

DRINKING WATER REGULATIONS: REFRESHER

CAPT DEREK CHAMBERS, USPHS
MAY 26, 2017
GUAM WATERWORKS AUTHORITY

TODAY'S AGENDA

- INTRODUCTIONS
- CURRENT EVENTS
- REGULATORY QUIZ
- WHY WATER OPERATOR CERTIFICATION?
- REAL DATA -- SAIPAN EXAMPLE
- REVISED TOTAL COLIFORM RULE
 - HOW TO CONDUCT A LEVEL I ASSESSMENT

INTRODUCTIONS

- DEREK CHAMBERS
- PUBLIC HEALTH SERVICE OFFICER (CAPT.) > U.S.EPA > CNMI BECQ
- ENGINEER
 - SAIPAN, CNMI -- BECQ -- DRINKING WATER (OTHER STUFF...LATELY RADON)
 - FAIRBANKS, ALASKA -- TANANA CHIEFS CONFERENCE -- O&M CONSULTANT
 - BREMERTON, WA -- INDIAN HEALTH SERVICE -- W & WWWT DESIGN, CONSTRUCTION
 - RHINELANDER, WI -- INDIAN HEALTH SERVICE -- ON-SITE SYSTEMS (WELLS/SEPTIC)
 - MERU, KENYA -- WATER AND SANITATION PROJECTS

INTRODUCTIONS


- AND YOU ALL?
- BACKGROUNDS?
- HOW LONG WORKING WITH WATER?
 - DESIGN?
 - CONSTRUCTION?
 - OPERATIONS?
 - "MANAGEMENT?"

CURRENT EVENTS

- ANYTHING HAPPENING IN THE NEWS LATELY ABOUT DRINKING WATER?
- THINK OUTSIDE USA --

SCIENTISTS RACE AGAINST TIME AS YEMEN'S DEADLY CHOLERA OUTBREAK SPIRALS

THE GUARDIAN
HANNAH SUMMERS
WED MAY 24, 2017



YEMEN

- Poorest country in middle east
- ~ 25 M people
- Political crisis > 2011
- Civil war > 2015
- Water scarcity
- Groundwater levels dropping
- Fiscal or technical capacity
- Security/unrest

"Yemen could become the first country in the world to run out of water" *The Times of London*

CHOLERA

- CURRENTLY 2ND WAVE – 2,000 SUSPECTED CASES A DAY!
- OUTBREAK IN OCTOBER 2016 > JANUARY 2017
- NOW – SUSPECTED NEW CHOLERA STRAIN – SPREADING RAPIDLY
 - MORE CASES IN 3 WEEKS THAN PREVIOUS 6 MONTHS
 - SINCE APRIL 27: 329 DEATHS, 32,056 NEW CONFIRMED CASES

CHOLERA

- DUE TO:
 - MALNUTRITION
 - LACK OF CLEAN WATER
 - CONFLICT> DESTROYED INFRASTRUCTURE
 - LACK OF MEDICAL SUPPLIES

YEMEN CHOLERA EPIDEMIC: THE OUTBREAK CONTINUES TO SPREAD

[VIDEO](http://www.aljazeera.com/video/news/2017/05/yemen-cholera-epidemic-outbreak-continues-spread-170522140659095.html)

[HTTP://WWW.ALJAZEERA.COM/VIDEO/NEWS/2017/05/YEMEN-CHOLERA-EPIDEMIC-OUTBREAK-CONTINUES-SPREAD-170522140659095.HTML](http://www.aljazeera.com/video/news/2017/05/yemen-cholera-epidemic-outbreak-continues-spread-170522140659095.html)

MAY 23, 2017 AL JAZEERA

COULD THIS HAPPEN HERE?

- HAS THERE BEEN A CHOLERA OUTBREAK ON GUAM?
 - 1974 – 2005: 24 SEPARATE EPISODES
- WHAT ABOUT CNMI?
 - 1994 ASSOCIATED WITH BOTTLED WATER
- MICRONESIA?
 - 2000 POHNPEI: 3400 CASES / 20 DEATHS

THIS IS WHY YOUR JOB IS SO IMPORTANT

YOU SAVE LIVES

REGULATORY QUIZ

1. WHO DO THE DRINKING WATER REGULATIONS APPLY TO?

PUBLIC WATER SYSTEMS

REGULATORY QUIZ

2. WHAT IS A PUBLIC WATER SYSTEM?

"A SYSTEM FOR THE PROVISION TO THE PUBLIC OF WATER FOR HUMAN CONSUMPTION THROUGH PIPES,...OR OTHER CONSTRUCTED CONVEYANCES, IF SUCH SYSTEM HAS AT LEAST 15 SERVICE CONNECTIONS OR REGULARLY SERVES AN AVERAGE OF AT LEAST 25 INDIVIDUALS DAILY AT LEAST 60 DAYS OUT OF THE YEAR. ..."

EXAMPLES OF PWS?

- GUAM WATER WORKS
- COMMONWEALTH UTILITIES CORP
- HOTELS?
- SCHOOLS?
- RESTAURANTS?
- APARTMENT BUILDINGS?

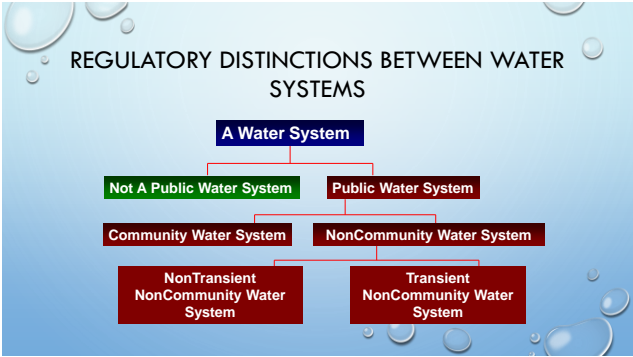
- BOTTLED WATER COMPANIES?
- TRUCKS THAT HAUL DRINKING WATER?
- HOMES?
- WATER VENDING MACHINES?

REGULATORY QUIZ

2. WHAT IS A PUBLIC WATER SYSTEM?

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"...A PUBLIC WATER SYSTEM IS EITHER A COMMUNITY WATER SYSTEM OR A NON-COMMUNITY WATER SYSTEM."



PUBLIC WATER SYSTEM TYPE DEFINITIONS

- ALL PWS – 15 CONNECTIONS/25 PEOPLE 60 DAYS/YEAR OR MORE
- CWS – SAME PEOPLE YEAR ROUND (365 DAYS/YEAR)
- NCWS – (NOT A CWS)
 - NTNCWS – AT LEAST 25 OF THE SAME PEOPLE 6 MONTHS/YEAR OR MORE
 - TRANSIENT – (NCWS THAT IS NOT A NTNCWS)

REGULATORY QUIZ

3. WHAT IS THE DIFFERENCE IN HOW CWS, NTNCWS, AND TNCWS ARE REGULATED?
MONITORING REQUIREMENTS AND PUBLIC NOTIFICATION REQUIREMENTS
ACUTE CONTAMINANTS, LIKE BACTERIA : EVERYBODY
CHRONIC CONTAMINANTS, LIKE PB & CU: ONLY SYSTEMS WITH SAME PEOPLE DAILY

REGULATORY QUIZ

4. What are the MAIN requirements of the drinking water regulations?
- MONITORING QUALITY (MCL)
 - REPORTING
 - RECORDKEEPING
 - TREATMENT TECHNIQUES
 - PUBLIC NOTICE
 - SANITARY SURVEYS
 - OPERATOR CERTIFICATION

REGULATORY QUIZ

5. Can you name some of the Drinking Water Rules?

- REVISED TOTAL COLIFORM RULE
- GROUNDWATER RULE
- SURFACE WATER TREATMENT RULE
- DISINFECTION BY-PRODUCT RULE
- LEAD & COPPER RULE
- RADIONUCLIDES RULE
- ARSENIC RULE
- PUBLIC NOTICE RULE
- CONSUMER CONFIDENCE REPORT RULE
- PHASE II & V MONITORING
- UNREGULATED CONTAMINATE MONITORING RULE

CERTIFIED OPERATORS

- WHY DO WE HAVE CERTIFIED OPERATORS?

WALKERTON, ONTARIO

MAY 2000

REAL DATA EXAMPLE

