HEBER PUBLIC UTILITY DISTRICT
REPORT TO BOARD OF DIRECTORS

MEETING DATE: April 21, 2016

FROM: Laura Fischer, General Manager

SUBJECT: Information Only Exceedance of HAA5 Maximum Contaminant Level (MCL) at Water Treatment Plant.

INFORMATION ONLY:
As previously reported to the Board, the HPUD received a Citation for Violation of our HAA5 MCL. As required, the HPUD issued a public notice to our customers in the March utility bill.

As part of the compliance component of the Citation, HPUD must prepare a response to the violation by April 30, 2016. HPUD staff and engineers have prepared the response to the Citation for Violation and have attached the HAA5 Compliance Plan for your review.

Staff will fully document our actions and report them to the State Water Board and we will get approval from the State engineers prior to implementation. We will determine the best way to ensure that our water quality is within the EPA and State Water Board regulations and we must make sure that our Water Plant improvement project addresses these issues. We will keep you posted and provide you with a copy of our response to the water board.

Respectfully Submitted,

Laura Fischer,
General Manager

Attachment: HAA5 Compliance Plan

HEBER PUBLIC UTILITY DISTRICT
WATER TREATMENT PLANT

HAA5 COMPLIANCE PLAN

State Water Resources Control Board
Division of Drinking Water

Citation Number 05-14-16C-001

Issued on February 23, 2016

Date Prepared: April 14, 2016

Table of Contents

1. Introduction

Heber Public Utility District (HPUD) owns and operates a public water system. The public water system is comprised of a Water Treatment Plant and a Water Distribution System. The Public Water System operates on a 24 hour a day basis based on the consumer demand.

As a community water system in the state of California, HPUD operates under the Domestic Water Supply Permit (No. 05-14-05P-009, date 06-15-2005) as issued by the State Water Resources Control Board, Division of Drinking Water (Division).

As part of the Water Supply Permit, HPUD is to abide by a Disinfection Byproduct Rule (DBPR). The DBPR applies to community water systems that treat their water with a chemical disinfectant in any part of the treatment process or which provide water that contains a chemical disinfectant. A requirement of the DBPR is for a Maximum Contaminant Level (MCL) of Haloacetic Acids (HAA5) not exceed 60 micrograms per liter - µg/L (parts per billion - ppb) for water supplied to the public based on each location running annual arithmetic average (LRAA). There are five (5) Haloacetic Acids which include: Monochloroacetic Acid; Dichloroacetic Acid; Trichloroacetic Acid; Monobromoacetic Acid; and Dibromoacetic Acid.

On February 23, 2016, Division issued a Citation for Noncompliance to HPUD. The Citation for Noncompliance was an outcome from a failure to meet the primary drinking water standard for the HAA5's Maximum Contaminant Level (MCL) for the first quarter of 2016. The Citation of Noncompliance is attached as an appendix.

The purpose of this Plan is if for HPUD to evaluate treatment plant optimization including the raw water conditioning and coagulation targeting natural organic matter removal, the modifications to the Water Treatment Plant including milestone timelines, and post water treatment upgrades to ensure HPUD meets the HAA5's MCL of 60 ppb.

The HPUD Water Treatment Plant is currently undergoing construction for an improvement project. The improvement project will address previous violations for noncompliance of MCL of

total Trihalomethanes (TTHM), as well as improvements of various facilities including the construction of a static mixing station for chemical injection to the raw water ponds, and to expand the water treatment plant demand capacity to four (4) million gallons per day (MGD). One of the Water Treatment Plant's undergoing improvements will allow for removal of Trihalomethanes via a spray aeration system. The spray aeration system will strip the volatile (transfer from water to air) TTHM within a water storage tank. The spray aeration system will not strip HAA5s as they are not volatile compounds.

Objective

The objectives of the HAA5 Compliance Plan are as follows:

- Conduct a review and evaluation of the Water Treatment Plant process, operations, and performance to identify modifications to optimize the removal of Disinfection Byproducts. Specific treatment plant processes to be reviewed include raw water conditioning and coagulation within the raw water ponds.

- Review of ongoing construction improvements, and their perspective operation implementation schedule.

- Evaluate proposed design improvements and conceptual design improvements that will minimize HAA5s.

- Pursue Water Treatment Plant processes, modifications and/or improvements that will bring HPUD back to compliance as a public water system that will not exceed 60 ppb for HAA5.

2. Water Treatment Plant Process

Water Treatment Plant Improvements

As previously mentioned, the HPUD Water Treatment Plant is currently undergoing construction for upgrades. The Water Treatment Plant process upon completion of upgrades is described as follows.

Raw Water Conveyance

Raw water is conveyed to the Heber Public Utility District's (HPUD) Water Treatment Plant by gravity flow from the Dogwood Canal and Central Main Canal. The Dogwood Canal and Central Main Canal accepts and conveys water from the Imperial Irrigation District (IID). The raw water passes through a Static Mixer Facility prior to entering three raw water storage (as well as sedimentation) basins.

Static Mixer Facility

Raw water will enter a vault equipped with two static mixers (pipeline inline mixing) as the raw water will continue to flow to the raw water storage basins. Immediately upstream of the static mixers will be chemical injection points, in which Ferric Sulfate, and/or other coagulant chemicals may be added to blend with raw water as it flows through the static mixers. The ferric sulfate (or other chemicals) will be stored, alongside of chemical dosing pumps in a slab and shaded area that is adjacent to the static mixer vault.

Raw Water Storage

The Water Treatment Plant's raw water storage consists of three (3) raw water pre-sedimentation basins. The total raw water storage capacity for all three basins is 7.3 million gallons (MG); Basin No. 1 has a capacity of 2.28 MG; Basin No. 2 has a capacity of 2.21 MG; and Basin No. 3 has a capacity of 2.79 MG. Basin No. 1 and Basin No. 3 are concrete-lined. Basin No. 2 is lined with High Density Polyethylene Liner.

The raw water pre-sedimentation basins are interconnected by pipelines. A raw water outlet structure is located at the north end of each basin. The outlet structures are equipped with trash/debris screens and sluice gates with hand wheel operators. The basins may function in series or parallel in supplying water to the Raw Water Pump Station. Raw water is conveyed from the basins to the Raw Water Pump Station via gravity pipelines.

Raw Water Pumping Station

The raw water pump station is supplied with raw water from the raw water basins. The inlet piping and outlet piping into and out of the pump station allow for a raw water pumping capacity of 2,800 gpm (4 MGD) with two pumps running.

There will be three (3) vertical turbine pumps that will discharge flow via variable frequency drive (VFD) units. Each pump is rated at 1,400 gpm (1 MGD). Two duty pumps and one backup. The pumps operate in a lead and lag mode, and alternate between cycles. The raw water pump station conveys water to the water treatment units via pressure pipeline.

Water Treatment Units

There are three (3) Clarifier/Filter Units (Treatment Unit). Each Treatment Unit is composed of a combined absorption clarification and media filtration system which is designed to treat the capacity of 1,400 gpm (2 MGD). Two Treatment Units will be on duty, while the third is a backup.

The Treatment units have three (3) modes of operation. The first mode is Filtration Operation. During the filtration mode, chemicals are introduced to the raw water prior to entering the Absorption Clarifier Unit. Flows are directed to the bottom of the Absorption Clarifier Unit and upward through the absorption media into the filter unit. The finished water from the filter unit is directed to the finished water pump station. The second mode of operation is termed the Absorption Clarifier Flush. This mode of operation cleans the absorption media by flushing raw water through the media absorption unit and exits through the backwash outlet compartment.

The third mode is Filter-Cleaning Operation. Finished water is backwashed through the filter unit and exits through the backwash outlet compartment to the backwash basins. The second and third modes of operation result in backwash water exiting the Treatment units. The backwash water is directed to the backwash basins via a gravity pipeline.

Backwash Basins

There are two (2) concrete backwash basins utilized as equalization basins. The backwash water flows by gravity from the treatment units to the backwash basins. The backwash basins have been modified and connected to a Backwash Decant Pump Station via overflow of a weir into gravity pipeline. The backwash basins operate in parallel. One basin may be maintained and/or repaired while the adjacent basin is operational. The water from the backwash basins is directed to the Backwash Decant Pump Station.

Backwash Decant Pump Station

The backwash decant pump station consists of a wet well and two (2) pumps (one duty and one standby). The backwash decant pump station will be interconnected with the backwash basins via a gravity pipeline. The backwash decant pump station will allow for ample settling of solids in the backwash water in the backwash basins, and recirculate decant backwash water pump into the water treatment plant at a flow less than the Backwash Recycling Rule criteria of ten percent (10 %). The decant water from the backwash basins is directed to the raw water pipeline upstream of the static mixer facility.

Backwash Pumps

The backwash pumps are located between the finish water reservoirs and the Water Treatment Units. The backwash pumps are supplied with finish water from the finished water reservoirs. The backwash pumps are energized during the water treatment units' second and third mode of operation. The backwash pump units consist of two (2) pumps (one duty and one standby). The pumps operate in a lead and lag mode and alternate between cycles.

Finish Water Pump Station

The finish water pump station is located downstream of the treatment units. Gravity pipelines convey water from the treatment units to the finished water pump station's wet well. The outlet piping for the pumping station conveys approximately 2,800 gpm (4 MGD) through pressure pipelines extending to the 0.75 MG, 1.7 MG, and 3 MG finish water reservoirs in the specified series. The pump units consist of three (3) vertical turbine pumps. Each pump is rated for 1,400 gpm. The pumps operate in a lead and lag mode and alternate between cycles.

Finish Water Storage

There are three (3) finish water storage reservoirs which may have total capacity of 5.45 Million Gallons (MG). Finished water is supplied from the finish water storage reservoirs to the high service pump station by pipelines. The largest water storage reservoir, pre-stressed concrete tank, has a capacity of 3.0 MG. The second largest water storage reservoir, welded steel tank, has a capacity of 1.7 MG. The smaller water storage reservoir has a capacity of 0.75 MG. The 0.75 MG reservoir is equipped with a baffle system and will act as the contact time (CT) reservoir for disinfection.

Chemical Feed Facilities for Treatment Units

The Water Treatment Units was designed to utilize Ferric Sulfate as the primary coagulant and a cationic polymer (T-Floc) as a coagulant aid. The Ferric Sulfate is introduced to the raw water flow upstream of an in-line static mixer, prior to entering the treatment units. The Ferric Sulfate and the T-Floc are injected when the raw water pumps are energized.

Ferric Sulfate is injected using chemical dosing pumps at a rate specified by the operators. T-Floc is mixed and injected using a polymer and chemical dosing pumps system at a rate specified by the operators. Ferric Sulfate and T-Floc are stored in chemical storage tank adjacent the treatment units.

High Service Pump Station

The high service distribution booster pump station is downstream of the storage reservoirs. The pump station consists of four (4) pumps, each having a discharge capacity of 1,500 gpm (2.1 MGD). The pumps operate in a lead and lag mode and alternate between cycles. The high service pump station conveys potable water to the HPUD Water Distribution System.

Disinfection Facilities

Disinfection is provided by a Sodium Hypochlorite generator system, which produces a chlorine disinfectant solution. The chlorine is injected using chemical dosing pumps. There are two (one duty and one standby) chemical pumps for chlorine dosing immediately downstream of the finished water pump station. There are two (one duty and one standby) chemical pumps for chlorine dosing immediately upstream of the high service pump station. The chlorine solution is to be stored in two (2) 2,000 gallon storage tanks. The sodium hypochlorite disinfection system has a capacity to disinfect up to a 4 MGD of potable water.

3. Treatment Plant Optimization Evaluation

Conditioning of Raw Water

HPUD is currently injecting Ferric Sulfate into the raw water ponds point of entry. HPUD is currently conducting jar testing of pre-oxidants for a favorable or multiple combinations of pre-oxidation chemicals to oxidize organic matter. The jar testing will also establish a quantity dosage of a pre-oxidant that will render the most effective decrease in organics matter within the raw water ponds. As effectively used by other local water treatment plants, Sodium Permanganate is one of the chemicals that is being jar tested as an additional pre-oxidant chemical to be used at the HPUD water treatment plant.

As previously mentioned, improvements to the water treatment plant include the construction and implementation of a Static Mixer Facility. The Static Mixer Facility was designed to effectively blend a coagulant chemical (Ferric Sulfate per current design) and pre-oxidant chemical (such as sodium permanganate) to optimize the coagulation and sedimentation of DBP precursors. The static mixer facility will allow for the injection of a single or multiple pre-oxidant chemical at a dosing rate established by the jar testing results.

Upon completion of jar testing, HPUD Operators will conduct trial dosing of a pre-oxidant chemical into the inlet point of the raw water basins. Should favorable results be obtained, HPUD will continue with use of the pre-oxidant chemical upon construction of the Static Mixer Facility.

Primary Coagulation Targeting Organics

HPUD currently doses Ferric Sulfate, coagulant, at the raw water basins inlet and is also evaluating the use of a coagulant chemical (such as T-Floc or other coagulant aid chemical) to coagulate, flocculate and settle out natural organic matter. HPUD is conducting jar testing of various coagulant chemicals that will assist with dropping out of organic matter within the raw water basins.

The Static Mixer Facility will also allow for effectively dosing and blending of coagulation chemicals alongside of pre-oxidant chemical(s) to lower organic matter in the raw water entering water treatment plant.

Based on jar testing, HPUD will adjust the dosage of Ferric Sulfate prior to the 2nd Quarter Sample collection, which will be taken the first week of May. Raw Water Basin No. 1 is currently out of service due to construction of the static mixer. When the raw water basin is placed into service, HPUD Operators will increase the Ferric Sulfate according to the results of the jar tests and then collect the samples.

Introduction of Recycled Backwash Water

The current operation of water treatment plant recycles backwash water into the backwash basins. The backwash water recirculates with minimal settling time before flowing to the raw water basins at a concentrated flow rate and dosage of organic matter. The current operation process introduces DBP precursors into the water treatment plant treatment cycle. The new design that is in construction phase, will implement the timely flow of recycled backwash water into the raw water basins. The change in process flow of the backwash basins and implementation of the decant backwash basin will allow for ample settling time to decrease the amount of organic matter re-introduced into the raw water ponds at a constant flow rate that will meet the Backwash Recycling Rule.

Operational Change to the Water Treatment Units

HPUD staff has also reviewed the feasibility of utilizing a Water Treatment Unit to treat half of its current treatment and flow rate capacity, from 5 gallons per S.F. to 2.5 gallons per S.F. in an effort to optimize the treatment capacity. Upon construction of the additional water treatment unit, HPUD will conduct operation and monitoring of two (2) Treatment units (4MGD capacity) to treat 2 MGD of raw water. HPUD will monitor and test for HAA5 (as well as TTHM) effectiveness in reducing DPBs. If results are found to be effective in removal of HAA5, then HPUD will continue the use of a decreased flow rate for treatment of finished water.

Raw Water Pond Piping

The Raw Water Basins current interconnection pipelines are configured to allow for raw water to flow from Basin No. 1 through Basin No. 2 to Basin No. 3 at a maximized sedimentation detention time as water would flow the length of each basin. The interconnection pipelines would short-circuit the raw water flow if changed to flow from Basin No. 3 through Basin No. 2 to Basin No.1.

The current water improvements include the construction of additional interconnection pipelines that would allow flow of raw water from Basin No. 3 through Basin No. 2 to Basin No. 1 while have a maximized sedimentation detention time through the full length of each basin. The interconnection pipelines would also allow for maximized sedimentation time for two raw water basins, Basin Nos. 1 and 2 or Basin Nos. 2 and 3, when Basin No. 3 or Basin No. 1 is removed from its annual cleaning maintenance.

Having the availability to interchange and maximize the sedimentation detention time and area of solids (including organic matter) will benefit in the reduction of DBPs prior to entering the Water Treatment Units, which optimizes the removal of remaining organic matter.

Implementation of Storage Reservoirs in Series

As the current water treatment plant's three storage reservoirs are operated in series, the water treatment plant is baffling factor is rated at 0.1 (from a range of 1 to 0). It should be noted that 0.75 MG tank is not in operation at this time, and will not be in operation until improvements to the tank and upstream/downstream piping has been completed and integrated into operational facilities. The 0.75 MG storage reservoir will be rehabilitated with a baffle system. The 0.75 MG tank will be the first reservoir in a series of three reservoirs and will be considered a CT tank for the Water Treatment Plant. It is noted that a baffling factor greater than 0.1 will be designated by Division, which will require less chlorination dosage after the finished water pump station, as well as before the high service pump station. As the dosing of less chlorine disinfectant along with the longer contact time of organic matter with chlorine, it expected to achieve a reduction of HAA5s being discharged into the distribution system.

4. Projected Timeline of Implementation of Operational Processes and Improvements

Implementation of Water Treatment Plant's Operational Process and Improvements

Most of the existing facilities are or will be affected by the current water treatment plant's improvements. As such, all new facilities improvements are to be conducted while the existing water treatment plant provides the existing customers water demand with minimal interruption or shut down to the water treatment plant and the downstream distribution system. The existing water treatment plant improvements and changes to operation processes are to be conducted as summarized in the following table.

FACILITY	CONSTRUCTION / EVALUATION	IMPLEMTATION
Raw Water Conditioning (Operational Process)	June 2016	July 2016
Primary Coagulation (Operational Process)	June 2016	July 2016
Baffles and Recoat of 0.75 MG Tank (Improvement)	September 2016	September 2016
Operational Change to Water Treatment Unit (Improvement)	November 2016	December 2016
Static Mixer Facility (Improvement)	December 2016	January 2017
Recycled Backwash Water (Improvement)	December 2016	January 2017

5. Implementation of Water Treatment Plant Upgrades

The water treatment plant improvements described above are to be implemented as soon as possibly allowed by thoroughly evaluated operational process changes and completion of construction improvements.

HAA5 Process Changes for Optimization

HPUD will continuously monitor and evaluate the performance of its Water Treatment Plant process. HPUD will prioritize its actions and initiate changes to this Plan in minimizing HAA5 to meet compliance requirement of 60 ppb.

It is HPUD's intent to move forward with pre-oxidants chemical dosing and primary coagulation process changes for the raw water basins. However, it should be noted that these efforts will not be optimized without thorough mixing via the construction and implementation of the static mixer facility.

Upon construction of the water treatment plant's proposed improvements, HPUD will implement any number or all of the proposed improvements noted above.

Sampling Plan Changes

HPUD is currently conducting a Sampling Plan to obtain a baseline level for TTHM and HAA5. The baseline level for TTHM and HAA5 is to be conducted in late April. Upon conducting and obtaining the baseline level (for TTHM and HAA5), HPUD will conduct chemical and dosing adjustments along with additional testing to monitor the effects of the TTHM levels and HAA5 levels resulting from the dosing changes.

HPUD will forward the samples for testing to two (2) different testing laboratories to review any discrepancies and variances from the two labs.

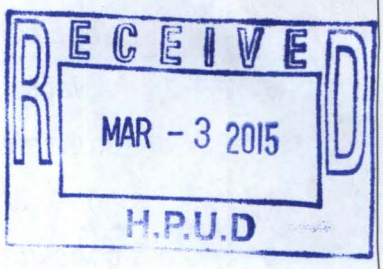
Additional Treatment Process if Failure of Process and Construction Changes

In failure to comply with the HAA5s required 60 ppb MCL upon implementation of this Plan's process changes and facility improvements, HPUD will seek funding for implementing additional treatment methods to bring the HAA5 into compliance. Additional treatment methods that would be considered include Biological Active Filtration and Powder Activated Carbon.

CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF DRINKING WATER



TO: Heber Public Utility District
1078 Dogwood Road, Suite 103
Heber, CA 92249

Attn: Laura Fischer, General Manager

CITATION FOR VIOLATION OF
CALIFORNIA CODE OF REGULATIONS
TITLE 22, SECTION 64533
WATER SYSTEM NO. 1310007

CITATION NO. 05-14-16C-001

Issued on February 23, 2016

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 (hereinafter "Deputy Director") hereby issues this citation (hereinafter "Citation") pursuant to Section 116650 of the California Health and Safety Code (hereinafter "CHSC") to the Heber Public Utility District (hereinafter "Heber PUD") water system for violation of California Code of Regulations, Title 22, (hereinafter "CCR, Title 22") Section 64533.

APPLICABLE AUTHORITIES

CHSC, §116650 provides:

116650. Citations.

(a) If the department determines that a public water system is in violation of this chapter or any regulation, permit, standard, citation, or order issued or adopted thereunder, the department may issue a citation to the public water system. The citation shall be served upon the public water system personally or by certified mail. Service shall be deemed effective as of the date of

personal service or the date of receipt of the certified mail. If a person to whom a citation is directed refuses to accept delivery of the certified mail, the date of service shall be deemed to be the date of mailing.

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

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

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

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

CCR, Title 22, §64533 provides, in relevant part:

"(a) Using the monitoring and calculation methods specified in sections 64534, 64534.2, 64535, and 64535.2, the primary MCLs for the disinfection byproducts shown in table 64533-A shall not be exceeded in drinking water supplied to the public.

Table 64533-A

Maximum Contaminant Levels and Detection Limits for Purposes of Reporting Disinfection Byproducts

Disinfection Byproduct	Maximum Contaminant Level (mg/L)	Detection Limit for Purposes of Reporting (mg/L)
Haloacetic acids (five) (HAA5)	0.060	
Monochloroacetic Acid		0.0020
Dichloroacetic Acid		0.0010
Trichloroacetic Acid		0.0010
Monobromoacetic Acid		0.0010
Dibromoacetic Acid		0.0010

CCR Title 22, §64535.2, subsection (e) provides, in relevant part:

(e) Total Trihalomethanes (TTHM) and HAA5 MCL compliance, as monitored pursuant to section 64534.2(d), shall be determined as follows:

(1) For systems monitoring quarterly, each locational running annual average (LRAA), computed quarterly, shall not exceed the MCLs specified in section 64533;

...

(4) If the LRAA exceeds the MCL, calculated based on four consecutive quarters of monitoring (or the LRAA calculated based on fewer than four quarters of data if the MCL would be exceeded regardless of the monitoring results of subsequent quarters), the system is in violation of the MCL and shall notify the public pursuant to sections 64463, 64463.4, and 64465, including the language in appendix 64465-G, in addition to reporting to the Department pursuant to sections 64537 through 64537.6."

ENFORCEMENT HISTORY

On November 8, 2006, a Citation for Noncompliance (No. 05-14-06C-018) was issued for failure to meet the TTHM MCL during the second and third quarters of 2006.

On February 13, 2007, a Citation for Noncompliance (No. 05-14-07C-009) was issued for failure to meet the TTHM MCL during the fourth quarter of 2006.

On March 29, 2012, a Citation for Noncompliance (No. 05-14-12C-005) was issued for failure to meet the TTHM MCL during the first quarter of 2012.

On January 4, 2013, a Citation for Noncompliance (No. 05-14-13C-001) was issued for failure to meet the TTHM MCL during the third and fourth quarters of 2012.

STATEMENT OF FACTS

Division is informed by Heber PUD and believes that the Heber PUD water system (hereinafter "Water System") is a community water system located in Imperial County that supplies water for domestic purposes to approximately 6,180 permanent individuals through approximately 1,572 service connections. The Water System operates under Domestic Water Supply Permit No. 05-14-05P-009, issued on June 15, 2005. The Water System is a community public water system as defined in CHSC, §116275; therefore, the Water System must comply with CCR, Title 22.

Heber PUD is a Schedule 3 system under the Stage 2 Disinfection Byproducts Rule (DBPR). As of October 1, 2013, pursuant to CCR, Title 22, Section 64534.2(d), Heber PUD is required to collect two distribution system samples per quarter for TTHM and haloacetic acids (HAA5) analyses at the locations in their approved Compliance Monitoring Plan, which are shown in the following table:

Table 1: Heber PUD's Stage 2 DBPR Sampling Locations

Sample Site	PS Code	Location	Pressure Zone	Source Reservoir
McCabe	1310007-900	McCabe Cove	Main: NW	Clearwell
Little Field	1310007-901	184 Little Field Rd	Main: NE	Clearwell

According to Section 64535.2(e)(1), "For systems monitoring quarterly, each locational running annual average (LRAA), computed quarterly, shall not exceed the MCLs specified in section 64533", which for HAA5s is 60 parts per billion (µg/L).

During the period of 1st quarter 2015 through 1st quarter 2016, Heber PUD collected TTHM and HAA5 samples as required. The HAA5 results for this period are shown in **Table 2**. The TTHM MCL was not exceeded during this period.

Table 2: Heber PUD's 2015-2016 HAA5 Results (all results in µg/L)

Sample Site	1st Q 2015	2nd Q 2015	3rd Q 2015	4th Q 2015	1st Q 2016
McCabe	23.0	32.0	64.0	79.0	91.0
Little Field	27.0	34.0	81.0	85.0	88.0

OEL Calculations			3rd Q 2015	4th Q 2015	1st Q 2016
McCabe	-	-	46.0	64	81
Little Field	-	-	56.0	71	86
LRAA Calculations			**3rd Q 2015**	**4th Q 2015**	**1st Q 2016**
McCabe	-	-	42.0	50.0	67.0
Little Field	-	-	49.0	57.0	72.0

During the 4th quarter of 2015 and 1st quarter 2016, Heber PUD exceeded the Operational Evaluation Level (OEL) at McCabe and Little Field, which required an OEL report to be submitted to the Division. The 4th quarter report was submitted on January 5, 2016. The OEL report concluded that the following factors and/or variations in the plant and distribution system performance contributed to the elevated HAA5 results:

- Algae blooms resulting in large shifts in raw water turbidity.

On February 5, 2016, Heber PUD reported the 1st quarter 2016 HAA5 results. As shown in Table 2 above, the locational running annual average (LRAA) at McCabe and Little Field exceeded the HAA5 MCL of 60 µg/L.

Heber PUD is currently implementing project 1310007-002C under the State Revolving Fund (SRF) for the installation of upgrades to the existing water treatment plant. One component of project 1310007-002C is the installation of an aeration system for the removal of TTHM's. However, HAA5s are not volatile organic compounds (VOCs) and the aeration TTHM treatment will not reduce the HAA5 levels. Project 1310007-002C also includes the following:.

- Install a flash mix basin, flocculation basin and associated chemical system to assist with removing particulate matter in the raw water influent flow from the Imperial Irrigation District Central Main Canal.
- Backwash recovery system optimization that includes: installation of an inclined plate settler, installation of sludge drying beds, and a recycled backwash water pump station to return the recycled backwash water upstream of the new raw conditioning facility.

- Installation of a new 2.0 MGD clarifier/filter unit, in addition to the existing two (2) clarifier/filter units, in order to reduce filtration rate and improve organic material removal.
- Chlorination system optimization that includes: upgrade and expansion of existing chlorine disinfection system, installation of baffling in the 0.75 Million Gallon (MG) reservoir, and install yard piping to allow the finished water reservoirs to be operated in series.
- Installation of a TTHM air stripping system in the existing 3 MG reservoir.

These upgrades may assist in the ability to optimize plant operations for the reduction of HAA5 precursors; however, the reduction efficiency is unknown at this time.

DETERMINATIONS

Based on the above Statement of Facts, the Division has determined that the Water System violated CCR, Title 22, §64533 for the LRAA TTHM MCL at McCabe and Little Field sample sites for the four quarter monitoring period from the 1st quarter of 2015 to the 1st quarter 2016. §64535.2(e)(1) is used to determine compliance with §64533 during the previous four quarter monitoring period. §64535.2(e)(1) states: "For systems monitoring quarterly, each locational running annual average (LRAA), computed quarterly, shall not exceed the MCLs specified in §64533", which for HAA5 is 60 µg/L. The LRAA at McCabe and Little Field for the period ending March 31, 2016 is 67 µg/L and 72 µg/L, respectively, and therefore the system is in violation of the HAA5 MCL in §64533 at both of these locations.

DIRECTIVES

Water System is hereby directed to take the following actions:

1. At all times subsequent to this Citation, comply with CCR, Title 22, §64533's MCL for the HAA5 of 60 µg/L in drinking water supplied to the public.

2. Heber PUD shall repeat public notification every three months for as long as the HAA5 MCL violation continues in accordance with CCR, Title 22, Section 64463.4. Public notice shall be via 1. Mail or direct delivery to each customer, and 2. Posting notice using one or more of the following methods: posting on the internet and/or local

newspaper, posting in conspicuous public spaces served by the water system, and delivery to community organizations. A draft notification shall be submitted to the Division for review and approval prior to conducting public notification. The public notice shall be updated quarterly with the most recent HAA5 results.

3. By **April 10, 2016**, Heber PUD shall provide to the Division certification of public notification using the enclosed form (Attachment No. 1).

4. Heber PUD shall include information regarding the HAA5 MCL violation identified in this Citation in the 2016 Consumer Confidence Report, which must be completed and distributed to customers by July 1, 2017. A draft of the 2016 Consumer Confidence Report shall be submitted to the Division for review and approval prior to distribution and/or posting.

5. By **April 10, 2016**, Heber PUD shall provide to the Division an updated Operational Evaluation Level (OEL) report.

6. By **April 30, 2016**, Heber PUD shall submit a HAA5 Compliance Plan, including at the minimum the following:

    a. Treatment plant optimization including an evaluation of:

        i. Raw water conditioning with pre-oxidants (e.g. potassium permanganate) and coagulation;

        ii. Primary coagulation targeting natural organic matter removal;

    b. Projected SRF project component milestone timelines;

    c. Post water treatment plant upgrade implementation:

        i. HAA5 targeted treatment process optimization;

1. If treatment optimization is deemed insufficient to return to compliance, the following HAA5 treatment processes shall be evaluated:
    a. Biologically active filtration
    b. Raw water natural organic material absorption utilizing powdered activated carbon

All submittals required by this Citation shall be addressed to:

Sean Sterchi, P.E.
San Diego District Engineer
State Water Resources Control Board
Division of Drinking Water
1350 Front Street, Room 2050
San Diego, CA 92101

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

The Division reserves the right to make such modifications to this Citation and/or to issue such further citations as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Citation and shall be deemed effective upon issuance.

Nothing in this Citation relieves Water System of its obligation to meet the requirements of Chapter 4, Part 12, Division 104 of the CHSC (hereinafter "the California SDWA"), and any regulation, permit, standard or order issued or adopted thereunder.

PARTIES BOUND

This Citation shall apply to and be binding upon the Water System, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The Directives of this Citation are severable, and the Water System shall comply with each and every provision hereof, notwithstanding the effectiveness of any provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the Division to: issue a citation with assessment of administrative penalties to a public water system for violation of 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 Citation.

2/23/16
Date

Sean Sterchi, P.E.
San Diego District Engineer
State Water Resources Control Board
Division of Drinking Water

CERTIFIED MAIL NO. 7014 2870 0000 8023 2138

ATTACHMENTS:

1) Public Notification Certification

cc) Jeff Lamoure, Deputy Director for Environmental Health Services, County of Imperial (via email)

Drinking Water Notification to Consumers

PROOF OF NOTIFICATION

Name of Water System: Heber Public Utility District #1310007

Please explain what caused the problem if you have determined what it was and what steps you have taken to correct it. Source water due to drought

Consumers Notified X Yes _____ No

If not, Explain: _____

Date of Notification: 3-4-2016

On the date of notification set forth above, I served the above referenced document(s) on the consumers by:

X Sending a copy through the U.S. Mail, first class, postage prepaid, addressed to each of the resident(s) at the place where the property is situated, pursuant to the California Civil Code. Attach copy of Notice.

_____ Newspaper (if the problem has been corrected). Attach a copy of Notice.

_____ Personally hand-delivering a copy to each of the consumers. Attach a copy of Notice.

_____ Posted on a public bulletin board, that will be seen by each of the consumers (for small, non-community water systems with prior Department approval). Attach copy of Notice.

I hereby declare the forgoing to be true and correct under penalty of perjury.

Dated: 3-7-16 Laura Jochus

Signature of Person Serving Notice

** **Notice:** Complete this Proof of Notification and return it **along with a copy of the notification** to the Department within **10 days** of posting the notification.

Disclosure: Be advised that the California Health and Safety Code states that any person who knowingly makes a false statement on any report or document submitted for the purpose of compliance with the attached order may be liable for a civil penalty not to exceed five thousand dollars ($5,000) for each separate violation for each day that violation continues. In addition, the violators may be prosecuted in criminal court and upon conviction, be punished by fine of not more than twenty-five thousand dollars ($25,000) for each day of violation, or be imprisoned in county jail not to exceed one year or by both the fine and imprisonment.