Monthly Meeting #17

Coordinated Water System Plan

Central Region

MDC Training Center; 125 Maxim Road, Hartford, Connecticut | October 18, 2017

Agenda

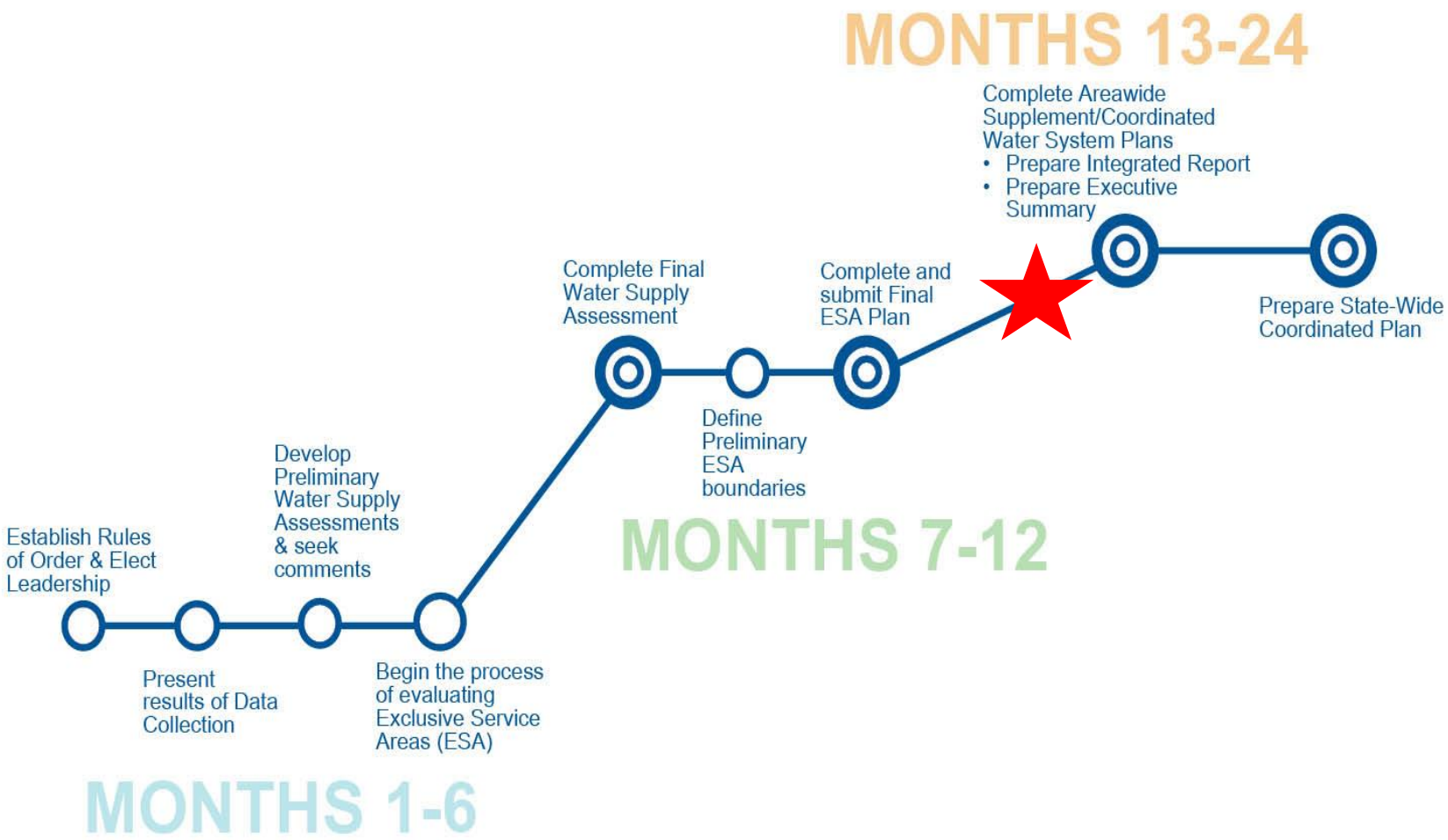
1. Welcome & Roll Call (5 minutes)
2. Approval of September Meeting Minutes (5 minutes)
3. Review of Formal Correspondence (5 minutes)
4. Review of two Proposed CPCN Systems in Bolton (15 minutes)
5. Presentation by DPH on Drinking Water State Revolving Fund (DWSRF) (15 minutes)
6. Integrated Report Module #9 – Minimum Design Standards (15 minutes)
7. Integrated Report Module #10 – Future Sources, Raw Well Water Quality, & Acquisition of Land for New Stratified Drift Wells (15 minutes)
8. Integrated Report Module #11 –Future Interconnections & Impact/Disjointed Service Areas/Integration (15 minutes)
9. Integrated Report Module #12 – Impacts of Climate Change (15 minutes)
10. Integrated Report Module #13 – Existing and Future Regulations (15 minutes)
11. Public Comment (10 minutes)
12. Other Business (5 minutes)

1. Welcome and Roll Call

Taking Stock

- ***What Have We Accomplished?***
  - ✓ Discussed Integrated Report Modules #1 through #8
- ***What Are We Doing Today?***
  - ✓ Presentation by DPH regarding DWSRF Public Hearing
  - ✓ Discussion of Integrated Report Modules #9 through #13
- ***What's Next?***
  - ✓ Additional Integrated Report Topics

WUCC Time Frame



Data, Mapping & Information Needs

- 2016 raw water withdrawn and finished water distributed by month
- 2016 average day, peak day, and peak month demands
- 2016 water use by user category
- 2016 purchased and/or sold water by month
- Service area population projections for the 5-, 20-, and 50-year WUCC planning periods for each ESA
- Water demand projections for the 5-, 20-, and 50-year WUCC planning periods for each ESA and status of capital planning for such sources
- Planned water purchases for the 5-, 20-, and 50-year WUCC planning periods to serve your ESA

This information is required from each ESA holder within the region by the November 2017 WUCC Meeting.

Data, Mapping & Information Needs

- Proposed plan to serve any currently unserved areas within the ESA boundaries
- Planned interconnections and status of capital planning for such interconnections
- Anticipated impacts (if any) from the streamflow regulations
- List of any joint use/jointly managed or jointly-owned services, equipment, and facilities or the willingness to participate in such arrangements
- Plans for satellite management systems
- Information on how future regulations may impact the utility

This information is required from each ESA holder within the region by the November 2017 WUCC Meeting.

2. Approval of Meeting Minutes

3. Formal Correspondence

Formal Correspondence

Date	From	To	Main Topic(s)
9/1/2017	Town of Bolton	J.R. Russo & Assoc.	Known Future Building Areas w/in 1 Mile of 1100 Boston Turnpike (Route 44) in Bolton
9/21/2017	All WUCCs	WUCC Members	Data Collection and Module Question Completion Request for Integrated Report
9/21/2017	WUCC Chair David Radka	Town of Bolton	Request for Additional Information for 7 Loomis Road in Bolton
9/28/2017	DPH	Graybill Properties, Old Lyme	Phase I-B CPCN Approval
9/28/2017	DPH	Graybill Properties, Old Lyme	Well Water Quality and Quantity Suitability Review
10/3/2017	DPH (Email)	Central WUCC	Information Pertaining to Systems Located Near 1100 Boston Turnpike in Bolton
Various	Town of Bolton	WUCC Co-Chair	Information Regarding CPCN Applications

4. Review of Proposed CPCN Systems

5. Presentation by DPH on the DWSRF

Drinking Water State Revolving Fund
Public Hearing
October 25, 2017

Cameron Walden
Supervising Sanitary Engineer
CTDPH - Drinking Water Section

Intended Use Plan

- The purpose of the public hearing is to seek meaningful public input on the SFY 2018 Intended Use Plan (IUP)
- IUP explains how DPH intends to utilize federal capitalization grant funds received from EPA
- Includes DWSRF policies
- Includes Project Priority List for projects submitted by PWS for SFY 2018 funding

NEW for SFY 2018

- PWS may submit applications for DWSRF funding at any time
- Priority Ranking System was revised to encourage and/or support
  - Water conservation projects
  - Resiliency projects
  - Projects to reduce lead in drinking water
  - Climate change planning
  - Asset Management planning
- Lead service lines encountered during water main replacement must be replaced if consent is obtained from property owner
- Federal subsidy % applied to contract prices rather than total project cost

Public Hearing

- 10/25/17 10:00 am at 470 Capital Ave., Hartford Conference Room 470 C
- If you cannot attend comments may be e-mailed until 10/24/2017 to:

DPH.CTDWSRF@ct.gov

- For more information visit the DWRSF website at:

http://www.ct.gov/dph/dwsrf

DWSRF Contacts

- DWSRF Team Members
  - Cameron Walden, Supervising Sanitary Engineer
  - Raul Tejada, Sanitary Engineer 3
  - Sara Ramsbottom, Sanitary Engineer 3
  - Florin Ghisa, Sanitary Engineer 3

- Call (860) 509-7333

6. Integrated Report Module #9

Module #9 – Minimum Design Standards

Situation

- Minimum design standards are set forth in RCSA 19-13-B-102 for system components and RCSA 16-262m for new community water systems, among others
- Many water systems have established additional design standards that require certain types of piping or equipment to be utilized for main extensions and service connections (e.g. to ensure consistency with the existing system)
- Large water systems that operate satellite systems typically have additional design standards related to new community water systems
- The former Southeastern WUCC outlined recommendations for exceeding the minimum state standards, but left imposition of the provisions to individual utilities

Coordinated Water System Plan regulations require "provisions for minimum design standards applicable to all water system improvements and all new PWS"

RCSA 25-33h-1(d)(C)(vii)

Milone & MacBroom

Module #9 – Minimum Design Standards

Challenges

- Although the WUCC is charged with generating provisions for minimum design standards, its charge is largely advisory and not regulatory.
- System age, components, construction, and manufacturers vary between systems.
- Developers need to understand all requirements upfront prior to starting CPCN process; entertaining new requirements in the middle of a costly process is undesired.
- Expansion of a small system adding two or three customers (5% expansion) could trigger the need for a CPCN, which could lead to different design standards applied within an existing system.

Module #9 – Minimum Design Standards

Possible Solutions

- Continue to recommend standards but leave at discretion of utilities
- Provide for a streamlined regulatory review for small systems (15 - 250 customers) needing to expand under the CPCN
- Ensure utility design standards are incorporated into any agreement for services or screening response related to the CPCN

Module #9 – Minimum Design Standards

Module #9 Questions

1. Does your system have minimum design standards that are unique from the state design standards? If so, in what ways to they differ (what utility requirements exceed the state requirements)? What design standard is believed to be the most critical for your utility?

2. How are your minimum design standards communicated to developers, contractors, and customers within your exclusive service area?

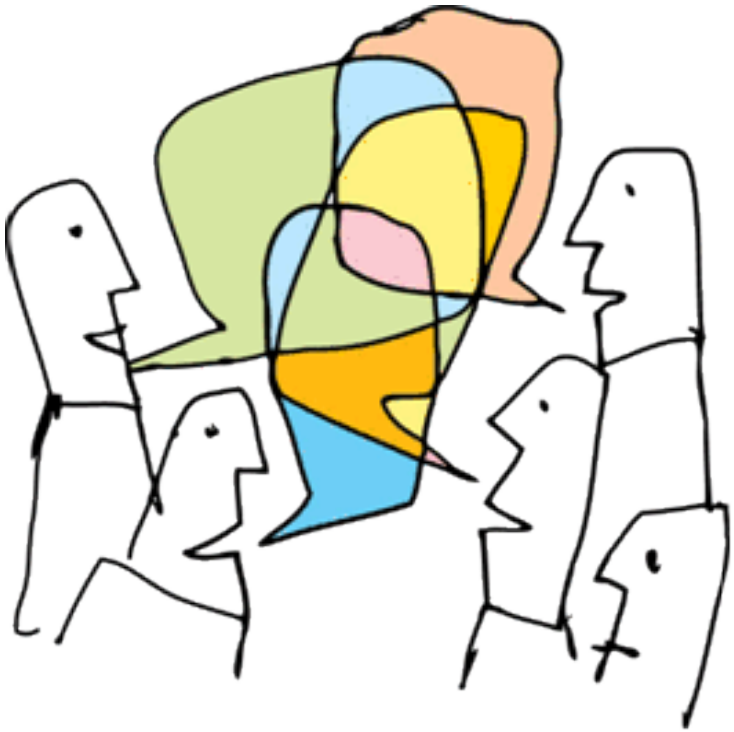
3. Do you have specific recommendations for improving minimum design standards related to safe yield, source protection, water quality, fire protection, treatment, or distribution system components? If so, what was the rationale for developing these minimum design standards?

Module #9 – Minimum Design Standards

Regional Outlook

- What should the Central WUCC's role be relative to Minimum Design Standards?
- Should new non-community systems be subject to more stringent standards than currently imposed by DPH?
- Should the regional plan include recommendations specific to Minimum Design Standards?

Module #9 Discussion



7. Integrated Report Module #10

Module #10 – Future Sources, etc.

Situation

- Water utilities must plan ahead to ensure sufficient supply is available over short (5-year), medium (20-year), and long term (50-year) planning horizons
- Water utilities face significant uncertainty regarding the timing of future water need
- Development of new sources of supply can take several years and be very costly
- Implementation of releases in accordance with the Streamflow Standards and Regulations may accelerate the need to enhance the yield of existing supplies or to develop new supplies
- In many cases, limited land is currently controlled by utilities for new source development

Coordinated Water System Plan regulations require "evaluation…of alternative water sources recommended to supply future areawide water system needs"
RCSA 25-33h-1(d)(C)(iii)

Module #10 – Future Sources, etc.

Challenges

- New source development is costly
- Public water supply is one of many competing needs within a flow regime
- Permitting restrictions may reduce a project's cost-effectiveness, but the exact magnitude of the restrictions are difficult to predict before the source is developed
- Many available sites that could be viable in terms of quantity are coincident with areas that are – or may be – degraded in terms of quality
- Several different ways to predict future needs

Module #10 – Future Sources, etc.

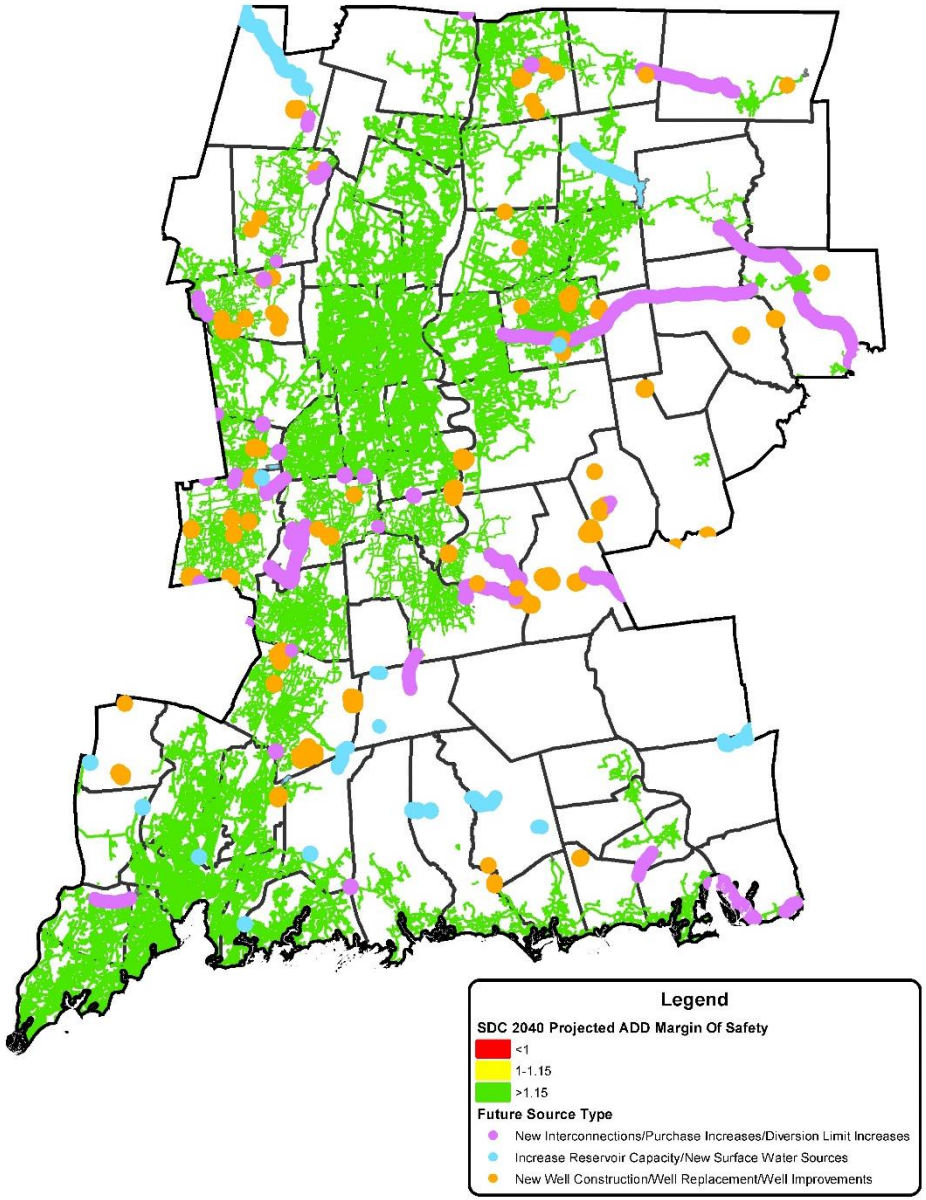
Possible Solutions

- Encourage joint development of new sources of supply where water could be reasonably shared between parties

- Work with DEEP and DPH prior to new source development to determine feasibility of a particular site in regards to existing known resources and water budget

- Work with municipalities, health districts, COGs, The Nature Conservancy, and others to protect potential source water areas for future source development

Future Sources & ADD MOS (2040)



Module #10 – Future Sources, etc.

Module #10 Questions

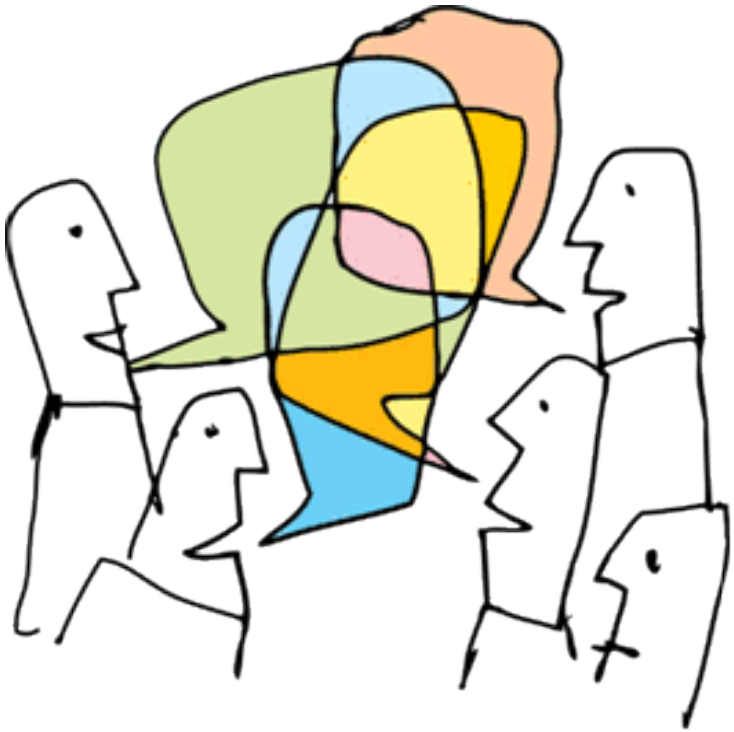
1. Do you forecast that your system will require additional sources of supply (wells or reservoirs) in the WUCC planning periods? If so, what planning has your system undertaken to date for their development?

2. Are you experiencing, or have you experienced in the past issues relating to raw water quality or quantity? If so, how are you/have you addressed them?

3. If you identify potential new sources of supply in your Water Supply Plan, what are the barriers to developing those specific sources?

4. What do you perceive as the three biggest obstacle(s) to procuring or developing new sources of supply in general?

Module #10 Discussion



8. Integrated Report Module #11

Module #11 - Interconnections

Challenges

- Decreases in Available Water due to Implementation of the Streamflow Standards and Regulations may spur interconnections
- Emergency Interconnections do not affect Available Water
  - Expensive to construct over long distances, particularly for limited use – no recovery of capital
  - Investment in system redundancy
  - Potential to permit for limited use without affecting Available Water (i.e., Intra-regional Water Supply Response Plan in SE CT)
- Active Interconnections reduce Available Water by contract amount
  - Leads to take-or-pay agreements
  - Expensive for smaller systems

Module #11 – Interconnections

Module #11 Questions

1. Is your system in a position to sell excess water to a neighboring system? If not, will it be in the future? If so, in what estimated timeframe (5-, 20-, or 50-years)?

2. Have you applied for/obtained a diversion permit for an interconnection? If so, did you utilize the general permit or individual permit, and what was the biggest obstacle to obtaining it?

3. Do you hold a Sale of Excess Water permit? If so, what was the biggest obstacle to obtaining it?

Module #11 – Interconnections

Module #11 Questions

4. Are you planning or do you anticipate constructing interconnections or projects of a regional nature that will involve your system? If so, what will the primary purpose of the project be (interconnect owned systems, sell water, purchase water, one-way emergency interconnection, two-way emergency interconnection, reducing environmental impacts of existing sources, etc.)? If so, what infrastructure will be needed (e.g. pump station, pressure reducing valve, etc.), and in what estimated timeframe (5-, 20-, or 50-years) would the interconnection be constructed?

5. If you have an interconnection with another system, what lessons have you learned about negotiating interconnections? Who are the key players at the utility, local, and state level who need to be involved in decision making?

Module #11 – Interconnections

Module #11 Questions

6. If funding and/or regulatory approval were not obstacles, are you aware of any local or regional interconnections that would lessen the vulnerability within the region or provide other supply benefits?

7. How could the WUCC assist/promote interaction between interested groups/town planners/etc. in promoting future interconnections?

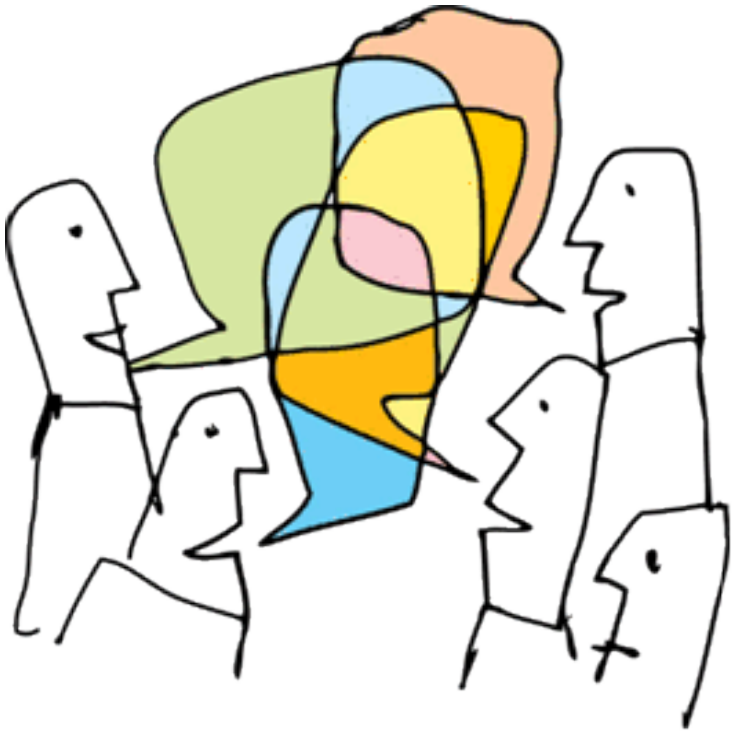
8. Do you have any other ideas about how interconnections might be facilitated in your region for increased flexibility, redundancy, and/or reducing environmental impacts associated with use of specific sources?

Module #11 – Interconnections

Regional Outlook

- Are there specific interconnections that are needed and/or would be beneficial to the region in general?
- What is the Central WUCC's position on interconnections?
- Are there impediments to interconnections that require intervention?

Module #11 Discussion

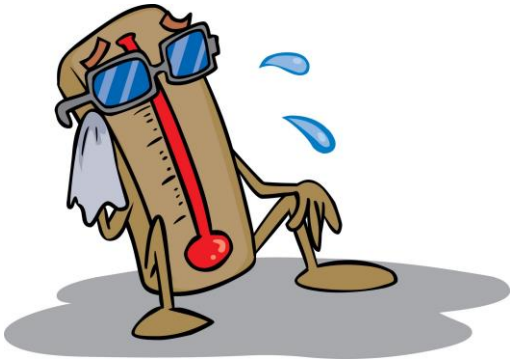


9. Integrated Report Module #12

Module #12 – Climate Change

Situation

- World's average temperature has risen 1.4° Celsius since 1900
- Prior to that, world's average temperature rose 3.9° Celsius over past 20,000+ years
- Many interrelated effects:
  - Higher temperature extremes
  - Changing rainfall patterns
    - ➢ More intense rain – erosion, turbidity, flash flooding
  - Sea level rise
  - Increased incidence or strength of hurricanes
- Long-term effects are uncertain



Module #12 – Climate Change

Higher Temperatures

- Higher rates of evapotranspiration
  - Influences surface water safe yield calculation
  - Treatment process concerns
  - Lower water levels – exposed reservoir banks susceptible to erosion
- Drier foliage – wildfire risk
  - Water quality concerns
    - ➢ Increased erosion entering reservoirs
    - ➢ Less pollutant capture

Module #12 – Climate Change

Changing Rainfall Patterns

- More rainfall overall, but…
- More frequent intensive rainfall
  - More erosion
  - Overwhelmed stormwater systems
- Potential for less frequent smaller storms
  - Longer dry periods – could impact surface water safe yield
  - Increased activation of drought response plans
  - Less infiltration = lower groundwater levels – could affect groundwater safe yield

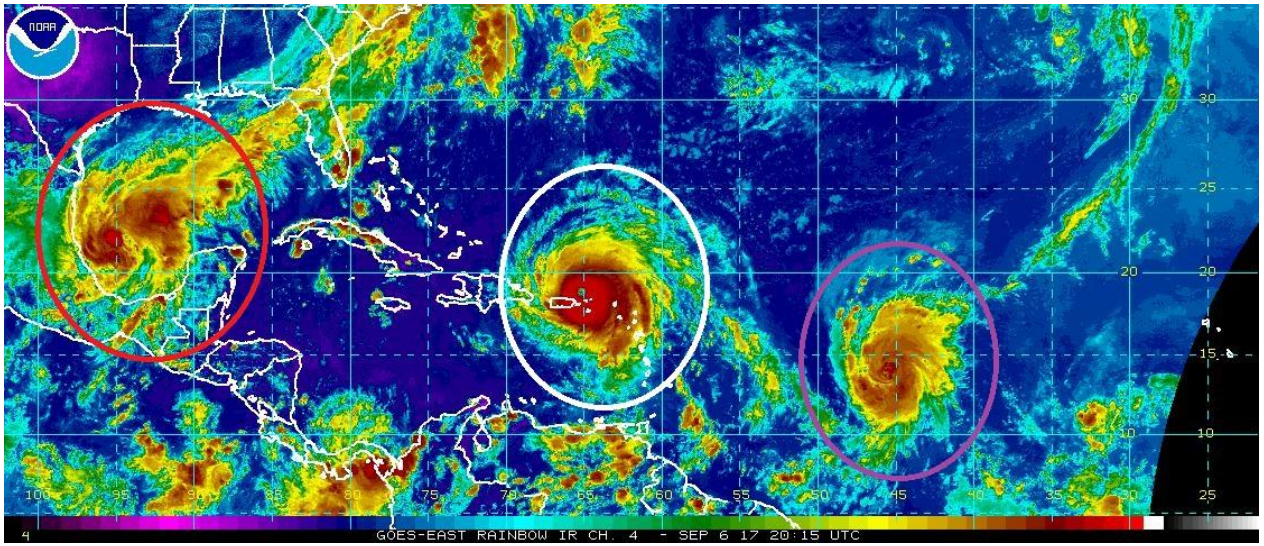
Module #12 – Climate Change

Increased Flooding

- Water quality concerns for reservoirs
- Increased risk for dam damage or failure
- Dam modifications are $$$
- Increased risk for damage to infrastructure in floodplains
  - ➢ Changing flood frequencies and stages – are wells and pumphouses still high enough?
  - ➢ Sea level rise

Module #12 – Climate Change

More Frequent and/or Stronger Hurricanes



- Widespread wind damage and usually widespread flooding
- Storm surge
- Power outages
  - How long can you operate without outside assistance?
  - What if you cannot get fuel?

Module #12 – Climate Change

Module #12 Questions

1. What natural hazards could severely impact your system (flooding, severe storms, hurricanes, tornadoes, sea level rise, winter storms, dam failure, etc.)?
2. If you have water supply sources along a stream or river, what protections do you utilize to prevent flooding? How has flooding affected any of your supply sources or associated infrastructure?
3. If you operate a reservoir supply, do you envision any capacity or water quality issues related to climate change and changes in precipitation?
4. Does any part of your service area experience regular flooding? If so, what impact does this flooding have on your ability to provide service to customers? Are any system components affected?

Module #12 – Climate Change

Module #12 Questions

5. Do you have a formal flood management plan for your water system? If so, how often is it activated?

6. Have you specifically evaluated the potential impacts of climate change on your water supply system (e.g. the increasing frequency of severe storms on the risk of dam failure)? If so, what were the lessons learned? What capital projects have you implemented/are you implementing to address the potential impacts of climate change? If you haven't evaluated the impacts, why not? What assistance, besides funding, would you need?

7. What, if any, concerns do you have relative to climate change in terms of its potential impact on your individual water system components?

Module #12 – Climate Change

Module #12 Questions

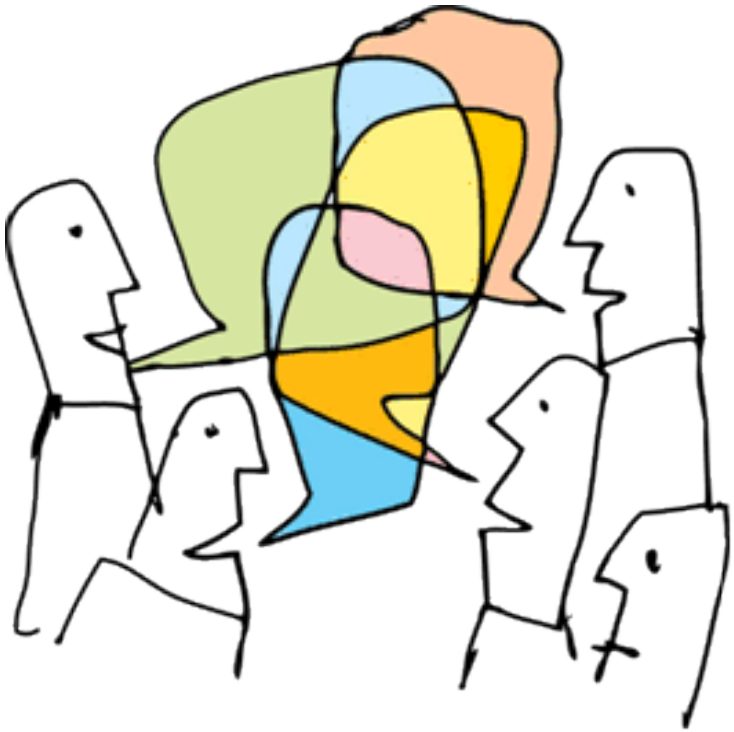
8. Do you have an emergency power supply system, or an emergency power plan that would grant you access to a backup power supply during an emergency? What type of fuel is it (e.g., diesel, propane, gas, solar, etc.) and what type of equipment (e.g., generator, solar array, etc.). Can the backup power support all system components? How long could that backup system function?

Module #12 – Climate Change

Regional Outlook

- Is there a regional position relative to climate change?
- Are there strategies and/or planning exercises aimed at risk assessment that the region should consider?
- Is there a desire to have climate change recommendations in the regional plan?

Module #12 Discussion



10. Integrated Report Module #13

Module #13 - Regulations

Challenges

- Regulations:
  - Necessary to ensure protection of public health
  - Enacted to improve overall quality of life
  - May be perceived as unfunded mandates
- Recent regulations have resulted in limitations on Available Water and have required additional testing and/or treatment
  - Streamflow regulations could result in Available Water reductions of 10% to 20% or more for systems utilizing reservoirs – some implementation delayed until after diversion permits expire
  - Larger systems are generally better equipped to respond to new regulations
  - Smaller systems may find it challenging to respond technically, managerially, and financially

Module #13 - Regulations

Upcoming Regulations

- Unregulated Contaminant Monitoring Rule
  - All PWS serving >10,000 and selected other PWS
  - Provides data for future regulatory actions to protect public health
  - Next round likely January 2018 through December 2020

Module #13 - Regulations

Proposed Regulations

- Lead and Copper Rule revisions under consideration:
  - Lead service line replacement
  - Improving optimal corrosion control treatment requirements
  - Health-based benchmarks
  - Point-of-use filters
  - Clarification / strengthening tap sampling requirements
  - Increased transparency / public education requirements

Module #13 - Regulations

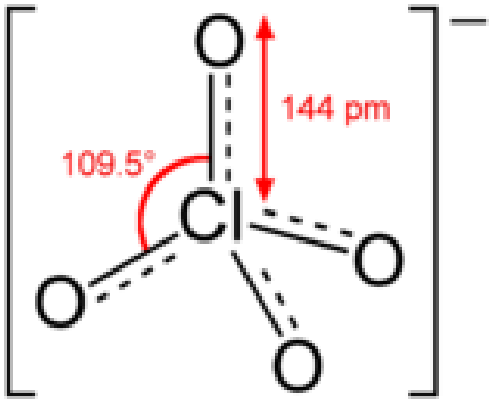
Proposed Regulations

- Ban use of lead free pipes, fittings, fixtures, solder, and flux for drinking water
  - Redefine “lead free plumbing products” to be consistent with definitions in Reduction of Lead in Drinking Water Act and other Acts
  - Introduces labeling requirements
  - Requires manufacturer certification

Module #13 - Regulations

Proposed Regulations

- Perchlorate
  - Naturally occurs, also is manufactured (found in rocket propellant, explosives, fireworks, road flares)
  - Disrupts normal function of thyroid gland in children and adults
  - Treatment is required for removal



Module #13 - Regulations

Potential Regulations

- Chromium is under review by EPA
  - Current standard is for Total Chromium
  - Chromium-3 is an essential human dietary element
    - Found in vegetables, fruits, meats, grains, yeast
  - Chromium-6 occurs naturally or through industrial processes
  - Selected systems monitored for Chromium-6 under UCMR 3

Module #13 – Regulations

Module #13 Questions

1. What existing or proposed regulation(s) pose the biggest challenges to your system?
2. If your supply sources are registered in accordance with the Water Diversion Policy Act, what proportion of your registration do you typically utilize on an average day? On the average day in the maximum month? On a peak day?
3. Will your system be impacted by implementation of the Streamflow Standards and Regulations? If so, have you undertaken analysis to determine the implications on safe yield? If so, what reduction are you expecting? How may the ongoing decrease in per capita water use each year – which affects margin of safety – offset the impacts of stream flow releases in ten years?

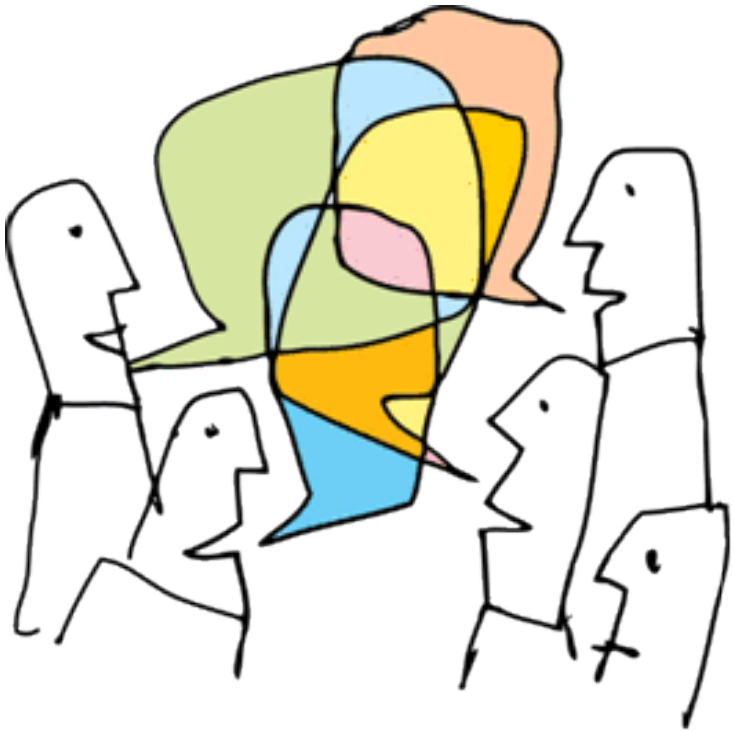
Module #13 – Regulations

Module #13 Questions

4. Are you aware of any other up and coming regulations that would impact your system such as those suggested above? If so, what are they and what effect might they have?

5. What amendments to the WUCC regulations should be considered to clarify the WUCC's role beyond the initial two year planning process? What clarifications are necessary to ensure proper planning is performed moving forward?

Module #13 Discussion



11. Public Comment

12. Other Business