

STATE OF COLORADO

John W. Hickenlooper, Governor
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Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

February 28, 2012

Certified Mail Number: 7007 0220 0001 0162 1931

Mr. Kevin Gertig, Water Resources & Treatment Operations Manager
Fort Collins Utilities
700 Wood Street
Fort Collins, Colorado 80522

**RE: Expedited Settlement Agreement, Number: EM-120227-1
Drake Water Reclamation Facility
CDPS Permit No: CO-0047627**

Dear Mr. Gertig:

Enclosed for your records you will find Fort Collins' copy of the recently executed Expedited Settlement Agreement ("ESA"). Please be advised that the first page of the ESA was changed in order to place the correct ESA Number on the final document. The ESA is now fully enforceable and constitutes a final agency action.

As specified in the enclosed ESA, Fort Collins must, within fifteen (15) calendar days, submit a certified or cashier's check for the amount specified in the ESA to the Water Quality Control Division in order for this matter to be resolved.

If you have any questions, please don't hesitate to contact Russ Zigler at (303) 692-3546 or by electronic mail at russell.zigler@state.co.us.

Sincerely,

Joe Campbell
Water Pollution Control Compliance and Enforcement
WATER QUALITY CONTROL DIVISION

cc: Larimer County Health Department
Enforcement File

cc: Natasha Davis, EPA Region VIII
Bret Icenogle, Engineering Section, CDPHE
Dick Parachini, Watershed Program, CDPHE
Michael Beck, Financial Solutions Unit, CDPHE

Enclosure(s)

RECEIVED

DEC 15 2011

CAME

Colorado Department of Public Health & Environment
Water Quality Control Division

EXPEDITED SETTLEMENT AGREEMENT

Number: ~~EM-120227-1~~ EM-120227-1

Colorado Discharge Permit System Permit Number: CO-0047627, Larimer County

The Colorado Department of Public Health and Environment ("Department"), through the Water Quality Control Division ("Division"), issues this Expedited Settlement Agreement ("ESA"), pursuant to the Division's authority under §§25-8-602, 25-8-605 and 25-8-608, C.R.S., of the Colorado Water Quality Control Act (the "Act") §§25-8-101 to 803, C.R.S., and its implementing regulations, with the express consent of the City of Fort Collins ("Fort Collins"). The Division and Fort Collins may be referred to collectively as "the Parties."

1. Fort Collins is a "person" as defined under the Water Quality Control Act, §25-8-103(13), C.R.S., and its implementing permit regulation, 5 CCR 1002-61, §61.2(73).
2. Fort Collins operates Drake Water Reclamation Facility; a domestic wastewater treatment works with a 23 million gallon per day (30-day average) hydraulic flow design capacity, located at 3036 Environmental Drive, City of Fort Collins, Larimer County, Colorado (the "Facility").
3. Fort Collins failed to comply with the provisions of its Colorado Discharge Permit System Permit, Number CO-0047627 (the "Permit"), resulting in an exceedance of the effluent limitation for Total Residual Chlorine as further described in the attached incident report and Discharge Monitoring Report ("DMR").
4. The parties enter into this ESA in order to resolve the matter of civil penalties associated with the violation(s) alleged herein and in the attached incident report/DMR for a penalty of \$5,000.00.
5. By accepting this ESA, Fort Collins neither admits nor denies the violations or deficiencies specified herein and in the attached incident report/DMR.
6. Fort Collins certifies that all deficiencies identified in the attached incident report/DMR have been corrected and that the Facility is currently in full compliance with the terms and provisions of the Permit.
7. Fort Collins agrees to the terms and conditions of this ESA. Fort Collins agrees that this ESA constitutes a notice of alleged violation and an order issued pursuant to §§25-8-602, 25-8-605 and 25-8-608, C.R.S., and is an enforceable requirement of the Act. By signing the ESA, Fort Collins waives: (1) the right to contest the finding(s) specified herein and in the attached incident report/DMR; and, (2) the opportunity for a public hearing pursuant to §25-8-603, C.R.S.
8. This ESA is subject to the Division's "Public Notification of Administrative Enforcement Actions Policy," which includes a thirty-day public comment period. The Division and Fort Collins each reserve the right to withdraw consent to this ESA if comments received during the thirty-day period result in any proposed modification to the ESA.



Incident Report Form

Location: Drake Water Reclamation Facility (DWRF), City of Fort Collins, CO

Date & Time of Occurrence: August 3, 2011 @ 10:35 am

Acting Water Resources & Treatment Operations Manager, Dennis Bode notified: August 3, 2011 @ 12:12 p.m.

Colorado Department of Public Health & Environment notified: August 3, 2011 @ 3:55 pm

Colorado Division of Wildlife notified: August 3, 2011 @ 4:00 pm

Incident Report Completed By: Jason Dreessen, supervised by Ray Kemp

Incident Report Completed Date: August 8, 2011

Description of Incident

On August 3, 2011, an incident occurred at the Drake Water Reclamation Facility (Permit # CO0047627) for the City of Fort Collins. The incident (incident report # 2011-0543) was an accidental overdose of chlorine which resulted in excess chlorine residual being discharged into our receiving waters. The receiving waters for DWRF is Fossil Creek Ditch (outfall # 001A), which flows into Fossil Creek Reservoir located approximately 5 miles south of the DWRF outfall. This water is used for agricultural purposes. All plant operators at DWRF are fully aware of the permit requirements in relation to allowable discharges, operation, maintenance, control, and reporting requirements.

The operator primarily responsible for the mishap was Mr. Jason Dreessen. There were other operators present, assisting with the project, however, Mr. Dreessen was leading the project and was the primary person responsible for the accidental overdose. His immediate supervisor is Mr. Ray Kemp, who is the operator in responsible charge at DWRF.

The plan was to supplement our disinfection in the north process train using sodium hypochlorite (bleach) stored in three 500 gallon totes that were left over from earlier in the year. The north process train includes two chlorine contact chambers designated as east and west. We were going to attach a small pump to one of the totes and discharge the bleach into both the east and west chlorine contact chambers.

Between trying to establish suction on the pump, and then trying to crimp the flow to the proper level, we inadvertently created an overdose of chlorine (Cl₂) in the contact chambers. This resulted in a release of approximately 80 gallons (40 gallons per side) in a time span of 5-10 minutes beginning at approximately 10:35 am. The Pollution Control Lab located at DWRF determined that the concentration of the bleach was around 7%.

After realizing that we caused an accidental overdose, we immediately stopped the pump. At 10:56 am we started the second sulfur dioxide (SO₂) feeder and closely monitored the condition using DPD reagents and a Hach DR2800 spectrophotometer, as well as our in line Hach Cl17 chlorine residual analyzer.



Incident Report Form

When we noticed the Cl₂ residual starting to rise, we placed both SO₂ feeders into hand and set them to maximum output at 11:08 am. We then called our supervisor, Mr. Ray Kemp, to inform him of the incident. Ray Kemp called Dennis Bode who was acting Water Resources and Treatment Manager.

Despite maximum output from our SO₂ feeders, the CL₂ overdose was unfortunately too strong. We began taking grab samples from our sample point inside DWRF, testing for chlorine residual using DPD reagents and a Hach DR2800 spectrophotometer. The first high residual reading occurred at 11:22 am. This was consistent with the trend on our SCADA system which showed a Cl₂ overdose occurring for 10 minutes from 11:22 am to 11:32 am.

During that time, our CL₂ residual was at 2.0 mg/L with a total facility discharge of approximately 15.7 mgd. Our chlorine residual levels returned to a normal level of 0.05 mg/L at 11:33 am.

At 11:35 am, we took two grab samples from Fossil Creek Ditch. One sample immediately below our outfall, and the second approximately 300 ft downstream from the outfall. Those samples revealed a Cl₂ residual of 0.35 mg/L at the outfall, and 0.25 mg/L downstream.

After gathering the pertinent information, Mr. Kemp called the Colorado Department of Public Health and Environment to inform them of the incident at approximately 3:55 pm. He also called the Division of Wildlife to report a fish kill. A biologist, Mr. Ken Kehmeier, from the DOW arrived at the plant around 4:30 pm to inspect the fish that we had removed from the ditch. There were 27 total fish removed including 22 suckers, 2 carp, and 3 trout. Mr. Kehmeier stated that this was a minor incident and created very little impact on the receiving waters. Mr. Kehmeier then took possession of the fish, and was provided with all the necessary information he requested in order to complete his report.

Root Cause Analysis

The root cause of the incident was an inadvertent overdose of chlorine caused by operator error. The pump we were using did not have a gallon per minute output listed on its information plate. The pump output was too much and too fast for us to control. We tried to slow the flow by crimping the valve, but our efforts were unsuccessful.



Incident Report Form

Corrective Actions Taken

Once we realized the pump output was too much, we immediately stopped the pump. At that point, the corrective actions taken were to increase and then maximize the output of our SO₂ feeders to neutralize the chlorine. We then continued to monitor the condition of our effluent throughout the incident using DPD reagents and the Hach DR2800 spectrophotometer. Our supervisor was informed early on in the incident, and later that day, he called the state and the DOW to report the mishap. We also removed the dead fish from the receiving waters and turned them over to the DOW biologist.

Successes

The first success that occurred during this incident was quickly realizing we had caused a large overdose and shut down the pump. We knew what we had to do in response by maximizing the output of our SO₂ feeders and quickly did so. We informed our supervisor right away, and thoroughly monitored the condition of our effluent, as well as the condition of the receiving waters. We were prompt in reporting the incident to the necessary authorities.

Recommendations to Prevent Future Occurrences



Incident Report Form

The first recommendation is to use the right type of pump appropriate for this application. We were using a centrifugal pump when we should have been using a metering pump.

The second recommendation is to test the output of the pumping application using non-pot water before starting to pump the chemical. By determining how much output and flow rate is occurring using non-pot water, we will be more accurate in knowing the amount of chemical being delivered.

The third recommendation is to conduct a training session describing the incident, how to prevent it, and what to do in response.

Additional Comments

We started this project with nothing but positive intentions. Unfortunately, even the best of intentions can lead to negative results. The chlorine overdose occurred very quickly, but our response and reaction to counteract it was also quick. We did everything in our power to stop and prevent excess chlorine from being discharged, but were unsuccessful. This was definitely a learning experience that will allow for growth and improvement. We realized our mistakes and will make the necessary adjustments to make sure this does not occur again.

Contact information:

City of Fort Collins

Ray Kemp, Interim Water Reclamation and Biosolids Manager, (970) 222-0597, Email: rkemp@fcgov.com
Jason Dreessen, Plant Operator, phone (970) 221-6900, Email: jdreessen@fcgov.com

Colorado Division of Wildlife

Ken Kehmeier, Email ken.kehmeier@state.co.us

SEP 27 2011

DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS
 NAME FORT COLLINS, CITY OF
 ADDRESS 3038 ENVIRONMENTAL DRIVE
 FORT COLLINS CO 80525

001-A
 DISCHARGE NUMBER

DMR MAILING ZIP CODE: 80525

MINOR
 DISCHARGE TO FOSSIL CREEK DITCH
 EXTERNAL, OUTFALL

MONITORING PERIOD
 FROM 09/20/11 TO 09/27/2011

*** NO DISCHARGE ***

WATER RESOURCES & TREATMENT OPERATIONS MANAGER

PARAMETER	QUANTITY OR LOADING		QUANTITY OR CONCENTRATION		NO. EX	FREQ. OF ANALYSIS	SAMPLE TYPE
	VALUE	UNITS	VALUE	UNITS			
Oil and Grease 03592 1 0 Effluent Gross	*****	*****	NR	NR	0	NR	GRAB
E. Coli, thermotol. MF, MTEC 31633 1 0 Effluent Gross	*****	*****	23	#/100PPL	0	DAILY	GRAB
Flow, in conduit or thru treatment plant 50050 1 0 Effluent Gross	11.76	MG/D	*****	*****	0	CONTINUOUS	RCORDR
Chlorine, total residual 50050 1 0 Effluent Gross	*****	*****	2.00	MG/L	0	5/DAY	GRAB
Mercury, total (as Hg) 71900 1 0 Effluent Gross	*****	*****	*****	*****	0	5/DAY	GRAB
BOD, 5-day, percent removal 81010 K 0 Percent Removal	*****	*****	*****	*****	0	2-MONTH	COMPOS
Oil and Grease, visual 84065 1 0 Effluent Gross	*****	*****	*****	*****	0	MONTHLY	CALCTD
	*****	*****	*****	*****	0	DAILY	VISUAL

Name/Title
 Principal Executive Officer
 Kevin Gerbig
 Water Resources & Treatment
 Operations Manager

Signature of Principal Executive Officer
 or authorized agent

Date (mm/dd/yyyy) 09/21/2011
 phone: 970-221-6900

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (reference all attachments here) See cover letter and attached incident report #2011-0543 for information regarding chlorine exception

See cover letter regarding pending mercury analysis
 Oil and grease - see footnote 16 22. If no chlorine was used, report TCT. (no chlorine treatment) - footnote 0: Report effluent samples on DMR marked 301

