



MOECC Performance Based Training Pilot Test

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Environmental Innovations Branch

- The Environmental Innovations Branch applies innovation and collaboration to take on complex environmental challenges.
- We facilitate partnerships and lead pilot projects, testing new ideas to drive better environmental outcomes and promote transformation in government, industry and communities



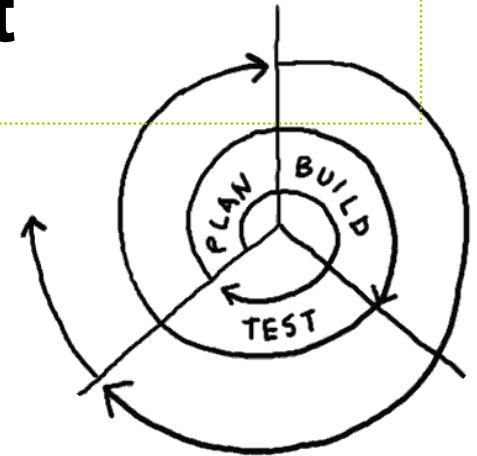
Performance Based Training (PBT)

- Tool used by USEPA and state drinking water regulators for area-wide optimization programs
- Distills a large amount of information into a series of training modules
- PBT addresses the knowing-doing gap
 - Content based learning (classroom)
 - Applying learning (in-plant assignments)
- Each participating plant matched with a facilitator



MOECC PBT Pilot Test

- Adapt PBT to wastewater
- October 2015 – March 2017
- Team includes XCG Consultants, MOECC, GRCA, Region of Waterloo
- Participating treatment plants from County of Brant, Norfolk County, Centre Wellington, Oxford County, Waterloo, Toronto, Guelph



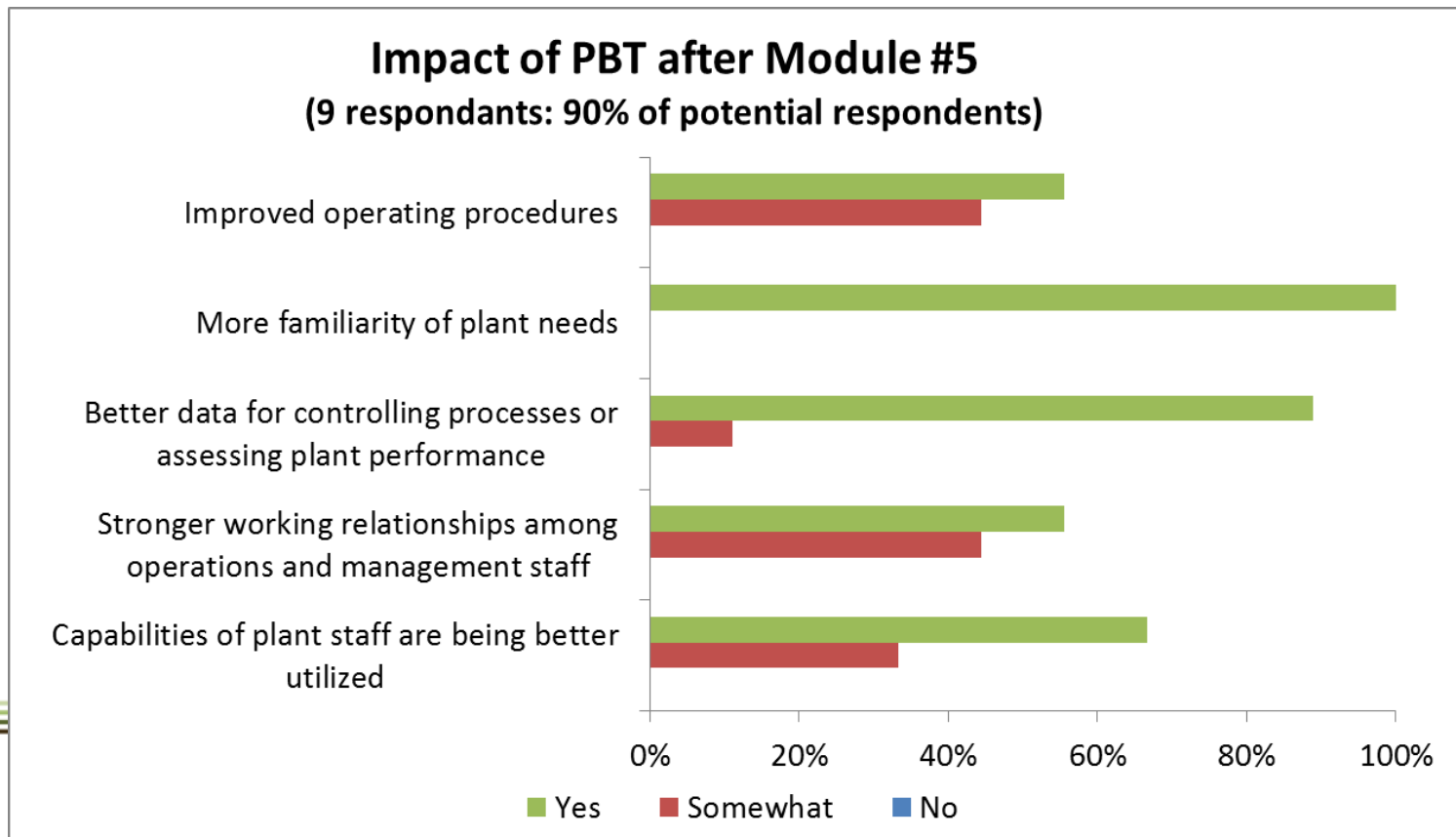
What does a PBT module look like?

- In-class learning
 - Report back on in-plant assignments
 - Lecture
 - In-class exercises
 - Workshop-y activities
- In-plant assignment
 - Tasks related to in-class content
 - Data collection/analysis
 - Interaction with the facilitator



PBT Accomplishments to date

- PBT is making a positive impact on non-infrastructure factors that impact performance
 - PBT revealed many “easy wins” at participant’s plants
 - Participants voluntarily taking steps to improve operations and management



Some Feedback

“The assignment really highlighted some known but perhaps under appreciated issues/gaps in not only our data collection but also our process control and allocated resources”

“The process evaluation gave me a better understanding of the plant's operation parameters such as hydraulic retention and SRT, etc.”

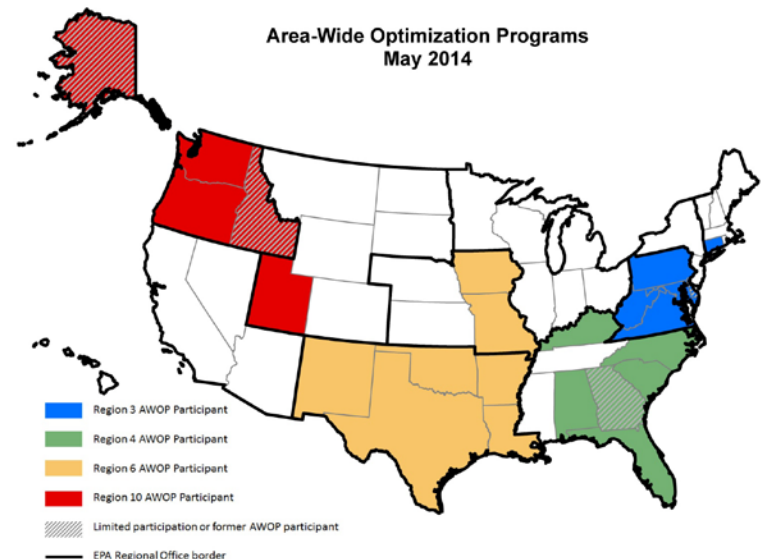
“It will most certainly help us determine which area at the facility we may need to look at closer”

“Have enjoyed putting data together and discussing the assignments. Excited to see the next module”

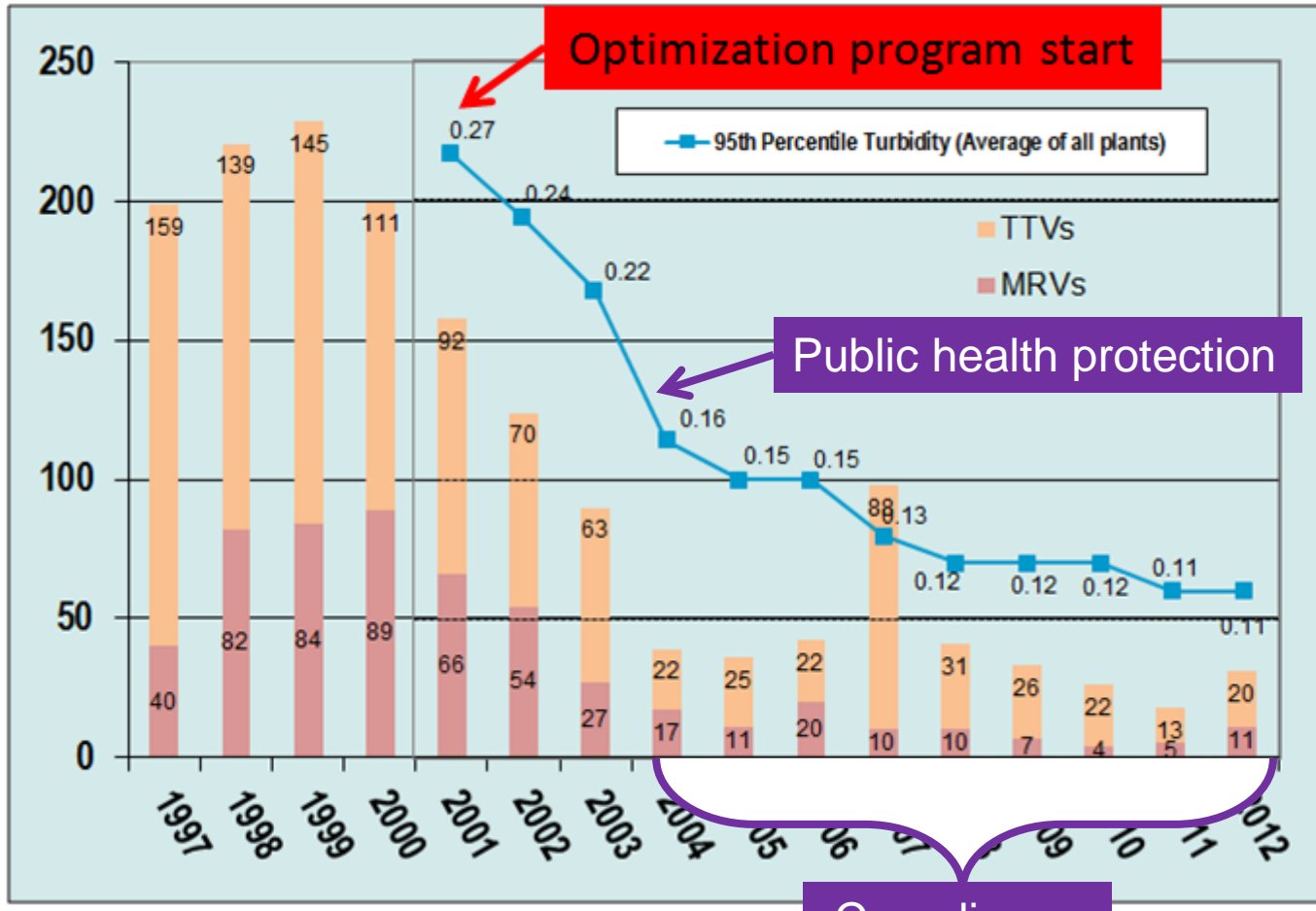
Feel like we are looking at everything, questioning it, seeing if they are better ways/time & \$\$ savings.

Where is all of this going?

- Use lessons from GRCA program and PBT pilot to test a provincial optimization program
- Model after USEPA and US state's drinking water optimization program
- Adapt to wastewater in Ontario



Where we want to be: Washington State Drinking Water Example



TTVs =
Treatment
Technique
Violations
MRVs =
Monitoring
and
Reporting
Violations

Compliance

Municipal Perspective: “Why Optimize?”

- We are a municipality with only 8,800 rate payers
- Limited Funding
- Public health and environmental protection front and centre.
- Work with what you already have
- Tapping full capacity
- Avoiding unnecessary capital expenditures. Bigger and better not always right.
- Building trust and confidence within your council and residents will guarantee their support
- Data based decision making and enhanced process control.
- Expanding skill and knowledge within operations to make better decisions
- Meet or exceed regulatory requirements in an economical manner
- Implementing these practises and taking ownership and responsibility for our treatment processes will push us to succeed in maintaining our receiving waters and their surrounding ecosystems for future generations.
- When we start to see these beneficial outcomes it pushes us to seek continuous improvement and allows us to share experiences and outcomes as to what works and doesn't.

Thank-you

- Partnerships/collaboration:
 - GRCA
 - City of Guelph
 - Region of Waterloo
 - MOECC-SDWB
 - USEPA
 - Pilot test participants