



Le Programme d'Excellence en Eau Potable (PEXEP)

Partnership for Safe Water, Quebec
version

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Réseau
Environnement



OVERVIEW

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Reseau Environnement



- Started in 1962 as the Quebec section of AWWA
- Grew to cover all environment issues (became AQTE) and then merged with a waste management association to become Reseau Environnement
- Actual membership is over 2000
- Our mission :
 - Active in four environmental fields: water, air and climate change, solid wastes, soils and groundwater
 - The association is made up of eight regional sections covering the province of Quebec
- Represents Quebec section of AWWA (active in CAC) and is a member association of WEF



Historic

- 1999: Agreement between AWWA and AQTE (now Réseau Environnement, the Quebec section of AWWA)
- 1999-2000: Adapted from PSW Program
- 2000-2001: Translation of the guidelines, self-assessment for SWTP optimisation
- 2000-2001: Pilot group (5 plants)
- 2001: 6 WTP members
- 2002: First Directors Awards WTP Laval-Ste-Rose
- 2005: Superintendants and operators 3-annual meetings
- 2011: Five stars recognition
- 2014: On-line tool-box
- 2015: 37 WTP members from 22 utilities, 3.9M pers.
- 2015: Adaptation-translation PSW-Distr., pilot group (3 utilities)

Overview

- Standards and regulations are increasingly stringent
- Quebec's population is sensitive to environmental and water quality issues
- Lack of adapted management tools to facilitate control and optimization
- Specificity of existing technologies
- Quebec's distinct regulations
- The language
- The culture
- WTP Municipal owned and operated

Targets

- To develop a tool which is adapted to the Quebec context, accessible and user friendly (French speaking environment)
- Closely tied to the regulations presently enforced in our Province
- Standardized :
 - Data collection
 - Analysis tools
 - Reporting
 - Encourage comparison →Quebec →Canada →North America
- Aimed at treatment operation optimization
- Flexible
- Increase knowledge of treatment plant (municipality and public at large)
- Maximize technical knowledge transfer
- Low cost

Overview Agreement

- AWWA (Bill Lauer) and Réseau environnement (Hubert Demard, Sylvain Laramée) developed an agreement project
- Agreement is signed 2000
- Agreement characteristics :
 - Under the International Water Treatment Alliance (IWTA)
 - Regulated by the conditions of the Partnership for Safe Water (U.S. water regulations)
 - Réseau environnement has autonomy within a formal setting
 - Annual dues to be paid to AWWA
 - Translation, copyrights and use (rights and fees)

Description: Administrative and operational structures

- Independent activities by Réseau environnement
 - Budget for self-financing activities
- Integration of numerous partners
 - Ministry of the Sustainable Development, Environment and Climate change
 - Ministry of Municipal Affairs and Land Occupancy
 - Industrial Research Chair in Drinking Water (U of M, École Polytechnique)
 - Réseau's network of volunteers
 - Membership
 - AWWA representatives
- Creation of two committees
 - Management committee (users committee)
 - Operation committee (technical committee)

Description: Réseau Environnement responsibilities

- Recruiting (develop promotional tools)
- Analysis of membership request
- Delivery of accreditation certificates for phase I through IV
- Validation of yearly values and transmission to AWWA
- Analysis of annual reports Phase III and IV (directors award and presidents award) essentially managed by Réseau Environnement
- Establishing an experts committee responsible for reports analysis and acceptance
- Volunteer members trained by AWWA
- Part time coordinator (Alain Lalumiere)

Description: Few extras for PEXEP subscribers

- Same values than PSW
- Additions:
 - WTP Superintendents committee
 - WTP Operators committee
 - Five stars recognition
 - WEB Tool box

Description: WTP Management/ superintendants committee

- Meeting frequency : 3 per year
- 1 or 2 persons per treatment plant
- Place for exchange between superintendents, also with the participation of the regulator
- Program implementation
- Problems and solutions, operation, processes, equipment, management, etc.
- Creation of an important exchange network
- Serve as users committee
- High attendance

Description: WTP Operator committee

- Meeting frequency : 3 per year
- 1 to 3 representatives per treatment plant, in rotation
- Into a member's WTP's
- Training /workshop in the 1st part of each meeting
- Place for exchange between operators (no supervisor present)
- Evaluate and develop best practices, standards, SOP, etc.
- Prepare documents that become part of the « web tool box »
- Creation of an exchange network
- Very high and fast growing attendance

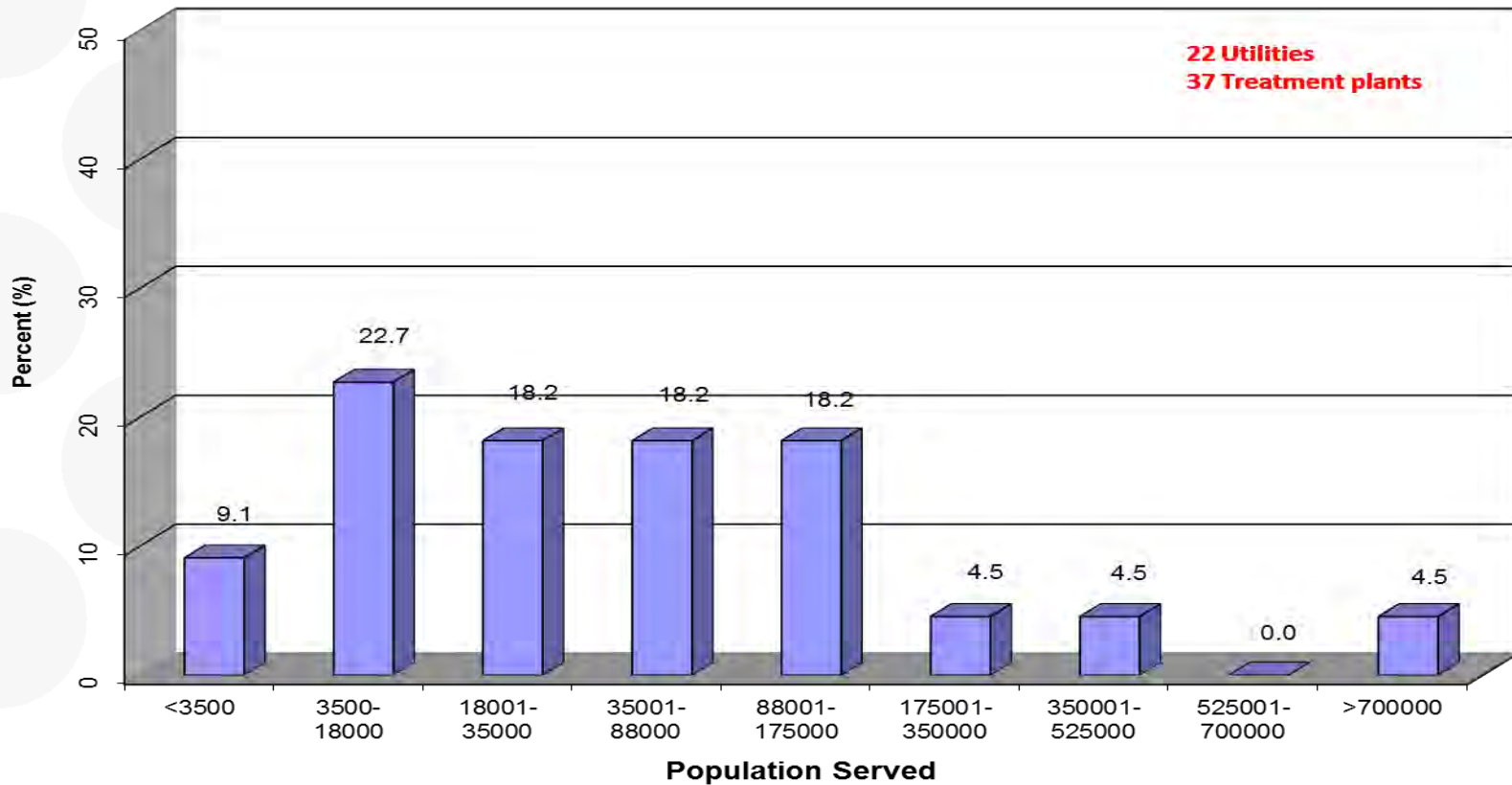
Description: WTP committees meeting philosophy

- Important exchange opportunities, open discussion
- Spirit of support and cooperation
- Favorable atmosphere to create synergy
- Common objectives : continued improvement of the management process, and of the quality of water produced at the plant
- Getting opportunities to exchange on highly technical information with specialists
- Discussions continue when meetings are over



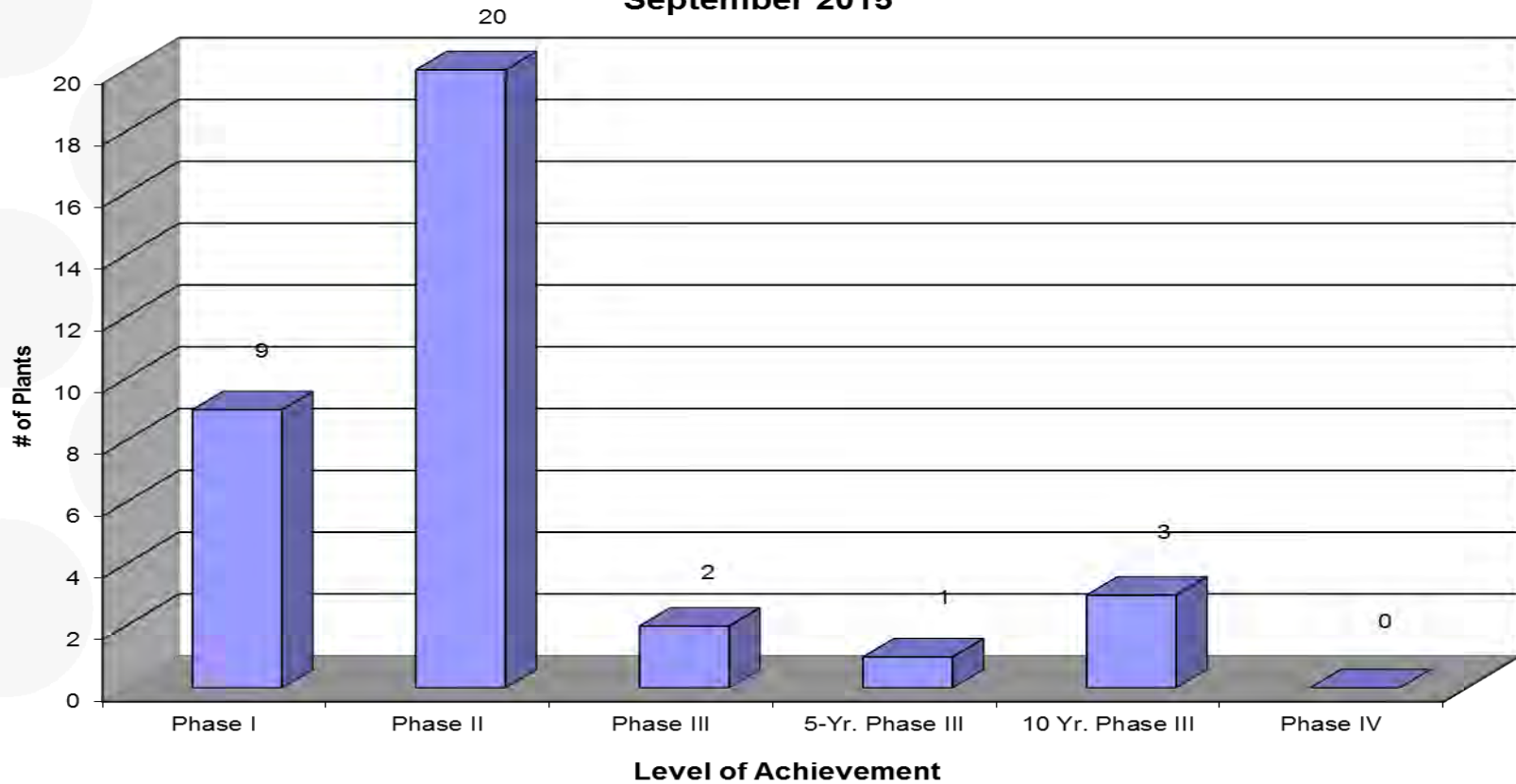
RESULTS

Quebec
% Utility Membership by Population Served
September 2015

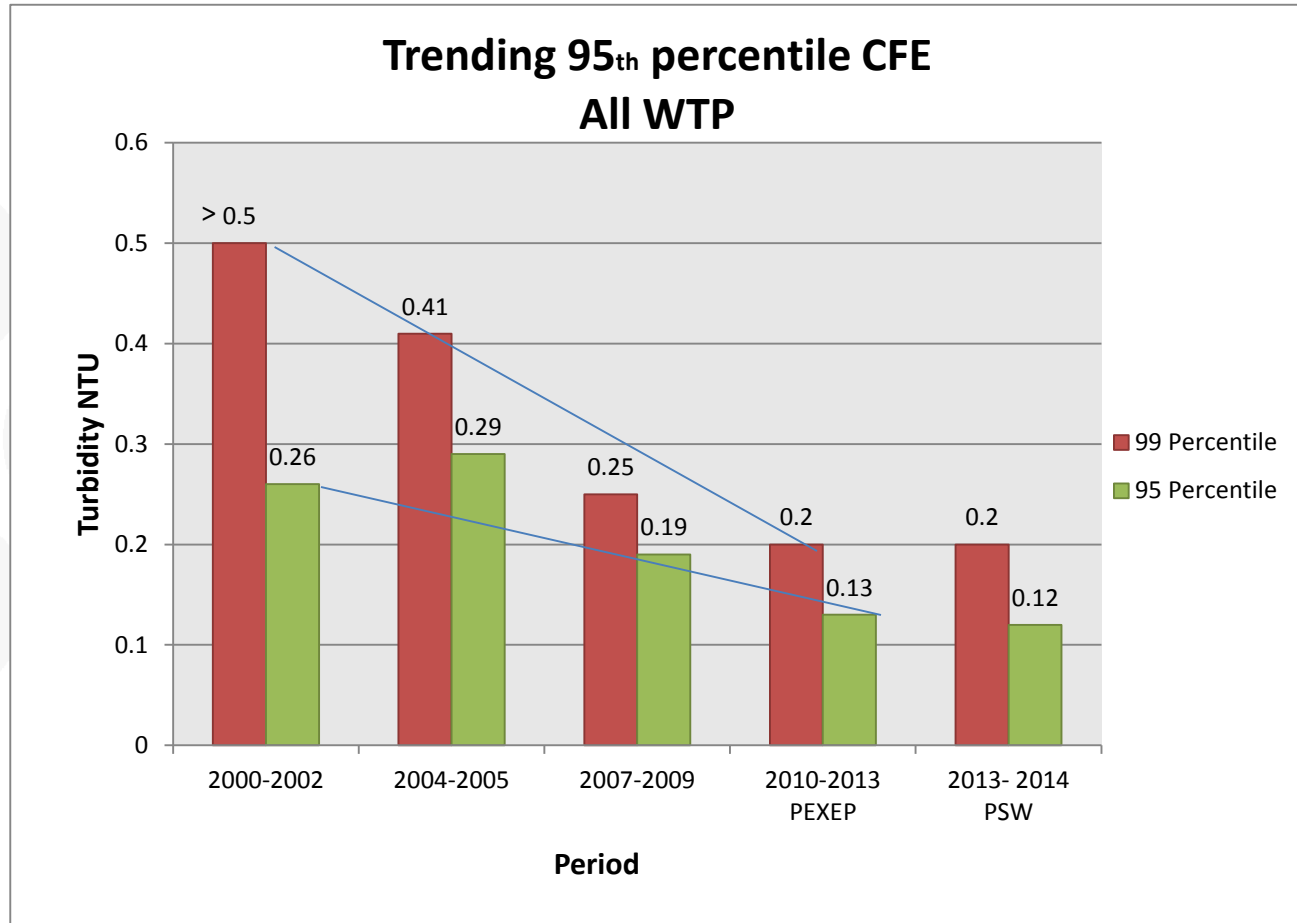


RESULTS

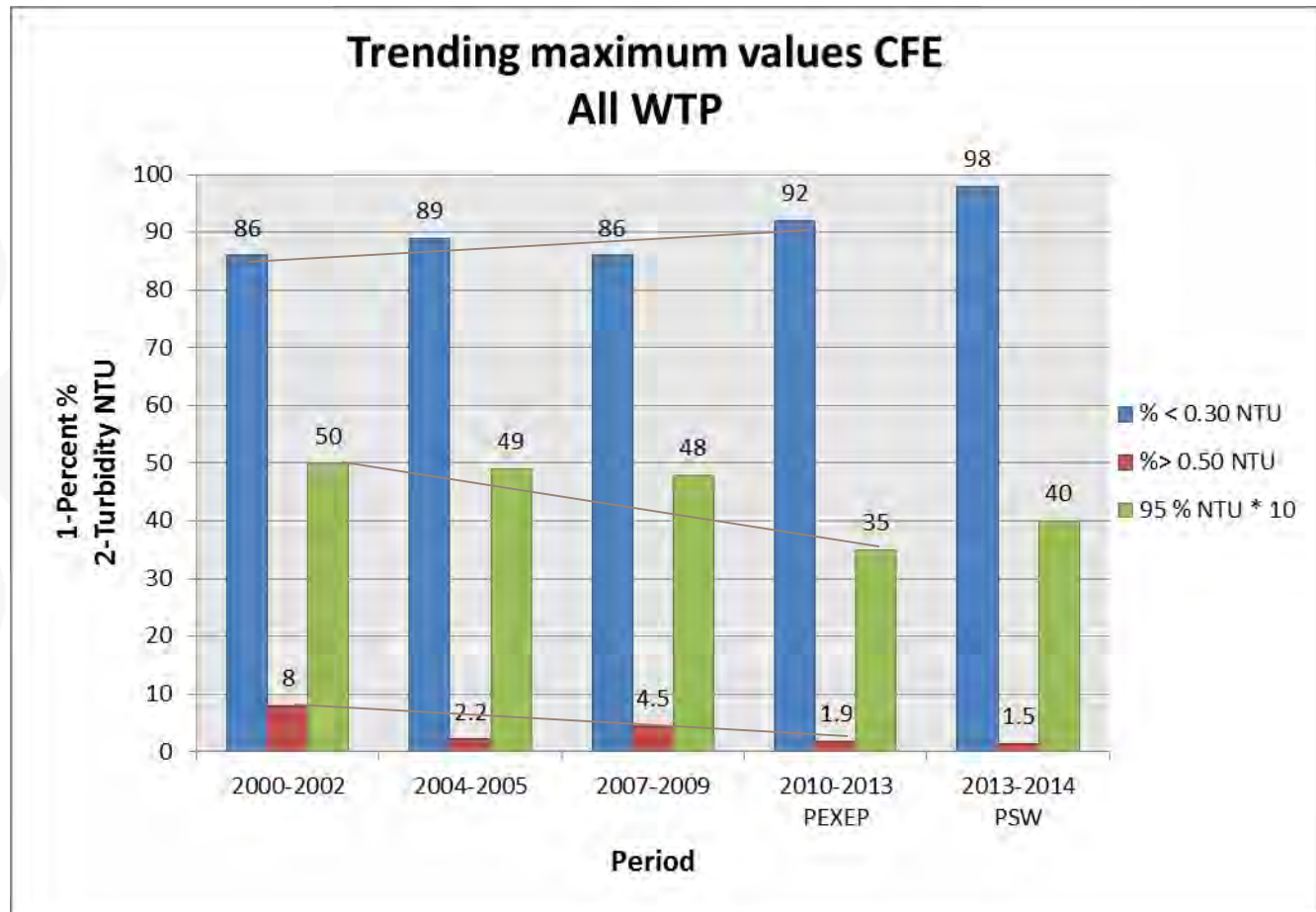
**Plant Achievements of Participating Utilities
Current Status
September 2015**



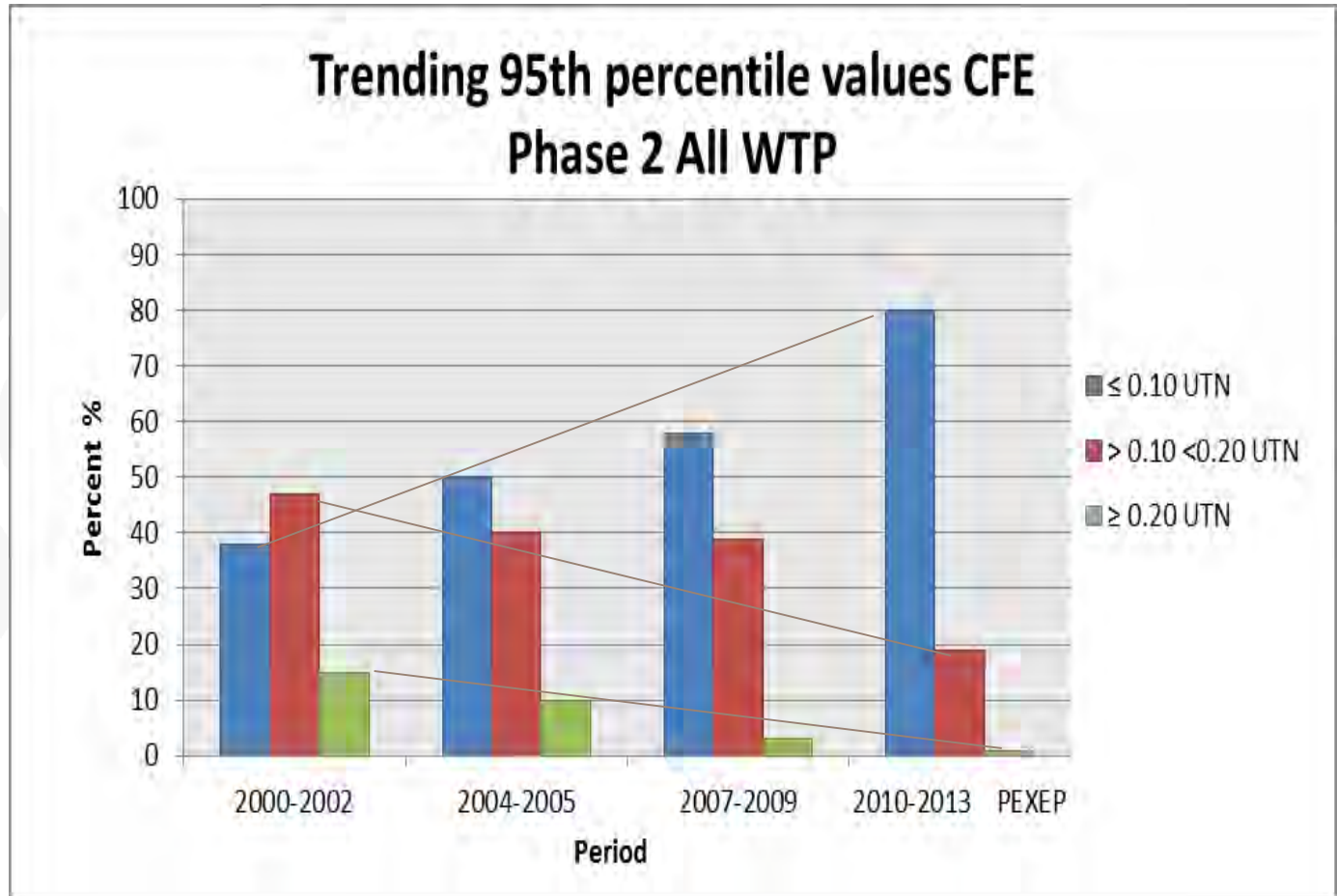
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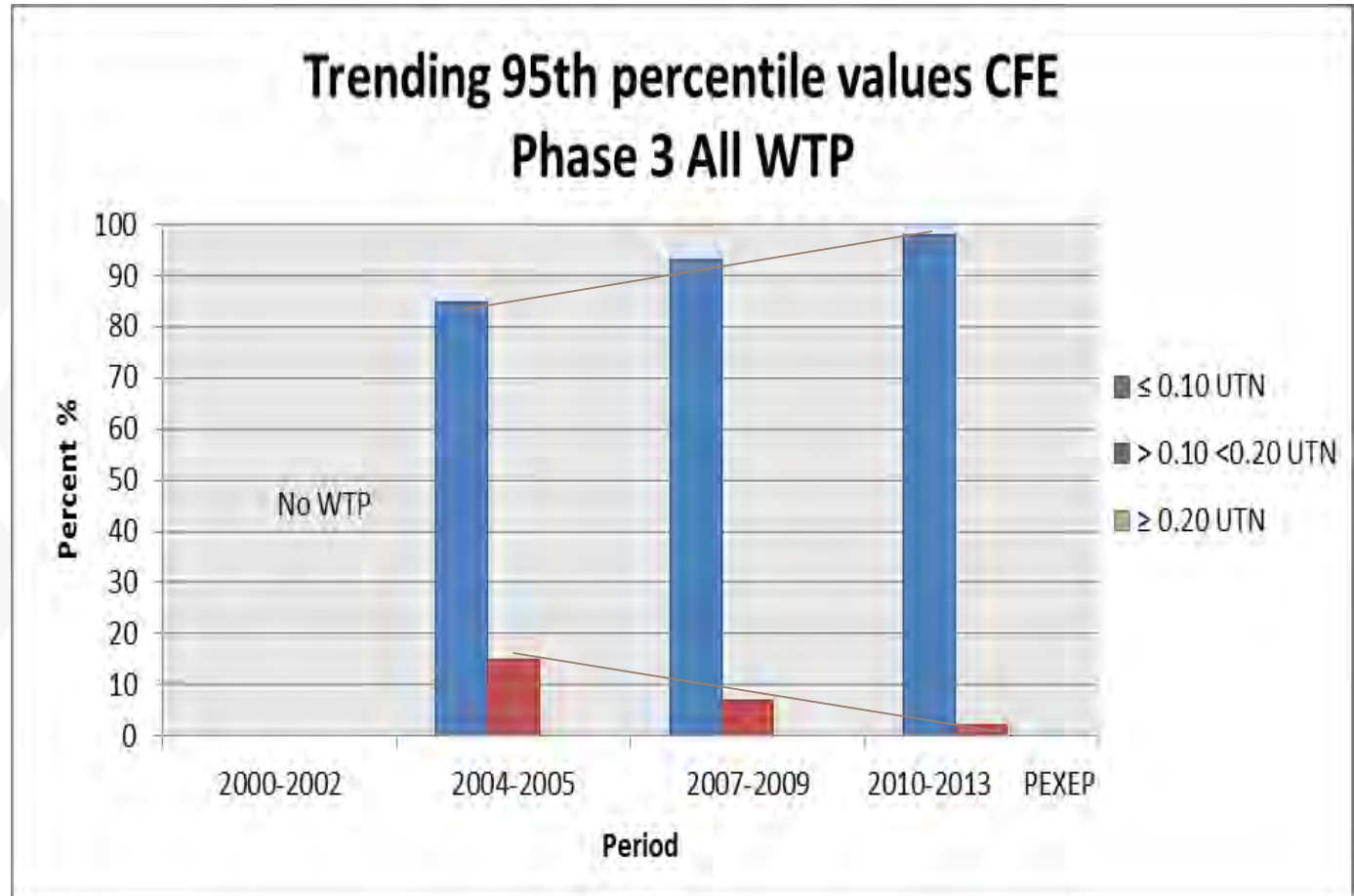
Results



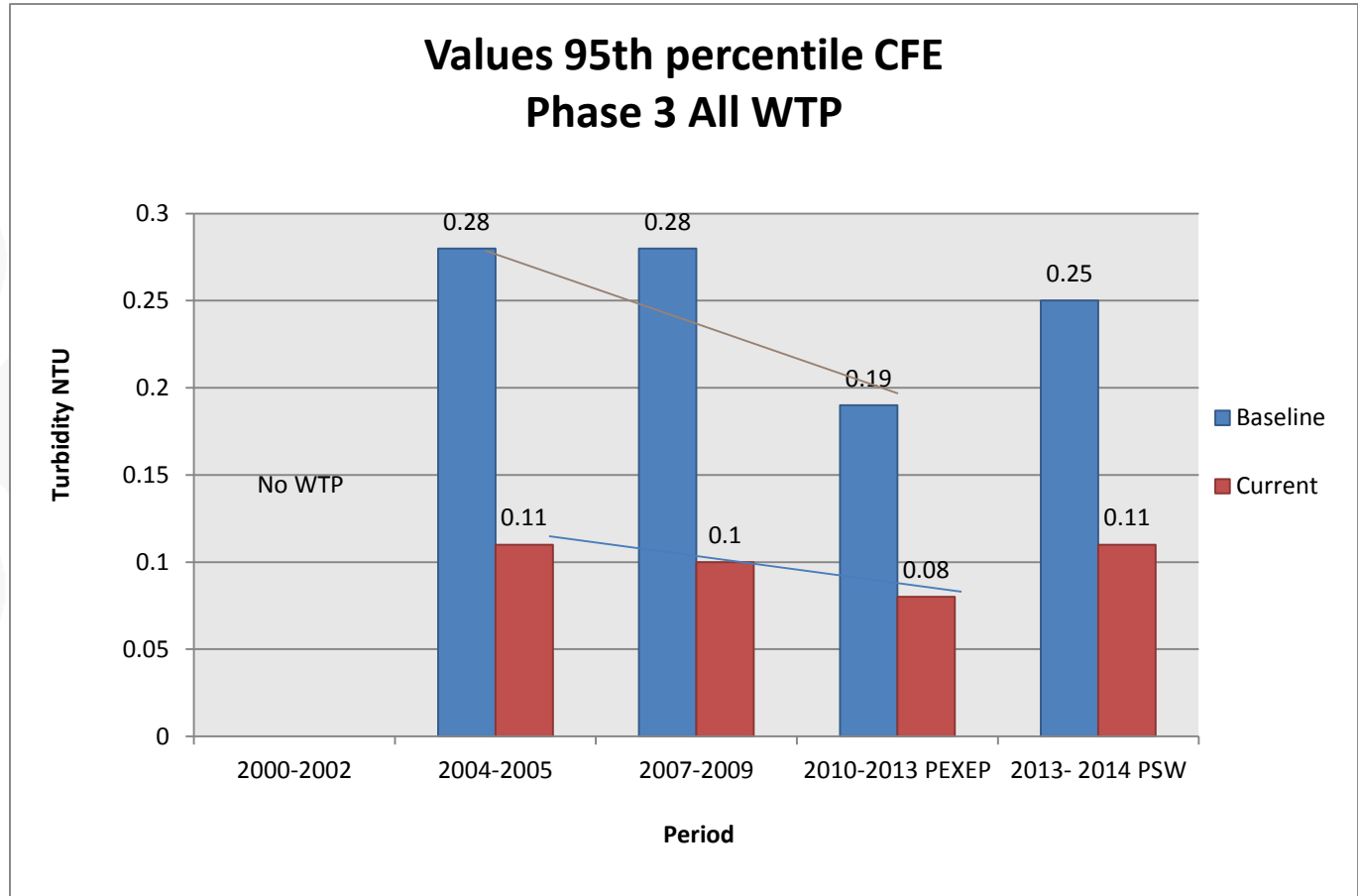
Results



Results



Results



Overview

- Regulation: No obligation to maintain residual disinfectant level in the distribution system.
- Agreement: included both treatment and distribution
- A group of volunteers is working to adapt and translate the PSW-Distribution Program
- Pilot group, 3 utilities, is working to test and validate the Program (Already PEXEP-T members: St-Eustache, St-Jerome and Victoriaville)
- Same structure and mechanism as PEXEP-Treatment.
- Program will officially be launched next November
- Some differences in optimisation performance goals

Optimisation criteria

- Disinfectant residual (>95% des mesures).
 - Free chlorine: AWWA: ≥ 0.20 mg/L and ≤ 4.0 mg/L.
Québec: ≥ 0.10 mg/L and ≤ 4.0 mg/L.
HPC must be done and trend if:
free chlorine ≤ 0.05 mg/L
or 95% month. ≤ 0.10 mg/L.
 - Total chlorine: AWWA: ≥ 0.50 mg/L and ≤ 4.0 mg/L.
Québec: To be evaluated
 - Chlorine dioxide: AWWA: ≥ 0.20 mg/L and ≤ 0.80 mg/L.
Québec: To be evaluated

Optimisation criteria (continued)

- **Pressure**: Same objectives
- **Main break**: Same objectives
- **Waterloss**: **New objective for Quebec utilities**

Discussions: A- 15 cubic meters / day / km. main pipes

if < 20 service connections / km. main pipe

or

B- xx liters / day / service connections

if ≥ 20 service connections / km. main pipe

Overview

- StaRRE means WRRF Water Resource Recovery Facility
- Ongoing project through volunteer group in Quebec
- Objectives and mechanisms already established
- Software in development
- Optimisation variables under development
- Presentation of the program, next November.
- Utilities pilot group January to December 2016
- Working in collaboration with AWWA-PCW working group



Win-Win Approach

AWWA

- Promote PSW in Canada
- Develop program outside USA
- Input from different technology
- French documents available for distribution
- Extras validated in Quebec could serve as example

Reseau Environment

- Program already developed
- Connection with an existing major program
- Access to first level information
- Possibility to improve
- Flexibility

Summary

- Fast growing program in Quebec during the last five years
- Turbidity results similar with all (US) utility members
- Groups meetings are most appreciated by users
- Five stars awards are a HIT
- Web tool box present good opportunities
- Continuous improvements through users needs
- Collaboration with AWWA, essential and:

**MORE THAN GREAT
THANKS**

Thanks

Questions

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PEXEP-T

