



First Nations  
Technical Services  
Advisory Group Inc.

# Annual Water Conference

June 13-14<sup>th</sup>, 2023



# About **TSAG**

- The First Nation's Technical Services Advisory Group Inc. or TSAG **has been providing services to Alberta First Nations for over 20 years.**
- Our organization was **created by the Chiefs of Alberta representing all 3 Treaty Regions** and was created **to build capacity within our Alberta First Nations** in a variety of programming Areas.
- We are funded to deliver our programs with a variety of different partners including Indigenous Services Canada (ISC) Alberta Region, Indigenous Services Canada (ISC) Headquarters, First Nations and Inuit Health Branch (FNIHB), and Canada Mortgage and Housing Corporation (CMHC) just to name a few.

# About **TSAG**

TSAG's **CORE services** includes providing technical services and training for Alberta First Nations in Alberta in the area's of:

## 1) **Asset Condition Reporting System (ACRS)**

Provides infrastructure inspection services, disaster roads recovery services as well as ad hoc programming services and courses (gravel road courses, mixed equipment courses, etc.)

## 2) **Fire Protection & Prevention**

Provides Fire Training and Inspection services as well as community education services and youth programming

## 3) **Circuit Rider Training Program**

Provides services for water & wastewater systems in addition to water system training and certification

# About **TSAG**

TSAG also provides Alberta First Nation's with services in the area's of:

- a) CMHC Housing Inspections
- b) Telehealth and
- c) Information Technology

# What is the **Circuit Rider Training Program**?

The Circuit Rider Training Program (CRTP) is a long-term **capacity building program** funded in Alberta by Indigenous Services Canada (ISC) **that deploy traveling trainers**, called Circuit Rider Trainers (CRT's).



# Circuit Rider Training Program

Under this program, CRT's visit First Nation communities to work with water & wastewater operators, providing as much hands-on training and support as is required to ensure the reliable provision of safe drinking water and the proper treatment and release of wastewater to the environment.



# Circuit Rider Training Program **TEAM**

Currently, the CRTs actively engage with 42 First Nation Communities, collaborating closely with 80 Water/Wastewater Operators and are providing training on the operations, maintenance and repairs of 97 various types of water and wastewater systems.

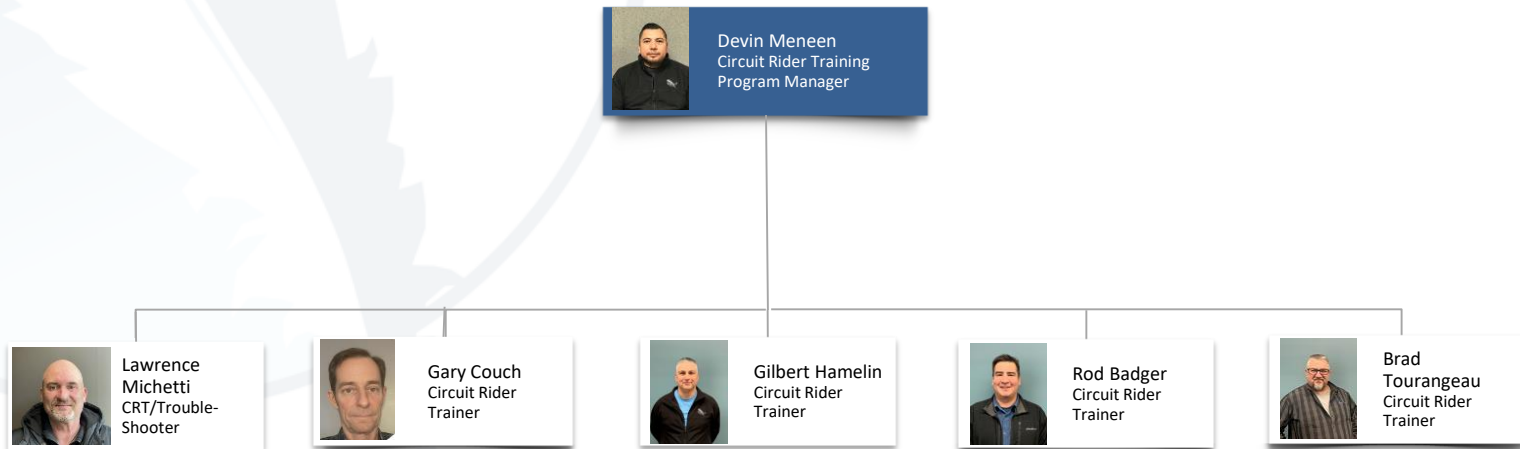
# Circuit Rider Training Program **TEAM**

The **TSAG CRTP Team** Includes:

- **5 Circuit Rider Trainers**
- **1 Manager**



# TSAG CRTP Org Chart





# CRTP **Key Deliverables:**

- Primarily provide **On-site/Hands-on O&M training**, mentoring & support services to operators of First Nation Community Water and Wastewater Systems.
- We **support operators to attain & maintain required levels of certification** for them to effectively operate, maintain, and monitor their communities water & wastewater systems.
- Provide **24/7 technical telephone support.**
- We support the development, implementation and updating of **Maintenance Management and Emergency Response Plans.**
- We **provide** Operator Training & Certification Plans, Site-Specific Community Work Plans, Site Visit **Reports.**
- All the while providing year-round CRT services to participating communities!

# Circuit Rider Training Program

TSAG's CRT program is **tailored to the needs and aptitudes of each trainee and community.** Operators learn how to operate, monitor, service, and maintain the water and wastewater systems in their communities.



# TSAG CRTP On-Site / Hands-On Training Activities

<b>Water Treatment</b>	<b>Water Distribution</b>	<b>Wastewater Collection</b>	<b>Wastewater Treatment</b>
Source water pump house inspections (daily)	Dist. pump maintenance	Lift Station O&M	Lagoon O&M
Thrash pump O&M	1. greasing	1. Inspecting pumps	1. Berms
Raw water reservoir O&M	2. packing	2. Obstruction removal	2. Desludging
Water treatment clarifier O&M	3. impellor adjustment	3. Interior cleaning	3. Enzymes
Valve service and repair	4. amperage draws	Manhole inspection (Surface only)	4. Valve exercising
Chemical dosing pump maintenance/repair/calibration	5. removal/installation	Manhole debris removal (Non Entry)	5. Blower maintenance
Chemical dosage calculation (drawdown)	Pressure Relief Valve Service	Manhole flushing	6. Aerator maintenance
Jar testing	Air relief valve maintenance		7. Bar screen cleaning
Laboratory analysis on relevant water quality parameters	Valve exercising		Wastewater sampling
Langelier Saturation Index calculation	Fire/Emergency/GenSet O&M		Lagoon operation
UVT/UVA Testing/Calibration	1. Weekly test run		1. Alternating flow
Hach Online Analysers	2. Oil change		RBC O&M
S::CAN Online Analysers	3. Shut down and lockout/tag		1. Cleaning contactor
Swan Online Analysers	Hydrant inspection		2. Sampling
Prominent Online Analysers	Hydrant service		3. Chemical addition
Sodium Hypochlorite strength test	1. Breakaway repair		4. Sludge removal
Bench equipment calibration	2. Winterizing		SAGR (Future)
Online equipment service/calibration	3. Valve operation		
Treatment chemical (powdered) preparation	4. Paint/numbering		
Air compressor maintenance	5. Grease		
Housekeeping	Flushing (including unidirectional)		
Membrane integrity testing/repair (Pall)			
RO CIP			
UV system maintenance/bulb replacement			



# Circuit Rider Training Program **Goals:**

- To **provide continuous support to participating water and wastewater system operators** in developing and maintaining capacity to operate and manage their communities water and wastewater systems.



# Circuit Rider Training Program **Goals:**

- To provide quality training to **assist operators to attain and maintain the required level of certification** to match the classification of their communities water and wastewater systems.





# Circuit Rider Training Program **Goals:**

- To **improve the maintenance, management and effectiveness** of on-reserve drinking water and wastewater systems.



# Circuit Rider Training Program **Goals:**

- To **reduce of the number, frequency and duration** of Drinking Water Advisories (DWA's).
- And to help First Nations communities to **exploit the full service life** of their water and wastewater infrastructure.



# TSAG Delivered

## Courses & Workshops

- AWWOA's **Small Water & Wastewater Systems** Classroom Course
- AWWOA's **Entry Level Training** Classroom Course (ELT)
- AWWOA's **Level I Certification Preparation** Course
- AWWOA's **Level II Certification Preparation Courses** (Water Treatment, Water Distribution, Wastewater Collection & Wastewater Treatment)

# TSAG Created Courses & Workshops

- **Introduction to Water & Wastewater Systems** Course (Approved for 1.6 CEU's)
- **Fire Hydrant Operation, Maintenance & Repair** Course (Approved for 0.6 CEU's)
- **Annual Water Conference** (Submitted for & approved for up to 0.9 CEU's)
- **Online Practice Exam Site**

Question: 1 of 50

QID: 814 [1 Mark]

Section: Small Water System Practice Questions

What is the volume of a tank that is 4 metres long, 2 metres wide and 2 metres high?

- A.  8 litres
- B.  16 Litres
- C.  16,000 Litres
- D.  25,120 Litres



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What is the volume of a tank that is 4 metres long, 2 metres wide and 2 metres high?

A	8 litres	0 Time (0%)
B	16 Litres	1 Time (33%)
✓ C	16,000 Litres	2 Times (66%)
D	25,120 Litres	0 Time (0%)

### Explanation

Volume,  $m^3 = (\text{Length, m})(\text{Width, m})(\text{Height, m})$ , Volume,  $m^3 = (4\text{ m})(2\text{ m})(2\text{ m})$ , Volume,  $m^3 = 16\text{ m}^3$ , Volume, L = (Volume,  $m^3$ )(1000 L/ $m^3$ ), Volume, L = (16  $m^3$ )(1000 L/ $m^3$ ), Volume, L = 16,000 L Reference Small Water Systems (AWWOA Appendix C), Tank Volume.

The Question Created by Devin Meneen on Feb 25 2022 11:17AM  
(1 month and 17 days ago)

[View Changes Log](#)

QID: 814

Marks: 1

Negative Marks: 0%

CQ: 33.33%

Challenge Quotient (CQ) is the ratio of number of times a question asked and answered incorrectly.

**0.67** Difficulty (p value)

- Difficult: 0 to 0.25
- Medium: 0.26 to 0.75
- Easy: 0.76 and above

**-0.08** Discrimination (d value)

- Poor: Less than 0
- Fair: 0 to 0.5
- Good: 0.6 and above

Used 3 Times

Corrected 2 Times

Partially 0 Times

Incorrect 1 Times

Unanswered 0 Times

# Drinking Water Advisory Committee

- The **Drinking Water Advisory (DWA) committee** was formed in 2008 as a joint initiative with ISC, Health Canada (FNIHB) and TSAG.
- The DWA **committee reviews all current DWA's then collaborates to address** them, sometimes with the creation of remediation workplans that help to both rescind current DWA's and **also to proactively works to prevent future DWA occurrences.**
- Health Canada tracks DWAs using the **Canadian Network for Public Health Intelligence (CNPHI)** program in 2009.

# Remote Water Monitoring System

- The s::can RWMS is a **stand-alone system** monitoring only the treated water entering the distribution system
- Connected to event detection software which can **send alerts to operators, supervisors** and anybody else approved by the nation to access data and receive the alerts
- There are **15 s::can units** currently installed in Alberta First Nation communities







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Questions?

