



WSCAC Meeting

Location: Held virtually
October 13, 2020 – 10:00 am

Members in Bold in Attendance:

Jerry Eves, WSCAC Chair

Michael Baram

Whitney Beals

William Copithorne, Town of Arlington

Steven Daunais, Tata & Howard

Andrea Donlon, CT River Conservancy

Bill Fadden, OARS

Bill Kiley, BWSC

Paul Lauenstein, NepRWA

Martha Morgan, Nashua River Watershed

Martin Pillsbury, MAPC

Janet Rothrock, League of Women Voters

Bruce Spencer

Kurt Tramposch, Wayland Wells

Non-Members in Attendance

Lexi Dewey, WSCAC staff

Andreae Downs, WAC

Steve Estes-Smargiassi, MWRA

James Guidod, MWRA Advisory Board

Lise Marx, MWRA

Daniel Moss

Ace Peckham, WSCAC staff

Lexi Dewey opened the meeting, and requested a motion to approve the minutes from WSCAC's May and September meetings. Michael Baram so moved, and Jerry Eves seconded. The minutes were approved unanimously.

Lexi then referenced a report she sent to members summarizing the September MWRA Board meeting, the Water Supply Protection Trust meeting, the Reservoir Operations meeting, and the Water Resources Commission meeting, and asked members if there were any questions. After no questions arose, she introduced Steve Estes-Smargiassi, Director of Planning and Sustainability at the MWRA.

Steve presented on America's Water Infrastructure Act (AWIA, [presentation here](#)). Initially passed in 2018, this Act added requirements for water infrastructure nationwide. After terrorist attacks such as 9/11, natural disasters such as 2005's Hurricane Katrina, and cybersecurity attacks like 2010's Stuxnet virus, the need for additional security requirements became clear. The AWIA addresses the need to mitigate vulnerability from such malicious acts and accidents, lowering risks and raising resilience of water infrastructure in the US. As Steve noted, the COVID-19 pandemic crisis highlighted the need for these steps, and demonstrated the benefits of preparedness.

The first step of the Act requires a Risk & Resiliency Assessment (RRA). Utilities are required to submit RRA certification to the Environmental Protection Agency by a specific deadline (determined by the size of the agency). Steve noted that MWRA and all utilities serving a population greater than 100,000 were given a deadline of March 31, 2020, and the smallest utilities will be turning in their assessments by June

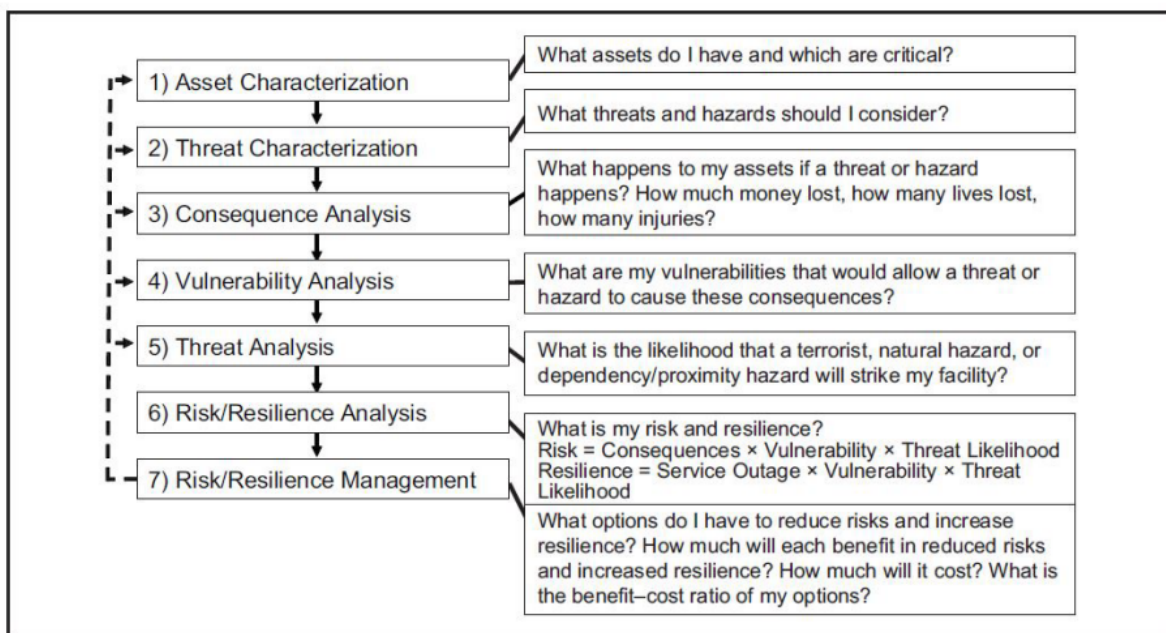
30, 2021. Once the assessment is submitted, the utility has six months to prepare or update their Emergency Response Plan (ERP), which is also submitted to the EPA. Once this is completed, utilities are required to review, update, and recertify their RRA and ERP every five years. They are also required to coordinate with local emergency planning committees.

Lexi asked whether partially supplied communities are also expected to fulfill these requirements, and Steve responded yes, noting the AWIA is considered a “self-implementing law”, which means that utilities are expected to submit their information independently. EPA offers some tools to assist in this process, but does not require a specific approach. MWRA reviewed all the available standards and manuals in developing their approach, and has included the discussion of AWIA in the training they provide to communities.

One version of how to do a RRA, referred to as RAMCAP (Risk Analysis and Management for Critical Asset Protection) or AWWA J100, is designed to be logical and documentation-heavy. Its goal is to help personnel think in a logical way, reviewing assets, characterizing threats or hazards, and analyzing possible consequences, vulnerabilities, threat likeliness, risk and resilience, before reviewing risk and resilience management (see slide below).



RAMCAP Process (AWWA J100) for RRAs



Source: ANSI/AWWA J100-10(R13)

The first step, Asset Characterization, encourages a look at the entire system, from the infrastructure itself to financial systems. Michael asked about MWRA’s dependence on public systems, such as energy and communications. Steve responded that interdependencies are included in evaluations. For example, MWRA evaluations include the need for backup power. All key facilities have a generator, and staff can dispatch a mobile generator as an additional backup. During every storm, checks are performed to ensure

they have enough chemical and fuel supplies for an outage. Staff also have satellite phones, which are checked regularly.

The second step, Threat Characterization, outlines the possible risks, including natural hazards, acts of sabotage, and dependency on suppliers or proximity to other potential targets.

Steps 3-6 involve risk calculations. If an asset were to be affected, the planners need to determine potential consequences, including the level of difficulty to detect or respond to the damage, as well as how likely it is to happen (earthquakes are a lower risk in Massachusetts, while drought is a more pressing concern). Staff then run calculations and determine the cost of building in infrastructure resilience.

Lexi asked about an ongoing condition in which Pan Am railroad runs hazardous materials over a portion of the Wachusett Reservoir. Is this part of the risk & resilience review? Steve responded that the MWRA has considered this, and emphasized that the purpose of the exercise is to review assets and threats in a systematic fashion, so as not to risk missing anything vital. He gave an example of evaluating coastal wastewater facilities, which may be damaged in a storm. When the team reviewed the data systematically, the results differed from their expectations, which allowed them to make better decisions to improve the facilities' resilience to potential damage.

Steve then explained that the MWRA RRA approach involved reviewing resources, developing teams with diverse skillsets, working with consultants to have an external set of eyes, and performing the RRA on new critical assets.

Michael asked for clarification on how the consequences and likelihood of certain events are calculated, as well as how the costs are estimated, and Steve answered that the J100 tools already have much of the work completed. For example, they start with an economic assessment of the region to start, so the regional information is embedded in the tools. Steve noted that the system is designed to make the most of both experience and statistical information.

Steve shared the timeline for MWRA to submit their RRA certification, saying that due to a rapid launch of the process, the MWRA was able to take their time and take the full sixteen months allowed to finish fully certifying.

Andrea Donlon mentioned that the rail corridor over the Wachusett reservoir, currently owned by Pan Am, is up for sale, and asked if MassDOT may have the right of first refusal on those lines. Steve responded that the topic has been discussed, and MWRA continues to communicate with the railroad on cargo. They're also preparing how to deploy any needed spill containment safely during the current pandemic.

Steve then noted that the MWRA has developed, reviewed, and updated Emergency Response Plans (ERPs) for potential situations such as earthquakes and rising sea levels, saying that creating short-term to long-term strategies for risk detection and solution is a core aspect of the AWIA purpose, as well as a focus of ongoing MWRA efforts. After the ERP is completed, it is stored in a safe and secure location, and staff is trained on the plans. A "grab and go," which contains the most immediate and salient points, is also made accessible in case of emergency. He referenced an incident in the last year in which a contractor accidentally drilled into a pipeline, and MWRA employees were able to divert the water and repair the leak rapidly.

Michael asked if the Pan Am situation is included in the MWRA's assessment, and Steve confirmed that it is. Michael noted that it is an excellent example of interdependency.

In closing, Steve pointed out that two MWRA employees who were involved in the AWIA process recently retired, emphasizing the importance of documentation, diverse teams, and clear training and transition practices.

Paul Lauenstein asked whether there is a table or chart that ranks all the risks to MWRA. Steve confirmed that there is, and that it's kept secure and unavailable to the public. He gave the example of earthquakes – each facility was built with slightly different earthquake codes, depending on the year and location, so an ERP necessitates identifying what insurance companies would review, such as whether a gas water heater is properly secured. In addition, the ERP requires documentation of how repairs or reinforcements are made, e.g. what kind of fencing is used.

Bill Fadden brought up a leaking gate at the Foss Reservoir, inquiring whether that sort of issue factors in to the assessment process. Steve responded that yes, these are considered, determining key factors such as valves for necessary shutdowns. Paul asked about a cybersecurity department at the MWRA, and Steve answered that they have staff who are knowledgeable about the topic, noting that SCADA is not connected to the internet for cybersafety purposes. Michael asked who would be responsible for mitigating a breakdown, MWRA or the local community, and Steve explained that it depends on how regional the issue is, saying that Massachusetts Emergency Management Agency is responsible for certain things (such as supplying bottled water), and the MWRA and communities work jointly whenever possible.

Steve concluded his presentation on the AWIA, and began his presentation on PFAS, viewable [here](#).

The Massachusetts Department of Environmental Protection (MassDEP) has finalized drinking water regulations for PFAS contamination. The maximum contaminant level is 20 parts/trillion for the sum of 6 PFAS compounds, which is the equivalent of 20 drops in 1,000 Olympic-sized swimming pools; these regulations are fairly aggressive compared to limits set by EPA. Other PFAS compounds will also be monitored, and the monitoring process will begin in January 2021.

The MWRA has voluntarily tested both their source water and finished water, with neither Quabbin nor Wachusett reporting levels above this limit (information and latest test results are available [here](#)). Of the MWRA-supplied water, none of the results showed levels of a quantifiable nature (some showed trace amounts, at levels too low to be quantitated). Partially-supplied communities have a wider range of results

Paul asked about the protocol for taking samples and testing, and whether it's possible to determine where PFAS came from (e.g. a particular type of manufacturing). Steve explained that PFAS are ubiquitous, everywhere from rain gear to pizza boxes, and even in the air. Sample procedures, therefore, can be complicated, as the material is often used in clothing, testing equipment, or even the faucet from which the sample was taken. Steve isn't aware of any methods to track the exact source of contamination, but common sources are firefighting foam, manufacturing plants, incinerators and landfills, and even wastewater.

Michael asked how much research has been done on PFAS, and Steve responded that much research is still in the early stages. The Massachusetts number of 20 ppt is meant to be protective of the population, but not too high a standard for communities to meet.

Janet asked whether there's been any attempt to limit PFAS by degree of need (pizza boxes vs firefighting foam), and if there's any information available to the public notifying them that product X Y or Z contains PFAS, so as to bring public awareness to the issue and reduce the consumption of PFAS-containing products. Steve responded that we're never sure whether substituting something else may be

harmful, which is one of the hurdles in replacing PFAS. More education would be welcome, but there's still not enough research. He did note that a substitute has been created for firefighting foam, and firefighters are phasing out the old foam and using the newer option.

Paul pointed out that Easton has seven wells, and two have PFAS above the standard. The town is already offering rebates to residents so they can put filters on their taps, and they're building a filtration facility (which is very expensive). Steve confirmed that this scenario may occur in many towns as more testing is done.

Lexi thanked Steve for his presentations, and shared a quick update from James Guiod of the MWRA Advisory Board. James noted that the Board is pleased to announce that Matt Romero will be returning to staff shortly, and that the 2020 Advisory Board Water and Sewer Retail Rate Survey is currently out and open for responses; preliminary findings will be reported at the November 2020 Advisory Board meeting. Watershed staffing continues to be a priority on the Advisory Board's radar screen, as adequate watershed operations and staffing is vital to clean and safe drinking water.

The meeting was adjourned.

**WSCAC will next meet jointly with WAC on November 6, 2020, at 10:30 am via Zoom.
Please visit [our website](#) for more information on this meeting.**