TIP No. 31-111-0720

AMERICA'S WATER INFRASTRUCTURE ACT OF 2018
SUMMARY OF TITLE II—DRINKING WATER SYSTEM IMPROVEMENT
SECTION 1433. COMMUNITY WATER SYSTEM RISK AND RESILIENCE

BACKGROUND

The America's Water Infrastructure Act of 2018 (AWIA) addresses the evaluation and reporting of many facets of infrastructure encompassing storm water, wastewater, and hydropower/ energy, as well as drinking water, and the means to fund such evaluations. The Act was unanimously passed by Congress and signed into Law by the President on October 23, 2018. This document focuses on Section 1433, *Community Water System Risk and Resilience.* The requirements addressing the assessment of the risk and resilience of Community Water Systems within Department of the Army (DA) will be discussed.

ASSESSMENT OF RISK AT ARMY INSTALLATIONS

Currently within the DA, each installation is assessed for potential concerns and vulnerabilities every 3 years by Public Health Command (PHC) regions and/or U.S. Army Public Health Center (APHC) personnel. This process initiated with the promulgation of the Bioterrorism Act of 2002, which called for a one-time assessment of all Community Water Systems (CWSs) serving greater than 3,300 persons. Following this initial screening, several policies published by the Department of Defense (DOD) and DA subsequently required the assessment of all installation water systems. The Antiterrorism Standards, established by Department of Defense Instruction (DoDI) 2000.16 and by DA in Army Regulation (AR) 525-13, mandated the assessment of this critical infrastructure every 3 years; this assessment coincided with the Higher Headquarters Assessments performed by the U.S. Army Installation Management Command (IMCOM) or U.S. Army Materiel Command (AMC), as the "owners" of the installations. AR 525-13 specifies that The Surgeon General (TSG) will provide the technical resources to assist the Installation Commanders to assess water supply systems. The Water System Vulnerability Assessments (WSVAs) were initially developed to evaluate water system's vulnerability to intentional destruction or contamination resulting from terrorist activities. These assessments quickly expanded and transformed to identify and toughen water systems from any action that may disrupt the system and adversely affect the missions of the installations. These "all-hazards" assessments address incidents, which are caused by human actions, natural hazards, technological concerns, age and condition of equipment, and operation and maintenance status. The WSVAs, when completed, are the property of the respective installations and are provided to the Installation Anti-Terrorism Officer (ATO) to maintain and distribute. The Major Commands (MACOMs) check to ensure they have been accomplished but do not track the findings or recommendations provided in the WSVAs.

RISK ASSESSMENT PER THE AWIA OF 2018

The new AWIA of 2018 reinforces many of the concepts delineated in the WSVA program. It currently calls for each CWS serving a population of greater than 3,300 to conduct a detailed assessment of potential risks to the potable water system, and to identify steps to facilitate its resilience to such risks. The AWIA specifically calls for an assessment of—

(1) The risk of the system from malevolent acts and natural hazards;
(2) The resilience of pipes and constructed conveyances, physical barriers, source water, water collection and intakes, pretreatment, treatment, storage and distribution facilities, electronic, computer, or other automated systems (including the security of such systems);
(3) The monitoring practices of the system;
(4) The financial infrastructure of the system;
(5) The use, storage, or handling of various chemicals by the system; and
(6) The operation and maintenance of the system.

The WSVAs currently performed address all aspects identified above, with the exception of (3) and (4). It is the responsibility of the Environmental Coordinator and water purveyor at each installation to ensure that compliance monitoring for the CWS is accomplished to meet the respective state and Federal requirements. The data are submitted to the primacy regulatory agencies for scrutiny and approval. The local water purveyor and Public Health Program assists in reviewing this data and monitoring operational data within the water systems. Regarding item (4), considerations of financial support are not generally addressed for Federal facilities. Fiscal support for Federal regulatory requirements, such as this, are deemed to be part of the necessary operation and maintenance of the facility and are incorporated in the facility's programmed budget. Our WSVA reports do not encompass fiscal considerations. Therefore, the Installation Commander controls their local budget, and it is assumed that they will do what is necessary to maintain the integrity of the water system.

The owner/operator of each CWS should consult with appropriate departments and agencies of local, state, and Federal governments to obtain baseline information regarding malevolent acts, which may substantially disrupt the ability of the systems. Anything which precludes a safe and reliable supply of drinking water or presents significant public health or economic concerns to a community served by the water system poses a concern. Certification that such assessments of water system risk and resilience must be submitted to the Environmental Protection Agency (EPA) Administrator based on the populations served, as follows:

(1) By March 31, 2020 for systems serving a population of 100,000 or more.
(2) By December 31, 2020 for systems serving a population of 50,000 or more but less than 100,000.
(3) By June 30, 2021 for systems serving a population greater than 3,300 but less than 50,000.

Most DA installations will fall within this latter category, serving between 3,300 and 50,000 people. However, a considerable number of installation water systems servie populations less than 3,300 persons and will not be addressed by the current Infrastructure Act of 2018. Similar

to what occurred after the promulgation of the Bioterrorism Act of 2002, subsequent DOD and DA policy may expand this requirement to encompass all installations. However, the current Act of 2018 states that no local, state, or regional government entity must receive copies of this certification. It is unknown if DA or the Federal government will expand this requirement in the future. For the Army, much of this information is already assessed through the current WSVA program. The AWIA requires each CWS to submit certification for an assessment of risk regarding the water supply system every 5 years after the prescribed initial deadline. The CWS shall submit to the USPA Administrator a certification that the system has reviewed and/or revised its assessment of potential risks. The certification submitted contains only—

(1) Information that identifies the CWS submitting the certification;
(2) The date of the certification; and
(3) A statement that the CWS has been conducted, reviewed, and revised as applicable.

Currently, within the WSVA program, the assessment of risks/vulnerabilities are completed every 3 years at each installation within the Army. The installation personnel identified to be responsible for submitting this certification to the USEPA Administrator may take the information provided in the latest WSVA (which would be considered the assessment of water supply risk) and submit the appropriate certification to the EPA. Authorities knowledgeable of utility operations - e.g., the Department of Public Works (DPW) Operations and Maintenance (O&M) Chief – would be a likely consideration to serve as the individual to provide such certification.

WATER SYSTEM EMERGENCY RESPONSE PLAN

DoDI 2000.16 and AR 525-13 call for the development of a Water System Emergency Response Plan (WSERP). This plan describes the actions necessary to provide alternative water supplies and/or return from emergency operations within a water system to normal operations as quickly as possible. Despite these requirements and previous Army guidelines, a number of installations have failed to develop a truly viable and comprehensive WSERP.

Such requirements have never been depicted in a legal standard previously. The AWIA mandates that CWSs serving at least 3,300 persons must prepare or revise an emergency response plan, as necessary, that addressing all findings of the assessments and revisions conducted to comply with this Act. Each system shall certify, to the USEPA Administrator within 6 months after completion and notification of the risk assessment, that such a plan has been completed. The emergency response plan shall include:

(1) Strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system.
(2) Plans and procedures that can be implemented, and identification of equipment that can be utilized in the event of a malevolent act or natural hazard that threatens the ability of the CWS to deliver safe drinking water.
(3) Actions, procedures, and equipment, which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals, including developing alternative

source water options, relocation of water intakes, and construction of flood protection barriers.

(4) Strategies that can be used to aid in detecting malevolent acts or natural hazards that threaten the security or resilience of the system.

[Note: The following are definitions for the terms within this Act:
Malevolent act refers to any action to destroy or incapacitate structures or equipment, intentionally contaminate, or disrupt the operation of a water supply system.
Resilience means the ability of a CWS or an asset of a CWS to adapt to or withstand the effects of a malevolent act or natural hazard without interruption to the asset's or system's function, or if the function is interrupted, to rapidly return to a normal operating condition.
Natural hazard means a natural event that threatens the functioning of a CWS, including an earthquake, tornado, flood, hurricane, wildfire, and hydrologic changes.]

Installations must develop the requisite WSERPs to address the "resilience" aspect of their water systems, as dictated in the AWIA. Significant guidance has been offered by USEPA and the American Water Works Association to develop comprehensive plans for emergency management of water supplies. The WSERP describes the strategies, resources, plans, and procedures to prepare for and respond to any incident described in the risk assessment. The plan should be understood by all stakeholders and address any specific situations considered likely for that site.

PLAN CERTIFICATION

The WSERP, or resilience plan, should be accomplished within 6 months of the vulnerability/risk assessment certification. Both submissions can be accomplished via email, regular mail, or electronically to the EPA Administrator. EPA prefers the latter method. [Note: Submission methods use the Public Water Service Identification Number issued by the EPA and is registered in the EPA Data Process Center in Fairfax, Virginia.] An individual with oversight of the water systems operation and maintenance should provide this certification to the EPA. The DPW O&M Chiefs have been identified by IMCOM as a good source for this responsibility (as mentioned above). Although a definitive answer has not yet been determined, this individual should understand the water system operations and is in a position to represent the Installation Command. Until determined otherwise, this individual should take responsibility for submitting the certifications to EPA, as defined in the AWIA, until an alternative designee is identified by IMCOM or DA. Templates and guidance for these certification letters are provided by the EPA. The certification statements should be submitted to the EPA but not risk assessment and WSERP documents. Each CWS shall maintain a copy of the assessments conducted and the emergency response plans (including any revised assessments or plans) for a minimum of 5 years after the date on which a certification is submitted to the EPA Administrator. Also, note that such certifications are submitted directly to the EPA administrator and not to the respective state director of the primacy regulatory agency.

AWIA SUMMARY

There are no installations within the Army serving populations greater than 100,000 people; therefore, precluding the need to meet the earliest requirements. However, there are a few IMCOM installations that would fall into the second category—serving between 50,000 and 100,000 people. The date of required compliance for these installations will be 31 December 2020. Most installations will fit in the last category—serving between 3,300 and 50,000 personnel—and must be in compliance by 30 June 2021. IMCOM and DPW authorities will ensure that the assessments and plans have been completed and will submit the requisite certification letters to the EPA Administrator. To attain and provide certification, the authorities responsible will need to work with the ATO, Emergency Management, water purveyor, and Public Health Program personnel to ensure that the most recent WSVA sufficiently addresses the possible risks/vulnerabilities of their installation. The certification process should be performed electronically to provide rapid communication and notification between parties. Ensuring that a suitable WSERP is in place for each location may be more difficult. Installations may address this requirement via multiple methods (e.g., internally, via qualified contractor support, or through reimbursed support provided by PHC personnel). Once the O&M Chiefs, in consonance with the ATO, local Emergency Management, water purveyor, and Public Health Program authorities agree that this plan would meet the needs of the installation, the second certification may be submitted.

APHC/PHC SUPPORT

The APHC and members of the PHCs have been coordinating with the authorities from IMCOM and AMC to discern the appropriate approach to address AWIA compliance. The principles of this Act do not impact AMC, as there are no CWSs at AMC installations that serve populations sufficient to qualify for these requirements. The performance of the WSVAs will continue as before, on a 3-year cycle. This remains consistent at the request of the IMCOM and AMC authorities and the approval of MEDCOM and TSG. Efforts will be made to enhance certain aspects of the WSVA and to ensure compliance with the requirements identified by the AWIA. For example, the status of chemical handling and overall system monitoring/compliance should be addressed. Further, the certification of operations and maintenance personnel will be better identified. Financial obligations are not so critical for military installations, as identified in the general AWIA. Water supply systems are a critical infrastructure for military installations and are incorporated into the installation's O&M funding base. The Installation Commander may reassign portions of this funding should emergency circumstances dictate. However, the basic need to ensure this system is operated and maintained adequately is assured by Congress. A significant aspect of the WSVA involves the review and coordination with the installation WSERP. The PHC personnel do not currently have a defined mission to provide a WSERP for installations. However, they can provide this assistance on a reimbursable basis for installations upon request. APHC/PHC personnel may also provide a critical technical review of such documents to ensure technical and Public Health support, if requested.

FURTHER INFORMATION

Additional information regarding the assessment of risks to water supply systems at Army installations may be obtained by contacting the PHC Regional office responsible for the installation(s) in question. The individuals who served as project officers during the last WSVA would be a good point of contact. Further guidance or information may be obtained by contacting the Garrison Water Branch, APHC, at 410-436-2509.