

Continuing Education for Water Operators



Mariana Islands
Water Operator Association

November 14, 2012
Pacific Islands Club, Saipan

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Today's Agenda

- About Continuing Education
- Current Events
 - Hurricane Sandy
- Main Events – Measuring Flow
- Association Business

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Continuing Education for Water Operators



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Is THIS training required?

➤ NO

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Why have continuing education?

- DEQ Regulations require certified operators to have 10 contact hours of continuing education per year (30 contact hours in 3 years) to maintain certification.
- DEQ is not required to offer training (and no longer offers training – no \$\$\$)
- Where would operators get training?

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Other training options

- Professional training provided by your employer (safety, pump maintenance, lab procedures, etc.)
- College classes
- Conferences or workshops by professional organizations or agencies
- Correspondence courses
- On-line opportunities

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NOT continuing education

- Meetings with DEQ or EPA
- Surveys or inspections by DEQ or EPA
- Reading journal articles or textbooks by yourself
- Googling water operator stuff on the internet

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When should training be offered?

- DEQ surveyed all certified operators
- Results
 - One 3 hour session every 3 months
 - In morning
 - On a Wednesday
- First session September 6, 2006

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2006 – 2008 (DEQ)

- September 6, 2006: Chlorination
- November 8, 2006: Using a Pump Curve
- February 7, 2007: Cross Connection
- May 9, 2007: Regulations - CCR, PNR
- August 8, 2007: Sizing Pressure Tanks
- November 26, 2007: PWS workshop
- February 20, 2008: Fluoridation
- May 2008: Process Controls (Robert Brokate)
- August 2008: Slow Sand Filters
- November 12, 2008: TCR and Control Valves

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2009 MIWOA

- March 25, 2009: Security and Filters
- May 13, 2009: Alt. Energy, CCR, Compliance
- August 5, 2009: Geology of Saipan, GWR
- October 9, 2009: GWR Workshop
- December 2, 2009: Valves, Spills, Walkerton

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2010 MIWOA

- February 3, 2010: Safety, Haz Materials
- May 5, 2010: BEH & DEQ, Cross Connections
- August 11, 2010: Waste Water Collection/Treatment
- November 3, 2010: Response to disease outbreak

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2011 MIWOA

- February 2011: Chemical Injection Pumps (HRWA)
- May 2011: Radiation, Radionuclide Rule
- July 2011: Utility Policies & Procedures; Standard Operating Procedures (HRWA)
- November 2011: Leak detection

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2012 MIWOA

- February 2012: Bottled Water; Reverse Osmosis; Bottle Sanitation
- May 2, 2012: Inspecting Tanks, Water Meters
- August 8, 2012: Wastewater membrane filtration (Lau Lau Golf Hotel)
- November 2012: Metering and measuring flow

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2013 MIWOA

- February: ??
- May: ??
- August: wastewater
- November: ??
- Sometime in 2013 – Backflow Assembly Tester Training (by Texas A&M Engineering Extension Service)

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THIS TRAINING IS FOR YOU!

We'll do what we can to make it
what YOU want it to be!

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Suggestions for training

- Possible topics for upcoming sessions:
 - Backflow prevention device testing
 - Rainwater
 - Local Water System
 - How Reverse Osmosis Works
 - Energy efficiency
 - Storm water and erosion control
 - Introduction to waste water treatment
 - Field trip
 - Cleaning and handling bottles
 - Leak detection

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Announcements

- Certificates from the last 6 classes are posted on the website (May 2011 – August 2012)

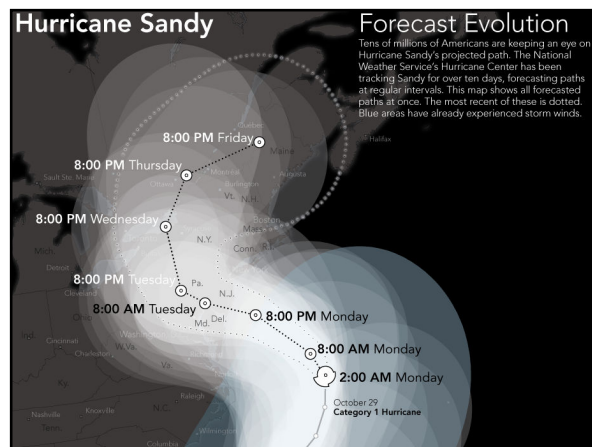
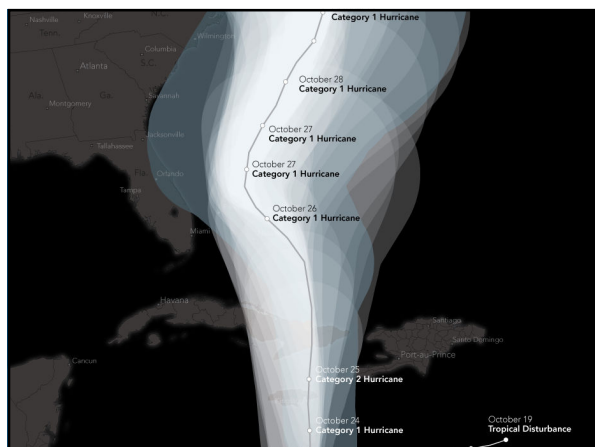
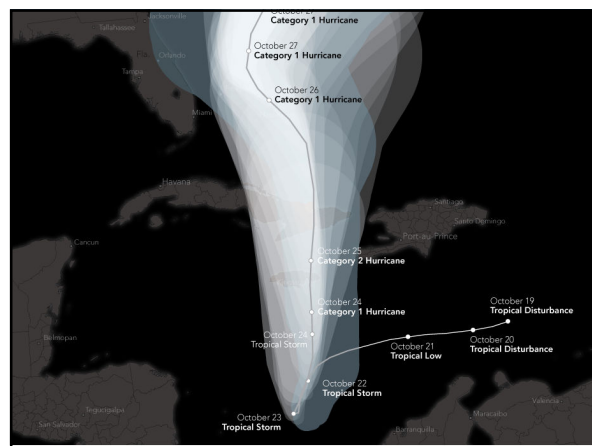
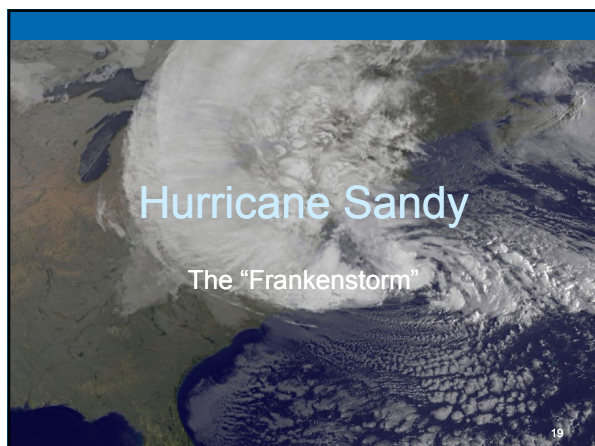
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Current Events

November 2012

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Video

- <http://www.youtube.com/watch?v=G0mwrEdePZM>

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WARN Program

- <http://www.awwa.org/video.cfm?ItemNumber=59737>

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Biggest Issues

- Power outages
- Destroyed homes/businesses
- Flooding
- Fuel supply

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Main Event

Measuring Flow

Gary Byrd, HRWA

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Break - 10 minutes



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Main Event

How much water can a pipe carry?

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Pipe properties

- Pipe properties that determine flow:
 - Diameter
 - Length
 - Material (roughness)
- Other properties
 - Pressure

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Hazen-Williams formula

- $Flow = (P \times C^{1.85} \times D^{4.87} / 4.52 \times L)^{0.54}$
- Flow (gpm)
- P-Pressure (psi)
- C-friction coefficient (PVC=150)
- D-diameter of inside of pipe (in)
- L-length of pipe (ft)

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Spreadsheet

- See spreadsheet for examples

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Association Business

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Board Member Terms

- Chair: Derek Chambers – May 2013
- Vice chair: Bernard Keremius – May 2013
- Secretary: Mariano Iglecias – May 2014
- Treas: Cecilio Raiukiulipiy – May 2015

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