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**STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC HEALTH**

In Re: **Centinela State Prison Water System**  
Water System No. 1310801

To: Mrs. Amy Miller  
Acting Warden  
PO Box 731  
2302 Brown Rd  
Imperial, CA 92251

**COMPLIANCE ORDER FOR NONCOMPLIANCE**

**Compliance Order No. 05-14-13R-001  
Issued on June 25, 2013**

Section 116655, Chapter 4, Part 12, Division 104 of the California Health and Safety Code (H&S Code), authorizes the California Department of Public Health, Division of Drinking Water and Environmental Management (CDPH) to issue a compliance order for failure to comply with the requirements of Chapter 4, the California Safe Drinking Water Act, or any regulation, permit, standard, or order issued or adopted thereunder.

**FINDINGS**

The Centinela State Prison Water System (Centinela) obtains its water supply from the Colorado River via the Imperial Irrigation District. Treatment for the water system consists of three Roberts Filter Pacer II package treatment plants designed to produce a total of 2.0 million gallon per day (MGD). Storage is provided by two ground level welded steel

1 reservoirs (0.5 million gallon (MG) and 2.0 MG) operating in parallel, which supply the  
2 single pressure zone distribution system.

3  
4 The facility was designed to house 2,000 medium security and 200 minimum-security  
5 inmates, and a support staff of about 850. The water treatment plant is designed to serve  
6 up to double this number of inmates in case of overcrowding. As of 2013, the system  
7 serves 2,963 people.

8  
9 Centinela has been issued the following enforcement actions for failure to meet the Total  
10 Trihalomethanes (TTHM) Running Annual Average (RAA) Maximum Contaminant Level  
11 (MCL):

- 12 1. Notice of Exceedances (NOE) issued on January 28, 2005, July 26, 2005, and  
13 November 4, 2005, for failure to comply with the Federal TTHM Standard in the  
14 fourth quarter of 2004 through the fourth quarter of 2005.
- 15 2. Citation 05-14-06C-013 issued on October 6, 2006, for failure to comply with the  
16 TTHM MCL in the second and third quarters of 2006, see Attachment A.
- 17 3. Citation 05-14-09C-008 issued on June 8, 2009, for failure to comply with the TTHM  
18 MCL in the first quarter of 2009, see Attachment B.
- 19 4. Citation 05-14-012C-015 issued on November 13, 2012, for failure to comply with  
20 the TTHM MCL in the third quarter of 2012, see Attachment C.

21  
22 Centinela has responded with the following actions to directives set forth in the  
23 abovementioned enforcement actions:



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1. In a report dated July 11, 2005, Centinela submitted a Disinfection Byproduct Evaluation report prepared by Carollo Engineers in response to the 2005 NOEs.
2. March 8, 2006, Centinela's TTHM RAA returned to compliance.
3. In a letter dated November 9, 2006, Centinela provided an update on directives that had been met in response to Citation 05-14-06C-013.
4. December 19, 2006, Centinela's TTHM RAA returned to compliance.
5. CDPH issues Citation 05-14-06C-013 Amendment 1, dated February 15, 2007, to provide additional directives and grant deadline extensions for directives set forth in Citations 05-14-06C-013, see Attachment D.
6. In letter dated February 23, 2007, Centinela proposed new dates to meet directives set forth in Citation 05-14-06C-013 Amendment 1.
7. In letter dated April 6, 2007, Centinela proposed new dates to meet the past-due directives set forth in Citation 05-14-06C-013 Amendment 1.
8. In a letter dated September 4, 2009, Centinela proposed a Disinfection Byproduct Rule Compliance Plan in response to Citation 05-14-09C-008.
9. April 12, 2010, Centinela's TTHM RAA returned to compliance.
10. In a letter dated January 15, 2013, Centinela proposed a Disinfection Byproduct Rule Compliance Plan in response to Citation 05-14-012C-015.
11. In a letter dated May 6, 2013, CDPH requested a projected timeline and commitment of funding for specific TTHM treatment Compliance Plan milestones.

1 12. In a letter dated January 15, 2013, Centinela proposed dates to meet the TTHM  
2 treatment Compliance Plan milestones.

3 13. Centinela remained out of compliance as of the issuance of this Order.

4 14. As of the date of this compliance order, the current status of the TTHM treatment  
5 facilities proposal is as follows: On May 14, 2013, Centinela submitted a budget  
6 request to California Department of Corrections and Rehabilitation for planning,  
7 design, and construction of the TTHM treatment facilities.

8  
9  
10 **CONCLUSIONS OF LAW**

11 Based on the above Findings, CDPH has determined that Centinela has violated  
12 provisions contained in the H&S Code and Title 22, California Code of Regulations  
13 (CCR). These violations include, but are not limited to, the following:

- 14  
15 1. H&S Code, Section 116555 (a)(3): Specifically, Centinela has failed to ensure that the  
16 system is provided with a reliable and adequate supply of pure, wholesome, healthful,  
17 and potable water.
- 18 2. H&S Code, Section 116655: Specifically, Centinela failed to comply with Directive 2  
19 "cease and desist from failing to comply with the primary drinking water standard for  
20 TTHMs", in Citation 05-14-012C-015 issued by CDPH on November 13, 2012.
- 21 3. CCR, Section 64533: Specifically, Centinela failed to meet the primary drinking water  
22 standard for the Total Trihalomethanes

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**ORDER**

Centinela is hereby ordered to take the following actions:

1. Forthwith, cease and desist from failing to comply with H&S Code, Section 116555(a)(3) by ensuring that the system is provided with a reliable and adequate supply of pure, wholesome, healthful, and potable water.
2. By August 30, 2013, Centinela shall submit to CDPH proof of funding authorization for the proposed TTHM treatment facilities.
3. By November 15, 2013, Centinela shall complete and submit a Preliminary Design Report for TTHM treatment facilities.
4. By March 15, 2014, Centinela shall complete and submit Plans and Specifications for TTHM treatment facilities.
5. By June 20, 2014, Centinela shall sign the contract documents for the Notice to Proceed to construct TTHM treatment facilities.
6. By August 20, 2014, Centinela shall submit a draft operations plan to CDPH for approval.

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- 7. By September 20, 2014, Centinela shall complete construction of TTHM treatment facilities.
- 8. By September 20, 2014, Centinela shall begin commissioning the TTHM treatment facilities.
- 9. Centinela shall submit a written response within 30 days of issuance of this Order, indicating its willingness to comply with the directives of this Order.
- 10. CDPH reserves the right to make such modifications to this Order as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Order and shall be effective upon issuance. If Centinela fails to perform any of the directives specified in this Order by the time described herein or by the time subsequently extended pursuant to Item 11, below, Centinela shall be deemed to have not complied with the obligations of this Order and may be subject to additional judicial action, including civil penalties specified in H&S Code, Sections 116725 and 116730. All submittals required by this Order shall be addressed to:

Sean Sterchi, P.E.  
District Engineer  
California Department of Public Health  
Southern California Branch  
Drinking Water Field Operations  
1350 Front Street, Room 2050  
San Diego, CA 92101

1  
2 11. If Centinela is unable to timely perform the directives specified in this Order for any  
3 reason, whether within or beyond Centinela's control, and if Centinela notifies CDPH in  
4 writing no less than 30 days prior to the due date, CDPH may, at its sole discretion,  
5 extend the time for performance if Centinela demonstrates it has utilized its best efforts  
6 to comply with the schedules and other requirements of this Order. If Centinela fails to  
7 perform any of the directives specified in this Order by the time described herein or by  
8 the time as subsequently extended pursuant to this paragraph, CDPH may deem  
9 Centinela in material breach of this Order and in noncompliance with the requirements  
10 of H&S Code, Section 116555. Further, Centinela's failure to timely perform the terms  
11 and requirements of this Order may result in administrative and/or judicial action  
12 including civil penalties pursuant to California Health and Safety Code, Article 9,  
13 sections 116650 (d) and (e).

14  
15  
16 12. The State of California shall not be liable for any injuries or damages to persons or  
17 property resulting from acts of omissions by Centinela, its employees, agents, or  
18 contractors in carrying out activities pursuant to this Order, nor shall the State of  
19 California be held as a party to any contract entered into by Centinela or its agents in  
20 carrying out activities pursuant to this Order.



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**PARTIES BOUND**

This Order shall apply to and be binding upon Centinela, its officers, directors, agents, employees, contractors, successors, and assignees.

**SEVERABILITY**

The requirements of this Order are severable, and Centinela shall comply with each and every provision thereof notwithstanding the effectiveness of any provisions.

**CIVIL PENALTIES**

Section 116650(e) of the H&S Code allows for the assessment of a civil penalty for failure to comply with the requirements of Chapter 4. This section specifically defines penalties for violations.

Failure to comply with any provision or compliance schedule of this Order may result in CDPH imposing additional enforcement actions and administrative penalties.

June 25, 2013  
Date

  
\_\_\_\_\_  
Jeff O'Keefe, P.E.  
Regional Engineer  
Central California Section  
Southern California Branch  
Drinking Water Field Operations

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**ATTACHMENTS:**

- Attachment A: Citation 05-14-06C-013
- Attachment B: Citation 05-14-09C-008
- Attachment C: Citation 05-14-012C-015
- Attachment D: Citation 05-14-06C-013 Amendment 1

cc: Jeff Lamoure, Deputy Director - Division of Environmental Health, Imperial  
County Public Health Department (w/ attachment)

# **ATTACHMENT A**

**STATE OF CALIFORNIA  
DEPARTMENT OF HEALTH SERVICES**

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**IN RE:** Centinela State Prison  
PO Box 731  
2302 Brown Road  
Imperial, California 92251-0731

**TO:** Mr. Andrew Fowlkes  
Water and Sewage Plant Supervisor

**CITATION FOR NONCOMPLIANCE - WATER SYSTEM NO. 1310801**

**CITATION NO. 05-14-06C-013**

**Issued on October 6, 2006**

Section 116650, Article 9, Chapter 4, Part 12, Division 104 of the California Health and Safety Code (H & S Code), authorizes the issuance of a citation for failure to comply with the requirements of the California Safe Drinking Water Act, or any regulation, standard, permit or order issued thereunder.

**VIOLATION**

The Department of Health Services, Drinking Water Field Operations Branch (CDHS), hereby issues a citation to the Centinela State Prison (hereinafter Centinela) (mailing address: PO Box 731, 2302 Brown Road, Imperial, California 92251-0731) for the following violations:

**DISINFECTION BYPRODUCT RULE (DBPR)**

- 1) Title 22, California Code of Regulations (CCR), Section 64533 (a): Specifically, the drinking water supplied to the public by Centinela exceeded the maximum contaminant level (MCL) for total trihalomethanes (TTHM) during the second quarter of 2006 as specified by monitoring requirements in § 64534 and § 64534.2 and compliance determinations specified by § 64535 and 64535.2. A public water

1 system shall not exceed 80 parts per billion (ppb) for TTHM in the drinking water  
2 supplied to the public based on a running annual arithmetic average, computed  
3 quarterly, of quarterly arithmetic averages of all samples collected pursuant to §  
4 64534.2.a.

5 2) Title 22, CCR, § 64463.4: This violation is categorized as a Tier 2 violation and  
6 Centinela State Prison must notify the public as soon as practical but no later than  
7 30 days after the system learns of the violation and repeat the notice every three  
8 months as long as the violation persists. Centinela failed to notify their consumers  
9 during the second quarter of 2006.

10 3) Title 22, CCR, § 64533.5: Specifically, Centinela failed to report Maximum  
11 Residual Daily Limit (MRDL) since 2004 as specified by monitoring requirements  
12 in § 64534 and § 64534.2.

13  
14 In accordance with § 116650.c of the California health and Safety Code, these violations are  
15 classified as continuing violations.

16  
17 **PREVIOUS ENFORCEMENT ACTIONS**

18 On January 1, 2005, a Notice of Violation (NOV) was issued for failure to comply with the  
19 Disinfection Byproduct Rule (DBPR). In summary, the NOV was issued, and reissued on  
20 July 2005 and November 2005, for violation of the Federal Stage 1 DBPR. The violation  
21 began from fourth quarter 2004 and was in continuous violation due to elevated levels of  
22 TTHM until the end of the first quarter of 2006 and then went back into violation in the  
23 second quarter of 2006.

24  
25 **BACKGROUND**

26 The California State Department of Corrections (DOC) began construction of a new medium  
27 security men's prison facility (Centinela) in January 1992. The DOC submitted an application



1 dated August 28, 1992 for a new domestic water supply permit from CDHS. CDHS issued  
2 Permit number 04-93-010 on September 17, 1993.

3  
4 Centinela's water system obtains all of its water supply from the Colorado River via the  
5 Imperial Irrigation District. Centinela has a 2.0 million gallon per day (MGD) package  
6 treatment plant, a 0.5 million gallon (MG) and a 2.0 MG ground level welded steel reservoir,  
7 which provides storage for the single zone distribution system.

8  
9 The facility is designed to house 2,000 medium security and 200 minimum-security inmates,  
10 and a support staff of about 850. The water treatment plant is designed to serve up to double  
11 this number of inmates in case of overcrowding. As of August 2005 the facility was housing  
12 4,950 inmates and 1,150 staff member with a 6-year (2000-2005) average peak day of 1.83  
13 MGD, or 92% of plant capacity. The system design is based on an average water usage of  
14 220 gallons per inmate per day and 100,000 gallons per day for landscape irrigation.  
15 However, current landscaping water usage often exceeds 300,000 gallons per day.

16  
17 The DBPR applies to community water systems that treat their water with a chemical  
18 disinfectant in any part of the treatment process or which provide water that contains a  
19 chemical disinfectant. Centinela's water treatment plant uses chlorination as the primary  
20 disinfectant. Centinela is required to collect one (1) TTHM and haloacetic acids (HAA5)  
21 distribution system sample per quarter.

22  
23 **CHRONOLOGY OF EVENTS**

24 August 2002 Centinela collects an early sample for TTHMs prior to when the DBPR goes  
25 into effect. The TTHM result is 179.6 ppb, well over the annual running average maximum  
26 contaminant level of 80 ppb.

27

1 **March 2004** Centinela collects a sample for TTHMs. The TTHM result is 87.9 ppb, which  
2 is over the running annual average (RAA) maximum contaminant level (MCL) of 80 ppb.  
3 This is not a violation at this time because compliance cannot be determined until a full year's  
4 worth of data is collected.

5  
6 **April 26, 2004** CDHS sends a letter to Centinela discussing concern over the high  
7 disinfection byproducts and high CT ratios, typically ranging 15 to 30. CDHS recommends  
8 action to avoid a violation.

9  
10 **October 14, 2004** CDHS sends a letter to Centinela warning of an impending TTHM  
11 violation, unless changes are made. After three quarterly samples, the average is 96.7 ppb.

12  
13 **December 21, 2004** CDHS responds via a letter to a Centinela proposal to add ammonia  
14 and switch disinfection mechanisms from free chlorine to chloramines. The response  
15 discussed potential disadvantages of this procedure. Additionally, increased understanding of  
16 clearwell baffling and stratification within storage tanks leads CDHS to reduce Centinela's  
17 baffling factor credit from 0.3 to 0.1. CDHS recommends a tracer study to determine the  
18 actual baffling factor credit.

19  
20 **January 28, 2005** CDHS sends a letter to Centinela regarding their 4<sup>th</sup> quarter of 2004  
21 federal violation of TTHM Running Annual Average (RAA) MCL, which is 80 ppb. The  
22 2004 RAA is 94.9 ppb. Since the State of California has not yet promulgated new  
23 disinfection byproducts regulations, CDHS copies the USEPA, who could take enforcement  
24 action.

25  
26 **February 28, 2005** Public Notification Letter Released to Inmates  
27



1 July 2005 DBP Evaluation Report issued by Carollo Engineering

2

3 July 26, 2005 CDHS sends a letter to Centinela noting their 2<sup>nd</sup> quarter RAA TTHM federal  
4 violation, which stands at 85.3. The USEPA is copied.

5

6 August 29, 2005 Public Notification Letter Released to Inmates

7

8 October 11, 2005 DHS comments via email to Carollo Engineers on their DBP  
9 Evaluation Report Recommendations. Several points are discussed, including: changing  
10 disinfection to minimize or eliminate free Chlorine; installing ammonia storage for  
11 chloramination; optimizing chemical treatment strategy to reduce TOC and TTHMs; baffling  
12 storage tanks; and performing a Tracer study to confirm the baffle factor credit.

13

14 October 12, 2005 Meeting with CDHS, DOC, Carollo, and Kitchell staffs regarding on  
15 going TTHM issues, proposed solutions, and CDHS reservations regarding proposed  
16 chloramination implementation.

17

18 Centinela's monthly reporting data indicates an operating trend of CT ratio values in the range  
19 where the amount of disinfection is 15-25 times more than the minimum. While still allowing  
20 for an appropriate safety factor, this factor could be reduced and less TTHMs would be  
21 created. Centinela staff suggested that an alternate flow pattern for the existing tanks could be  
22 to place that ran the tanks in series, rather than the existing parallel flow pattern. CDHS staff  
23 agreed that this plan would allow extended contact times and has been proven in previous  
24 studies to provide a baffling factor credit 0.3, which would improve upon the existing credit  
25 of 0.1. CDHS indicated that these changes in coordination with alternate water surface  
26 elevation management strategies have the potential to increase the turnover rates and chlorine  
27 contact times within the tanks. CDHS indicated that these changes could potentially allow



1 Centinela staff to reduce both the free chlorine dosage and the disinfection by product  
2 production rates.

3

4 October 27, 2005 Via phone, DOC staff informed CDHS on changes in clearwell flow  
5 patterns to make the flow pass through the two tanks in series vs. in parallel. CDHS granted a  
6 conditional temporary baffling factor of 0.3. This credit was granted to the facility under the  
7 condition that the facility agreed to perform a tracer study to determine the actual baffling  
8 factor value for the new flow regime in a timely fashion.

9

10 November 1, 2005 Via phone, CDHS contacted DOC staff regarding update of current  
11 operations. After DOC staff was given authority to use the conditional 0.3 baffling credit,  
12 chlorine application rates have been lowered from 1.0 - 1.3 ppm to 0.6 - 0.8 ppm.

13

14 In addition, Centinela has entered into discussions with chlorine analyzer manufacturers  
15 regarding the purchase of a new combined effluent remote monitoring/alarmed device, in  
16 order to optimize the disinfection process.

17

18 Centinela has also contacted diving specialists regarding alteration to the clearwell influent  
19 pipe that may allow for a larger baffling credit.

20

21 Upon completion of these changes DOC staff will conduct an approved tracer study dye test  
22 to determine the actually baffling factor for the facility.

23

24 November 4, 2005 CDHS sends a letter to Centinela noting their 3<sup>rd</sup> quarter 2005 TTHM  
25 federal violation, which stands at 88.0. The USEPA is copied.

26

27



1 April 7, 2006 Centinela sends a letter to CDHS noting their 1<sup>st</sup> quarter 2006 have  
2 dropped below the TTHM federal MCL of 80 ppb and stands at 77.75. The USEPA is copied.

3  
4 June 28, 2006 A series of power fluctuations triggered an alarm on the Roberts Filter  
5 Panel. This alarm prevented the filters from automatically backwashing. As a result turbidity  
6 break through occurred and CFE turbidity levels rose above 1.49 NTU for 45-52 minutes.  
7 This problem was compounded because the alarm triggered autodialer was in an operational  
8 setting that prevented it from contacting the operator. As a result of this incident a new auto  
9 dialer alarm point, for paging the on call operator, set a 15 minute sustained turbidity of 0.23  
10 NTU. Additionally, the automated filter shutoff set point has been placed at a 1 minute  
11 sustained turbidity of 0.45 NTU.

12  
13 July 7, 2006 CDHS received second quarter TTHM sampling results that showed the  
14 TTHM RAA for Centinela at 85.1 ppb, in exceedance of the 80 ppb per § 64533.a.

15  
16 October 4, 2006 CDHS received third quarter TTHM sampling results that showed the  
17 TTHM RAA for Centinela at 83.1 ppb, in exceedance of the 80 ppb per § 64533.a.

18  
19 **DISCUSSION OF TECHNICAL ISSUES**

20 Starting in early 2004 CDHS began discussing options with Centinela staff that would assist  
21 in decreasing the potential for TTHM formation. Of these options reduction in CT ratio was  
22 touched upon frequently. Centinela operates at a very high CT ratio. This ratio, as shown in  
23 the figure below, has been steadily up trending. In the period between January 2005 and July  
24 2006 the CT ratio, shown below, has increased by nearly a factor of 7; 7.6 to 51.9,  
25 respectively.

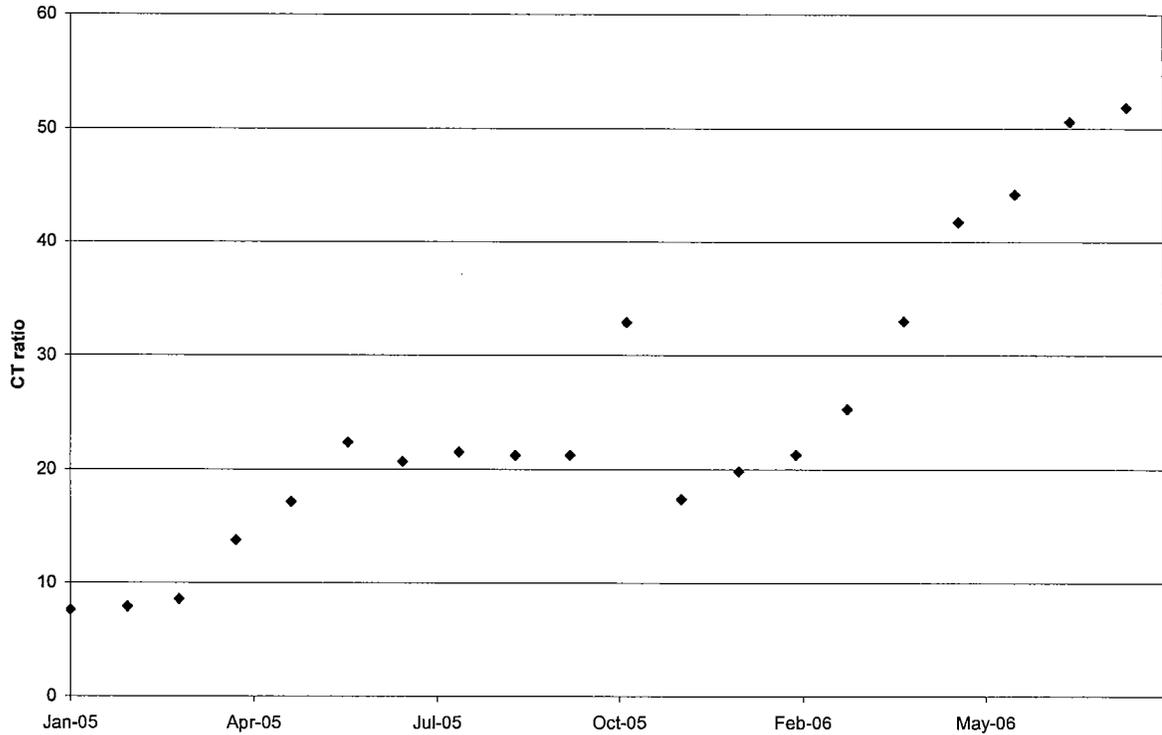
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CT Ratio Increase



Of the factors attributing to the high CT values, and associated DBP production, Water Age management and disinfection agent dosing may be the easiest elements upon which changes can be made. During the March facility inspection Centinela staff noted that the start point for the water treatment plant had been adjusted from 18.5 feet to 16.5 feet and the shutoff point had been made 21 feet. A cursory review of Centinela's CT calculations indicates that this operational change has occurred. However, additional alternative options that include changes to chlorine dosage, water age, baffling credit, and chlorine injection point may still provide the desired DBP formation reduction.

In addition to the water age/CT ratio issue, a question of filter performance has been raised due to routinely observed elevated settled water turbidities. Settled water turbidities in excess of 5 NTU could be considered the standard operating procedure for Centinela's filter units. Settled water turbidities in excess of 2.5 NTU are typically indicative of non-optimal

1 coagulant dosing. As a result of the elevated settled water turbidity values Centinela must  
2 frequently backwashes their filter units. Centinela backwashes as frequently as 6 times per  
3 day, while similar IID facilities backwash once a day. Optimizing coagulant dosing may  
4 result in lowered finished water turbidities and lowered TOC values. Lowering either  
5 turbidity or TOC may aid in the reduction of DBP formation.

## 6 7 **DIRECTIVES**

8 Centinela is hereby directed to:

- 9 1. Cease violating the DBPR requirements of CCR, Title 22, § 64533.
- 10 2. By **October 31, 2006** Centinela shall notify the public of the TTHM MCL violation  
11 pursuant CCR, Title 22, § 64401.72, and § 64463.4 (a), (b), and (c). Under the §  
12 64463.4 this violation is categorized as a Tier 2 violation. The regulations require that  
13 Centinela notify the public as soon as practical but no later than 30 days after the  
14 system learns of the violation and repeat the notice every three months as long as the  
15 violation persists. Enclosed are the CDHS instructions for issuing this public  
16 notification along with a notification template. Using the enclosed notification  
17 template will fulfill all the requirements contained in § 64463.4.
- 18 3. By **November 10, 2006**, complete the attached Proof of Notification form and return it  
19 to the CDHS with a copy of the notice delivered to the customers.
- 20 4. By **October 31, 2006**, Begin reporting monthly Maximum Chlorine Residual Daily  
21 Limit data in compliance with CCR, Title 22, § 64534.4.
- 22 5. By **November 30, 2006**, Submit a tracer study protocol in order to confirm the  
23 baffling credit of its new storage flow pattern. In October of 2005 Centinela agreed to  
24 submit a tracer study protocol by September of 2006 in order to confirm the baffling  
25 credit of its new storage flow pattern. At the time a conditional temporary baffling  
26 credit of 0.3 was awarded to the system. Failure to perform a tracer study will require  
27



1 a resubmittal of their chlorination and water age operational plan with revised CT  
2 calculations based upon the prior baffling credit of 0.1.

3 6. By **January 1, 2007**, Begin recording individual filter effluent turbidity data in  
4 compliance with Centinela's Water Permit Number 04-93-010.

5 7. By **January 1, 2007**, Centinela shall submit a feasibility study that evaluates the  
6 feasibility of several options to meet the TTHM standard, including the following:

- 7 a. GAC;
- 8 b. Minimizing Water Age/ Maximize Reservoir Turnover;
- 9 c. Filter optimization thru Coagulant Jar Testing
- 10 d. Disinfection dosage/ CT ratio Optimization
- 11 e. Alternative disinfectant agent injection points
- 12 f. Any other options.

13 8. By **January 1, 2007**, Centinela shall submit an operations plan that integrates  
14 operational changes as a result of the feasibility study.

15 9. By **January 1, 2007**, Submit proposed tank diving plan and/or report. This activity  
16 was scheduled for July of 2006, if no action has been taken then Centinela shall  
17 submit a tank diving timeline and a report upon completion.

18 10. By **November 10, 2006**, Centinela shall submit a letter to the Department stating a  
19 commitment to comply with the requirements as set forth above.

20

21 All Submittals required by this citation shall be sent to:

22

23

Brian Bernados, P.E.  
District Engineer  
Department of Health Services  
1350 Front St., Rm. 2050  
San Diego, CA 92101

24

25

26

27



1 CIVIL PENALTIES

2 Sections 116650 (c) and (e) of the Health and Safety Code provides for the assessment of a  
3 civil penalty for failure to comply with the requirements of the California Safe Drinking  
4 Water Act. Failure to comply with any provision of this citation may result in the Department  
5 imposing an administrative penalty not to exceed \$200.00 (two hundred dollars) per day as of  
6 the date of violation of any provision of this citation.

7  
8 10-6-06

Brian Bernados

9 Date

Brian Bernados, P.E.  
San Diego District Engineer  
Southern California Branch  
Drinking Water Field Operations

14 Attachments:

- 15 1) Draft Public Notification
- 16 2) Proof of Public Notification to Consumers Form
- 17 3) Quarterly Report for Disinfectant Residuals Compliance

19 cc: County of Imperial, Department of Environmental Health

21 H:\Systems\Centinela State Prison\enforcement\Citation\TTHM 0610\061006 Centinela Citation for THM MCL.doc

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# **ATTACHMENT B**

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STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC HEALTH

**IN RE:** Centinela State Prison Water System  
PO Box 731  
2302 Brown Rd.  
Imperial, CA 92251

**TO:** Mr. Mark Bohannon  
Chief Engineer I

CITATION FOR NONCOMPLIANCE - WATER SYSTEM NO. 1310801  
CITATION NO. 05-14-09C-008

Issued on June 8, 2009

Section 116650, Article 9, Chapter 4, Part 12, Division 104 of the California Health and Safety Code (H & S Code), authorizes the issuance of a citation for failure to comply with the requirements of the California Safe Drinking Water Act, or any regulation, standard, permit or order issued thereunder.

**VIOLATION**

The Department of Public Health, Drinking Water Field Operations Branch (hereinafter CDPH), hereby issues a citation to the Centinela State Prison (hereinafter Centinela) (mailing address: PO Box 731, 2302 Brown Rd., Imperial, CA 92251) for the following violations:

**DISINFECTION BYPRODUCT RULE (DBPR)**

California Code of Regulations (CCR), Title 22, Section 64533 (a): Specifically, the drinking water supplied to the public by Centinela exceeded the maximum contaminant level (MCL) for total trihalomethanes (TTHM) during first quarter of 2009 as specified by monitoring requirements in Section 64534 and 64534.2 and compliance determinations specified by Section 64535 and 64535.2. A public water

1 system shall not exceed 0.080 milligrams per liter (mg/L) for TTHM in the drinking  
2 water supplied to consumers based on a running annual arithmetic average (RAA),  
3 computed quarterly, of quarterly arithmetic averages of all samples collected  
4 pursuant to Section 64534.2 (a). The table below shows Centinela's TTHM results  
5 over the previous 12 months.

6  
7 **Centinela – TTHM Results**

<b>Quarter</b>	<b>TTHM Results</b>
2 <sup>nd</sup> Quarter, 2008	.084 mg/L
3 <sup>rd</sup> Quarter, 2008	.110 mg/L
4 <sup>th</sup> Quarter, 2008	.074 mg/L
1 <sup>st</sup> Quarter, 2009	.089 mg/L
<b>Running Annual Average</b>	<b>.089 mg/L</b>

8  
9 In accordance with Section 116650 (c) of the California Health and Safety Code, this  
10 violation is classified as a continuing violation.

11  
12 **PREVIOUS ENFORCEMENT ACTIONS**

13 On October 14, 2004, a TTHM Compliance Warning letter was issued by CDPH due  
14 to concern regarding the facility's ability to meet the federal TTHM maximum  
15 contaminant running annual average of .080 mg/L. The TTHM sample results for the  
16 4<sup>th</sup> quarter 2004 brought the running annual average to .095 mg/L. This was the first  
17 year of testing for TTHM in the water system and the high sample results continued  
18 into 2005.

19  
20 On January 28, 2005, a Notice of Exceedance (NOE) was issued for failure to  
21 comply with the Federal TTHM Standard. Additional Federal Disinfection Byproduct  
22 MCL Violations were issued on July 26, 2005 and November 4, 2005. The water  
23 system was out of compliance with the TTHM MCL violation continuously from the

1 fourth quarter of 2004 until the fourth quarter of 2006, except for a short time in early  
2 2006 when the annual average briefly dropped below 0.080 mg/L.

3  
4 On October 6, 2006, a Citation for Noncompliance (No.05-14-06C-013) was issued  
5 for failure to comply with the State's Stage 1 Disinfection Byproduct Rule (DBPR).

6 The violation began from the second quarter of 2006 and continued through the end  
7 of the third quarter of 2006. The 4<sup>th</sup> quarter 2006 TTHM testing results were reported  
8 to be .034 mg/L, low enough to bring the running annual average down to .074 mg/L  
9 and back in compliance. The water system did not exceed the TTHM maximum  
10 contaminant running annual average again until the violation described in this  
11 citation.

12  
13 In July of 2005, Carollo Engineers prepared a report for the water system titled  
14 *Centinela State Prison State of California Department of Corrections Disinfection By-*  
15 *product Evaluation* in response to the January 2005 NOE referenced above. The  
16 report evaluates and provides recommendations to allow the plant to reduce TTHM  
17 concentrations in the distribution system.

18  
19 **BACKGROUND**

20 The California State Department of Corrections (DOC) began construction of a new  
21 medium security men's prison facility (Centinela) in January 1992. The DOC  
22 submitted an application dated August 28, 1992 for a new domestic water supply  
23 permit from the California Department of Health Services CDHS. CDHS issued  
24 Permit number 04-93-010 on September 17, 1993.

25

1 The Centinela water system obtains its water supply from the Colorado River via the  
2 Imperial Irrigation District. Treatment for the water system consists of two Roberts  
3 Filters Pacer II package treatment plants designed to produce a total of 2.0 million  
4 gallon per day (MGD). Storage is provided by two ground level welded steel  
5 reservoirs (0.5 million gallon (MG) and 2.0 MG) operating in parallel, which supply  
6 the single zone distribution system.

7  
8 The facility was designed to house 2,000 medium security and 200 minimum-security  
9 inmates, and a support staff of about 850. The water treatment plant is designed to  
10 serve up to double this number of inmates in case of overcrowding. As of January  
11 2009, the system serves 5,000 people with a 5-year (2004-2008) average peak day  
12 of 1.81 MGD, or 91% of plant capacity.

13  
14 The DBPR applies to community water systems that treat their water with a chemical  
15 disinfectant in any part of the treatment process or which provide water that contains  
16 a chemical disinfectant. The Centinela water treatment plant uses chlorination as the  
17 primary disinfectant. Based on the previous federal Stage 1 DBPR and Centinela's  
18 CDPH approved monitoring plan dated April 9, 2004, Centinela is required to collect  
19 one (1) TTHM and haloacetic acids (HAA5) distribution system sample per quarter.

## 20 21 **CHRONOLOGY OF EVENTS**

22 **2<sup>nd</sup> Quarter 2008:** The Quarterly TTHM sampling result was .0835 mg/L and the  
23 running arithmetic average was .068 mg/L.

24  
25 **3<sup>rd</sup> Quarter 2008:** The Quarterly TTHM sampling result was .110 mg/L and the  
26 running arithmetic average was .074 mg/L.

1 **4<sup>th</sup> Quarter 2009**: The Quarterly TTHM sampling result was .074 mg/L and the  
2 running arithmetic average was .078 mg/L.

3  
4 **1<sup>st</sup> Quarter 2009**: The Quarterly TTHM sampling result was .089 mg/L and the  
5 running arithmetic average was .089 mg/L. This value is over the MCL and placed  
6 the system out of compliance.

7  
8 **April 9, 2009**: CDPH staff received the water system quarterly TTHM / HAA5  
9 monitoring results and identified the running annual average of quarterly TTHM  
10 results to be greater than the MCL for the 1<sup>st</sup> quarter of 2009.

11  
12 **April 9, 2009**: CDPH staff contacted Centinela about the results. Centinela was  
13 directed to conduct a Tier 2 Public Notification within 30 days of the date Centinela  
14 became aware of the violation, i.e. on or before May 9, 2009.

15  
16 **April 13, 2009**: CDPH staff sent a follow-up email to Centinela staff containing the  
17 relevant regulations, Public Notice instructions, a Proof of Consumer Notification  
18 form, and a sample Public Notice for the water system to edit and submit to CDPH  
19 for approval.

20  
21 **April 17, 2009**: CDPH staff approved the draft Public Notice submitted by Centinela.

22  
23 **April 22, 2009**: Public Notification was posted on multiple bulletin board locations  
24 throughout the Centinela facility.

25  
26 **April 27, 2009**: Certification of Public Notification was received by CDPH.

1 **DIRECTIVES**

2 Centinela is hereby directed to take the following actions:

- 3
- 4 1. Forthwith, the Centinela shall cease violating the DBPR requirements of CCR,  
5 Title 22, Section 64533.
  - 6 2. Centinela shall continue collecting one sample each quarter for TTHM and  
7 HAA5 analysis at the approved sampling location. The results shall be  
8 reported to CDPH within 10 days after the end of each quarter in accordance  
9 with CCR, Title 22, Section 64537.
  - 10 3. A repeat public notice to consumers in accordance with Title 22 of the CCR  
11 shall be issued every three months for as long as the violation persists.
  - 12 4. For each repeat public notice, provide CDPH a copy of the public notification  
13 pertaining to the violation of the TTHM standard. On the attached "Proof of  
14 Notification" form (see **Attachment 1**), describe the means of notification and  
15 the date of notification.
  - 16 5. By June 30, 2010, Centinela shall report this TTHM MCL violation in its 2009  
17 Consumer Confidence Report, per CCR, Title 22, section 64481(g) (1).
  - 18 6. Within 90 days of receipt of this Citation, Centinela shall provide an update to  
19 CDPH of actions taken and further actions planned to reduce TTHM  
20 concentrations in the distribution system based on recommendations included  
21 in the July 2005 Carollo Engineers Disinfection By-product Evaluation Report.
- 22

1 All Submittals required by this citation shall be sent to:

2  
3  
4  
5  
6  
7  
8  
9

Sean Sterchi, P.E.  
District Engineer  
California Department of Public Health  
Division of Drinking Water and Environmental Management  
1350 Front Street, Room 2050  
San Diego, CA 92101

10 CIVIL PENALTIES

11  
12  
13  
14

Failure to comply with any provision of this citation may result in CDPH imposing an administrative penalty of not less than \$200.00 (Two hundred dollars) per day as of the date of violation of any provision of this citation.

15  
16

6/8/09



17  
18  
19  
20  
21

Date

Sean Sterchi, P.E.  
San Diego District Engineer  
Southern California Branch  
Drinking Water Field Operations Branch

22

Attachments:

23

1. Proof of Notification Form

24

25

cc: Jeff Lamoure, Environmental Health Services Manager, Imperial County  
Environmental Health Services

26

# **ATTACHMENT C**

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**STATE OF CALIFORNIA**  
**DEPARTMENT OF PUBLIC HEALTH**

In Re: Centinela State Prison Water System

To: Mr. Domingo Uribe

Warden

PO Box 731

2302 Brown Rd.

Imperial, CA 92251

**CITATION FOR NONCOMPLIANCE**

**Citation No. 05-14-12C-015**

**Issued on November 13, 2012**

Section 116650, Chapter 4, Part 12, Division 104 of the California Health and Safety Code (H&S Code), authorizes the California Department of Public Health, Division of Drinking Water and Environmental Management (CDPH) to issue a citation for failure to comply with the requirements of Chapter 4, the California Safe Drinking Water Act, or any regulation, permit, standard, or order issued or adopted thereunder.

**VIOLATION**

CDPH has determined that Centinela State Prison (Centinela) has violated provisions contained in the H&S Code and Title 22, California Code of Regulations (CCR). These

1 violations include, but are not limited to, the following:

- 2
- 3 1. H&S Code, Section 116555(a)(3): Specifically, Centinela failed to provide a reliable  
4 and adequate supply of pure, wholesome, healthful, and potable water.
  - 5 2. CCR, Section 64533: Specifically, Centinela failed to meet the primary drinking water  
6 standard for the Total Trihalomethanes (TTHM) Maximum Contaminant Level (MCL)  
7 for the third quarter of 2012.

8

9 **ENFORCEMENT HISTORY**

10

11 On October 14, 2004, a TTHM Compliance Warning letter was issued by CDPH due to  
12 concern regarding the facility's ability to meet the federal TTHM MCL running annual  
13 average (RAA) of 80 parts per billion (ppb).

14

15 On January 28, 2005, a Notice of Exceedance (NOE) was issued for failure to comply with  
16 the Federal TTHM Standard. Additional Federal Disinfection Byproduct MCL NOEs were  
17 issued on July 26, 2005 and November 4, 2005. The water system was out of compliance  
18 with the TTHM MCL continuously from the fourth quarter of 2004 until the fourth quarter of  
19 2006, except for a short time in early 2006 when the annual average briefly dropped below  
20 80 ppb.

21

22 On October 6, 2006, a Citation for Noncompliance (No.05-14-06C-013) was issued for  
23 failure to meet the TTHM MCL, per in CCR, Title 22, Section 64533, during the second  
24 and third quarters of 2006

1

2 **BACKGROUND**

3

4 The Centinela water system obtains its water supply from the Colorado River via the  
5 Imperial Irrigation District. Treatment for the water system consists of two Roberts Filters  
6 Pacer II package treatment plants designed to produce a total of 2.0 million gallon per day  
7 (MGD). Storage is provided by two ground level welded steel reservoirs (0.5 million gallon  
8 (MG) and 2.0 MG) operating in parallel, which supply the single zone distribution system.

9

10 The facility was designed to house 2,000 medium security and 200 minimum-security  
11 inmates, and a support staff of about 850. The water treatment plant is designed to serve  
12 up to double this number of inmates in case of overcrowding. As of 2011, the system  
13 serves 3,721 people.

14

15 The Disinfection Byproduct Rule (DBPR) applies to community and non-transient non-  
16 community water systems that treat their water with a chemical disinfectant in any part of  
17 the treatment process or which provide water that contains a chemical disinfectant.

18 Centinela uses free chlorination as the primary disinfectant. Based on Centinela's CDPH  
19 approved DBPR monitoring plan dated April 9, 2004, Centinela is required to collect one  
20 (1) TTHM and haloacetic acids (HAA5) distribution system sample per quarter.

21

22 TTHM monitoring requirements are specified in CCR, Title 22, Section 64534 and Section  
23 64534.2 and compliance determinations are specified by Section 64535 and Section  
24 64535.2. A public water system shall not exceed 80 ppb for TTHM in the drinking water  
25 supplied to the public based on a RAA, computed quarterly, of quarterly arithmetic  
26 averages of all samples collected pursuant to Section 64534.2 (a).

**CHRONOLOGY OF EVENTS & CORRECTIVE ACTIONS TAKEN**

As shown in the table below, Centinela's RAA exceeded the TTHM MCL in the third quarter 2012.

Year	Quarter	Sample Date	Results Submitted to CDPH	Quarterly Average (ppb)	RAA (ppb)
2011	4Q	12/13/11	1/9/12	47.2	66.7
2012	1Q	3/6/12	4/6/12	64.5	67.6
	<b>2Q</b>	<b>6/12/12</b>	<b>7/10/12</b>	<b>119</b>	<b>79.9</b>
	<b>3Q</b>	<b>9/26/12</b>	<b>10/12/12</b>	<b>134.6</b>	<b>91.3</b>
	4Q	TBD	TBD	TBD	TBD

All samples were collected at the approved sample location, per the CDPH approved DBPR monitoring plan. All samples were submitted to the laboratory within the holding time of the approved analytical method. All results were reported to CDPH, electronically or physically, by the 10th day of the month following receipt of the laboratory results.

**DIRECTIVES**

Centinela shall hereby comply with the following directives:

1. Forthwith, cease and desist from failing to comply with the H&S Code, Section 116555(a)(1) and (3) by complying with primary and secondary drinking water standards and by ensuring that the system is provided with a reliable and adequate supply of pure, wholesome, healthful, and potable water.

- 1 2. Forthwith, cease and desist from failing to comply with the primary drinking water  
2 standard for TTHMs per CCR, Section 64533.
- 3  
4 3. Centinela shall continue collecting one sample each quarter for TTHM and HAA5  
5 analysis at the approved sampling location. The results shall be reported to CDPH  
6 within 10 days after the end of each quarter in accordance with CCR, Title 22, Section  
7 64537.
- 8  
9 4. Centinela shall give public notice in accordance with CCR, Title 22, Section 64463.4  
10 within 30 days of the date of this citation for failure to meet the TTHM MCL for the third  
11 quarter 2012. A draft notice shall be submitted to CDPH for review and approval prior  
12 to giving public notice. Public notice shall be via 1. Posted in conspicuous public places  
13 served by the water system, and 2. publication in a local newspaper.
- 14  
15 5. Within 10 days of conducting public notifications, a copy of the notice and the "Proof of  
16 Notification" certification shall be submitted to CDPH using the enclosed form.
- 17  
18 6. Centinela shall repeat public notification every three months for as long as the TTHM  
19 MCL violation continues in accordance with CCR, Title 22, Section 64463.4.
- 20  
21 7. By **July 1, 2013**, Centinela shall report the 2012 TTHM MCL violation in its 2012  
22 Consumer Confidence Report, in accordance with CCR, Title 22, Section 64481(g)(1).
- 23  
24 8. By **January 31, 2013**, Centinela shall submit a disinfection byproduct rule compliance  
25 plan, including cost estimates for any proposed modifications, that evaluates options  
26 for meeting the TTHM standard, including at a minimum the following:



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- a. Minimizing water age in the reservoirs;
- b. Source water control measures, such as closing influent canals during high turbidity incidents;
- c. Treatment plant optimization including evaluation of coagulation, flocculation, and filtration practices;
- d. Disinfection optimization including CT tank baffling; and/or an evaluation of an alternative disinfection process such as UV, etc;
- e. Treatment such as post filtration granular activated carbon (GAC), etc.;
- f. Lining raw water ponds
- g. Any other feasible options.

All submittals required by this citation shall be sent to:

Sean Sterchi, P.E.  
District Engineer  
California Department of Public Health  
Drinking Water Program  
1350 Front Street, Room 2050  
San Diego, CA 92101

**CIVIL PENALTY**

Section 116650 (d) and (e) of the H&S Code provides for the assessment of a penalty for failure to comply with the requirements of the California Safe Drinking Water Act. Failure

1 to comply with any provision of this citation may result in CDPH imposing penalty not to  
2 exceed one thousand dollars (\$1,000) per day per violation as of the date of violation of  
3 any provision of this citation.

4  
5  
6 11/13/12

7 Sean Sterchi, P.E.

8 Date

9 Sean Sterchi, P.E.

10 District Engineer

11 California Department of Public Health

12 Drinking Water Program

13 Enclosures: "Proof of Notification" Certification

14 Laboratory Analytical Results: 4<sup>th</sup> Quarter 2011 through 3<sup>rd</sup> Quarter 2012

15 cc: Jeff Lamoure, Deputy Director - Division of Environmental Health, Imperial County  
16 Public Health Department  
17



**Drinking Water Notification to Consumers**

**PROOF OF NOTIFICATION**

**Name of Water System:** \_\_\_\_\_

Please explain what caused the problem if you have determined what it was and what steps you have taken to correct it. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Consumers Notified \_\_\_\_\_ Yes \_\_\_\_\_ No

If not, Explain: \_\_\_\_\_  
\_\_\_\_\_

Date of Notification: \_\_\_\_\_

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

\_\_\_\_\_ 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: \_\_\_\_\_

\_\_\_\_\_  
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.



**DIVISION OF ADULT OPERATIONS****CENTINELA STATE PRISON**

P.O. Box 731  
Imperial, CA 92251



October 11, 2012

California Department of Public Health  
Drinking Water Field Operation Branch  
1350 Front Street, Room 2050  
San Diego, CA 92101

Attention: Ketcham, Scott A.  
Sanitary Engineer, San Diego District

STATE OF CALIFORNIA  
DEPARTMENT OF CORRECTIONS AND REHABILITATION

OCT 12 2012

Dear Mr. Ketcham

Re: TTHM / HAA5.

Enclosed please find the TTHM / HAA5 results for the samples taken on September 26, 2012. The Running Annual Average (RAA) Unfortunately exceeded the limit of 80 ug/L.

	12/13/2011	3/6/2011	6/12/2012	9/26/2012	RAA
TTHM -----	47.2 ug/L	64.5 ug/L	119.0 ug/L	134.61	91.3
HAA5 -----	11.8 ug/l	15.3 ug/L	27.3 ug/L	36.01	22.6

If you have any questions please contact me at (760) 337-7900 Ext 7428

Armando Equihua  
Water/Wastewater Plant Supervisor



## Imperial Valley Environmental Laboratory

501 E. Third Street  
Calexico CA, 92231  
(Tel) 760-357-8764  
(Fax) 760-357-8765  
ELAP Certification # 2524

Client: Centinela State Prison

Contact : Mark B.

Log Number: 5295

Sample ID: Administration Bldg. 800 (5295)

Date Reported: 10-10-12

Date Sampled: 09-26-12

Date Received: 09-26-12

Sample Type: Water

### Analytical Results

Analysis	Result	Units	Method	Analysis	
				DLR	Date
<b>Trihalomethanes</b>					
Chloroform	64.68	ug/L	EPA 524	0.5	09-28-12
Bromodichloromethane	40.41	ug/L	EPA 524	0.5	09-28-12
Dibromochloromethane	25.49	ug/L	EPA 524	0.5	09-28-12
Bromoform	4.03	ug/L	EPA 524	0.5	09-28-12
Total Trihalomethanes	134.61	ug/L	EPA 524	0.5	09-28-12
<b>Haloacetic Acids (GC/ECD)</b>					
Dibromoacetic Acid	5.14	ug/L	EPA 552.2	1.0	10-02-12
Dichloroacetic Acid	17.6	ug/L	EPA 552.2	1.0	10-02-12
Monobromoacetic Acid	2.02	ug/L	EPA 552.2	1.0	10-02-12
Monochloroacetic Acid	2.73	ug/L	EPA 552.2	2.0	10-02-12
Trichloroacetic Acid	8.52	ug/L	EPA 552.2	1.0	10-02-12
Total Haloacetic Acids	36.01	ug/L	EPA 552.2	10.0	10-02-12

\*Portion of analysis provided by Excel Chem Laboratory ELAP #2119

Sample temp. 5°C. Sample preservatives used: Ammonium chloride & Sodium thiosulfate.

Miguel E. Ortega, Laboratory Director

OCT 12 2012

**Excechem Environmental Labs**

California State Prison: Centinola PO Box 731/ 2302 Brown Road Imperial City, Ca 92251	Project: none Project Number: [none] Project Manager: Andrew Fowlkes	Date Reported: 03/20/12 10:26
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**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Administration Bldg #800	1203054-01	Drinking Water	03/06/12 10:20	03/07/12 11:20

Excechem Environmental Lab.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

\_\_\_\_\_  
Laboratory Representative

**Excelchem Environmental Labs**

California State Prison: Canteen  
 PO Box 731/ 2302 Brown Road  
 Imperial City, Ca 92251

Project: none  
 Project Number: [none]  
 Project Manager: Andrew Fowlkes

Date Reported:  
 03/20/12 10:26

**Administration Bldg #800  
 1203054-01 (Drinking Water)**

Analyte	Result	Reporting Limit	MDL	Units	Date	Date Prepared	Date Analyzed	Method	Notes
<b>Halooacetic Acids</b>									
Monochloroacetic Acid	ND	2.00	2.00	ug/l	AVC0094	03/08/12	03/14/12	EPA 552.2	
Monobromoacetic Acid	ND	1.00	1.00	"	"	"	"	"	
Dichloroacetic Acid	7.76	1.00	1.00	"	"	"	"	"	
Trichloroacetic Acid	4.65	1.00	1.00	"	"	"	"	"	
Dibromoacetic Acid	2.91	1.00	1.00	"	"	"	"	"	
<b>Total Haloacetic Acids (HAA5)</b>	<b>15.3</b>	<b>10.0</b>	<b>10.0</b>						
Surrogate: 2,3-Dibromopropionic Acid	80.6 %	% Recovery Limits		70-130					
<b>Trihalomethanes by GC/MS</b>									
<b>Total Trihalomethanes</b>	<b>64.5</b>	<b>0.5</b>	<b>0.08</b>	<b>ug/l</b>	<b>AVC0097</b>	<b>03/08/12</b>	<b>03/08/12</b>	<b>EPA 524</b>	
Chloroform	21.6	0.5	0.1	"	"	"	"	"	
Bromodichloromethane	23.1	0.5	0.1	"	"	"	"	"	
Dibromochloromethane	17.4	0.5	0.08	"	"	"	"	"	
Bromoform	2.4	0.5	0.1	"	"	"	"	"	
Surrogate: Dibromofluoromethane	107 %	% Recovery Limits		70-130					
Surrogate: Toluene-d8	99.0 %	% Recovery Limits		70-130					
Surrogate: 4-Bromofluorobenzene	102 %	% Recovery Limits		70-130					

Excelchem Environmental Lab.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Laboratory Representative

**Excelchem Environmental Labs**

California State Prison: Centinela PO Box 731/ 2302 Brown Road Imperial City, Ca 92251	Project: none Project Number: [none] Project Manager: Andrew Fowlkes	Date Reported: 06/29/12 14:36
--	--	----------------------------------

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Administration Bldg #800	1206152-01	Drinking Water	06/12/12 10:23	06/14/12 12:15

Excelchem Environmental Lab.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Laboratory Representative

**Excelchem Environmental Labs**

California State Prison: Centinela  
 PO Box 731/ 2302 Brown Road  
 Imperial City, Ca 92251

Project: none  
 Project Number: [none]  
 Project Manager: Andrew Fowlkes

Date Reported:  
 06/29/12 14:36

**Administration Bldg #800  
 1206152-01 (Drinking Water)**

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
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**Trihalomethanes by GC/MS**

<b>Total Trihalomethanes</b>	<b>119</b>	0.5	0.08	ug/l	AVF0149	06/15/12	06/15/12	EPA 524	
<b>Chloroform</b>	<b>64.9</b>	0.5	0.1	"	"	"	"	"	"
<b>Bromodichloromethane</b>	<b>31.0</b>	0.5	0.1	"	"	"	"	"	"
<b>Dibromochloromethane</b>	<b>20.3</b>	0.5	0.08	"	"	"	"	"	"
<b>Bromoform</b>	<b>2.8</b>	0.5	0.1	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>	<i>121 %</i>	% Recovery Limits		<i>70-130</i>					"
<i>Surrogate: Toluene-d8</i>	<i>97.8 %</i>	% Recovery Limits		<i>70-130</i>					"
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>107 %</i>	% Recovery Limits		<i>70-130</i>					"

**Haloacetic Acids**

<b>Monochloroacetic Acid</b>	<b>ND</b>	2.00	2.00	ug/l	AVF0282	06/22/12	06/28/12	EPA 552.2	
<b>Monobromoacetic Acid</b>	<b>ND</b>	1.00	1.00	"	"	"	"	"	"
<b>Dichloroacetic Acid</b>	<b>13.7</b>	1.00	1.00	"	"	"	"	"	"
<b>Trichloroacetic Acid</b>	<b>7.79</b>	1.00	1.00	"	"	"	"	"	"
<b>Dibromoacetic Acid</b>	<b>5.82</b>	1.00	1.00	"	"	"	"	"	"
<b>Total Haloacetic Acids (HAAs)</b>	<b>27.3</b>	10.0	10.0	"	"	"	"	"	"
<i>Surrogate: 2,3-Dibromopropionic Acid</i>	<i>86.0 %</i>	% Recovery Limits		<i>70-130</i>					"

Excelchem Environmental Lab.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Laboratory Representative

**Excelchem Environmental Labs**

California State Prison: Centinela  
 PO Box 731/ 2302 Brown Road  
 Imperial City, Ca 92251

Project: none  
 Project Number: [none]  
 Project Manager: Andrew Fowlkes

Date Reported:  
 12/22/11 14:15

**Administration BLDG# 800  
 1112148-01 (Water)**

Analyte	Result	Reporting Limit	MDL	Units	Batch	Date Prepared	Date Analyzed	Method	Notes
<b>Haloacetic Acids</b>									
Monochloroacetic Acid	ND	2.00	2.00	ug/l	AUL0235	12/15/11	12/16/11	EPA 552.2	
Monobromoacetic Acid	ND	1.00	1.00	"	"	"	"	"	
Dichloroacetic Acid	3.97	1.00	1.00	"	"	"	"	"	
Trichloroacetic Acid	3.67	1.00	1.00	"	"	"	"	"	
Dibromoacetic Acid	4.14	1.00	1.00	"	"	"	"	"	
<b>Total Haloacetic Acids (HAA5)</b>	<b>11.8</b>	10.0	10.0	"	"	"	"	"	
<i>Surrogate: 2,3-Dibromopropionic Acid</i>	89.8 %	% Recovery Limits		70-130					"
<b>Trihalomethanes by GC/MS</b>									
<b>Total Trihalomethanes</b>	<b>47.2</b>	0.5	0.08	ug/l	AUL0309	12/21/11	12/21/11	EPA 524	
<b>Chloroform</b>	<b>11.6</b>	0.5	0.1	"	"	"	"	"	
<b>Bromodichloromethane</b>	<b>16.4</b>	0.5	0.1	"	"	"	"	"	
<b>Dibromochloromethane</b>	<b>16.1</b>	0.5	0.08	"	"	"	"	"	
<b>Bromoform</b>	<b>3.1</b>	0.5	0.1	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>	107 %	% Recovery Limits		70-130					"
<i>Surrogate: Toluene-d8</i>	99.6 %	% Recovery Limits		70-130					"
<i>Surrogate: 4-Bromofluorobenzene</i>	119 %	% Recovery Limits		70-130					"

Excelchem Environmental Lab.

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Laboratory Representative

**Excelchem Environmental Labs**

California State Prison, Centinela  
PO Box 731/ 2302 Brown Road  
Imperial City, Ca 92251

Project: none  
Project Number: [none]  
Project Manager: Andrew Fowlkes

Date Reported:  
12/22/11 14:15

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Administration BLDG# 800	112148-01	Water	12/13/11 10:55	12/14/11 10:00

12/22/11 9:20 AM

Excelchem Environmental Lab.



Laboratory Representative

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# **ATTACHMENT D**



State of California—Health and Human Services Agency  
**Department of Health Services**



**SANDRA SHEWRY**  
Director

**ARNOLD SCHWARZENEGGER**  
Governor

February 15, 2007

Juan Nessi,  
Correctional Plant Manager  
California Department of Corrections  
Centinela State Prison  
2302 Brown Road  
Imperial, CA 92251

Dear Mr. Nessi:

**CENTINELA STATE PRISON, WATER SYSTEM NO. 1310801  
CITATION NO. 05-14-06C-016 AMENDMENT NO. 1  
AND TRACER STUDY STATUS MEETING**

On October 6, 2006 The California Department of Health Services, San Diego Office of the Drinking Water Field Operations Branch (CDHS), issued Citation Number 05-14-06C-016 to the Centinela State Prison (Centinela) for the following violations:

**DISINFECTION BYPRODUCT RULE (DBPR)**

Title 22, California Code of Regulations (CCR), Section 64533 (a): Specifically, the drinking water supplied to the public by Centinela exceeded the maximum contaminant level (MCL) for total trihalomethanes (TTHM) during the second quarter of 2006.

**The Citation directed Centinela to:**

**Directive 1**

Cease violating the DBPR requirements of CCR, Title 22, § 64533.

**Status:**

Completed when the December 19 DBP results showed TTHM levels to be 34 ppb. These results allowed the RAA to become 74.3 ppb, which is below the 80 ppb RAA MCL. The system accredits the reduction in TTHM levels to the introduction of a new coagulation regime and the elimination of pre-chlorination.

**Directive 2**

By October 31, 2006 Centinela shall notify the public of the TTHM MCL violation.

**Status:**

Completed on October 13

**Directive 3**

By November 10, 2006, complete the attached Proof of Notification form and return it to the CDHS with a copy of the notice delivered to the customers.

Status:

Completed on October 17.

**Directive 4**

By October 31, 2006, Begin reporting monthly Maximum Chlorine Residual Daily Limit data in compliance with CCR, Title 22, § 64534.4.

Status:

Completed on December 6 and included the monthly MRDL data for the year to date.

**Directive 5**

By November 30, 2006, Submit a tracer study protocol in order to confirm the baffling credit of its new storage flow pattern. In October of 2005 Centinela agreed to submit a tracer study protocol by September of 2006 in order to confirm the baffling credit of its new storage flow pattern. At the time a conditional temporary baffling credit of 0.3 was awarded to the system. Failure to perform a tracer study will require a resubmittal of their chlorination and water age operational plan with revised CT calculations based upon the prior baffling credit of 0.1.

Status:

Has yet to fully completed to the satisfaction of CDHS staff.

**Directive 6**

By January 1, 2007, Begin recording individual filter effluent turbidity data in compliance with Centinela's Water Permit Number 04-93-010.

Status:

Completed on February 5, 2007.

**Directive 7**

By January 1, 2007, Centinela shall submit a feasibility study that evaluates the feasibility of several options to meet the TTHM standard, including the following:

- a. GAC;
- b. Minimizing Water Age/ Maximize Reservoir Turnover;
- c. Filter optimization thru Coagulant Jar Testing
- d. Disinfection dosage/ CT ratio Optimization
- e. Alternative disinfectant agent injection points
- f. Any other options.

Status:

Not completed. Rather than submitting a feasibility study, Centinela opted to change to ferrous sulfate as their coagulant. This coagulant change has been piloted by several other Imperial County plants. Since the Centinela has returned to compliance CDHS views this change as an acceptable alternative to the submittal of a feasibility study, provided the system stays in compliance in future quarters..

**Directive 8**

By January 1, 2007, Centinela shall submit an operations plan that integrates operational changes as a result of the feasibility study.

Status:

Has yet to fully completed to the satisfaction of CDHS staff.

**Directive 9**

By January 1, 2007, Submit proposed tank diving plan and/or report. This activity was scheduled for July of 2006, if no action has been taken then Centinela shall submit a tank diving timeline and a report upon completion.

Status:

Completed on October 11 with the submittal of dive reports for both reservoirs.

**Directive 10**

By November 10, 2006, Centinela shall submit a letter to the Department stating a commitment to comply with the requirements as set forth above.

Status:

Completed on November 9.

Of the above directives, Directive 5 (tracer study), Directive 7 (feasibility study), and Directive 8 (submittal of an operations plan), have yet to fully completed to the satisfaction of CDHS staff.

**STATUS MEETING**

On November 30, 2006 Centinela staff members met with CDHS staff person Scott Ketcham at Centinela to discuss progress on Directive 5 (tracer study), Directive 7 (feasibility study), and Directive 8 (submittal of an operations plan). During this meeting new information was disclosed that has led CDHS to temporarily postpone the deadlines issued in the Citation for Directives 5 and 8.

The key elements of this discussion were CT ratios, the automatic monitoring systems, 24 hour staffing, hydraulic alignment, and implementing a new tracer study tracer study.

In November 2005 CDHS conditionally granted a baffling credit of 0.3 under a two tanks in series flow scenario. The conditional baffling credit was granted in an effort to allow

Centinela greater flexibility with their chlorine dosage as an option for decreasing the DBP formation within their storage tanks. The conditional credit was based upon tracer studies previously reviewed by CDHS. The credit was granted under the condition that a tracer study be performed to confirm the actual baffling credit by September 2006. Directive 5 of Citation Number 05-14-06C-016 specifically addressed Centinela's failure to meet this conditional dead line. Furthermore, Directive 5 set a new dead line of November 1, 2006 for the submittal of a tracer study protocol.

During the November 30<sup>th</sup> meeting CDHS staff inspected the general plant-piping configuration for the current series flow scenario and conclude that the conditional series 0.3 baffling credit was not realistic. Upon review of piping schematic of the facility CDHS and Centinela staff concluded that the flow configuration resulted in short circuiting at bottom of the second in series tank. This short-circuiting was determined to be due to the inlet and outlet design and likely results in a near zero baffling factor, thus eliminating any gain from placing the two tanks in series.

The purpose of Directive 5, tracer study, was to demonstrate a baffling factor higher than 0.1 in the reservoir in series operation. As the short circuiting issue within the "in series operation" indicated that this would not be possible, the conversation transitioned to remaining options that Centinela could pursue in order to prevent DBP formation within its storage tanks.

Of the available options, the reduction of CT ratios within the reservoirs through the control of water age surfaced as the leading candidate. This topic has been addressed repeatedly in the past and has met great resistance from Centinela staff. It was upon further examination of this resistance that a more pressing issue was disclosed.

The stated reason for their reluctance in reducing the CT values, which often range 12-25 times the required minimum, was disclosed to be concerns over the systems emergency notification protocol. The facility currently operates unstaffed and is remotely monitored for 16 hours on the weekends and 8 hours Monday thru Friday. During the remote operation phase the current protocol forces triggered alarms to go through two non-operator levels before a decision is made to call an operator. The alarm procedure is as follows:

1. An alarm is triggered
2. The watch commander, night warden, is notified.
3. The watch commander notifies the plant supervisor
4. The plant supervisor notifies operational staff
5. Operational staff then make a decision

CDHS has three concerns in regard to this policy.

1. First in the event of a simultaneous inmate and water treatment events the watch commander and/or plant supervisor may make a judgment call that the inmate

issues are more pressing than the water issues and choose not to call the plant supervisor/operator.

2. Secondly, the watch commander and/or plant supervisor may not understand the severity of the triggered alarm and may choose to not call the operational staff.
3. Thirdly, per Section 64413.7 (c) a shift operator must be able to on site or contacted within 1 hour.

On June 28, 2006 Centinela a violated Section 64413.7 (c) by failing to respond in one hour, due to a series of power fluctuations and an improper alarm setting. After midnight on June 28, 2006 a series of power fluctuations triggered an alarm on the Roberts Filter Panel. This alarm prevented the filters from automatically backwashing, which resulted in escalating effluent turbidity values. These values were in exceedance of 2 NTU at the beginning of the operators shift. The operators weren't notified of the turbidity problem by the autodialer as it had been left in operational mode, which prevented the system from paging the watch commander. Turbidity levels during this incident rose to 1.49 NTU for 40-52 minutes, but did not violate the surface water treatment rule turbidity standard of 60 minutes. However, the system did violate Section 64413.7 (c) for failure to notify the chief operator or have an operator on site within one hour of the start of the incident. Centinela staff arrived for their work shift two hours and 20 minutes after the autodialer set point, 0.24 NTU, alarm was triggered.

During the course of discussion on this violation it was made aware to CDHS staff that Centinela had added an additional operator, Ignacio Colunga, grade T3/D3, to their staff and would be able to perform 24 hour staffing of their facility. Per Centinela's Permit Number 04-93-010 they are required to perform 24 hour staffed operation of the facility if an additional staff member is hired.

**CITATION NO. 05-14-06C-016 AMENDMENT NO. 1**

**Therefore, the Citation Number 05-14-06C-016 is hereby amended to add the following Directives, ordering Centinela to:**

11. By **April 2, 2007** Centinela shall comply with the 24-hour staffing requirement per Permit Number 04-93-010 and submit a typical week staffing schedule to CDHS.
12. By **March 1, 2007**, Centinela shall restore the flow sequence to parallel operation of its reservoirs, and submit new CT calculations utilizing a baffling credit of 0.1.
13. By **April 10, 2007**, Centinela shall submit an operations plan that focuses on balancing a reduction of the CT ratio within the reservoirs and maintenance of adequate disinfection residual within Centinela's distribution system.
14. By **April 30, 2007**, submit a tracer study protocol in order to confirm the baffling credit of its reservoirs.

**ADDITIONAL ITEMS:**

If Centinela would be interested, CDHS has a technical expert within the Department of Health Services, with years of experience in running tracer studies. This expert has developed a new "Modified Step-Dose" test that would take less than three hours to complete and would be willing to come to your facility and conduct the next tracer study test. The system would be billed for the time to review the facility plans, establish the testing protocol, and the performance of the test at your standard State-billing rate. CDHS has all the analytical components necessary to perform this study, and the system would be responsible for purchasing the tracer agent and supplying the feed pump. If you would like to pursue this option further detail can be provided.

Should you have any questions, please contact Scott Ketcham at (619) 525-4395 or myself at (619) 525-4497.

Sincerely,



Brian Bernados, P.E.  
District Engineer, San Diego District

cc: Roger Berger, County of Imperial, Department of Environmental Health