**VOLUME 16**

**"DRINKING WATER SYSTEMS AND WATER CONSERVATION"**

**SUMMARY OF VOLUME 16 CHANGES**

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# VOLUME 16: DRINKING WATER SYSTEMS AND WATER CONSERVATION

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## REFERENCES

(a) Sections 300f et seq. of Title 42, United States Code (42 U.S.C. 300f et seq.) (also known as "Safe Drinking Water Act")
(b) 42 U.S.C. 201 et seq.
(c) Public Law 107-188, "Public Health Security and Bioterrorism Preparedness and Response Act of 2002," June 12, 2002
(d) Public Law 104-182, "Safe Drinking Water Act Amendments of 1996," August 6, 1996
(e) Part 141 of Tile 40, Code of Federal Regulations (40 CFR 141)
(f) Page 74233 of Volume 68, Federal Register, December 23, 2003 (68 FR 74233)
(g) SECNAV M-5210.1, "Department of the Navy Records Management Manual," January 2012
(h) 40 CFR 143
(i) 40 CFR 144
(j) 40 CFR 149
(k) EPA Office of Ground Water and Drinking Water Website "Designated Sole Source Aquifers – Nationally: Fact Sheet with designated Aquifers and Pending Petitions Listed, http://www.epa.gov/region6/water/swp/ssa/index.htm
(l) Executive Order (E.O.) 13693, "Planning for Federal Sustainability in the Next Decade," March 19, 2015
(m) Deputy Under Secretary of Defense (DUSD) Memorandum, "Fluoridation at DoD Owned or Operated Potable Water Treatment Plants," March 18, 2013
(n) American Water Works Association Manual of Standard Practices, "Emergency Planning for Water Utility Management," Manual Number M19, Fourth Edition, 2001
(o) Naval Facilities Engineering Service Center, "Cross-Connection Control and Backflow Prevention Program Implementation at Navy Shore Facilities," May 1998
(p) EPA, "Cross Connection Control Manual," 816-R-03-002, February 2003
(q) Council on Environmental Quality, "Instructions for Implementing E.O. 13693: Planning for Federal Sustainability in the Next Decade," June 10, 2015
(r) DUSD Memorandum, "Perchlorate Release Management Policy," April 22, 2009
(s) MCICOM Policy Letter 2-14
(t) Navy, "Navy Medicine Enterprise Nursing Procedures Manual," June 2013
(u) EPA, "Lead in Drinking Water in Schools and Non-Residential Buildings," EPA/812-B-94-002, April 1994
(v) NAVFAC, "Guidance for Sampling Water Coolers," May 1998
(w) EPA, "3Ts for Reducing Lead in Drinking Water in Child Care Facilities: Revised Technical Guidance," December 2005
(x) EPA, "3Ts for Reducing Lead in Drinking Water in Schools Revised Technical Guidance," October 2006
(y) U.S. Navy Bureau of Medicine and Surgery (BUMED) Instruction 6240.10A, "Standards for Potable Water," July 19, 1999
(z) 40 CFR 261

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**VOLUME 16: CHAPTER 1**

**"SCOPE"**

**SUMMARY OF SUBSTANTIVE CHANGES**

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# CHAPTER 1

# SCOPE

## 0101 PURPOSE

This Volume establishes U.S. Marine Corps (USMC) policy and responsibilities for compliance with statutory requirements for the protection and conservation of drinking water and irrigation water resources.

## 0102 APPLICABILITY

See Volume 1 paragraph 0102.

## 0103 BACKGROUND

Congress first enacted Sections 300f et seq. of Title 42, United States Code (42 U.S.C. 300f et seq.) (also known and referred to in this Order as "Safe Drinking Water Act") (Reference (a)) in 1974 as an amendment to 42 U.S.C. 201 et seq. (Reference (b)). Significant revisions to Reference (a) were enacted in 1986 and 1996. Pursuant to Reference (a), the U.S. Environmental Protection Agency (EPA) sets federal standards for public water systems (PWSs) to provide safe drinking water to its consumers. In addition, Reference (a) protects drinking water sources via Source Water Protection (SWP) (which includes wellhead and surface water protection) and Underground Injection Control (UIC) Program requirements. In 2002, Reference (a) was amended by Public Law 107-188 (Reference (c)) to require certain PWSs to perform Vulnerability Assessments (VAs) and prepare or update Emergency Response Plans (ERPs). States and local authorities may also dictate drinking water standards that can be more stringent than federal requirements. The Navy and the Department of Defense (DoD) set drinking water policies that may apply to Marine Corps water systems. The 1996 amendments to Reference (a) waived sovereign immunity for the payment of fines and penalties imposed by federal, state, or local agencies for violations (Public Law 104-182, "Safe Drinking Water Act Amendments of 1996" (Reference (d))). Additionally, EPA may assess administrative penalties of up to $25,000 per day per Safe Drinking Water Act (SDWA) violation.

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**VOLUME 16: CHAPTER 2**

**"AUTHORITY"**

**SUMMARY OF SUBSTANTIVE CHANGES**

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# CHAPTER 2

## AUTHORITY

0201 GENERAL

The following laws, regulations, and Executive Orders (E.O.s) contain provisions that pertain to the restoration, maintenance, and protection of the nation's waters.

0202 FEDERAL STATUTES

020201. SDWA of 1974, as Amended in 1986 and 1996 (42 U.S.C. §§300(f) 300(j)).

020202. Energy Policy Act (EPACT) of 1992 (Public Law 102-486).

020203. Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-188).

0203 FEDERAL REGULATIONS

020301. Title 40, Code of Federal Regulations, Part 141 (40 CFR 141), National Primary Drinking Water Regulations (NPDWR).

A. Arsenic Rule (40 CFR 141.23, 141.24, 141.62).

B. Radionuclides Rule (40 CFR 141.25, 141.66).

C. Surface Water Treatment Rule (40 CFR 141.70 – 141.75).

D. Total Coliform Rule (40 CFR 141.21, 141.63).

E. Interim Enhanced Surface Water Treatment Rule (40 CFR 141.203).

F. Stage 2 Disinfectants and DBPs (D/DBP) Rule (40 CFR 141.620).

G. Filter Backwash Recycling Rule (40 CFR 141.76).

H. Long-Term 1 Enhanced Surface Water Treatment Rule (ESWTR) (40 CFR 141.500 – 141.553).

I. Long-Term 2 ESWTR (40 CFR 141.710 – 141.720).

J. Stage 2 D/DBP Rule (40 CFR 141.620 – 141.629).

K. Ground Water Rule (40 CFR 141.400 – 141.405).

L. Radon Proposed Rule (40 CFR 141.25, 141.66).

M. Lead and Copper Rule (LCR) (40 CFR 141.80 – 141.91).

N. Unregulated Contaminant Monitoring Rule (40 CFR 141.35).

O. Public Notification Rule (40 CFR 141.201 – 141.211).

020302. 40 CFR 149 (Sole Source Aquifers).

0204 EXECUTIVE ORDERS

E.O. 13693, "Planning for Federal Sustainability in the Next Decade," March 19, 2015.

**VOLUME 16: CHAPTER 3**

**"REQUIREMENTS"**

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# CHAPTER 3

## REQUIREMENTS

0301 GENERAL

Marine Corps installations will comply with all applicable federal, state, and local drinking water laws, regulations, E.O.s and Marine Corps, Navy, and DoD policies. Federal, state, and local drinking water requirements generally apply to PWSs but do not apply to non-PWSs. A PWS is a system that provides piped water for human consumption and 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. A PWS can be further classified as a community water system (CWS), nontransient noncommunity water system (NTNCWS), or transient noncommunity water system (TNCWS) (see Figure 3-1). SDWA requirements for a PWS are dependent on system classification, population served by the system, and/or source water type (i.e., ground water, surface water, or ground water under the direct influence of surface water). EPA sets primary drinking water standards known as National Primary Drinking Water Regulations (NPDWRs) for PWSs.

030101. These NPDWRs apply to most Marine Corps PWSs with the exception of consecutive PWSs that meet all of the following four criteria (section 3 of Part 141 of Tile 40, Code of Federal Regulations (40 CFR 141) (Reference (e))):

A. Consists of distribution and storage facilities (and does not have any collection and treatment facilities) only.

B. Obtains all of its water from, but is not owned or operated by, a PWS subject to Reference (e).

C. Does not sell water to any person.

D. Is not a carrier that conveys passengers in interstate commerce.

030102. Although consecutive PWSs are not subject to Reference (e), states may establish monitoring requirements for these systems (see section 29 in Reference (e)). Marine Corps PWSs and activities shall also meet other applicable SDWA requirements, including those for UIC, SWP, and VAs/ERPs.

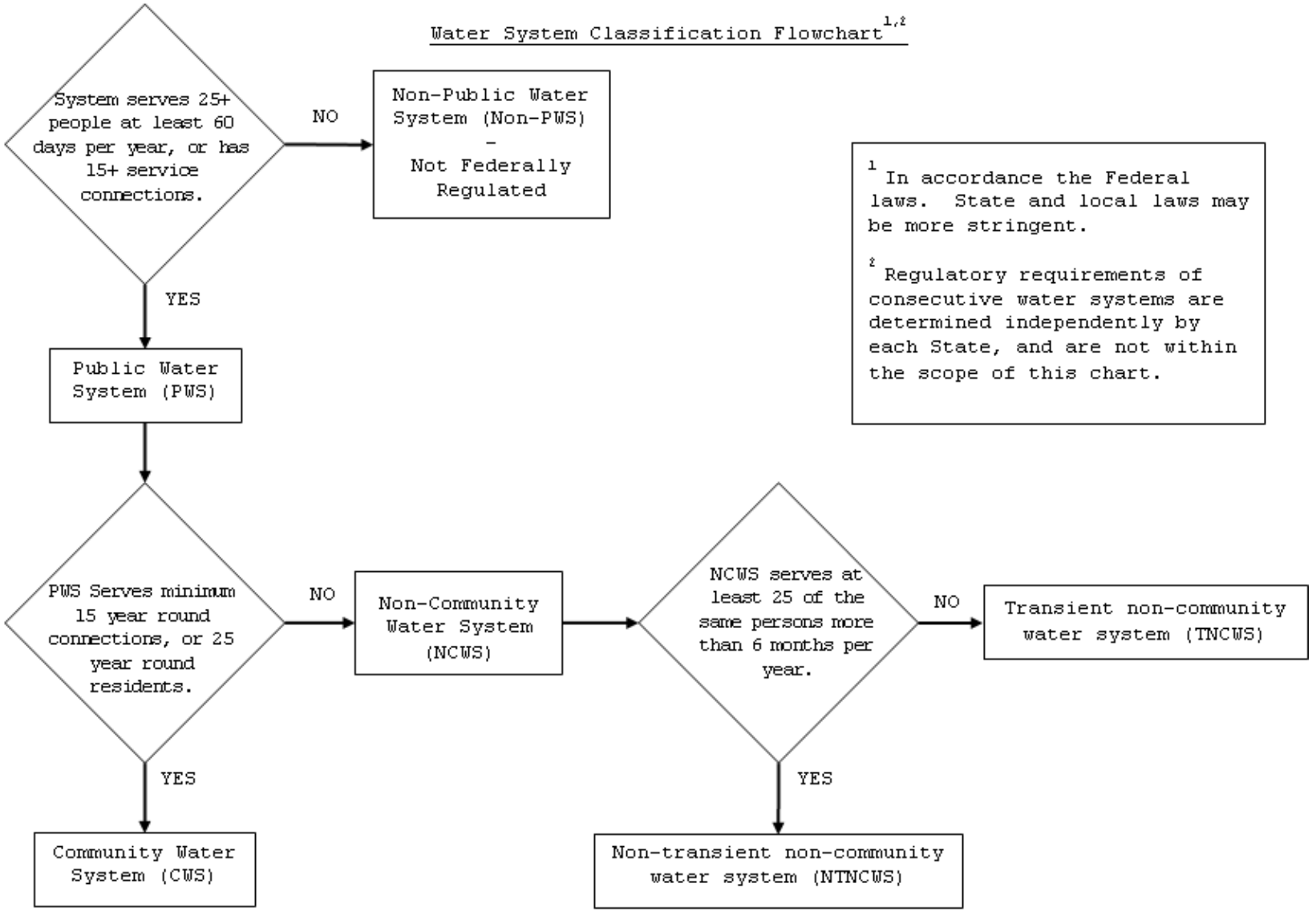


Figure 3-1.--Water System Classification Flowchart

030103. Installations that purchase water from a PWS and subsequently distribute it to onsite activities or to any person or entity outside the community may be subject to Reference (e). Contact the primacy agency to determine whether compliance with all or part of Reference (e) is required. Refer to Page 74233 of Volume 68, Federal Register, December 23, 2003 (68 FR 74233) (Reference (f)). Installations that rechlorinate or fluoridate water purchased from a PWS may be considered to be operating a treatment process and may be required to comply with Reference (e). To avoid having to comply with all provisions of Reference (e) except with those pertaining to microbiological contaminants, coliform monitoring, and disinfection or fluoride monitoring, the installation should request an exemption from the State. Marine Corps installations that qualify for an exemption from PWS permitting should apply, in writing, to the primacy agency for an exemption. In some cases, regulators may inappropriately issue a permit when it is not required.

030104. The use of a regional or municipal public water supply will be the preferred drinking water supply method whenever an analysis of life-cycle costs and environmental impacts indicates that the use of such supply is more beneficial, economically and environmentally, than constructing, upgrading, and operating a water collection and treatment facility. Economic components used in the analysis should include any capital cost contributions to the municipality for a prorated share of system capacity; continuing user fees and surcharges; treatment costs; and Marine Corps facility capital, operation, and maintenance costs (including expenses for permit fees; monitoring; utilities; equipment repair and replacement; solids handling and disposal; chemical usage; and personnel staffing, training, and certification). The environmental analysis should include surface water and ground water quality and quantity issues; threatened and endangered species impacts; and archaeological, cultural, and natural resources issues.

030105. The development, expansion, and operation of Marine Corps-owned drinking water collection, treatment, storage, and distribution facilities are authorized whenever a municipal system or other alternatives are not available or cost-effective.

## 0302 CONSUMER CONFIDENCE REPORTS (CCRS)

### 030201. General

Subpart O of Reference (e) requires CWSs to prepare and provide to their consumers annual reports on the quality of the water delivered by the system. The reports shall be delivered by July 1 each year and contain data collected during, or prior to, the previous calendar year. Copies of CCRs and UCMR data should be submitted to HQMC via EM Portal by August 15. CGs/COs of Marine Corps installations and COMMARFORRES are responsible for submitting annual CCRs to consumers and providing a copy to CMC (LF)/MCICOM (GF). CCR requirements, including report contents, health effects language for certain contaminants, and delivery requirements, are outlined in sections 151-155 in Reference (e).

### 030202. Consecutive Community Water System (CWSs)

Marine Corps consecutive CWSs shall obtain a copy of their water supplier's CCR and amend this report with information on any additional testing or exceedances and then distribute to consumers. The reports shall be delivered by July 1 each year and contain data collected during, or prior to, the previous calendar year. CCR requirements, including report contents, health effects

language for certain contaminants, and delivery requirements, are outlined in sections 151-155 in Reference (e).

0303 REPORTING

Reference (e) requires PWSs to report to the State, all required testing and analytical results within the shorter of the time frames below (section 31 of Reference (e)). Section 90 of Reference (e) specifies the following reporting requirements for lead and copper:

030301. The first 10 days following the month in which the result is received.

030302. Within the first 10 days following the end of the required monitoring period, as stipulated by the State.

0304 RECORDKEEPING

Marine Corps installations shall maintain records as follows:

030401. Bacteriological results – 5 years, pursuant to Standard Subject Identification Code (SSIC) 5090.1a in SECNAV M-5210.1 (Reference (g)).

030402. Chemical results – 10 years, pursuant to SSIC 5090.1b in Reference (g).

030403. Lead/Copper testing results – 12 years, pursuant to SSIC 5090.5 in Reference (g). Marine Corps installations shall provide copies of required records to EPA or the State in accordance with applicable regulations.

030404. Actions taken to correct violations – pursuant to SSIC 5090.4 in Reference (g).

030405. Sanitary Survey reports – pursuant to SSIC 5090.4 in Reference (g).

030406. Variance or exemption records – pursuant to SSIC 5090.4 in Reference (g).

030407. Water treatment plant and/or distribution system operating records – pursuant to SSIC 5090.4 in Reference (g).

030408. Cross-connection inspection records – pursuant to SSIC 5090.4 in Reference (g).

030409. CCRs – pursuant to SSIC 5090.4 in Reference (g).

030410. Copies of public notices issued and certifications of notices – records mentioned in paragraph 16104.2a(11)(c) through (f) shall also be retained in accordance with SSIC 5090.4 in Reference (g).

0305 USE OF NON-CENTRALIZED TREATMENT DEVICES

Subpart J of Reference (e) specifies the criteria and procedures that PWSs shall comply with before they can use point-of-entry treatment devices to achieve compliance with any maximum contaminant level (MCL). Subpart J also prohibits PWSs from using bottled water to achieve compliance with any MCL. Bottled water may be used only on a temporary basis to avoid an unreasonable risk to human health.

0306 NATIONAL SECONDARY DRINKING WATER REGULATIONS (NSDWRS)

40 CFR 143 (Reference (h)) establishes secondary MCLs and monitoring requirements for contaminants that may affect the taste, odor, or appearance of drinking water. These regulations are not federally enforceable, but are intended as guidelines for states that may promulgate their own regulations. Each Marine Corps installation should contact their respective state to determine whether the State has enforceable secondary MCLs. If the State enforces Reference (h), then Marine Corps activities shall comply. A table listing all NSDWR contaminants and standards can be viewed on the EPA website.

0307 UNDERGROUND INJECTION CONTROL (UIC) PROGRAM

The UIC Program controls the injection of wastes via a UIC well into ground water. An injection well is a bored, drilled, or driven shaft; a dug hole; or an improved sinkhole that is deeper than it is wide and is used to emplace fluids beneath the earth's surface.

030701. There are six classes of UIC wells covered under the UIC Program. A description of these well classes can be found on the EPA website. Class V wells are the types most commonly found at Marine Corps installations. Examples of Class V wells include certain septic system wells and cesspools, storm drainage wells, dry wells used for waste disposal, and heat pump wells used to circulate ground water for heating office buildings. These types of wells are generally authorized by rule (section 24 of 40 CFR 144 (Reference (i))), provided that Marine Corps installations submit inventory information and comply with all other applicable UIC conditions (section 84 of Reference (i)). However, all Class V large-capacity cesspools (serving 20 or more people per day) and Class V motor vehicle waste disposal wells in a ground water protection area or sensitive ground water area are banned.

030702. Marine Corps installations shall not operate or inject fluids into Class I, II, III, or IV injection wells. Marine Corps installations shall properly close all class V injection wells which are not essential to mission requirements in order to eliminate potential sources of ground water contamination and prevent illicit disposal of Hazardous Substances.

030703. Federal requirements prohibit any underground injection of fluids except as authorized by permit or rule issued in accordance with the UIC Program (section 11 of Reference (i)). UIC regulations also prohibit owners or operators from constructing, operating, maintaining, converting, plugging, abandoning, or conducting any injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any NPDWR or adversely affect human health (section 12 of Reference (i)). Generally, the new construction of a Class IV (Hazardous Waste)

(HW) well is prohibited and any increase in the amount of HW or change in HW type injected into an existing Class IV well is prohibited (section 13 of Reference (i)).

## 0308 SOLE SOURCE AQUIFER DESIGNATION (40 CFR 149 (REFERENCE (J))

Part 149 provides the criteria for identifying and designating critical aquifer protection areas. All federal projects proposed on a designated sole source aquifer area are subject to EPA review to ensure that these projects do not result in, or contribute to, conditions which would create a significant hazard to public health (see EPA Office of Ground Water and Drinking Water Website (Reference (k))).

## 0309 STATUTORY AND EXECUTIVE ORDER (E.O.) REQUIREMENTS

### 030901. Water Conservation Program

A. The EPACT requires federal agencies to install in government-owned buildings water conservation measures with payback periods of less than 10 years. Consequently, Marine Corps installations shall include these measures in the designs of all quarters and building military construction, repair, and rehabilitation projects.

B. E.O. 13693 (Reference (l)) requires federal agencies to reduce water consumption intensity through life-cycle cost-effective measures by 2 percent annually through the end of FY 2015 or 16 percent between FYs 2008 and 2015.

### 030902. Operator Certification

Reference (d) requires states to develop operator certification programs (section 300g-8 of Reference (a)). Specifically, these programs shall establish minimum standards for certification and re-certification of CWS and NTNCWS operators.

### 030903. Water System Vulnerability Assessments (Vas) and Emergency Response Plans (ERPs)

DoD policy requires all Marine Corps drinking water systems serving more than 25 consumers to complete an initial VA and ERP. Systems subject to this requirement include consecutive and unregulated systems in the U.S. and its possessions and territories, and small community and non-community PWSs in the U.S. and its possessions and territories that produce water or are provided water by a local supplier. All Marine Corps PWSs shall, at a minimum, address the assessment areas established pursuant to section 401 of Reference (c), as follows:

A. Pipes and constructed conveyances.

B. Physical barriers.

C. Water collection, pretreatment, treatment, storage, and distribution facilities.

D. Electronic, computer, or other automated systems that are utilized by the PWS.

E. Use, storage, or handling of various chemicals.

F. Operation and maintenance of the system.

030904. Source Water Protection (SWP)

Reference (d) requires states to submit source water assessment programs (SWAPs) to EPA for approval (section 300j-13 in Reference (a)). A state SWAP delineates SWP areas, inventories significant contaminants in these areas, and determines the susceptibility of each public water supply to contamination. Prior to Reference (d), states were required to develop wellhead protection (WHP) programs to protect wellhead areas from contamination (section 300h-7 in Reference (a)). The WHP program may be used as a basis for the state SWAP (section 300j-13 in Reference (a)). A state may require a Marine Corps PWS that uses ground water to develop its own WHP area to protect ground water supply. Section 1428(h) of Reference (a) requires all federal agencies having jurisdiction over any potential source of contaminants identified by a state WHP program to comply with all requirements of the state and local programs.

0310 MONITORING

031001. Exemptions

Marine Corps installations that own and operate a consecutive PWS subject to full or partial exemption from regulatory monitoring requirements pursuant to Reference (e), sections 3 or 29, respectively, should submit a letter to the primacy agency explaining the degree to which exemption criteria are applicable and request the exact requirements to be imposed on the consecutive PWS. The primacy agency's response letter shall be permanently retained in Marine Corps files.

031002. Monitoring

Marine Corps PWSs will, at a minimum, accomplish the monitoring described below. This monitoring is required regardless of variance or exemptions from regulatory monitoring requirements.

A. Bacteriological Monitoring

Marine Corps PWSs shall perform bacteriological monitoring as specified in the Total Coliform Rule (section 21 of Reference (e)). The use of EPA-approved kits by training personnel is acceptable for total coliform analyses. However, if a sample tests positive, follow up analysis shall be accomplished using an EPA- or state-certified laboratory.

B. Asbestos

All Marine Corps drinking water systems with asbestos cement pipes shall monitor for asbestos. At a minimum, one sample shall be taken every 3 years.

C. Lead and Copper in Water Systems

Marine Corps consecutive PWSs that serve family housing and were not included in the primary system sampling pool (at the time the primary system performed LCR monitoring) for lead and copper shall sample for lead and copper. Installations shall ensure the number and location of samples are sufficient to be representative of the system and in conformance with LCR procedures. This requirement can be waived if Marine Corps installations operating consecutive PWSs document that their water supplier passed its LCR monitoring and that the water being supplied to them is noncorrosive. A formal waiver does not need to be submitted, but documentation shall be maintained in drinking water program records.

D. Review of Primary Public Water System (PWS) Records

Marine Corps consecutive PWSs shall, at least once a year, review the monitoring reports of the primary PWS. Installations shall use these reports, and other sources of information, to determine the risk of water quality deterioration within the distribution system. Installations shall ensure that water quality has not degraded above the MCL for parameters within the distribution system.

E. Fluoridated Water

Per the Deputy Under Secretary of Defense (DUSD) Memorandum, "Fluoridation at DoD Owned or Operated Potable Water Treatment Plants," March 18, 2013 (Reference (m)), Marine Corps installations that own or operate a potable water treatment facility serving 3,300 persons or more shall provide optimally fluoridated water beginning in FY 2016 as recommended by the Centers for Disease Control and Protection. Fluoridation shall be required in future potable water treatment plant privatizations. Existing privatized potable water treatment plants will incorporate the fluoridation requirements as opportunities become available.

## 0311 SANITARY SURVEYS

In many instances, a state may require treatment plants or PWSs that are experiencing compliance problems, particularly with microbial pathogens, to perform a sanitary survey. The state regulatory agency will usually perform the survey. If the State allows, the installation can use a service provider of choice to complete the survey. In the absence of a state requirement, all Marine Corps PWSs shall perform a sanitary survey every five years.

### 031101. Survey Requirements

For treatment plants, the survey should include the following:

A. Verification and re-evaluation of VAs, watershed protection programs, and WHPs, as applicable.

B. Examination of the source water physical components and condition.

C. Schematic diagrams of the treatment process and examination and evaluation of the adequacy and appropriateness of all elements of the current treatment process, including an assessment of operational flows versus treatment process rated capacity and, where appropriate, CT assessment (CT is defined in section 2 of Reference (e)).

D. Examination and evaluation of the operation and maintenance of the treatment facility, including the condition and reliability of equipment, operator qualifications, use of approved chemicals, recordkeeping, process control, and safety programs.

E. Evaluation of the ability of the treatment plant to respond to changes in raw water fluctuations.

F. Evaluation of the treatment plant's emergency power supply and security measures.

031102. Distribution System Sanitary Survey Review

The sanitary survey for the distribution system should include a review of the operations and maintenance program to address the following areas of concern:

A. Elimination of unneeded or excess storage.

B. Adequate turnover of storage tanks.

C. Storage tank cleaning and maintenance.

D. Adequate disinfection practices during all main repairs and replacement.

E. If applicable, an effective corrosion control program.

F. A comprehensive cross-connection control program.

G. An aggressive valve and hydrant exercise program.

H. An adequate water quality monitoring program that achieves compliance with the appropriate regulations and provides for effective water quality control.

I. An adequate flushing program, preferably a unidirectional flushing program that is implemented on a yearly basis.

0312 OPERATION AND MAINTENANCE

Marine Corps installations that own and/or operate water systems (public and nonpublic, permitted and non-permitted) shall develop and implement an operation and maintenance program. Minimum requirements of the program are to meet the requirements of section 63(d)(3) in Reference (e), and include the proper implementation and documentation of:

031201. Emergency and preventive maintenance.

031202. System disinfection after maintenance work is performed.

031203. Scheduled flushing of the system.

031204. Reduction of water quality problems, as needed.

031205. Implementation and documentation of a valve and hydrant exercise and maintenance program.

031206. Proper operation and maintenance of storage tanks.

031207. Maintenance of current water distribution maps.

031208. Documentation of location and dates of water line breakage.

031209. Documentation of emergency operations procedures required as a result of events such as earthquakes, hurricanes, chemical releases, and terrorist activities.

031210. Determination of response roles and responsibilities as well as contingency plans for providing potable water to the Marine Corps installation. American Water Works Association Manual of Standard Practices, "Emergency Planning for Water Utility Management," Manual Number M19, Fourth Edition, 2001, (Reference (n)) provides guidance on emergency planning.

0313 CROSS-CONNECTION CONTROL

031301. All installations that own or operate a water system shall develop and implement a cross-connection control and backflow prevention program; at a minimum, the program shall include procedures and mechanisms to:

A. Find and eliminate existing cross-connections and prevent new cross-connections.

B. When cross-connections cannot be eliminated, install, inspect, and test backflow preventers.

C. Keep an inventory of all existing backflow preventers.

D. Certify all backflow preventers as required by the regulatory agency. If there is no regulatory requirement, then all backflow preventers should be certified at least once every 6 months for high hazards and once every 12 months for low hazards by a certified inspector.

E. Promptly repair or replace defective backflow preventers.

031302. For further guidance on cross-connection control and backflow prevention, please see references Naval Facilities Engineering Service Center, "Cross-Connection Control and Backflow Prevention Program Implementation at Navy Shore Facilities," May 1998 (Reference (o)) and EPA "Cross Connection Control Manual," 816-R-03-002, February 2003, (Reference (p)).

031303. State primacy agencies also oversee water system cross-connection control programs to ensure compliance with primary and secondary drinking water standards. Cross-connections are the links through which contaminants can enter a potable system and apply to building interior domestic plumbing systems, fire protection plumbing systems, and exterior water distribution systems. State programs for cross-connection control set policy, procedures, and instructions, for installing, repairing, maintaining, inspecting, and testing backflow preventers.

## 0314 WATER CONSERVATION

As required by Reference (l), Marine Corps installations shall reduce potable water consumption intensity by 36 percent by FY 2025 through reductions of 2 percent annually using life-cycle cost-effective measures relative to an FY 2007 baseline. In addition, installations shall reduce industrial, landscaping, and agricultural water consumption by 2 percent annually by FY 2025 relative to an FY 2010 baseline. Potential water conservation measures are listed below, and further guidance is provided in Council on Environmental Quality, "Instructions for Implementing E.O. 13693: Planning for Federal Sustainability in the Next Decade," June 10, 2015, (Reference (q)):

031401. Installation of water-efficient industrial equipment and recycling of industrial process water.

031402. Water-efficient and low flow showers, toilets, faucets, and other fixtures and devices where applicable.

031403. Timely repairs of water service line leaks and main breaks.

031404. Routine leak detection surveys.

031405. Water use metering and periodic water audits.

## 0315 CONSUMPTIVE USE PERMIT

In coordination with legal and technical staff at the claimant and appropriate regional commander, installations that withdraw ground water shall:

031501. Document historical water use.

031502. Determine reasonable foreseeable future water uses.

031503. Evaluate water rights laws.

031504. Determine, on a case-by-case basis, whether the installation should obtain a consumptive use permit.

031505. When applying for a consumptive use permit, ensure that restrictions will not impact mission requirements.

0316 PERCHLORATE

031601. Marine Corps-owned PWSs shall comply with any federal, state, or local enforceable perchlorate drinking water standards.

031602. Marine Corps-owned PWSs that use sodium hypochlorite for disinfection should ensure optimum conditions for storage of the product to avoid potential generation of perchlorate in the drinking water distribution system from aged hypochlorite (refer to DUSD Memorandum, "Perchlorate Release Management Policy," April 22, 2009 (Reference (r)).

0317 LEAD IN PRIORITY AREAS

In accordance with MCICOM Policy Letter 2-14, "Sampling and Testing for Lead in Drinking Water in Priority Areas," February 24, 2014 (Reference (s)), all Marine Corps installations are required to follow EPA guidelines when testing and sampling drinking water for lead from water fountains, faucets, and other outlets used primarily by children. The "priority areas" are defined as outlets in primary and secondary schools, Child Development Centers, School Age Centers, and Youth and Teen Centers. Priority areas do not include on- or off-installation residences (e.g., Family Child Care Homes) used for child care purposes, out-patient medical centers, or schools that are not owned or managed by DoD. Since the Navy, "Navy Medicine Enterprise Nursing Procedures Manual," June 2013 (Reference (t)) mandates the use of sterile water to reconstitute powdered formula, hospital pediatric and maternity wards have been removed from the priority area definition. These records shall be retained in accordance with Reference (g). EPA, "Lead in Drinking Water in Schools and Non-Residential Buildings," EPA/812-B-94-002, April 1994 (Reference (u)), and NAVFAC, "Guidance for Sampling Water Coolers," May 1998 (Reference (v)) provide program information including rationale and sampling protocols).

031701. Three-Step Sampling Program

All installations are directed to implement a three-step program for sampling and testing drinking water in priority areas. Sampling and testing in accordance with this program is to be conducted in addition to, not in place of, sampling to determine whether a water supply system meets system-wide regulations in accordance with the Lead and Copper Rule pursuant to Reference (a).

A. Step 1, Baseline

Installations shall perform baseline sampling and testing of water outlets in priority areas that are known to be used regularly for drinking and cooking. Examples include drinking water fountains (bubbler and water cooler style), sinks (especially those known or visibly used for water consumption, e.g., coffee maker or cups are nearby), bathroom faucets, hose attachments that may be used to fill water jugs (e.g., for sports team practice), hot water outlets, ice makers, and bottled water dispensers. Outdoor water outlets should be evaluated for likelihood of use. If initial screening results exceed EPA's recommended lead screening level of 20 parts per billion (ppb), installations shall immediately take the outlet out of service or mark with appropriate signs (e.g., non-potable).

Installations shall implement the second step of the EPA's Two—Step Sampling Process identified in EPA, "3Ts for Reducing Lead in Drinking Water in Child Care Facilities: Revised Technical Guidance," December 2005 (Reference (w)). If sampling continues to exceed 20 ppb, installations shall institute permanent corrective actions in accordance with Reference (w) and EPA, "3Ts for Reducing Lead in Drinking Water in Schools Revised Technical Guidance," October 2006 (Reference (x)). Step 1 should have been completed for all priority areas by December 31, 2014 (per Reference (s)).

B. Step 2, New or Modified Facilities

Installations shall sample and test all water outlets in priority areas that are known to be used regularly for drinking and cooking when Marine Corps owned water treatment processes are added or modified in any way that has the potential to increase lead concentrations (e.g., system includes older plumbing lines and plumbing/solder is disturbed, replaced, or removed). As part of the installations' annual internal environmental compliance audit, the environmental office shall query each priority area to determine if any plumbing modifications have been made and if sampling needs to be completed. This step shall also include initial baseline testing of all outlets that are expected to be used regularly for drinking and cooking in newly—constructed priority areas prior to building occupancy; however, after January 2014 if the contractor can adequately demonstrate that all materials used in plumbing conform to section 1417 of Reference (a) requiring less than 0.25% lead, the requirement to test new construction is waived.

C. Step 3, Retesting

Installations shall re-test priority areas every 5 years from the established baseline, or more frequently if required by regulatory agencies.

031702. Records and Notification

A copy of all test results shall be made available at locations where testing was conducted and provided to the supporting Occupational Health Clinic and Environmental Health/Preventive Medicine Department. At a minimum, a notice of availability of the testing results should be provided to the parents or legal guardians of children attending schools or child development centers, school age centers, and youth and teen centers. Direct notification of results shall be conducted for any lead detection greater than 20 ppb during a sampling event. Notification requirements and procedures shall be coordinated in advance of any testing with Public Affairs staff, local Public Health commands, and any other appropriate installation, regional, or command staff. In accordance with Reference (g), all records of sampling and testing of drinking water in priority areas shall be maintained for 12 years.

0318 TRAINING

031801. General

All Marine Corps personnel involved in the drinking water systems and water conservation shall receive appropriate environmental training.

031802. Water Treatment and Distribution System Operators

Installations shall ensure their water treatment and distribution system operators are trained and certified in accordance with applicable federal, state, and local regulations. Training should include the following elements:

A. Basic water plant and/or distribution system design.

B. Basic water plant and/or distribution system operation.

C. Basic maintenance and calibration of plant controls and equipment.

D. Water plant and/or distribution systems treatment principles, including chemical storage and handling.

E. Water sampling and analysis.

F. Water plant and/or distribution system documentation and reporting requirements.

G. Cross-connection control and backflow prevention.

**VOLUME 16: CHAPTER 4**

**"RESPONSIBILITIES"**

**SUMMARY OF SUBSTANTIVE CHANGES**

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# CHAPTER 4

## RESPONSIBILITIES

0401 CMC (LF)/COMMANDER MCICOM (GF)

CMC (LF)/Commander MCICOM (GF) shall:

040101. Provide Marine Corps policy and guidance to installation commanders regarding proposed and final rules and regulations pertaining to drinking water systems and water conservation and uniformly apply Marine Corps policy as set forth in this Order.

040102. Assist installations in resolving disputes with federal, state, local, and foreign regulatory agencies as required.

040103. Conduct special environmental compliance and protection studies with regard to drinking water systems and water conservation management to assist in establishing policy or initiating actions.

040104. Ensure, through field visits and the Environmental Compliance Evaluation Program, Marine Corps cooperation and compliance with federal, state, and local regulatory agencies and applicable regulations for drinking water systems and water conservation.

040105. Track Marine Corps progress toward meeting established drinking water quality and water conservation goals.

0402 COMMANDING GENERAL (CG) MARINE CORPS EAST, WEST, PACIFIC, AND NATIONAL CAPITAL REGION

CG Marine Corps East, West, Pacific, and National Capital Region shall Identify and promote opportunities for regional environmental initiatives and contracting support to gain efficiencies. Create environmental program efficiencies by collectively funding studies, coordinating common training programs, developing appropriate Memorandums of Agreement between stakeholders (e.g., Marine Corps TECOM installations, Marine Aircraft Wings, Resident Officer In Charge of Construction offices, etc.) and the Region, and facilitating mutual support between installations as practicable.

0403 COMMANDING GENRAL (CG)/COMMANDING OFFICER (CO) OF MARINE CORPS INSTALLATIONS AND COMMARFORRES

CG/CO of Marine Corps Installations and COMMARFORRES shall:

040301. Identify and submit to the CMC (LF)/MCICOM (GF) project documentation and funding requests for drinking water systems that are required to comply with applicable existing and emerging regulations and permits. Prepare program and budget for personnel, equipment, materials, training, and monitoring required to comply with drinking water systems and water conservation requirements. Pay appropriate federal, state, and local fees. Ensure that the

Environmental Management System is employed, P2 alternatives evaluated, and life-cycle cost impacts assessed, in evaluating and selecting projects that address compliance requirements.

040302. Ensure that all required federal, state, and local permits are applied for and obtained. Sign certifications and permit applications, as required, for construction of all drinking water systems and water conservation projects.

040303. Ensure that an installation or station order is written to implement specifications set forth in this Volume. This requirement can be accomplished either by writing an Environmental Compliance & Protection Standard Operating Procedure to implement all environmental requirements or by writing a separate installation order to implement specifications of this Volume alone.

040304. Identify and submit to the CMC (LF)/MCICOM (GF) nonrecurring projects and funding required to make drinking water systems, potential contamination sources within WHP areas, and underground injection wells compliant with applicable existing and emerging regulations, requirements, and permits. Program and budget for sufficient personnel, equipment, materials, training, and monitoring resources required to effectively operate, maintain, and repair drinking water systems in compliance with drinking water program requirements. With command counsel concurrence, pay related federal, state, and local fees.

040305. Operate and maintain adequate facilities to produce, store, and distribute drinking water in the quantities required in compliance with Reference (e) and applicable state standards, regulations, and requirements.

040306. Ensure that management programs and controls exist to comply with applicable regulations; NPDWR, MCLs, and treatment techniques; UIC permit conditions; and monitoring, recordkeeping, public notification, and reporting requirements for drinking water systems and underground injection wells.

040307. Ensure compliance with all applicable water system operator certification requirements. Identify training and certification needs for Marine Corps operators of PWSs, and allocate needed resources.

040308. Oversee and provide resources for monitoring, recordkeeping, reporting, public notification practices, and the use of certified laboratories for analyses in compliance with EPA or EPA-approved state requirements. Retain copies of all records, reports, and public notices submitted to EPA, state, and local water district offices in accordance with the applicable SSIC in Reference (g).

040309. Submit annual CCRs to consumers and provide a copy to CMC (LF)/ MCICOM (GF).

040310. Coordinate with appropriate EPA, state, and regional offices the review of all projects for the construction of new or upgraded drinking water system facilities and for the construction, modification, or closure of underground injection wells.

040311. Implement corrosion control treatment, source water treatment, or lead service piping replacement as needed to comply with NPDWR requirements for the control of lead and copper in drinking water.

040312. Ensure that a cross-connection control and backflow prevention program is developed and implemented. Properly inspect, operate, and maintain backflow prevention devices, altitude and pressure-reducing valves, water meters, water-saving devices, and water reuse and recycling systems.

040313. Ensure that the installation has applied for and obtained all required federal and state UIC permits. Comply with UIC requirements pursuant to Reference (a). Inventory all class V wells and provide a copy of the inventory to the EPA or state, as appropriate.

040314. Implement a multifaceted Marine Corps water conservation program that meets statutory and E.O. requirements. Execute water conservation studies to reduce water usage and generation of wastewater flows. Review the various uses of water at respective activities to ensure that all economically practical water conservation measures are taken. Ensure that all water conservation measures with payback periods of less than 10 years, as required by EPACT, are installed in government-owned buildings.

040315. Ensure that adequate access to drinking water system collection, treatment, storage, and disposal facilities, and underground injection wells, is provided to the EPA, state, and local regulatory agencies for the purpose of sampling water and injected wastes, and for the inspection of operations and records.

040316. Ensure that water systems serving over 25 people perform a VA and develop/revise ERPs in accordance with DoD policy. Review the VA and ERP when there is a change in the water source or system process.

040317. Consult with appropriate Navy Bureau of Medicine representatives to obtain health-related advice for carrying out responsibilities related to drinking water quality and water supply systems, as well as Bureau of Medicine documents and instructions related to drinking water (U.S. Navy Bureau of Medicine and Surgery (BUMED) Instruction 6240.10A, “Standards for Potable Water,” July 19, 1999 (Reference (y))).

**VOLUME 16: APPENDIX A**

**"FEDERAL STATUTES, FEDERAL REGULATIONS, EXECUTIVE ORDERS, AND DOD POLICIES"**

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# APPENDIX A

## FEDERAL STATUTES, FEDERAL REGULATIONS, EXECUTIVE ORDERS, AND DOD POLICIES

1 FEDERAL STATUTES

a. Safe Drinking Water Act of 1974, as amended, 42 U.S.C. §300f-300(j)

The major provisions of the Safe Drinking Water Act establish requirements for:

(1) NPDWRs for contaminants that may have an adverse effect on human health, and NSDWRs for contaminants that may adversely affect the aesthetic qualities of drinking water. NPDWRs are federally enforceable, while NSDWRs are intended to be used by states as guidelines.

(2) Water system monitoring, reporting, recordkeeping, public notification, and operator certification.

(3) Unregulated contaminant monitoring and regulatory determination.

(4) Protecting underground sources of drinking water via a UIC Program, Sole Source Aquifer designations, state WHP Programs, and state SWAPs. The Safe Drinking Water Act also required EPA to develop water conservation plan guidelines for various sizes of PWSs. The federal regulations that implement the majority of Safe Drinking Water Act requirements can be found in Title 40 CFR, parts 141 through 149.

b. Energy Policy Act (EPAct) of 2005, Public Law 109-58

(1) The EPAct amends numerous provisions of the U.S.C. , covering topics in the areas of energy and water conservation, alternative energy sources, reduction in fossil fuel use, and sustainable building design. It includes specific procurement requirements for energy efficient products and the increased use of cement and concrete with recovered mineral content.

(2) EPAct Subtitle B (also known as the Underground Storage Tank Compliance Act of 2005) focuses on preventing underground storage tank (UST) releases and includes provisions regarding inspections, operator training, delivery prohibition, secondary containment, financial responsibility, and cleanup of releases that contain oxygenated fuel additives.

(3) EPAct Section 15228 waived sovereign immunity for reasonable nondiscriminatory user fees; inspection fees; monitoring fees; civil sanctions; civil fines; and criminal acts in owning, managing, and oversight of USTs.

c. Public Health Security and Bioterrorism Preparedness and Response Act of 2002, Public Law 107-188

Sections 401 through 403 of this Act amended the Safe Drinking Water Act to protect drinking water systems from terrorist attacks and other intentional acts.

(1) Section 401 requires all CWSs serving more than 3,300 people to conduct water system VAs and develop or revise ERPs accordingly.

(2) Section 402 requires EPA to review current and future methods to prevent, detect, and respond to the intentional introduction of chemical, biological, or radiological contaminants into CWSs and its water sources.

(3) Section 403 significantly increases the fines and penalties under the Safe Drinking Water Act for tampering with PWSs.

2 FEDERAL REGULATIONS

a. National Primary Drinking Water Regulations (NPDWRs), 40 CFR 141

NPDWRs contain legally enforceable drinking water standards that generally apply to PWSs. NPDWR standards are established for the following groups of contaminants: inorganic chemicals, organic chemicals, microorganisms, DBPs, and radionuclides. For each contaminant, EPA sets a MCL, action level for lead and copper, maximum residual disinfectant level (MRDL) for disinfectants, or treatment technique (TT). The Safe Drinking Water Act also requires EPA to establish non-enforceable maximum contaminant level goals (MCLGs) for contaminants, or in the case of disinfectants, maximum residual disinfectant level goals. A table listing all contaminants and standards can be viewed at http://www.epa.gov/safewater/mcl.html. In addition to MCLs, ALs, MRDLs, TTs, and associated contaminant level goals, NPDWR specifies monitoring, reporting, and recordkeeping requirements for each contaminant or group of contaminants.

(1) Arsenic Rule, 40 CFR 141.23, 141.24, 141.62

In January 2001, EPA reduced the standard for arsenic from 50 ppb to 10 ppb. Marine Corps CWSs and NTNCWSs are required to comply with this standard and must incorporate specific health effects language in annual Consumer Confidence Reports (CCRs).

(2) Radionuclides Rule, 40 CFR 141.25, 141.66

In December of 2000, EPA updated standards for radionuclides in drinking water and set a new standard for uranium. The MCLs for these radionuclides are: combined radium 226/228 (5 picocuries per liter (pCi/L)); beta emitters (4 mrems); gross alpha standard (15 pCi/L); and uranium (30 micrograms per liter (µg/L)). These standards apply only to CWSs.

(3) Surface Water Treatment Rule, 40 CFR 141.70 – 141.75

The primary objective of this rule is to prevent waterborne diseases caused by viruses, *Legionella*, and *Giardia lamblia*. The rule requires all PWSs using surface water or GWUDI (collectively referred to as subpart H systems) to filter and disinfect source waters. Under certain criteria, the filtration requirement can be waived; however, there are no exceptions to the disinfection requirement. The SWTR established MCLGs for viruses, bacteria, and *Giardia lamblia* and TTs for filtered and unfiltered systems.

(4) Total Coliform Rule (TCR), 40 CFR 141.21, 141.63

The TCR requires all PWSs to monitor for the presence of total coliforms in the distribution system. Total coliforms are used as an indicator for microbial pathogens and help to determine the adequacy of water treatment and the integrity of the distribution system. The presence of total coliforms in the distribution system indicates that fecal pathogens may be present. The TCR specifies a minimum routine monitoring frequency depending on the population served. The TCR also specifies the maximum number of samples in which total coliforms may be detected each month without triggering the additional testing requirements outlined in Section 21 of NWDPRs. Systems required to collect 40 or fewer samples per month must conduct additional monitoring if more than one sample tests positive. Systems required to collect over 40 samples per month must conduct additional monitoring if more than five percent of samples test positive.

(5) Interim Enhanced Surface Water Treatment Rule (IESWTR), 40 CFR 141.203

This rule strengthens microbial protection by minimizing levels of *Cryptosporidium* in finished water. It also includes provisions to ensure that reduction of DBPs in the water system does not compromise microbial protection. The IESWTR applies to subpart H systems that serve at least 10,000 people. Under this rule, filtered systems have tighter TTs and unfiltered systems have watershed control requirements for *Cryptosporidium*. The IESWTR also requires states to conduct sanitary surveys for subpart H systems of all sizes.

(6) Stage 2 Disinfectants and DBPs (D/DBP) Rule, 40 CFR 141.620

This rule reduces exposure to several D/DBP and applies to all CWSs and NTNCWSs that use a chemical disinfectant in any part of their system. The Stage 2 rule strengthens public health protection for customers of systems that deliver disinfected water by requiring such systems to meet maximum contaminant levels as an average at each compliance monitoring location (instead of as a system-wide average as in previous rules) for two groups of DBPs, trihalomethanes (TTHM) and five haloacetic acids (HAA5). Compliance with the maximum contaminant levels for TTHM and HAA5 will be calculated for each monitoring location in the distribution system, or the locational running annual average (LRAA). MRDLs are established for the disinfectants chlorine, chloramine and chlorine dioxide, while MCLs are established for DBPs including total trihalomethanes (TTHMs), HAA5, chlorite, and bromate. This rule also requires subpart H water systems that use conventional filtration treatment to remove specified percentages of organic materials (measured as total organic carbon) which may react with disinfectants to form DBPs. Removal must be achieved through a TT, unless a system meets alternative criteria.

(7) Filter Backwash Recycling Rule (FBRR), 40 CFR 141.76

This rule is intended to prevent microbes, such as *Cryptosporidium*, from passing through treatment systems and into finished drinking water during recycling practices. The FBRR applies to all subpart H systems that use direct or conventional filtration processes and recycle spent filter backwash water, sludge thickener supernatant, or liquids from dewatering processes. The FBRR requires that spent filter backwash water, thickener supernatant, and liquids from dewatering processes are returned to a location such that all processes of a system's conventional or direct

filtration are employed. Affected systems may apply to the state for approval to recycle at an alternate location.

(8) Long-Term 1 Enhanced Surface Water Treatment Rule (ESWTR), 40 CFR 141.500 – 141.553

This rule extends the requirements under the IESWTR to subpart H systems that serve less than 10,000 people. Similar to the IESWTR, the Long-Term 1 ESWTR increases protection against *Cryptosporidium* and other disease-causing microbes and addresses risk trade-offs with reducing DBPs.

(9) Long-Term 2 ESWTR, 40 CFR 141.710 – 141.720

In January 2006, EPA published the Long-Term 2 ESWTR to supplement prior surface water treatment rules by further reducing *Cryptosporidium* in drinking water systems. The rule targets highly vulnerable surface water systems, requiring these systems to further reduce Cryptosporidium levels in drinking water through treatment. Like prior SWTRs, the Long-Term 2 ESWTR applies to all subpart H systems and addresses risk trade-offs with the control of DBPs. It does not apply to consecutive water systems that purchase all of their water from a PWS regulated under 40 CFR 141.

(10) Stage 2 D/DBP Rule, 40 CFR 141.620 – 141.629

EPA published the Stage 2 D/DBP Rule to further reduce DBP levels in the distribution system. The Stage 2 DBPR is designed to reduce peak DBP levels in the distribution system. This is accomplished via changes in compliance monitoring locations and in compliance calculations for TTHM and HAA5. The existing MCLs for TTHM (80 □g/L) and for HAA5 (60 □g/L) remain the same under the Stage 2 DBPR. The rule applies to CWSs and NTNCWSs that add a disinfectant (other than ultraviolet light (UV)) or that deliver water that has been treated with a disinfectant (other than UV).

(11) Ground Water Rule (GWR), 40 CFR 141.400 – 141.405

EPA published the GWR to reduce the risk of exposure to fecal contamination that may be present in PWSs that use ground water sources. The rule applies to all ground water systems and uses a risk-targeted strategy to identify ground water systems that are at high risk for fecal contamination. The rule also specifies when corrective action (which may include disinfection) is required to protect consumers from bacteria and viruses. There are four major requirements of the GWR:

(a) Periodic sanitary surveys performed by states.

(b) Source water monitoring performed by PWSs.

(c) Corrective action for systems with a significant deficiency or source water fecal contamination (as determined by the sanitary surveys or monitoring results).

(d) Compliance monitoring to ensure the reliability of treatment technologies.

(12) Radon Proposed Rule, 40 CFR 141.25, 141.66

In November 1999, EPA proposed regulations to protect people from exposure to radon. As proposed, the rule would use a multimedia approach to reduce radon risks in indoor air, while protecting public health from the highest levels of radon in drinking water. EPA is proposing an alternative maximum contaminant level (AMCL) of 4000 pCi/L for radon-222 in drinking water and requirements for multimedia mitigation (MMM) programs to address radon-222 in indoor air. EPA is also proposing a more stringent radon MCL of 300 pCi/L in states that choose not to implement a CWS MMM program. CWSs may comply with the less stringent AMCL if they are located in states that develop an EPA-approved MMM program, or in the absence of a state program, develop a state-approved CWS MMM program.

(13) Lead and Copper Rule (LCR), 40 CFR 141.80 – 141.91

The LCR was developed to reduce lead and copper levels at consumers' taps, primarily through corrosion control. LCR requirements are codified in subpart I of 40 CFR 141. Under the LCR, Marine Corps CWSs and NTNCWSs are required to conduct routine lead and copper monitoring and perform additional requirements, as triggered by a lead and copper exceedance. A lead and copper exceedance triggers additional water quality parameter and source water monitoring. Based on monitoring results, systems may be required to install corrosion control treatment and/or perform source water treatment. A lead AL exceedance also triggers public education requirements. Should prescribed treatment options fail to bring levels below the ALs, lead service lines may require replacement. The lead and copper AL is exceeded if the concentration of lead or copper in more than 10 percent of tap water samples collected during any monitoring period is greater than 0.015 milligrams per liter (mg/L) lead or 1.3 mg/L copper, respectively. In January 2000 and October 2007, EPA published revisions to the LCR (65 Federal Register (FR) 1950 and 72 FR 57782). Minor revisions were made in January 2000 to streamline LCR requirements, promote consistent national implementation, and reduce the reporting burden for water systems. It did not change the basic requirements of the LCR. The October 2007 revisions changed the following LCR requirements:

(a) Monitoring

Prevents systems above the lead AL from remaining on a reduced monitoring schedule.

(b) Water Treatment

Requires systems to provide advanced notice and obtain primacy agency approval for planned changes to the source water or treatment process.

(c) Public Awareness and Education

Changes the content and delivery method/timeframe for public education material and incorporates educational statements on lead in annual CCRs. Also requires systems to notify consumers of tap water monitoring results.

(d) Lead Service Line Replacements

Requires systems to re-test previously "tested-out" lines when resuming lead service line replacement programs.

(e) Prohibition on Lead Pipes, Solder, and Flux

In addition to the LCR, subpart E of 40 CFR 141 prohibits the use of lead pipe, solder, or flux in the installation or repair of any PWS or any plumbing in residential or nonresidential facilities providing water for human consumption. Solders and flux are considered to be lead free if they contain less than 0.2 percent lead; pipes and fittings are considered to be lead free if they contain less than 0.258.0 percent lead (weighted average).

(14) Unregulated Contaminant Monitoring Rule (UCMR), 40 CFR 141.35

UCMR requires that, at least once every five years, EPA issue a list of unregulated contaminants to be monitored by certain PWSs (sections 300g-1 and 300j-4 of the Safe Drinking Water Act). EPA uses the data generated from this monitoring effort to determine whether a particular contaminant(s) requires drinking water standards. Standards and criteria for monitoring unregulated contaminants are established through the UCMR. Generally, Marine Corps CWSs and NTNCWSs serving more than 10,000 people (large systems) and a representative sample of small CWSs and NTNCWSs (as selected by EPA) are required to monitor for the presence of unregulated contaminants and report results to EPA.

(15) Public Notification Rule, 40 CFR 141.201 – 141.211

The PNR is codified in subpart Q of 40 CFR 141 and requires all PWSs to notify consumers of violations related to contaminant MCLs, MRDLs, TTs, monitoring requirements, or testing procedures. Public notices are also used to announce the availability of UCMR monitoring results and any variances or exemptions issued to the PWS. The PNR establishes three tiers of public notices based on the severity of a violation. A Tier 1 public notice must be issued within 24 hours for violations that pose acute health risks due to short-term exposure. A Tier 2 notice is issued within 30 days for other violations and situations that may pose a serious, but not immediate adverse health effect. A Tier 3 notice is required within one year for violations and situations not included under Tier 1 or 2.

b. 40 CFR 149

Sole Source Aquifers regulation provides criteria for identifying critical aquifer protection areas pursuant to section 1427 of the Safe Drinking Water Act.

3 EXECUTIVE ORDERS

E.O. 13693, "Planning for Federal Sustainability in the Next Decade," March 19, 2015, has a goal to maintain Federal leadership in sustainability and greenhouse gas emission reductions. It revoked E.O. 13423 and E.O. 13514. This E.O. continues the policy of the United States that agencies shall increase efficiency and improve their environmental performance to help protect the planet for future generations and save taxpayer dollars through avoided energy costs and increased efficiency, while also making Federal facilities more resilient. To improve environmental performance and Federal sustainability, the E.O. states that priority should first be placed on reducing energy use and cost, then on finding renewable or alternative energy solutions. The E.O. sets goals for greenhouse gas emissions and for sustainability, including energy conservation, clean energy, renewable energy, alternative energy, water use efficiency, potable water consumption, fleet efficiency, building efficiency, sustainable acquisition, waste and pollution prevention, performance contracts, and electronics stewardship. For the drinking water program, agencies have a goal of reducing potable water consumption intensity measured in gallons per gross square foot by 36 percent by fiscal year 2025 through reductions of 2 percent annually through fiscal year 2025 relative to a baseline of the agency's water consumption in fiscal year 2007.