Drinking Water Program Overview

Environment and Protected Areas (EPA)

First Nations Technical Services Advisory Group (FN TSAG) June 2024

Steve Craik, Director, DW & WW Program
Tammy Elzinga, Operator Certification Coordinator
June 5, 2024

Alberta

Topics

- EPA Drinking Water & Wastewater Team
- Drinking Water Regulatory Initiatives
- Drinking Water Operations Initiatives
- Water and Wastewater Certification Program

EPA Drinking Water and Wastewater Regulatory Team

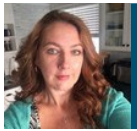
EPA Regulatory Assurance Division

- Regulatory Programs – DW-WW Section
  - Regulations, Standards and Guidelines
  - Drinking Water Operations Specialists
  - W&WW Operator Certification Program

- Regional Offices Throughout Alberta
  - Approvals coordinators
  - Compliance officers

EPA DW and WW Program Team

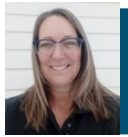
Steve Craik Director DW &WW



Christine Donovan Certification Lead

Aaron Janzen DW Ops Program Manager

Jeffrey Wu Municipal Wastewater Specialist



Tammy Elzinga Certification Coordinator

Win Tun DWOS

Jenna Jensen DWOS (Leave)

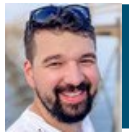
Jasmine Wang Drinking Water Specialist

Emily Liu DWOS

Deborah Crominski DWOS

Chad Moore DWOS

Jesse Skwaruk DWOS



Alex Simon DWOS

Alberta

EPA DWOS Regions and Coverage

AEP EDGE Contact 1-800-222-6514

DWOS, CELL, EMAIL

- DEBORAH CROMINSKI, 1-780-203-0908, DEBORAH.CROMINSKI@GOV.AB.CA
- EMILY LIU, 1-587-785-8440, EMILY.LIU@GOV.AB.CA
- WIN TUN, 1-780-292-5082, WIN.TUN@GOV.AB.CA
- JESSE SKWARUK, 1-403-396-8714, JESSE.SKWARUK@GOV.AB.CA
- ALEX SIMON, 1-403-807-3827,ALEX.SIMON@GOV.AB.CA
- CHAD MOORE, 1-403-331-9503, CHAD.MOORE@GOV.AB.CA

Alberta

Drinking Water Regulatory Program Initiatives

Fluoride Regulatory Changes – June 2022

- Fluoride exemption of 2.4 mg/L for groundwater removed from the EPA Potable Water Regulation
- EPA Code of Practice for High Quality Groundwater water updated
- Raw water must contain < 1.5 mg/L of naturally occurring fluoride to be considered HQGW
- All waterworks systems must now meet Maximum Acceptable Concentration (MAC) of 1.5 mg/L in treated water

Health Canada Activity on Fluoride

- Health Canada posted publicly Expert Panel Report on Fluoride in Drinking Water (January 26, 2024)
  - recommends keeping dental fluorosis as the endpoint for setting a Maximum Acceptable Concentration (MAC)
  - recognizes other health effects (neurocognitive effect children) for first time
- Health Canada will be reviewing and updating fluoride MAC based on expert panel report

Fluoride Implementation Plan

- Existing EPA waterworks systems will be given time to meet new requirement
  - Written notice from EPA regarding fluoride timelines will be sent to existing EPA regulated waterworks systems with elevated naturally occurring fluoride
- Impacted systems with high fluoride (> 1.5 mg/L) should make plans to reduce fluoride levels
  - Treatment, blending, new source, tie-in to regional system

Micro-Waterworks

Phasing in new approach to regulation

- **Phase I Completed**
  - » new Micro Waterworks standard
  - » change to the Professional Engineer requirements
- **Phase II In Progress**
  - » registration/code of practice
  - » change to operator requirements
  - » jurisdiction discussions with Alberta Health and Alberta Health Services

Alberta

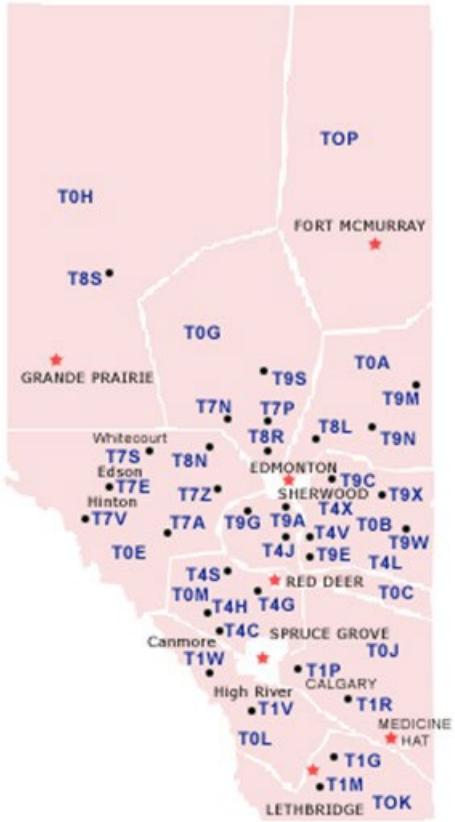
Lead Management Program

- Health Canada published a new maximum acceptable concentration (MAC) for lead in March 2019
  - MAC lowered from 0.010 mg/L to **0.005 mg/L**
  - New point of measurement is **AT THE TAP**
- EPA announced lead management program in late 2019

Alberta

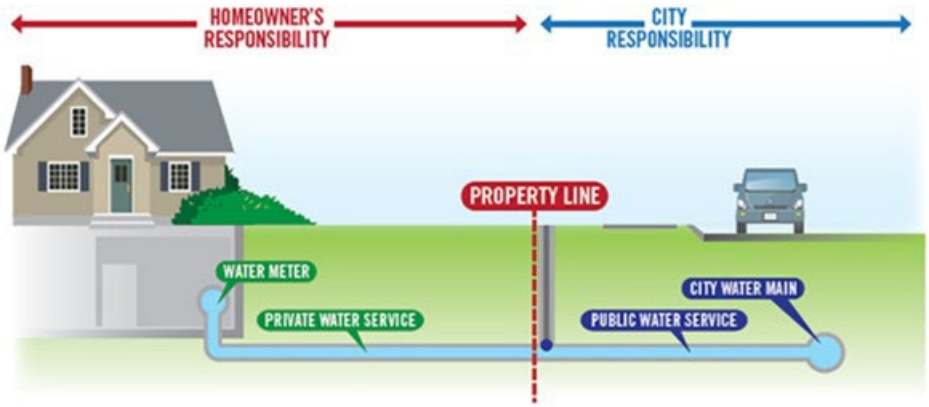
Phase I - In Progress

- EPA intends to share available results of tap water lead testing on an interactive GIS-based map that will display:
  - overall provincial summary of results
  - summary results for water systems where more than 20 samples collected
- Will refer public to municipalities/utilities to obtain water system specific data
- EPA is seeking approval for release



Phase II – Under Development

- Approaches being considered
  - Additional testing based on Phase I results
  - Corrosion control strategies for systems with high lead testing results
  - Program to accelerate identification and removal of lead service lines



Upcoming Changes to Canadian Drinking Water Guidelines

- Guidelines/guidance for final release
  - *Corrosion Control Guidance* document
  - Per and Polyfluorinated Alkyl Substances (PFAS) interim objective
  - Iron aesthetic objective
- Revised guidelines for public consultation
  - Chlorate Chlorite
  - THMs and HAAs
  - Arsenic

Upcoming Changes to Canadian Drinking Water Guidelines

- Under development
  - Fluoride
  - Asbestos

Drinking Water Operations Program Initiatives

Drinking Water Program
- Operations Overview for 2023

- Operational Trends
- High Stream Flows
- Water Shortage
- Wildfire (Evacuation)
- Wildfire (treatment after a wildfire)

Operational Trends

- Reviewing the management actions for water systems with elevated DBPs
  - THMs and/or HAAs
- Reviewing chemicals of interest, including current and proposed Health Canada parameters:
  - Fluoride
  - Chlorate/chlorite
  - TCE

High Stream Flows – Lessons Learned

- Watch for electrical controls or power connections getting submerged
- Some unexpected impacts to infrastructure and facility access during high stream flows
- After a fire it is helpful to correlate highest water flows (in m^3/s) to the highest water levels at the raw water building

Alberta

Water Shortages – Lessons Learned

- Some communities saw direct impacts to their intake vulnerability to changing flow conditions

- Understand the longer-term water projections
  - Raw storage, water levels in upstream dams, and potential demands from downstream users

Alberta

Wildfire: Active Firefighting/Evacuation

- Department staff tracked the status of approximately 20 water systems

High risk:
A Boil Water Order or Water Quality Advisory issued

Medium risk:
Operational issues but no water quality impact.

Low risk:
Wildfire in the area, but no major operational issues.

Normal Operation:
Operating normally. No current wildfire in area.

Alberta

Wildfire: Active Firefighting/Evacuation

- Back-up generators were key in sustaining operations during community evacuation
- SCADA and remote operation allowed flexibility in staffing and monitoring during community evacuations
- Water demand often stayed level even during evacuations because of water being used for firefighting

High risk: A Boil Water Order or Water Quality Advisory issued.

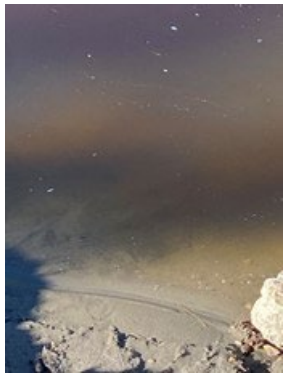
Medium risk: Operational issues but no water quality impact.

Low risk: Wildfire in the area, but no major operational issues.

Normal Operation: Operating normally. No current wildfire in area.

Post Wildfire Implications

- How do wildfires impact water treatment?
- Water quality and quantity may change in the years after a wildfire
- Consider simple raw water monitoring options



Alberta

DWOS Team Initiatives for 2024

- Assisting operators with assessments of impact of wildfire on source water quality and treatment

- Collecting information on vulnerability of drinking water systems to drought and low water levels

Water and Wastewater Operator Certification Program

Tammy Elzinga, Coordinator; W&WW Operator Certification

Alberta

AGENDA

- Who are we?
- EPA vs AWWOA
- Certification Program History
- Certification Requirements
- Exams
- Certification Renewals
- Continuing Education Units (CEU's)
- Compliance365
- Code of Conduct
- Facility Classification

Who are we?

- ✓ Program is administered by Alberta Environment and Protected Areas (EPA)
  - Regulatory Programs Branch
  - Drinking Water and Wastewater Section
  - Certification Section

- ✓ Steve Craik- Director of Drinking Water and Wastewater Section

- ✓ Certification Section – two of us in section –
  - Tammy Elzinga – Certification Coordinator, located in Edmonton &
  - Team Lead, Christine Donovan, located in Grande Prairie

- ✓ Certification Advisory Committee (CAC)

EPA

Environment and Protected Areas

- ✓ Compliance 365
- ✓ Certification Exams
- ✓ Certification Renewals
- ✓ Code of Conduct

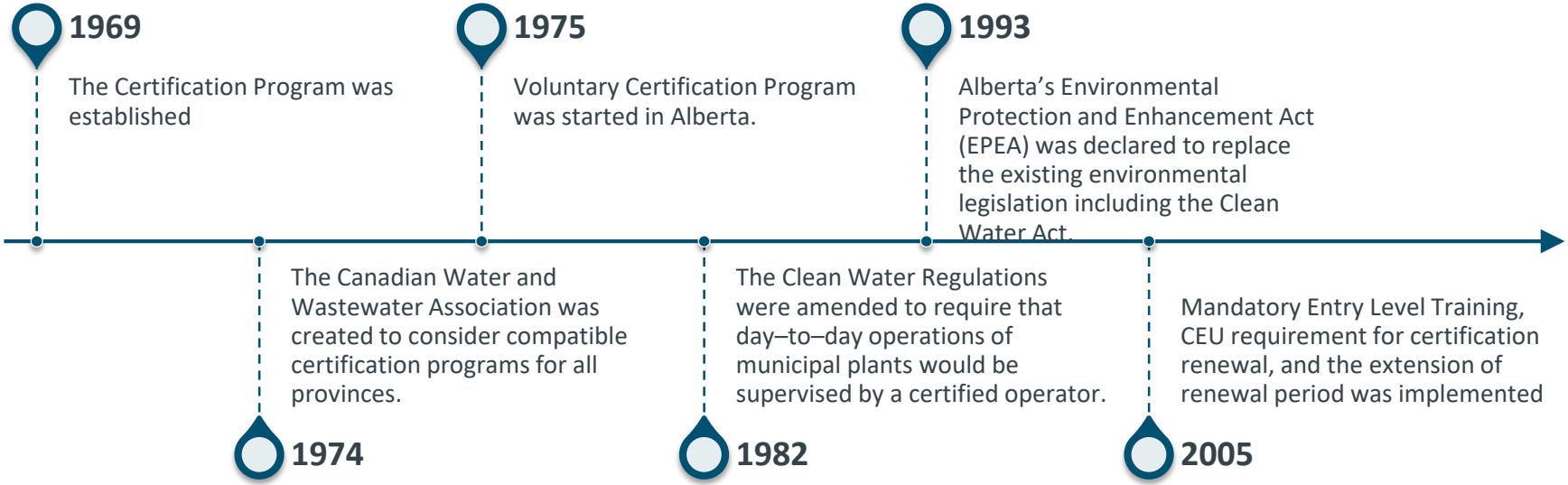
AWWOA

Alberta Water and Wastewater Association

- ✓ Training Development
- ✓ Training Course Delivery
- ✓ Conferences
- ✓ Industry Promotion

Alberta

Certification Program History



Certification Requirements

Small System

- 6 hours (0.6 CEUs) Mandatory Small Systems training
- 6 months operating experience in an approved facility/system

small systems facility operators can certify at Level I if they meet the minimum requirements for Level I certification

Level I

- High School Diploma or Equivalency
- 1 year operating experience in an approved or registered facility of the appropriate discipline
- 1.2 CEUs EPA approved Mandatory Training course

Level II

- High School Diploma or Equivalency
- 3 years operating experience in a Class I or higher approved or registered facility of the appropriate discipline

Certification Requirements Cont…

Level III

- High School Diploma or Equivalency
- Two years or post-secondary education or 90 CEUs of approved training
- Four years operating experience, two of which must be in a Class II or higher approved or registered facility of the appropriate discipline
- 2 years Direct Responsible Charge (DRC)

- ***DRC does not start until after Level II***

Level IV

- High School Diploma or Equivalency
- Four years or post-secondary education or 180 CEUs of approved training
- Five years operating experience, three of which must be in a Class III or higher approved or registered facility of the appropriate discipline
- 3 years DRC minimum 2 years in Class II or III facility and 1 year in Class III or IV

Exams

Water Professionals International (WPI) as our exam provider

Level	Water Treatment (WT)	Water Distribution (WD)	Wastewater Treatment (WWT)	Wastewater Collection (WWC)
Number of questions on exam				
Small Systems	50		50	
I	110	110	110	110
II	110	110	110	110
III	110	110	110	110
IV	110	110	110	110

Alberta

Writing an Exam

Minimum Requirements SS – Level IV – as per the previous slides

- Discipline specific operating experience & DRC experience
- Mandatory training where applicable
- Education and Post Secondary

Option for Level I Exams Only Without Meeting Minimum Requirements

- Challenge directly through PSI; https://test-takers.psiexams.com/abc-ab
- Will not be certified until all requirements are met

Exam applications must all be approved by Certifications Advisory Committee (CAC) - meeting every two months.

You MUST write and pass a certification exam to be certified!

Certification Renewals

Certification must be renewed every 3 years – From the date of your first certification

All Expire December 31st – no exceptions or extensions

Renewal notices are emailed out on July 1st when the current year application opens

CEU Requirements

- Small Systems _____ 1.8 CEU's
- Level I, II, III, IV _____ 3.6 CEU's
- Level III and IV _____ 7.2 CEU's

- One year of current experience in the 3-year renewal period - does not have to be consecutive
- Option to renew without experience for 2 renewal periods

If you hold more than one certification in any of the above categories the CEU requirement is divided equally

Alberta

Continuing Education Units (CEU's)

1 year Post Secondary = 45 CEU's

1 hr of training = 0.1 CEU's (min 0.3 CEU's)

Approved Courses

CEUs can be used in some instances as a substitution for Work experience or Post Secondary Education * Some limitations may apply

Alberta

Compliance 365 - Account Setup

- Email waterandwastewateroperatorcert@gov.ab.ca
  - ✓ Name
  - ✓ Employer
  - ✓ Personal email (not a work email)
  - ✓ Official job description
- Time sensitive email
- User guide
- Information accuracy

Code of Conduct

Code of Conduct

Zama City Operator charged for submitting false information

2018, failed to report a structural or equipment malfunction in the waterworks system - $10,000 fine and 2.5 years probation – 6 months conditional jail sentence, 2 years probation and prohibited from operating a water or wastewater system for 2.5 years.

2017, release a substance into the environment – fine of $2,252, creative sentencing order $102,500 to AWWOA and $43,248 to Northern Lights Health Foundation.

"Due to the importance of certified operators in protecting public health and safety, and the necessity for certifying authorities to rely on self-reporting by certified operators, any instance of falsification shall be considered a serious breach of the public trust that should be met with severe penalties" (ABC Model Standards for Operator Certification).

Alberta

Facility Classification Equivalency

- First Nations Facilities are eligible for EPA classification equivalency assessment even though they are not directly regulated by EPA under the Environmental Protection and Enhancement Act.
- The assessment provided by EPA is for informational purposes to enable the facilities employees to be eligible to participate in the operator certification program under the Water and Wastewater Operator Certification Guidelines.
- As the facility being classified is located on Federal Lands the provincial classification is not required and the system will not be inspected by the department.
- Operator application requirements for certification exams and renewals will follow the Water and Wastewater Operator Certification Guidelines.
- Once review of classification is complete EPA will provide a letter of conformance confirming, based on the information provided, at what level the facility would classify if it were an approved EPEA regulated facility.

Questions?