

# OPERATIONS CHALLENGE

---

What's the big deal?



Jackie Jarrell , John Bennett, Jim Borton, and Steve Harrison

# What Is Operations Challenge?

---



# Operations Challenge is the water quality industry's premier professional skills competition



# Ops Challenge is composed of five separate events



PROCESS  
CONTROL



LABORATORY



MAINTENANCE



COLLECTION  
SYSTEM



SAFETY



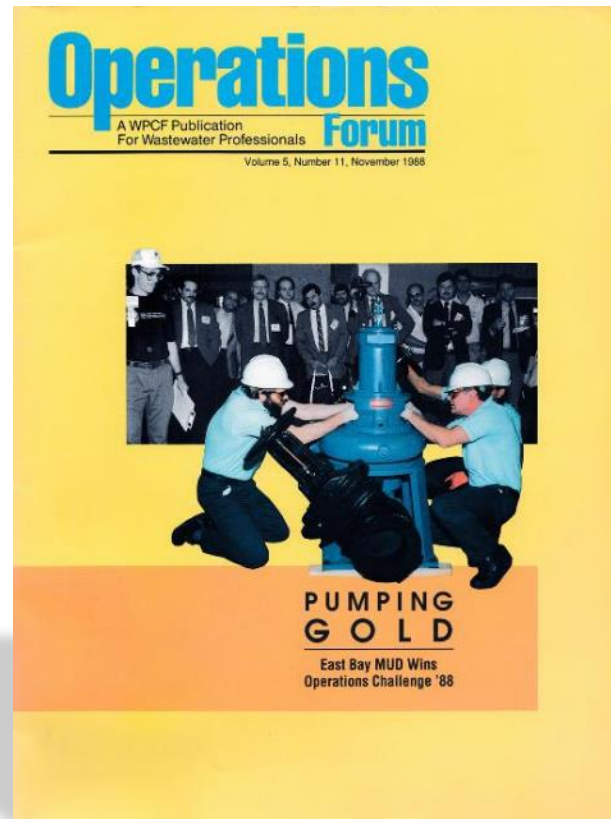


Now in its 29<sup>th</sup> year at WEFTEC, the concept originated in Ohio

Ohio 1985



WEFTEC 1988



Today's characters, um...co-speakers...

John Bennett

Jim Borton



# What do people learn from Ops Challenge?

John Bennett

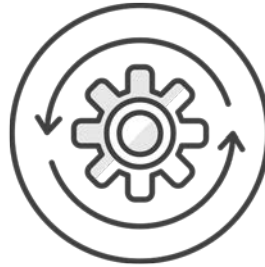
Trinity River Authority of Texas

Denton Creek Regional Wastewater System Plant Manager

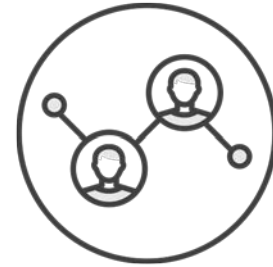
# What are the benefits of participating in this program?



Teamwork



Technical Skills



Networking



Leadership  
Development



Professional  
Growth



Recognition and  
FUN!



# Leadership / Teamwork Opportunities



As a team  
member

As a utility  
employee

As a competition  
committee  
member

As a MA  
member

As a WEF  
member

# Further Develops Much Needed Technical skills



In their area of focus

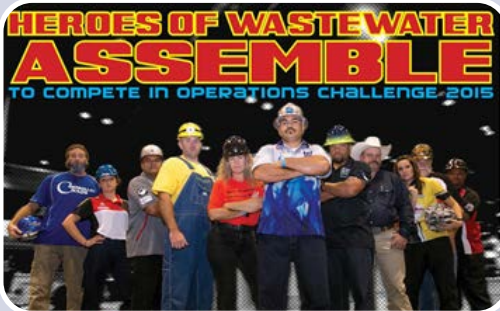
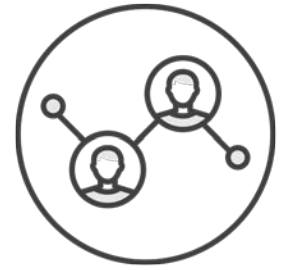
In technical areas within the facility

- Multi-skilled
- Multi-tasking
- Increased communication
- Appreciation

In support areas:

- Laboratory
- Engineering / Design
- Pretreatment
- Management
- Regulatory

# Networking with other Professionals in the Industry



Greater  
appreciation of the  
industry as a whole

What we do is:  
Important,  
Appreciated,  
Essential

Greater  
understanding of  
the challenges we  
all face

We are not in this alone!  
Parts of the world face  
challenges much greater  
than ours.

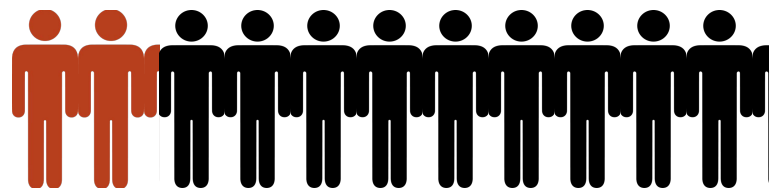
Greater  
appreciation for our  
utility

Pride, Appreciation,  
Dedication

# History of Professional Growth



- Promotion within the utility:
  - Increased responsibility, leadership, supervision and management
- Numerous current and former competitors have returned to college and now have or are currently working on a degree
- Motivated, knowledgeable, skilled staff, Can you place a price on this?



59 of 307

Class A WW License in Texas  
are current or former Ops  
Challenge Competitors





# Wesley Warren of Hampton Roads Sanitation Districts began competing in 1989



## Superintendent, Nansemond Treatment Plant

The Nansemond Treatment Plant is designed to clean up to 30 mgd of wastewater per day. The Nansemond Struvite Recovery Facility removes more than 85 per cent of the phosphorus from solids recycle streams and has the capacity to produce more than 450000 kg of Crystal Green fertilizer annually.



# Dedication!



# Family Tradition



# Recognition and FUN!



Awards Ceremony

Magazine coverage

- WEF, MA, TPO, Local News Outlet, YouTube

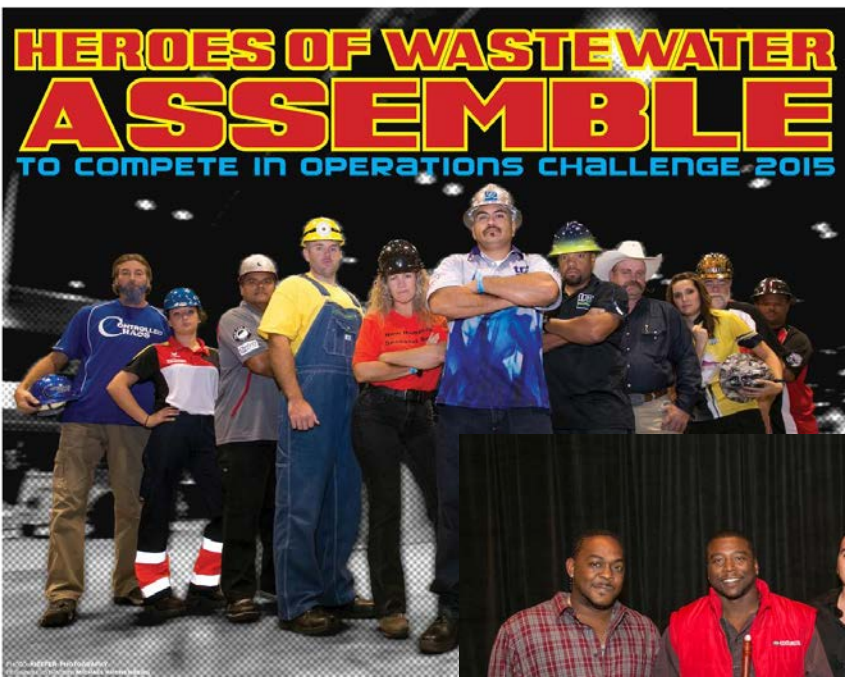
MA Recognition

Utility Recognition

FUN!

- What happens at the challenge stays at the challenge...







# **How do I make this work at my utility?**

---

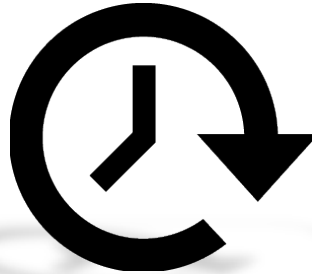
Jim Borton – Ch2m

Operations Challenge Committee Chair

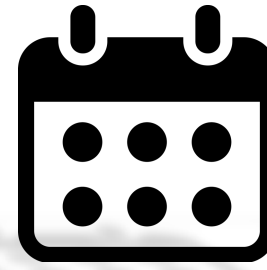
It takes commitment to make this work including lots of practice



Frequency



Time



Schedule

# Materials and training

- Starting out – none?
- Highly competitive
  - Pipe, saws, fittings, sampler and tables
  - Pump and tools
  - Laboratory Instruments/Supplies
  - CSE equipment, platform, valve mock up
  - Lots and lots of process scenarios and now a laptop
- In between – operators are very creative...

# Funding support

- Varies by situation
- On your own to compete at state/MA level
- Some MA's sponsor teams or arrange sponsorships
- Some Utilities allowed to find own sponsors
- Costs?
  - Attend WEFTEC typically about \$7500/team depending



# Sustainable team

- Coach(es)
- Captain
- 3 additional players
- No age requirements
- Willingness to work together, learn and build on previous event scores
- Able to have fun...





# The “support team”



- Opportunities for other staff to develop and train while helping the ops team to prepare
- Lab techs train team on lab practices
- Process staff train team on PC calculations
- The team that stays home to keep doing what we do while the competition ensues

# Choosing a team

- Varies by situation
  - Some all operations
  - Some all mechanics
  - Some all collection staff
  - Some a mix of operations, mechanics, collections and lab staff
- Key is willingness to:
  - put forth the efforts required
  - step out of comfort area and work with new teammates to learn



# I can't do that...



- Consider this:
  - utility with only 29 total people (Water/Wastewater, Collections and Distribution)
  - Fielded 2 teams to WEFTEC in 2004 each team with coach
  - Left 19 staff at home to cover plants and systems
  - OR – regulatory agency sends a team to compete
  - How do I know?
- Team doesn't have to be from same entity, work with neighbors

# How do I start the program in my Member authority?

---

Steve Harrison  
WEF Operations Challenge

Teams must be endorsed by member associations but there is no mandated selection criteria. Some unique and recommended examples include







Asociación Argentina de Ingeniería  
Sanitaria y Ciencias del Ambiente



Klare Konzepte. Saubere Umwelt.



# What lies ahead?



SimuWorld WWTP Simulator

File Help

MLSS	
SRT	
DO in Aeration Tank	
Energy Cost	
Chemical Cost	
Sludge Production	

Directory

- 1. Raw Influent Sewer
- 2. Raw Influent Pumping Station
- 3. Primary Treatment Plant Addition
- 4. Grit Removal Tanks
- 5. Primary Clarifiers
- 6. Primary Effluent Flow Bypass
- 7. Carbon Addition
- 8. Aeration Tanks
- 9. Secondary Ferrie Addition
- 10. Secondary Clarifiers
- 11. Chlorine Disinfection Building
- 12. Plant Outlet
- 13. RAS & WAS Pumping Station Building
- 14. WAS Control Valve
- 15. Raw Sludge
- 16. Gravity Thickeners
- 17. Hauled Sludge

Effluent

RAS Pump

WAS Control

12

11

10

16

15

17

9

8

7

6

5

4

3

2

1

Influent

**Process Control Event**

Please enter your name and team below:

First Name:

Last Name:

Team Name:

Submit

Simulator Instructions

Influent

Flow

Influent Flow: 2.641 MGD(US)

Wastewater Temperature

Temperature: 64.4 F

Influent Composition

COD: 416 mg/L

TN: 42.0 mg/L

Soluble Ortho-P: 13.0 mg/L

Ammonia: 32.0 mg/L

pH: 7.0 -

Main Menu Selection

Notes

Please select a challenge question

Scoreboard:

- Challenge 1 -
- Challenge 2 -
- Challenge 3 -
- Challenge 4 -
- Challenge 5 -
- Challenge 6 -
- Challenge 7 -
- Challenge 8 -
- Challenge 9 -
- Challenge 10 -

TIMER: 15:00

SCORE:



Dave Vogel (left), 2016 – Munich, Germany



# Finalist-Operations Challenge

2014

**EXCITE**  
AWARDS

Application of  
Content/  
Education on the  
Show Floor



**EXPO**  
FOR EVENT INNOVATORS

**Water Environment  
Federation**  
the water quality people®



# Operations Challenge...

## Where will it take you?

