7
8 **APPLICABLE AUTHORITIES**

9
10 **Section 116650 of California Health and Safety Code provides:**

11
12 **116650. Citations**

13
14 (a) If the department determines that a public water system is in violation of this
15 chapter or any regulation, permit, standard, citation, or order issued or adopted
16 thereunder, the department may issue a citation to the public water system.
17 The citation shall be served upon the public water system personally or by
18 certified mail. Service shall be deemed effective as of the date of personal
19 service or the date of receipt of the certified mail. If a person to whom a citation
20 is directed refuses to accept delivery of the certified mail, the date of service
21 shall be deemed to be the date of mailing.

1 (b) Each citation shall be in writing and shall describe the nature of the violation or
2 violations, including a reference to the statutory provision, standard, order,
3 citation, permit, or regulation alleged to have been violated.

4 (c) A citation may specify a date for elimination or correction of the condition
5 constituting the violation.

6 (d) A citation may include the assessment of a penalty as specified in subdivision (e).

7 (e) The department may assess a penalty in an amount not to exceed one thousand
8 dollars (\$1,000) per day for each day that a violation occurred, and for
9 each day that a violation continues to occur. A separate penalty may be assessed for
10 each violation.

11
12 **Title 22, California Code of Regulations, Article 3.5 Ground Water Rule, Section**
13 **64430 provides:**

14
15 **64430. Requirements**

16
17 A public water system that uses ground water shall comply with the following
18 provisions of 40 Code of Federal Regulations as they appear in the Ground Water
19 Rule published in 71 Federal Register 65574 (November 8, 2006) and amended in 71
20 Federal Register 67427 (November 21, 2006) and 74 Federal Register 30953 (June
21 29, 2009), which are hereby incorporated by reference: Sections 141.21(d)(3),
22 141.28(a), 141.153(h)(6), Appendix A to Subpart O (Consumer Confidence Reports),
23 141.202(a)(8), 141.203(a)(4), Appendices A and B to Subpart Q (Public Notification),
24 and 141.400 through 141.405, except that in:

1 (a) Sections 141.402(a)(1)(ii), (a)(2), (a)(2)(ii), (a)(4), (a)(4)(ii)(A), (a)(5)(i), and
2 (a)(5)(ii), the phrase “§141.21(a)” is replaced by “22 California Code of
3 Regulations Sections 64422 and 64423”,

4 (b) Sections 141.402(a)(1)(ii) and 141.405(b)(4), the phrase “§141.21(c)” is
5 replaced by “22 California Code of Regulations Section 64425”, and

6 (c) Section 141.402(a)(2)(iii), the phrase “§141.21(b)” is replaced by “22 California
7 Code of Regulations Section 64424”.

8
9 **40 CFR, Section 141.404 provides in relevant part:**

10 **Section 141.404. Treatment technique violations for ground water systems.**

11
12 (c) A ground water system subject to the requirements of §141.403(b)(3) that fails to
13 maintain at least 4-log treatment of viruses (using inactivation, removal, or a
14 State-approved combination of 4-log virus inactivation and removal) before or
15 at the first customer for a ground water source is in violation of the treatment
16 technique requirement if the failure is not corrected within four hours of
17 determining the system is not maintaining at least 4-log treatment of viruses
18 before or at the first customer.

19
20 (d) Ground water system must give public notification under §141.203 for the
21 treatment technique violations specified in paragraphs (a), (b) and (c) of this
22 section.

23
24 **40 CFR, Section 141.405 provides in relevant part:**

1 **Section 141.405. Reporting and recordkeeping for ground water systems.**

2
3 (a) *Reporting.* In addition to the requirements of §141.31, a ground water system
4 regulated under this subpart must provide the following information to the
5 State:

6 (1) A ground water system conducting compliance monitoring under
7 §141.403(b) must notify the State any time the system fails to meet any
8 State-specified requirements including, but not limited to, minimum
9 residual disinfectant concentration, membrane operating criteria or
10 membrane integrity, and alternative treatment operating criteria, if
11 operation in accordance with the criteria or requirements is not restored
12 within four hours. The ground water system must notify the State as
13 soon as possible, but in no case later than the end of the next business
14 day.

15 **STATEMENT OF FACTS**

16 LADWP is a community water system that serves approximately 3.9 million people
17 through 690,547 service connections. It is operated under Water Supply Permit No.
18 04-15-08P-003, issued on May 1, 2008, and subsequent permit amendments.

19
20 Approximately 10 to 15 percent of LADWP's water supply is provided by groundwater
21 sources in the Los Angeles area. The Central Basin is an inland groundwater basin
22 confined by the Santa Monica and Beverly Hills Basins to the northwest, Main San
23 Gabriel Basin to the northeast, Orange County Basin to the southeast, and West
24 Coast Basin to the southwest. LADWP has two active well fields in the Central Basin:
25 the 99th Street and Manhattan Well Fields. The 99th Street Well Field includes four

1 active and one inactive well (Well 11). The active wells (Wells 12, 13, 14 and 15) may
2 be operated locally, through on-site controls, or remotely through the Los Angeles
3 Water System Data Acquisition and Control (LAWSDAC) system. The wells feed a
4 collector line that discharges into the 99th Street Sump. The portion of the distribution
5 system served by the 99th Street Wells is isolated from the rest of the LADWP
6 distribution system, and is the only part of the LADWP distribution that remains on
7 free chlorine instead of a chloramine residual.

8
9 LADWP conducts Ground Water Rule (GWR) monitoring in accordance with the
10 approved *Ground Water Rule Monitoring Plan*, dated April 2015, which was
11 developed pursuant to Title 22, CCR, Section 64430. The Los Angeles Department of
12 Water and Power (LADWP) meets the Ground Water Rule requirements at most well
13 fields, including the 99th Street Well Field, by providing disinfection with free chlorine
14 to obtain a minimum of 4-log virus inactivation. For well fields with CT calculations,
15 LADWP uses the free chlorine residual as the primary parameter to track compliance.
16 The calculations included in this monitoring plan identify the safe minimum free
17 chlorine residual that achieves the required inactivation under all temperature, flow,
18 and tank level conditions at each location. The operational approach is to set alarms
19 on the chlorine residual analyzers to alert operators before chlorine residuals fall
20 below these safe minimum values. Monthly reports include the minimum daily chlorine
21 residual at each location based on hourly measurements.

22
23 Friday, January 15, 2016, 20:39

24
25 The Los Angeles Aqueduct Filtration Plant (LAAFP) Control Room received a low
26 chlorine residual alarm from 99th Street Wells on both the LAAFP Distributed Control

1 System (DCS) and the Distribution Treatment Operations Control Center (TOCC)
2 systems. The low alarm setpoint was 1.0 mg/L free chlorine. (LAAFP was out of
3 service for its annual shutdown from January 10 through January 25. The LAAFP
4 Control Room was staffed continuously during the shutdown to monitor distribution
5 system alarms.)

6
7 Friday, January 15, 2016, 20:50

8
9 Free chlorine residual dropped below 0.24 mg/L, which was the calculated minimum
10 residual for 4-log virus inactivation, based on actual flow and water temperature. This
11 value was calculated later, when the monthly report was prepared.

12
13 Friday, January 15, 2016, 22:00

14
15 The AM Shift Control Room Operator started. The PM Shift Control Room Operator
16 did not notify the Distribution Water Treatment Supervisor of the alarm and did not
17 inform the AM Shift Control Room Operator of the alarm.

18
19 Saturday, January 16, 2016, 00:51

20
21 The AM Shift Control Room Operator discovered the alarm and notified the
22 Distribution Water Treatment Supervisor of the alarm at 99th Street Wells.

23
24 Saturday, January 16, 2016, 01:07

25

1 A Water Treatment Operator entered the 99th Street Wells treatment plant and began
2 troubleshooting the sodium hypochlorite system. Within two minutes the hypochlorite
3 pump was switched to back-up pump 2 and treatment began. With 10 minutes, the
4 operator had carboys of hypochlorite at the top of the forebay closer to the booster
5 pumps and started a continuous stream of hypochlorite.

6
7 Saturday, January 16, 2016, 02:25

8
9 Free chlorine residual exceeded 0.24 mg/L, achieving 4-log virus inactivation in water
10 entering the distribution system. Elapsed time below 4-log virus inactivation was 5
11 hours and 35 minutes.

12
13 Saturday, January 16, 2016, 02:56

14
15 Free chlorine residual exceeded 1.0 mg/L and the low chlorine alarm cleared.

16
17 Saturday, January 16, 2016, 05:23

18
19 Operators completed work on the sodium hypochlorite system and departed facility.

20
21 Friday, February 19, 2016

22
23 The Water Quality Control Division (WQC) at LADWP retrieved historical chlorine
24 residual analyzer data to prepare the Ground Water Rule Monthly Report. When
25 preparing the January GWR Monthly Report, WQC determined that a chlorine outage

1 at 99th Street Wells had exceeded four hours. The incident was investigated and the
2 report was finalized during the week of February 22.

3

4 Friday, February 26, 2016

5 The January 2016 GWR monthly report was hand-delivered to the Division office
6 (Attachment A). (The due date for the GWR monthly report is currently the 25th day of
7 the following month.)

8

9 Thursday, March 3, 2016

10

11 Mr. Don Christie, Manager of WQC at LADWP, sent an email to the Division, notifying
12 the Division of the failure to maintain 4-log virus inactivation at the 99th Street Wells
13 for approximately 5 hours and 40 minutes.

14

15 Source Water Evaluation and Investigation

16

17 The 99th Street wells have had only two positive total coliform bacteria results out of
18 151 groundwater samples taken since 2009. Raw water samples taken from the wells
19 in December 2015 and January 2016 were coliform negative. Total Coliform Rule
20 samples from the 99th Street wells service area collected on January 20 and 21, 2016
21 were coliform-negative.

22

23

DETERMINATION

24

25

26

The Division has determined that LADWP is in violation of Section 64430 of Title 22,
California Code of Regulations due to the failure to maintain 4-log virus inactivation for
more than four hours at the 99th Street Wells and due to the failure to notify the

1 Division of the treatment technique violation by the end of the next business day. The
2 lapse in chlorination to provide 4-log virus inactivation for more than four hours
3 constitutes a violation of CRF Section 141.404 (c), and the failure to notify the Division
4 by the end of the next business day constitutes a violation of 141.405 (a) (1).

5
6 **DIRECTIVES**
7

8 LADWP is hereby directed to take the following actions:
9

- 10 1. Because of the failure to maintain at least 4-log inactivation treatment of
11 viruses before or at the first customer at the portion of the LADWP
12 distribution system served by the 99th Street wells, Section 64463.4, Title
13 22, CCR, regarding Tier 2 Public Notice, will be utilized for the failure to
14 meet the Ground Water Rule, as instructed in CFR Section 141.203, Table
15 1 (4). On March 23, 2016, LADWP submitted a letter to the Division
16 requesting a 60-day extension for providing the notice, pursuant to Section
17 64463.4(b), Title 22, CCR, because of the delay in discovering the violation
18 and the difficulty in notifying customers outside of Los Angeles city limits
19 who were affected (Attachment B). This extension is approved because the
20 violation has been resolved and the Division has determined that public
21 health and welfare would in no way be adversely by the extension of the
22 deadline to provide Tier 2 notification. Therefore, by **May 19, 2016**, LADWP
23 shall provide Tier 2 public notification by mail or direct delivery to each
24 customer in the service area affected by the Ground Water Rule violation;
25 i.e., in the 99th Street Wells service area (hereinafter, 'zone'). The notice
26 shall include all mandatory language specified by the regulation. Notice

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shall be provided to all customers in this zone that receive a bill, including those that provide their drinking water to others (e.g., schools or school systems, apartment building owners, or large private employers), and other service connections in this zone to which water is delivered by the water system. In addition, LADWP shall use one or more of the following methods to reach persons in this zone not likely to be reached by the a mailing or direct delivery (renters, university students, nursing home patients, prison inmates, etc.): (1) publication in a local newspaper or newsletter distributed to customers; (2) e-mail message to employees or students; (3) posting on the Internet or intranet; or (4) direct delivery to each customer.

2. Within 10 days of providing Tier 2 notification, LADWP shall provide proof of notification by submittal of the necessary form (Attachment C) with a copy of the distributed notice to the Division. The certification of notification must identify the number of notices posted, the locations where the notices were posted, and how long the notices were posted.

3. LADWP distribution and treatment operators responsible for responding to low chlorine residual alarms shall be fully trained to carry out their duties. By **October 20, 2016**, LADWP shall submit a letter listing the names of the trainees, contents of the training sections (courses), and dates and locations of these training sections provided. If in-house training is used, information regarding the experiences and qualifications of the instructors shall also be provided. The training courses must be related to Groundwater Rule monitoring, reporting, and notification, and include review of internal communication protocols to ensure that all incidents



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where 4-log virus inactivation was not provided for more than 4 hours are reported to the LADWP WQC, and in turn to the Division, as soon as possible and in no case later than the end of the next business day.

4. LADWP shall modify the LAAFP DCS and the Distribution TOCC as necessary to ensure that all distribution low chlorine alarms that indicate there may be a failure to provide 4-log virus inactivation for a groundwater source have been acknowledged and responded to within one hour, and that if such an alarm has not been acknowledged within one hour, there is an automatic notification procedure to ensure timely response to the alarm. LADWP shall also document communication protocols to ensure that all incidents where 4-log virus inactivation was not provided for more than 4 hours are reported to the LADWP WQC, and in turn to the Division, as soon as possible and in no case later than the end of the next business day. The LADWP Groundwater Rule Plan shall be updated with this information and submitted to the Division by **October 20, 2016**.

5. LADWP shall report to the Division whether there is an automatic notification system for other major water system alarms that indicate potential failure to meet CCR Title 22 or Division permit provisions if the major alarm is not acknowledged within a specified period of time. This report shall be submitted to the Division by **October 20, 2016**.

6. Effective with the June 2016 report, LADWP shall submit the Groundwater Rule Monthly Report to the Division by the tenth day of the following month, as required in 40 CFR 141.31.

1 The Division reserves the right to make such modifications to this Citation as it may
2 deem necessary to protect public health and safety. Such modifications may be
3 issued as amendments to this Citation, and shall be deemed effective upon issuance.
4

5 Nothing in this Citation relieves LADWP of its obligation to meet the requirements of
6 the California Safe Drinking Water Act, or of any regulation, permit, standard, or order
7 issued or adopted thereunder.
8

9 All submittals required by this Citation shall be submitted to the Division at the
10 following address:
11

12 Chi Diep
13 District Engineer
14 State Water Resources Control Board
15 Division of Drinking Water
16 500 North Central Avenue, Suite 500
17 Glendale, CA 91203
18

19 **PARTIES BOUND**

20 This Citation shall apply to and be binding upon LADWP, its officers, directors,
21 shareholders, agents, employees, contractors, successors, and assignees.
22

23 **SEVERABILITY**

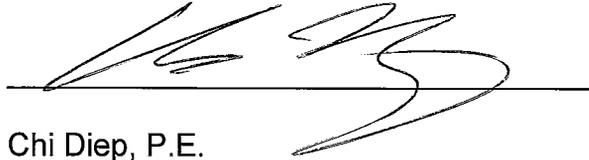
24 The Directives of this Citation are severable, and LADWP shall comply with each and
25 every provision thereof, notwithstanding the effectiveness of any other provision.
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FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the Division to: issue 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 permit, regulation, permit 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 Division to take action to suspend or revoke a permit that has been issued to a public water system if the system has violated applicable law or regulations or has failed to comply with an order of the Division; 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 Division. The Division does not waive any further enforcement action by issuance of this citation.

April 20, 2016

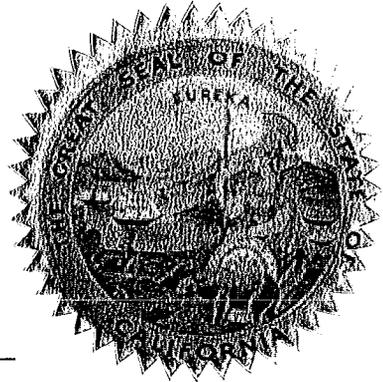


Date

Chi Diep, P.E.
District Engineer
Division of Drinking Water
State Water Resources Control Board

Attachments:

- A: LADWP January 2016 GWR Monthly Report
- B: LADWP Incident Report Letter
- C: Form for Proof of Tier 2 Notification



By Certified Mail No. 7012 3460 0002 3404 4071

ATTACHMENT A

LADWP January 2016 Groundwater Rule
Monthly Report

Los Angeles  Department of Water & Power

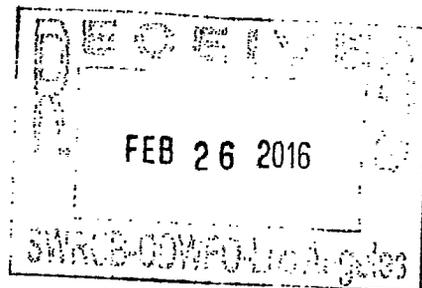
ERIC GARCETTI
Mayor

Commission
MEL LEVINE, *President*
WILLIAM W. FUNDERBURK JR., *Vice President*
JILL BANKS BARAD
MICHAEL P. FLEMING
CHRISTINA E. NOONAN
BARBARA E. MOSCHOS, *Secretary*

MARCIE L. EDWARDS
General Manager

February 26, 2016

Mr. Chi Diep, P.E.
District Engineer, Metropolitan District
State Water Resources Control Board
Division of Drinking Water
500 North Central Avenue, Suite 500
Glendale, California 91203



Dear Mr. Diep:

Subject: Groundwater Rule Disinfection Monitoring Report for January 2016
Los Angeles Department of Water and Power (LADWP) System No. 1910067

Enclosed is the subject monthly report as required by the Groundwater Rule Monitoring Plan. LADWP meets the requirements using two approaches. LADWP's practice at most well fields is to provide disinfection with free chlorine to obtain a minimum of 4-log virus inactivation. To increase groundwater production during the drought, triggered source water monitoring is being used on a temporary basis at the Erwin, Whitnall, and Verdugo well fields.

The Summary page of the report lists the lowest hourly chlorine residual level on each day for each of the seven locations where groundwater can enter the distribution system. All online analyzer failures exceeding four hours and all instances with a chlorine residual below the respective minimum safe chlorine in milligrams per liter (mg/L) for each of the seven locations are described on the Exceptions page of the report.

In January there was one incident of chlorine residual below the target minimum for more than four hours at the 99th Street Wells facility. The sodium hypochlorite feed pump failed on Friday, January 15. At approximately 8:40 p.m. the chlorine residual analyzer dropped below the low alarm setpoint of 1.0 mg/L. The chlorine residual in water entering the distribution system dropped below the minimum to achieve 4-log virus inactivation at approximately 8:50 p.m. Two Water Treatment Operators arrived at the plant at approximately 1:00 a.m. on January 16 and corrected the problem. By approximately 2:30 a.m. water entering the distribution system had been treated to obtain 4-log virus inactivation. The interruption in treatment providing 4-log virus inactivation lasted approximately 5 hours and 40 minutes. The response to this incident was slower than normal. This was partly due to delayed notification from the Los Angeles Aqueduct Filtration Plant Control Room to a Water Treatment Supervisor and partly due to the need for two off-duty Water Treatment Operators to meet before responding to a nighttime alarm at this location. Please see the Exception page for details.

Los Angeles Aqueduct Centennial Celebrating 100 Years of Water 1913-2013

111 N. Hope Street, Los Angeles, California 90012-2607 Mailing address: Box 51111, Los Angeles, CA 90051-5700
Telephone: (213) 367-4211 www.LADWP.com

Mr. Chi Diep, P.E.
Page 2
February 26, 2016

This monthly report continues under the monitoring plan which includes triggered monitoring for the Erwin, Whitnall, and Verdugo well fields. Verdugo Wells No. 11 and No. 24 were in service in January, the latter activated on the 27 of the month. There were no Total Coliform Rule positive samples in the pertinent areas served by these wells.

If you need additional information, please contact Mr. Rey Reyes, Jr., Chemist, at (213) 367-4354.

Sincerely,



J. Don Christie
Manager of Water Quality Control

RR:gg
Enclosures
c/enc: Mr. Rey Reyes, Jr.

**Groundwater Rule Disinfection Monitoring
PWS 1910067**

**January 2016 Groundwater Rule Disinfection Monitoring
Monthly Report**

As a certified Water Treatment Operator directly responsible for operation of the Groundwater Rule Disinfection Monitoring, I have reviewed this report and it accurately describes plant operations.

Jorge L. Pineda

Jorge L. Pineda, Water Treatment Supervisor
Water Treatment Operator # 13696

2-26-16

Date

Ground Water Rule Disinfection Monitoring - January 2016

Minimum Daily Chlorine Residual (mg/L) Based on Hourly Analyzer Readings

Los Angeles Department of Water and Power - System No. 1910067

	Mission Wells	Tujunga Wells	North Hollywood and AT	Rinaldi Toluca Wells	Pollock Wells	Manhattan Wells	99th Street Wells
Minimum Safe Chlorine Residual	0.3 mg/L	0.2 mg/L	1.5 mg/L	0.7 mg/L	0.2 mg/L	0.3 mg/L	0.6 mg/L
Fri, 1/1/16	No Flow	2.32	3.03	No Flow	No Flow	2.38	1.84
Sat, 1/2/16	No Flow	2.31	3.28	No Flow	No Flow	2.33	1.68
Sun, 1/3/16	No Flow	2.29	3.33	No Flow	No Flow	1.25	1.61
Mon, 1/4/16	No Flow	2.26	3.31	No Flow	No Flow	2.38	1.51
Tue, 1/5/16	No Flow	1.97	3.28	No Flow	No Flow	2.41	1.66
Wed, 1/6/16	No Flow	No Flow	3.23	No Flow	No Flow	2.47	0.75
Thu, 1/7/16	No Flow	No Flow	3.20	No Flow	No Flow	2.45	1.19
Fri, 1/8/16	No Flow	No Flow	3.16	No Flow	No Flow	2.41	1.84
Sat, 1/9/16	No Flow	No Flow	3.17	No Flow	No Flow	2.45	1.69
Sun, 1/10/16	No Flow	No Flow	3.15	No Flow	No Flow	2.40	1.68
Mon, 1/11/16	No Flow	No Flow	3.04	No Flow	No Flow	2.38	1.82
Tue, 1/12/16	No Flow	No Flow	3.34	No Flow	No Flow	2.35	1.79
Wed, 1/13/16	No Flow	No Flow	3.34	No Flow	No Flow	2.24	0.88
Thu, 1/14/16	No Flow	No Flow	3.41	No Flow	No Flow	2.42	1.74
Fri, 1/15/16	No Flow	2.42	3.43	No Flow	No Flow	2.39	0.00 *
Sat, 1/16/16	No Flow	2.41	3.40	No Flow	No Flow	2.32	0.00 *
Sun, 1/17/16	No Flow	2.42	3.38	No Flow	No Flow	2.29	1.60
Mon, 1/18/16	No Flow	2.39	3.12	No Flow	No Flow	2.31	1.04
Tue, 1/19/16	No Flow	2.39	3.04	No Flow	No Flow	2.34	1.34
Wed, 1/20/16	No Flow	2.26	3.17	No Flow	No Flow	2.37	1.09
Thu, 1/21/16	No Flow	2.43	3.13	No Flow	No Flow	2.39	1.68
Fri, 1/22/16	No Flow	2.48	2.60	No Flow	No Flow	2.39	1.68
Sat, 1/23/16	No Flow	2.48	3.19	No Flow	No Flow	2.43	1.60
Sun, 1/24/16	No Flow	2.42	3.13	No Flow	No Flow	2.42	1.65
Mon, 1/25/16	No Flow	2.39	3.19	No Flow	No Flow	2.35	1.67
Tue, 1/26/16	No Flow	2.53	3.29	No Flow	No Flow	2.47	1.66
Wed, 1/27/16	No Flow	2.45	3.37	No Flow	No Flow	No Flow	1.69
Thu, 1/28/16	No Flow	2.31	3.40	No Flow	No Flow	No Flow	1.69
Fri, 1/29/16	No Flow	2.26	3.34	No Flow	No Flow	2.41	1.68
Sat, 1/30/16	No Flow	2.38	3.34	No Flow	No Flow	2.42	1.68
Sun, 1/31/16	No Flow	2.38	3.29	No Flow	No Flow	2.44	0.68

* Please see exception page for discussion.

Number of online analyzer outages exceeding four hours:

0

Were 4-hour grab samples collected for outages exceeding 4 hours?

NA

Number of instances with value below safe minimum chlorine residual:

1

Did any instance of < 4-log virus inactivation exceed four hours?

Yes

Ground Water Rule Disinfection Monitoring - January 2015

Chlorine Residual Analyzer Failures and CT Calculations

Los Angeles Department of Water and Power - System No. 1910067

1.) Number of chlorine analyzer outages exceeding four hours:

0

2.) Number of instances below designated minimum chlorine residual:

1

99th Street Wells - Low Chlorine Incident

1/15/2016 20:00 - 1/16/2016 04:00

Time	Analyzer Free CL2 ppm	cfs	Grab
1/15/16 20:00	1.77	6.6	
1/15/16 21:00	-0.01	6.1	
1/15/16 22:00	-0.01	5.4	
1/15/16 23:00	-0.01	6.1	
1/16/16 0:00	-0.01	6.3	
1/16/16 1:00	-0.01	6.3	
1/16/16 2:00	-0.01	6.2	
1/16/16 3:00	1.27	6.2	
1/16/16 4:00	1.75	6.2	

1/16/16 1:10	-0.01		0.03
1/16/16 3:40	1.81		1.73

WT OP on site - drip chlorine activated

COLLDATE	LOC CODE	Temp deg C
26-Jan-16	NN013	22.3
26-Jan-16	NN014	21.7
26-Jan-16	NN012	20.8

Assume 20 deg C

Target value for 4-log virus by chlorine
= 3.0 mg/L*min

From GWR Monitoring Plan, Effective volume = 4700 ft³ (this is forebay volume * 0.3 baffling factor)

Use max flow during low residual period = 6.3 cfs

$$t_{-10} = (4700 \text{ ft}^3) / (6.3 \text{ ft}^3/\text{sec}) / (60 \text{ sec}/\text{min}) = 12.43 \text{ min}$$

Required residual = (3.0 mg/L*min) / (12.43 min) = 0.24 mg/L for 4-log virus inactivation at 20 deg C and 6.3 cfs

Ground Water Rule Monthly Report - January 2016
Triggered Source Water Monitoring for Erwin, Whitnall, and Verdugo Well Fields
 Los Angeles Department of Water and Power - System No. 1910067

TCR Locations Normally Supplied by RSC				Total Coliform, Number / 100 ml								Any E. coli Positive in Well Samples?
TCR Location	Pressure Zone	TCR Positive Date	Well Sample Date	ER-6	ER-10	WH-4	WH-5	WH-6A	WH-7	VE-11	VE-24*	
Wells Status				off	off	off	off	off	off	on	on	
007ST	448											No
055ST	386											No
108ST	386											No
AVALON	386											No
BROADWAY	619											No
COOLIDGE	462											No
DEWAP	619											No
DS005	386											No
DS013	386											No
DS018	386											No
DS019	386											No
DS053	386											No
DS054	619											No
DS061	448											No
GPBYSCMP	GP											No
GPLAZOO	GP											No
GPNRGRST	GP											No
GPTK075	GP											No
GPTK111	GP											No
GPTK113	GP											No
GPTK151	GP											No
GPTK153	GP											No
HUNTER	462											No
MAIN	462											No
NEWHMPHSH	448											No
STATE	462											No

Activated to 3.6 cfs flow as of 1/27/2016 1:30:00 PM

ATTACHMENT B

LADWP Incident Report Letter

Los Angeles  Department of Water & Power

ERIC GARCETTI
Mayor

Commission
MEL LEVINE, *President*
WILLIAM W. FUNDERBURK JR., *Vice President*
JILL BANKS BARAD
MICHAEL F. FLEMING
CHRISTINA E. NOONAN
BARBARA E. MOSCHOS, *Secretary*

MARCIE L. EDWARDS
General Manager

March 23, 2016

Mr. Chi Diep, P.E.
District Engineer, Metropolitan District
State Water Resources Control Board
Division of Drinking Water
500 N. Central Avenue, Suite 500
Glendale, California 91203

Dear Mr. Diep:

Subject: Request for Public Notification Time Extension for Ground Water Rule
Violation at 99th Street Wells Service Area

When preparing the January Ground Water Rule monthly report in late February 2016, we determined that a chlorine outage at 99th Street Wells had exceeded four hours. The virus inactivation was less than 4-logs for approximately 5.67 hours, from Friday, January 15 – Saturday, January 16, 2016, 8:50 p.m. – 2:30 a.m., resulting in a Tier 2 Treatment Technique violation.

Three wells were in service – NN012, NN013, and NN014 – with a total flow of approximately 6 cfs. This water does not blend significantly with other sources. The 99th Street Wells service area is still on free chlorine, with a new chloramination station scheduled for completion in 2017.

The bacteriological history is good for these wells. Since 2009 only two of 151 well samples have been positive for coliform bacteria. Both samples taken on September 2009 and August 2014, from Well NN014, were 1.01 total coliform. The December and January 2016 samples for all three wells were good.

Total Coliform Rule samples from the 99th Street Wells service area were collected from the JUNIPER location on January 20, 2016, and the BEACH location on January 21, 2016, were coliform-negative.

Los Angeles Aqueduct Centennial Celebrating 100 Years of Water 1913-2013

111 N. Hope Street, Los Angeles, California 90012-2607 Mailing address: Box 51111, Los Angeles, CA 90051-5700
Telephone: (213) 367-4211 www.LADWP.com

Mr. Chi Diep
Page 2
March 23, 2016

The January monthly report has the hourly chlorine residual analyzer readings and a CT calculation to determine the minimum chlorine residual for 4-log virus inactivation using the actual flow and water temperature.

Since we just became aware of the violation on February 19, 2016, I am requesting a 60-day extension to the 30-day public notification requirement for Tier 2 violations. We are working as quickly and efficiently to identify all affected customers that must receive the notification letter.

Sincerely,

A handwritten signature in cursive script that reads "Melinda A. Rho".

Melinda A. Rho
Manager of Regulatory Affairs and Consumer Protection

MAR:bdw
Enclosure

LOS ANGELES DEPARTMENT OF WATER AND POWER

Timeline for the Interruption in Chlorine Treatment at the 99th Street Wells treatment plant
on January 15-16, 2016

- January 10 -25 The Los Angeles Aqueduct Filtration Plant (LAAFP) was out of service for the annual shutdown. The LAAFP Control Room was staffed continuously during the shutdown to monitor distribution system alarms.
- January 15, 20:39 hr LAAFP Control Room received a low chlorine residual alarm from 99th Street Wells on both the LAAFP Distributed Control System and the Distribution Treatment Operations Control Center (TOCC) systems. The low alarm setpoint was 1.0 mg/L free chlorine.
- January 15, 20:50 hr Free chlorine residual dropped below 0.24 mg/L, which was the calculated minimum residual for 4-log virus inactivation, based on actual flow and water temperature. This value was calculated later, when monthly report was prepared.
- January 15, 22:00 hr The AM Shift Control Room Operator started. The PM Shift Control Room Operator did not notify the Distribution Water Treatment Supervisor of the alarm and did not inform the AM Shift Control Room Operator of the alarm.
- January 16, 00:51 hr The AM Shift Control Room Operator discovered the alarm and notified the Distribution Water Treatment Supervisor of the alarm at 99th Street Wells.
- January 16, 01:07 hr Water Treatment Operator entered the 99th Street Wells treatment plant and began troubleshooting the sodium hypochlorite system. Within 2 minutes the hypochlorite pump was switched to back-up pump 2 and treatment began. Within 10 minutes the operator had carboys of hypochlorite at the top of the forebay closer to the booster pumps and started a continuous stream of hypochlorite.
- January 16, 02:25 hr Free chlorine residual exceeded 0.24 mg/L, achieving 4-log virus inactivation in water entering the distribution system. Elapsed time below 4-log virus inactivation was 5 hours and 35 minutes.
- January 16, 02:56 hr Free chlorine residual exceeded 1.0 mg/L – low chlorine alarm cleared.
- January 16, 05:23 hr Operators completed work on the sodium hypochlorite system and departed facility.
- February 19, 2016 Water Quality Control retrieved historical chlorine residual analyzer data to prepare Ground Water Rule monthly report. When preparing the January GWR monthly report Water Quality Control determined that a chlorine outage at 99th Street Wells had exceeded four hours. The incident was investigated and the report was finalized during the week of February 22.
- February 26, 2016 Ground Water Rule monthly report for January 2016 hand-delivered to DDW office.
- March 3, 11:58 hr Water Quality Control manager contacted DDW by email to raise attention to the treatment technique violation at 99th Street Wells service area.

ATTACHMENT C

Form for Tier 2 Proof of Notification

PROOF OF NOTIFICATION

Name of Water System: **Los Angeles Department of Water and Power**

System Number: 1910167

**Certification of Notification for
Ground Water Rule Treatment Technique and Reporting Violations**

As required by *California Code of Regulations*, Title 22, Section 64463.4, *Tier 2 Public Notice*, I notified the users of the water supplied by the Los Angeles Department of Water and Power in 99th Street Wells service area of the violations of Section 64430, Title 22, *California Code of Regulations*. I complied with the requirement to conduct public notification as indicated below:

<u>Required Action (indicate all that were used)</u>	<u>Date Completed</u>
Public Notification – Hand Delivery	<input type="text"/>
Public Notification - Mail Delivery	<input type="text"/>
Public Notification – Continuous Posting	<input type="text"/>
Public Notification - Consumer Confidence Report	<input type="text"/>
Public Notification - Other method Specify other method used: _____	<input type="text"/>

Signature of Water System Representative

Date

ATTACH A COPY OF THE NOTICE USED.

**THIS FORM MUST BE COMPLETED AND RETURNED TO
THE DIVISION OF DRINKING WATER**