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Colorado Department
of Public Health
and Environment

MEMORANDUM

June 12, 2013

TO: Members of the Water and Wastewater Facility Operator Certification Board

FROM: Jackie Whelan
Facility Operator Certification
Water Quality Control Division

SUBJECT: 2012 Annual Program Report to the Board

The Division is pleased to present the second Annual Report to the Board for the operator certification program. The annual report covers the various aspects of the program related to both water and wastewater facilities.

The report addresses the status and continued implementation of Colorado's operator certification program for the following components:

1. Organizational information
2. Sunset review status
3. Facility compliance with the ORC requirements
4. Permitted industrial class 2 facilities
5. Facility Enforcement
6. Operator certification
7. Restricted or grandfathered certificates
8. Expense Reimbursement Grant
9. Disciplinary action investigations
10. Regulation revisions
11. Stakeholder groups and participation
12. Outreach and education
13. Fiscal information
14. Summary



Colorado Department
of Public Health
and Environment

Water Quality Control Division 2012 Annual Report Facility Operator Certification Program

**Submitted to the
Water and Wastewater Facility Operators Certification Board
June 25, 2013**

*Protect and restore water quality for
public health and the environment in Colorado.*

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Introduction

Operator certification is an important step in protecting public health and the environment by promoting compliance with the Safe Drinking Water Act (SDWA), the Clean Water Act (CWA), and federal and state implementing regulations.

The goal of the operator certification program is to ensure that skilled professionals are overseeing the treatment and distribution of safe drinking water and the collection and treatment of wastewater prior to discharge. The State of Colorado's Operator Certification Program was approved by the U.S. Environmental Protection Agency as consistent with the requirements of the "Final Guidelines for the Certification and Recertification of the Operators of Community and Non-Transient Non-Community Public Water Systems," 64 FR 5916 on June 22, 2001.

Purpose of this Report

The report includes data for all water and wastewater facilities to provide the Board with a comprehensive overview of program activities. The report covers calendar year 2012 and includes data for the previous four years, where available, for comparison and trending purposes. The sources of data used to compile this report are the official annual reports to the U.S. Environmental Protection Agency, contractors' annual reports to the Board, and records maintained by the Board's contractors and the Division.

Organizational Information

The Water and Wastewater Facility Operators Certification Board (Board) is a governor-appointed board that represents a variety of water and wastewater professionals. The Board is established by Article 9 of Title 25, C.R.S. The Board has promulgated *Regulation 100 Water and Wastewater Facility Operators Certification Requirements* pursuant to sections 25-9-101 through 110, C.R.S.

The facility operator certification program is made up of four distinct groups, the Board, the board administrator, the Division, and the contractors. They have interrelated responsibilities for activities within the program.

Table 1 - Responsibilities of the Board, Administrator, Division, and Contractors

	Application Review	Application Appeal	Training Unit Approval	Examinations	Compliance & Enforcement	Facility Penalty Appeal	Outreach & Education	Facility Classification	Classification Appeals	Disciplinary Actions	Regulation & Policy Revisions
Board		X				X			X	X	X
Board Administrator		X				X			X		X
Division					X	X	X	X	X	X	X
Contractors	X	X	X	X							

The Water Quality Control Division (Division) is responsible for compliance and the enforcement of the requirement that every water and wastewater facility be under the supervision of a certified operator holding a certificate equal to or greater than the classification of the facility. The Division is also responsible for the classification of all water and wastewater facilities and for the investigation of complaints of misconduct by certified operators in the performance of their duties. The Division serves as staff to the Board and as liaison between the Division, the Board, certified operators, and facility owners providing compliance assistance, regulation implementation, outreach, and education.

The Board contracts the operator certification and examination aspects of the program to the Colorado Environmental Certification and Testing, Inc. (CECTI) and the Colorado Water Distribution and Wastewater Collection Systems Certification Council, Inc. (Certification Council), non-profit organizations comprised of subject matter experts (SME) who volunteer their time and expertise in support of the program. The members of CECTI and the Certification Council also review and approve training courses to meet the professional development requirements for certification renewal. These contractors subcontract daily operations to Total Events and Management Services, Inc. (TEAMS). TEAMS manages the Operator Certification Program Office (OCPO), which oversees the daily operation of operator certification

In 2012, there were 68 water professionals from across the state serving on the CECTI and the Certification Council boards and their various committees who donated over 3,443 volunteer hours in support of the certification program. These hours, plus those donated by industry-related, non-certified volunteers, aid to keep the program cost-effective.

Sunset Review

Water and Wastewater Treatment Facility Operators, Article 9 of Title 25, C.R.S., underwent a legislative sunset review in 2012 by the Colorado Department of Regulatory Agencies. Recommendations made in the Sunset Report, with amendments, have been adopted by the Colorado legislature. Governor John Hickenlooper signed the bill on June 5, 2013. The changes to the statute are effective July 1, 2013.

Facility Compliance

Article 9 of Title 25, C.R.S., requires “every water treatment facility, domestic or industrial wastewater treatment facility, wastewater collection system and water distribution system be under the supervision of a certified operator, holding a certificate in a class equal to or higher than the class of the facility or system.” The division tracks the names reported as the designated operator in responsible charge (ORC) for each facility and the facility classification, but cannot determine at any given time if the person listed holds a valid certificate or if the certificate is at the correct level for the facility.

The division is working to integrate the ORC data into the division’s data systems and to develop reporting mechanisms that will compare the individual certification data to the facility ORC and classification.

This report lists the number and percentages of facilities that have reported someone as the ORC only in Table 2 and Table 3.

Table 2 – Drinking Water System Facilities with Operators of Record

	Number of Systems	Number of Facilities	With Operator	No Operator of Record	% With Operator
<i>Community Water Systems</i>					
2008	902		880	22	97%
2009	926		914	12	98%
2010	927		916	11	98%
2011	933		916	17	98%
2012	871	1641	1618	23	98.6%
<i>Non-Transient, Non-Community Water Systems</i>					
2008	171		168	3	98%
2009	179		178	1	99%
2010	184		182	2	98%
2011	182		180	2	98%
2012	176	353	348	5	98.6%
<i>Transient, Non-Community Water Systems</i>					
2008	741		717	24	97%
2009	778		761	17	98%
2010	767		750	17	98%
2011	782		746	36	95%
2012	968	1456	1347	109	92.5%

The operator in responsible charge tracking is done outside of the division's standard data systems. The standard data systems catalog the constant changes in the inventory of public water systems and permitted facilities. As permits are terminated, transferred, issued, or reissued and public water systems are activated, inactivated, or the name changes that information is reflected in the standard data systems. Ensuring the stand-alone system is current with the many changes in the standard systems is particularly challenging and must be done manually. Because of this, errors in an accurate inventory are inherent in a stand-alone system.

In late 2012, it was discovered that there were 188 active public water systems that were not being tracked for ORC. In addition, nearly 350 of the permitted wastewater facilities ORC inventory was incorrect. The division has been able to verify the ORC status for the 188 water facilities and that information is reflected in Table 2.

Permitting of wastewater facilities is very complex. Because of these complexities the division has not been able to complete the verification of ORC status and facility classifications for a significant number of permitted facilities. This is reflected in the ten percent lower numbers of facilities that have reported an operator for 2012 detailed in Table 3.

The integration of the ORC data into the Safe Drinking Water Information System, SDWIS, is scheduled to be completed by the end of August 2013. Integration will allow for accurate compliance determination. Once integration with SDWIS is complete, the division will focus on integration of the wastewater ORC data into the permitted facility data systems.

Table 3 – Wastewater Facilities with Operators of Record

	Wastewater Facilities by Type	WW Treatment and Collection Facilities	With Operator	No Operator of Record	% With Operator
Permitted Domestic Facilities					
2011	598		581	17	97%
2012	474	854	743	111	87%
Collection Only Facilities					
2011	124	124	119	5	96%
2012	152	152	131	21	86%
Industrial Class 1 Facilities					
2011	129	129	127	2	98%
2012	131	131	82	49	62.6%

Permitted Industrial Class 2 Facilities

Industrial facilities permitted under the Colorado Discharge Permit System are classified as either class 1 or class 2 facilities. Industrial class 2 facilities are exempt from the ORC requirement. There were 734 class 2 industrial facilities in 2012.

Class 2 facilities include facilities which discharge pursuant to a Colorado Discharge Permit System general industrial permit for: industrial stormwater, construction stormwater, municipal stormwater, water treatment plant wastewater discharge, construction dewatering activities; aquatic animal production with continuous and intermittent discharge; sand and gravel process water and stormwater; minimal industrial discharge; subterranean dewatering and well development; hydrostatic testing of pipelines, tanks and similar vessels; non-contact cooling water; pesticides; or commercial washing of outdoor structures.

During 2012 the Board approved two reclassifications from class 1 to class 2 industrial facilities.

Facility Enforcement

Notices of Violation (NOV) are formal enforcement actions that are taken against the owner of facilities who fail to comply with the requirement to ensure their facility is under the supervision of a certified operator who holds a certificate in a class equal to or higher than the class of the facility or system. There were no formal actions issued in years 2008-2010. There were fifteen NOVs issued for violating the ORC requirement in 2012. Fourteen were NOVs without penalty; one was an NOV with penalty for failure to comply with an NOV issued in 2011. Eleven orders were to public water systems owners, four were to wastewater facility owners.

Of the fifteen NOVs issued in 2012, three of the four wastewater facilities have returned to compliance. The fourth has a treatment operator, but not a collection operator. Eight of the ten public water systems have returned to compliance; the ninth has been reclassified as non-public; and the tenth has an operator, but not at the correct level.

Operator Certification

Building an educated, experienced, and professional workforce is a primary focus in operator certification. To facilitate monitoring and evaluation of certification trends, data is maintained that includes the number of exams taken, certified operator counts, training opportunities, and expense reimbursement for certifications.

The table below indicates the written exam pass rate has remained steady at an average of 54.6 % for the five year period 2008-2012. The 2012 pass rate for exams taken electronically was 66%, with an overall 2012 pass rate of 58%.

The increase in the overall pass rate is a result of the increased number of people taking exams electronically. Electronic testing allows operators to make an appointment to take exams at their convenience in the OCPO office. Electronically administered exams are administered in a room with a maximum of eight people taking the exam. The atmosphere is quieter, more relaxed, and questions are presented one at a time. In comparison, the traditional paper and pencil exams are taken in a room with as many as 400 people with the entire exam booklet in front of the examinee.

The advantages of electronic testing include flexibility in scheduling, quiet atmosphere, exam questions are presented one at a time, receiving the results immediately after taking the exam and, if they pass the exam, they can complete all the paperwork and receive their certificate on the same day. As more people opt to take the exams electronically, the program anticipates increases in the overall pass rate.

Table 4 – Examination Pass Rates, Calendar Years 2008 to 2012, All Levels

Exam Year	Exams Taken	# Pass	# Fail	Pass Rate
Written Exams				
2008	2564	1363	1201	53%
2009	2548	1465	1083	57%
2010	2528	1350	1178	53%
2011	2047	1081	966	53%
2012	1660	909	751	55%
Electronic Exams				
2011	467	293	174	63%
2012	649	429	220	66%
Overall, Written and Electronic				
2011	2514	1374	1140	55%
2012	2310	1338	971	58%

Table 5 - Certificates Issued

	2008	2009	2010	2011	2012
Water Treatment	391	337	304	308	818
Water Distribution	441	348	372	334	877
Class S Water	117	52	126	96	196
Class T Water					24
Wastewater Treatment	277	340	347	271	629
Wastewater Collection	308	290	302	260	650
Class S Wastewater					71
Total	1174	1367	1116	1269	3265

Table 6 - Active Operator Counts

Water Treatment								
	W-A	W-B	W-C	W-D	W-S	W-T		
2011	760	239	569	778	539	75		
2012	795	303	637	856	584	76		
Wastewater Treatment								
	WW-A	WW-B	WW-C	WW-D	WW-S			
2011	580	146	401	671				
2012	609	160	423	772	204			
Industrial Wastewater Treatment								
	Ind-A	Ind-B	Ind-C	Ind-D				
2011	113	31	174	172				
2012	117	32	176	166				
Water Distribution				Wastewater Collection				
	D-1	D-2	D-3	D-4	C-1	C-2	C-3	C-4
2011	1079	604	139	865	699	401	145	687
2012	1117	631	179	879	765	390	160	684

Colorado has 9,606 active water and wastewater certified operators holding 10,715 certificates. Of those, there are:

- 806 water A operators
- 616 wastewater A operators
- 117 industrial wastewater A operators

Of these: 161 hold both water and wastewater A operators
 14 hold both ww and industrial wastewater A operators
 4 hold both water and industrial wastewater A operators
 46 people hold all three; water, wastewater, and industrial wastewater A operators

There are: 882 Distribution 4 operators
 680 Collection 4 operators
 349 hold both a distribution and collection 4 operators

There are 18 people who are certified in all five categories with the highest levels of certification.

Restricted or Grandfathered Certificates

There is one active operator in responsible charge on record that holds a restricted collection certificate. All others with a restricted certificate have allowed the certificate expire or have tested and received a standard certificate.

Table 7 - Approved Training Opportunities for Professional Development, 2006 to 2011

Year	2008	2009	2010	2011	2012
Total Approved Courses	261	347	347	571	600

Expense Reimbursement Grant

The Expense Reimbursement Grant was a grant from the U.S. Environmental Protection Agency to encourage certification of operators for small drinking water systems. In Colorado, the grant reimbursed applicants that worked for non-transient non-community and community water systems that serve no more than 3,300 persons per day. The Division reimbursed applicants \$230 per certified operator for the costs of training, fees, and examinations for initial certificates. After 2009 it also covered the costs of certificate renewals.

Table 8 - Expense Reimbursement Grant Number of Applicants, 2006 to 2011

	2008	2009	2010	2011	2012
Approved	37	44	86	108	44
Denied	-	3	8	6	0

The Expense Reimbursement Grant expired in 2012. The 2012 numbers represent January through May when the grant was no longer available. This will be the last year of reporting on this grant.

Disciplinary Action Investigations

The Board is authorized to take disciplinary action against a certified operator under sections 25-9-104(6) and -104(6.5) C.R.S. This authority provides the Board with discretion to reprimand a certified operator or suspend or revoke an operator's certification. As delegated in statute, the Division investigates allegations of operator misconduct and makes recommendations to the Board for action.

Complaints are received by phone, email or mail. Complaints can be made anonymously and confidentiality of the complainant is maintained throughout the investigation and disposition of the complaint. Complaints come from facility customers, Division staff from interaction and inspections, co-workers, supervisors, subordinates, etc.

Types of complaints received:

- Waterborne disease outbreak resulting from failure to properly maintain the distribution system
- Sample collection protocol not maintained
- Failure to monitor and report in compliance with the Colorado Primary Drinking Water Regulations
- Falsification of experience/education requirements on applications for examination
- Falsification of laboratory data/falsification of records
- Un-cooperative with Division staff during the investigation of an acute situation at a drinking water system while acting as the facility's operator in responsible charge

Below is a summary of the disposition of complaints received against a certified operator of misconduct in the exercise of their duties.

**Table 9 – Disciplinary Action Investigations Conducted (with Disposition)
Calendar Years 2008 to 2012**

Type of Action	2008	2009	2010	2011	2012
Board Actions Taken					
Letter of Reprimand	-	1	3		
Consent Agreement	1	-	1	-	
Dismissed for Lack of Evidence (no action taken)	2	1	4	1	6
Total Investigations	3	2	8	1	6

Regulation Revisions

The following table briefly identifies revisions to Regulation 100, 5 CCR 1003-2, from 2008 through 2012. For a detailed description of the changes refer to the corresponding statements of basis and purpose comprising sections 100.43-100.48, Regulation 100.

Table 10 – Regulation 100, 5 CCR 1003-2 Revisions, 2006 to 2012

	Effective Date	Statement of Basis and Purpose Section
2008	No changes	
2009	Amended 04/28/09; Effective 6/30/09	100.45
	Amended 09/29/09; Effective 11/30/09	100.46
2010	Amended 11/24/09; Effective 1/30/2010	100.47
2011	Amended 11/29/11, Effective 01/30/12	100.48
2012	Amended 04/24/12, Effective 06/30/12	100.49

Stakeholder Groups and Participation

The EPA has identified stakeholder involvement as important to the public health objectives of the program. It helps to ensure the relevancy and validity of the program, and the confidence of all interested parties. States are required to include ongoing stakeholder involvement in the revision and operations of State operator certification programs. Stakeholder involvement goes beyond public comment on rule revisions and participation in Board meetings. Examples of stakeholders include: certified operators, drinking water system owners, domestic and industrial wastewater permittees, environmental/public health groups, the general public, consumer groups, technical assistance providers, utility managers, trainers, water and wastewater professional organizations, etc.

The Facility Operator Certification workgroup is currently participating as members of the RMSAWWA/RMWEA Joint Small Systems Committee, CDPHE 2015 Public Water System Training Strategy Administrative Framework Project Task Force, and Value of Water Project. EPA has recommended each State have a stakeholder advisory committee. The Division is committed to expanding its participation in existing organizations and other outreach activities, and to evaluating the formation of a stakeholder advisory committee.

Outreach and Education

The Facility Operator Certification workgroup staff routinely participates in conferences, seminars, and trainings. These specifically targeted presentations provide additional opportunities for contact with the public, businesses owners and permittees, special district and town boards, trustees, city councils and other municipal officials, and certified operators. Presentations have been given to companies that contract to provide certified operators, the Water and Wastewater Utility Councils, large metro water and wastewater special districts, and regional certified operator organizations.

The following table gives a brief outline of outreach and presentation efforts with number of staff attending and/or presenting.

Table 11 - Facility Operator Certification Staff Outreach and Education, 2007 to 2011

Event	Staff Attending Event				
	2008	2009	2010	2011	2012
RMSAWWA Action Now Seminars	X	X	X	X	X
Rocky Mountain Plant Operator School: Fundamental	X	X	X	X	X
Rocky Mountain Plant Operator Schools: Intermediate-Advanced	X	X	X	X	X
Colorado Rural Water Association Conference - Colorado Springs	X	X	X	X	X
Colorado Rural Water Association Conference - Grand Junction	X	X	X	X	-
Leadville Operator School	X	X	X	X	X
Joint RMSAWWA-RMWEA Small Systems Committee Seminars	-	-	-	X	X
Colorado Environmental Health Association Conference	X	X	-	-	X
ABC Annual Conference	X	X	X	X	X
RMSAWWA-RMWEA Annual Conference	X	-	-	X	X
Colorado Distribution & Collection Short School	-	-	-	X	X
Total events attended	18	17	16	19	17

Fiscal Information

Tables 12 and 13 describe operator certification funds as they relate to each program entity. All fees paid for individual operator certification and training unit approvals are paid to the Board's contractors. The fees assessed and collected do not reflect the actual cost of the program.

Table 13 describes the contractors' income and expenditures as reported in their annual reports to the Board.

These expenses do not include the cost of more than 3,443 volunteer hours contributed each year. Income originates from fees charged to applicants and operators as authorized by statute and regulation.

Table 14 describes the expenses for division and the Board administrator staff. Both are paid through general funds, federal grants, and drinking water and permitted facility fees.

Table 12 – Contractors’ Income and Expenditures, 2008 to 2012

<i>Contractors</i>				
Reporting Year	Income/Expense	CECTI	Certification Council	FTE
CY 2008	Income:	\$247,511.06	\$201,315.67	Estimated 1.7 FTE ¹ Volunteer Time Program Management Subcontracted to OCPO
	Expenses:	\$207,158.12	\$170,330.94	
	Net Income:	\$40,352.94	\$30,984.73	
CY 2009	Income:	\$227,434.72	\$208,762.71	
	Total Expenses:	\$230,872.09	\$199,213.02	
	Net Income:	(\$3,437.37)	\$9,549.69	
CY 2010	Income:	\$289,890.73	\$240,438.67	
	Total Expenses:	\$261,310.68	\$249,457.71	
	Net Income:	\$28,580.68	(\$9,019.04)	
CY2011	Income:	\$275,276.21	\$217,764.19	
	Total Expenses:	\$269,694.97	\$234,225.20	
	Net Income:	\$5,581.24	(\$16,461.01)	
CY2012	Income:	\$281,743.77	\$230,909.69	
	Total Expenses:	\$264, 705.34	\$224,026.16	
	Net Income:	\$17,038.43	\$6,883.53	
	Accumulated Balance: Cash	\$240,855.26	\$110,522.67	

¹ FTE- Full-time equivalent calculated as 2,080 hours per year

Table 13 – Administration and Division Income and Expenditures, 2006 to 2011

Reporting Year	Expenses	FTE
Board Administration		
SFY ¹ 2008	Not available	0.105 FTE 0.05 Management ² 0.1 PAIII
SFY 2009	Not available	0.105 FTE 0.05 Management 0.1 PAIII
SFY 2010	Not available	0.105 FTE 0.05 Management 0.1 PAIII
SFY 2011	(\$13,134)	0.105 FTE 0.05 Management 0.1 PAIII
CY ³ 2012	(\$13,256)	0.105 FTE 0.05 Management 0.1 PAIII
Water Quality Control Division		
SFY 2008	(\$149,884)	2.0 FTE 1.0- EPS II 1.0- EPS Intern
SFY 2009	(\$170,425)	2.0 FTE 1.0-EPS III 1.0-EPS I
SFY 2010	(\$169,832)	2.0 FTE 1.0-EPS III 1.0-EPS II
SFY 2011	(\$119,044)	1.86 FTE ³ 1.0-EPS II 0.33-PA I 0.53-EPS III
CY2012	(\$236,738)	3.32 FTE 1.0-EPS III 1.0-EPS II 0.66-PA I 0.66 GP I

¹ SFY – State Fiscal Year (July 1- June 30)

² Part time position 0.5 FTE - estimated 10% spend on WWFOCB

³ CY—Calendar Year

Summary

The staff and volunteers focus on ensuring that skilled, certified water professionals throughout Colorado are overseeing the treatment and distribution of safe drinking water and the collection and treatment of wastewater prior to discharge. The operator certification program will continue to work to improve exam passing rates and increase compliance by facility owners without compromise.