

CHAPTER 21

SAFE DRINKING WATER ACT COMPLIANCE ASHORE

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21-1 Scope. This chapter identifies requirements, establishes policy guidance, and assigns responsibilities for the production, use, and protection of drinking water at shore installations in the United States and its territories.

21-1.1. Related Chapters. Drinking water performance reporting shall be reported per chapter 4 (Environmental Performance Reporting). Chapter 7 (Sampling and Laboratory Testing) provides Navy policy guidance regarding sampling and testing protocols. Violations of the Safe Drinking Water Act (SDWA) shall be reported per chapter 19 (Processing Notices of

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Violation Under Environmental Laws and Regulations). Navy installations overseas shall follow chapter 34 (Overseas Environmental Compliance Ashore) for drinking water requirements.

21-1.2. References

- (a) 40 CFR 141
- (b) EPA Operator Certification Guidelines Implementation Guidance of Jan 2000
- (c) NAVMED P-5010-5, Manual of Naval Preventative Medicine, Water Supply Ashore
- (d) EPA 812-8-94-002, Lead in Drinking Water in Schools and Non-Residential Buildings, April 1994
- (e) COMNAVFACENGCOM Guidance for Sampling Lead in Drinking Water of 22 Jul 1998
- (f) 40 CFR 141.201 - 211
- (g) EPA 816-R-09-011, 2nd Revision, Preparing Your Drinking Water Consumer Confidence Report, Guidance for Water Suppliers of Apr 2010
- (h) Department of Defense Consumer Confidence Report Guidance Document of Sep 1999
- (i) 40 CFR 144-147
- (j) Public Law 107-188, Public Health Security and Bioterrorism Preparedness and Response Act of 2002
- (k) USD(AT&L) Memorandum of 3 Jul 2003, DoD Policy on Drinking Water Vulnerability Assessments and Emergency Response Plans
- (l) Naval Facilities Engineering Service Center User's Guide, Cross-Connection Control and Backflow Prevention Program Implementation at Navy Shore Facilities of May 1998
- (m) EPA, Cross Connection Control Manual, 1973, updated 2003
- (n) American Water Works Association Manual of Standard Practices, Emergency Planning for Water Utility Management

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(o) EPA/State Joint Guidance on Sanitary Surveys of Dec 1995

(p) Public Law 104-182, Safe Drinking Water Act Amendments of 1996

21-2 Legislation

a. The following legislation contains provisions that pertain to the regulation of the nation's public drinking water supply and its sources:

- (1) National Primary Drinking Water Regulations (NPDWR),
- (2) National Secondary Drinking Water Regulations, and
- (3) SDWA.

b. A summary of this legislation is included in appendix A (Laws and Regulations).

21-3 Requirements. Safe drinking water must be provided to all personnel assigned to Navy shore facilities and installations. Navy water systems must comply with all applicable federal, state, and local safe drinking water regulations, executive orders (E.O.s), and Navy policy. In general, states are responsible for implementation of SDWA programs.

21-3.1 Executive Agent for Drinking Water Quality

a. Commander, Navy Installations Command (CNIC) is a designated as executive agent for drinking water quality matters for all Navy shore facilities and installations worldwide, including government properties, leased facilities, non-contiguous facilities, Naval Sea Systems Command (NAVSEASYS COM), Bureau of Medicine and Surgery (BUMED), or other budget submitting office (BSO) operated facilities. This responsibility extends to all property that is operated by or under the responsibility of an installation commanding officer.

b. As executive agent for drinking water quality at Navy shore facilities and installations, CNIC shall serve as the single point of contact on all matters related to water systems that provide drinking water to Navy personnel. Executive agent responsibility shall include oversight and ensure:

- (1) Compliance testing and monitoring of drinking water

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supplied both by outside vendors and Navy owned treatment works;

(2) Treatment and distribution of drinking water;

(3) Operation and maintenance of all aspects of drinking water systems;

(4) Training and certification of personnel who operate such systems;

(5) Preparation and submission of annual Consumer Confidence Reports where applicable; and

(6) Preparation and submission of applicable public notifications and contingency plans for alternative water supplies required in the event that a water system is unable to supply drinking water that meets public health standards.

c. By 15 December of each year CNIC shall provide an annual report on the status of Navy shore facility and installation drinking water quality worldwide for previous fiscal year to the Vice Chief of Naval Operations (VCNO), via CNO (N4). This detailed report shall include:

(1) An inventory of all water systems providing drinking water to Navy shore facilities and installations;

(2) An analysis of the quality of drinking water provided by each system;

(3) Identification of any outstanding maintenance or repair requirements;

(4) Identification of any operational and water quality deficiencies; and

(5) Any other significant discrepancies or problems and associated funding requirements. Discrepancies and problems to be identified include, but are not limited to, violations of applicable standards, issuance of public notifications, delayed or deferred maintenance and repair, and any case in which an applicable water system outside the United States is providing Navy consumers with lower quality drinking water than provided to Navy consumers within the United States as determined by the executive agent. Significant issues or discrepancies noted shall be accompanied by a plan of action to address the matter expeditiously and shall include contingency plans to provide

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alternate water supplies when necessary.

21-3.2. Water System Classification. Water systems are initially classified as public water systems (PWSs) or non-PWSs. Federal, state, and local regulations for determining compliance with SDWA generally apply to PWSs and are not applicable to non-PWSs. Regulatory requirements for each PWS depend on the classification of the system (i.e., primary or consecutive; community water system (CWS) or non-community water system; transient, non-community water system (TNCWS) or non-transient, non-community water system (NTNCWS)); and the type of source water used (i.e., groundwater, surface water, or groundwater under the direct influence (GWUDI) of surface water). Refer to section 21-5 and figure 21-1 to determine the type of water system in operation.

21-3.3. Consecutive Public Water Systems (PWSs)

a. Consecutive PWSs generally are not subject to the requirements of SDWA if they satisfy all of the following criteria specified in part 141.3 of reference (a):

(1) Consist only of distribution and storage facilities and do not have any collection and treatment facilities;

(2) Obtain all their water from, but are not owned or operated by, a PWS to which the regulations apply;

(3) Do not sell water to any persons; and

(4) Are not carriers that convey passengers in interstate commerce.

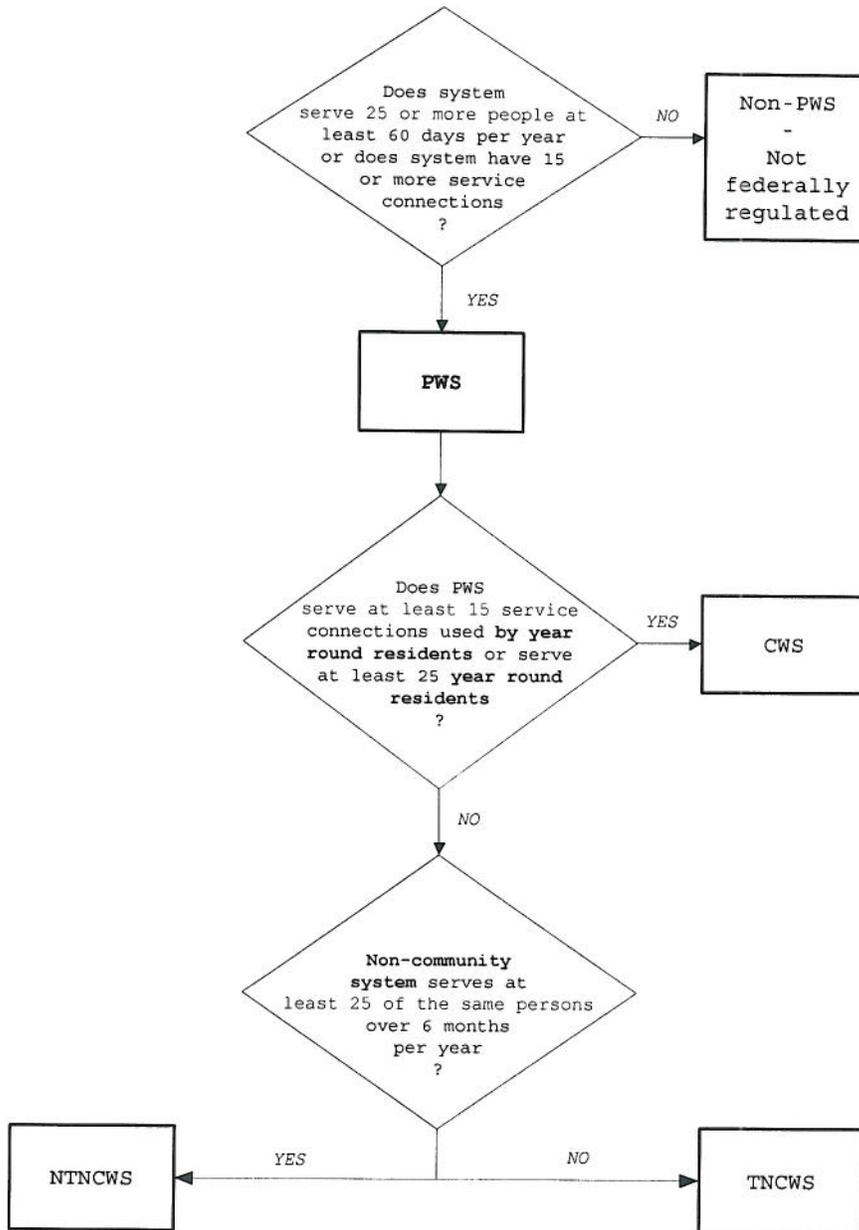
b. There is no definition of "selling water" in SDWA; however, reference (b) defines selling water as follows: "A distributor of water for human consumption "sells" water within the meaning of the Act if it charges consumers for the water as a separate item or bills separately for the water it provides. (House Report No. 93-1185). Conversely, if the entity includes charges for water in the rental fee, then it is not selling water within the context of the Act." Navy does not consider reimbursement for distribution system maintenance costs and water from one federal entity to another as selling water; this is merely an internal allocation of funds within the executive branch. The Environmental Protection Agency (EPA) definition above would apply to non-federal consumers including banks,

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credit unions, private companies, and restaurants to which Navy distributes water.

c. If a consecutive PWS does not satisfy all of the above exemption criteria specified under part 141.3 of reference (a), it may still be exempt from some regulatory requirements based on the fact that it obtains all of its water from another regulated PWS. This exemption criteria is addressed in part 141.29 of reference (a). In general, the consecutive PWS would, at a minimum, be required to comply with requirements pertaining to those contaminants which could be contributed by the consecutive PWS distribution system downstream of the point of connection to the regulated PWS.

Figure 21-1. Water System Classification Flowchart



Notes:

1. Per federal laws. State and local laws may be more stringent.
2. Does not address regulatory requirements of consecutive water systems. This is determined independently by each state.

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21-3.4. Water System Monitoring. Navy water systems will, at a minimum, accomplish the monitoring described in the following sections. This monitoring is required regardless of variance or exemptions (refer to section 21-3.3.k) from regulatory monitoring requirements. Any modified monitoring would be conducted under a schedule specified by the applicable state regulatory agency and agreed upon by the EPA administrator. Installations shall consult with the Chief, Bureau of Medicine and Surgery (BUMED) for public health and preventative medicine guidance for Navy personnel concerned with medical surveillance of public water systems at shore installations in accordance with chapter 5 of reference (c).

a. Arsenic. Navy water systems are required to comply with EPA's 10 parts per billion (ppb) standard including reporting on the consumer confidence report (CCR) (refer to section 21-3.4).

b. Asbestos. All Navy water systems with asbestos cement pipes shall monitor for asbestos. At a minimum, one sample shall be taken during the first 3 years of every 9 year compliance period and must comply with EPA's limit of 7 million fibers per liter (longer than 10 micrometer).

c. Lead and Copper. All Navy PWSs shall comply with all applicable requirements for the control of lead and copper, as stated in the federal Lead and Copper Rule (subpart I of reference (a)), to ensure the levels of lead and copper remain below the levels associated with health risks in treated (finished) water and at the consumer's free flowing tap. Per reference (a) and if approved by the state regulatory agency or EPA (whichever has primacy), installations may combine their consecutive PWS monitoring plan as part of the supplier's plan, instead of treating each as a separate system.

(1) Lead Action Level

(a) The lead action level (AL) is exceeded if the concentration of lead in more than 10 percent of tap water samples collected during any monitoring period conducted per reference (a) is greater than 0.015 milligrams per liter (mg/L) (i.e., if the 90th percentile lead level is greater than 0.015 mg/L). The copper AL is exceeded if concentrations of copper in more than 10 percent of tap water samples collected during any monitoring period conducted per reference (a) is greater than 1.3 mg/L (i.e., if the 90th percentile copper level is greater than 1.3 mg/L).

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(b) As specified in reference (a), if an AL is exceeded, installation PWSs must collect additional water quality parameter samples. Optimal corrosion control treatment may also be required. Should prescribed treatment options fail to bring lead levels below the AL, lead service lines may have to be replaced. Water systems that meet the lead and copper ALs during specified monitoring periods may reduce the number and frequency of sampling per reference (a).

(2) Lead in Priority Areas

(a) All Navy installations shall sample, test, and maintain resultant records for all drinking water coolers and outlets in the following priority areas to determine the presence of lead: primary and secondary schools, day care centers, hospital pediatric wards, maternity wards, and food preparation areas located on medical facilities. References (d) and (e) provide program information including rationale and sampling protocols. If initial screening results exceed 20 ppb in 250 mL samples, installations shall use full protocol sampling on affected outlets. If full protocol sampling exceeds 20 ppb, installations shall secure the affected water outlets from service and institute permanent corrective measures.

(b) A copy of all test results shall be made available for all schools, day care centers, and medical facilities where testing has been conducted. A notice of availability of the testing results shall be sent to the parents or legal guardians of children attending the affected school.

(3) Lead and Copper in Family Housing. Navy consecutive PWSs that serve family housing and are not included in the primary system sampling pool (at the time the primary system performed Lead and Copper Rule 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 Lead and Copper Rule procedures. This requirement can be waived if Navy installations operating consecutive PWSs document that their water supplier passed its Lead and Copper Rule monitoring and that the water being supplied to them is noncorrosive. A formal waiver does not need to be submitted but documentation must be maintained in drinking water program records.

d. Radionuclides. Navy water systems are required to comply with EPA's standards for radionuclides and uranium as follows: combined radium 226/228 (5 picocuries per liter

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(pCi/L)), beta emitters (4 millirems), gross alpha standard (15 pCi/L), and uranium (30 micrograms per liter).

e. Unregulated Contaminants. Large Navy PWS and some small PWSs may be required to collect data on a selection of unregulated contaminants. Data from this monitoring will be used in future rulemaking.

f. Coliform Bacteria

(1) Navy PWSs shall perform bacteriological monitoring as specified in the Total Coliform Rule at part 141.21 of reference (a). This rule sets requirements for coliform levels in drinking water. Coliform bacteria in drinking water indicate the treatment system is not working or there are problems in the distribution system. EPA standards require systems to detect coliforms in no more than 5 percent of samples taken each month. The minimum number of samples a system must take depends on system size and is outlined in part 141.21 of reference (a).

(2) Consecutive non-community water systems may request waivers from this requirement. Waivers shall be submitted by budget submitting offices (BSOs) to the Office of the Chief of Naval Operation, Energy and Environmental Readiness Division (OPNAV (N45)) for approval. The use of EPA-approved kits by trained personnel is acceptable for Navy policy total coliform analyses. However, if a sample tests positive, follow-up analysis must be accomplished using a certified laboratory.

g. Surface Water Treatment Rule. The objective of this rule is to prevent waterborne diseases caused by viruses, Legionella, and Giardia lamblia. The rule requires water systems using surface water and GWUDI of surface water provide filtration and disinfection. Under certain criteria, the filtration requirement can be waived; however, there are no exceptions to the disinfection requirement.

(1) Interim Enhanced Surface Water Treatment Rule. This rule strengthens filter turbidity performance and monitoring requirements to optimize treatment reliability. An overall goal of this rule is to minimize levels of cryptosporidium in finished water. The rule applies to PWSs serving at least 10,000 people that use surface water or GWUDI of surface water. The rule also requires states to conduct sanitary surveys for all surface water and GWUDI systems, regardless of size.

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(2) Filter Backwash Recycle Rule. This rule applies to all PWSs using surface water or GWUDI of surface water; utilizing direct or conventional filtration processes; and recycling spent filter backwash water, sludge thickener supernatant, or liquids from dewatering processes. Recycle systems will be required to return spent filter backwash water, thickener supernatant, and liquids from dewatering process prior to the point of primary coagulant addition unless the state specifies an alternative location.

(3) Long-Term 1 Enhanced Surface Water Treatment Rule. The rule applies to PWSs using surface water or GWUDI of surface water and extends protection against cryptosporidium and other disease causing microbes to water systems that serve fewer than 10,000 people annually.

(4) Long-Term 2 Enhanced Surface Water Treatment Rule. This rule increases monitoring and treatment requirements for water systems at high risk of outbreaks of cryptosporidium and requires PWSs supplied by surface water sources to monitor for cryptosporidium. Those water systems that measure higher levels of cryptosporidium or do not filter their water must provide additional protection by using options from a "microbial toolbox" of treatment and management processes. The rule requires open reservoirs to either be covered or receive added treatment.

h. Groundwater Rule. This rule provides increased protection against microbial contamination of drinking water systems that use groundwater sources by requiring sanitary surveys be conducted by the state every 3 years for CWSs and every 5 years for non-community water systems. In addition, the rule contains additional requirements such as hydrogeologic sensitivity assessments and enhanced source water monitoring for certain systems. Monitoring of source water is also required if there is a detection of coliform in the distribution system.

i. Disinfectant and Disinfection Byproducts

(1) Stage 1 Disinfectant and Disinfection Byproduct Rule. This rule applies to all CWSs and NTNCWSs that use a chemical disinfectant in any part of their system. It establishes maximum residual disinfectant levels for disinfection using chlorine, chloramine, and chlorine dioxide, and maximum contaminant levels (MCLs) for disinfection byproducts (i.e., total trihalomethanes, haloacetic acids, chlorite, and bromate).

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(2) Stage 2 Disinfectant and Disinfection Byproduct Rule. This rule provides additional public health protection from disinfection byproducts and tightens compliance monitoring requirements for trihalomethanes and haloacetic acids. In addition, this rule imposes requirements on consecutive systems.

j. Public Notification and Violations. The owner or operator of a PWS that fails to comply with an applicable MCL, AL, or treatment technique (TT), or with the requirements of any schedule prescribed under a variance or exemption (refer to section 21-3.3.k) shall notify persons served by the system per reference (f). The notices shall include specific language about the health effects of each contaminant. The PWS shall publish notices by newspaper, mail delivery, hand delivery, radio, and television announcements depending upon the type of violation or risk involved. Notices of violation shall be reported per chapter 19 (Processing Notices of Violation Under Environmental Laws and Regulations).

k. Exemptions. Navy installations that own and operate a consecutive PWS subject to full or partial exemption from regulatory monitoring requirements under parts 141.3 or 141.29 of reference (a), respectively, shall submit a letter to the state regulatory agency explaining the degree to which exemption criteria are applicable and request the exact requirements to be imposed on the consecutive PWS. The state's response letter is to be permanently retained in Navy files.

l. Review of Primary PWS System Records. Navy 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 water quality has not degraded above the MCL for parameters within the distribution system.

21-3.5. Consumer Confidence Reports

a. CCRs present the quality of the water delivered by the system. Each report must contain data collected during, or prior to, the previous calendar year. Requirements are outlined in reference (g) and parts 141.151 and 141.155 of reference (a). For exceedances, only report data based on certified laboratory results.

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b. Each CWS shall mail or otherwise directly deliver one copy of the CCR to each of its customers by 1 July on an annual basis. Recommended methods of report delivery include mailing to each housing unit, publishing in the command newspaper, posting on a Web site, and posting in conspicuous locations in each building on the installation (reference (h)). States may waive the mailing requirement for CWSs serving fewer than 10,000 persons. In such cases, systems would be required to inform their customers that the report will not be mailed, make the report available on request to the public, and publish the report annually in one or more local newspapers serving the areas in which the systems' customers are located. Navy consecutive CWSs shall obtain a copy of their water supplier's CCR and amend this report with information on any additional testing or exceedances.

c. A good faith effort shall be made to ensure all customers are aware of the CCR and additional information. Alternative delivery methods should be used to make a "good faith" effort to reach customers who do not receive water bills including a mix of methods appropriate to the particular system. In states with primary enforcement authority, utilities must mail a copy of the completed CCR to the state, followed, within 3 months, by a certification that the report has been distributed to customers and the information in the CCR is correct.

d. Certain electronic methods may be used to accomplish the required "direct delivery" of CCRs.

(1) Electronic delivery must provide the CCR in a manner that is "direct." This means CWSs can use paper or electronic communication with uniform resource locators (URLs) to meet their CCR requirement if the URL provides a direct link to the CCR, and the communication prominently displays the URL and a notice explaining the nature of the link. The link must take the customer to the entire CCR so that navigation to another webpage to find the required CCR content is not necessary.

(2) Use of social media (e.g., Facebook or Twitter) directed at customers does not meet the requirement to "directly deliver" since these internet outlets require a customer to join the website in order to read the CCR.

(3) Use of automated phone calls (e.g., emergency telephone notification systems) is not considered direct

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delivery, because the entire contents of the CCR cannot be provided in a phone call.

(4) If a CWS is aware of a customer's inability to receive a CCR by the chosen electronic means, it must provide the CCR by an alternative means allowed by the rule, including those discussed in paragraph 21-3.5.b.

21-3.6. Underground Injection Program. Reference (i) requires each state to have an Underground Injection Control (UIC) Program to ensure underground injection does not endanger underground sources of drinking water. All groundwater injection systems must be permitted or authorized by rule. Under these requirements, installations must implement a program that establishes and maintains a UIC well inventory and procedures for proper well closure. The broadest category of UIC wells (i.e., Class V) includes stormwater drainage wells, aquifer remediation wells, and some septic systems.

21-3.7. Wellhead Protection Program. Installations that receive drinking water from wells shall establish a wellhead protection program that meets applicable state or local wellhead protection requirements or adopt and comply with local wellhead protection program requirements to minimize contamination.

21-3.8. Water System Vulnerability Assessments and Emergency Response Plans

a. All Navy drinking water systems serving more than 25 consumers must complete a water system vulnerability assessment (WSVA) and emergency response plan (ERP) as required by reference (j) and Department of Defense policy (reference (k)). Systems covered under this requirement include consecutive and unregulated systems, as well as small community and non-community PWSs in the United States and its possessions and territories.

b. Specific criteria to be addressed by the WSVA include, but are not limited to:

(1) Pipes and constructed conveyances;

(2) Physical barriers;

(3) Water collection, pretreatment, treatment, storage, and distribution facilities;

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(4) Electronic, computer, or other automated systems utilized by the PWS;

(5) The use, storage, or handling of various chemicals;
and

(6) The operation and maintenance of the system.

c. Activities shall maintain accurate WSWA and ERP status in the water quality module of the U.S. Navy Environmental Portal.

21-3.9. Cross-Connection and Backflow Prevention

a. Cross-connection control programs apply to building interior domestic plumbing systems, fire protection plumbing systems, and exterior water distribution systems. These programs, overseen by states with SDWA primacy, ensure compliance with primary and secondary drinking water standards by establishing policy, procedures, and instructions for installing, repairing, maintaining, inspecting, and testing backflow preventers.

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

(1) Find and eliminate existing cross-connections and prevent new cross-connections;

(2) Install, inspect, and test backflow preventers when cross-connections cannot be eliminated, or as required by state or local regulations;

(3) Keep an inventory of all existing backflow preventers;

(4) 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 state or local water authority certified tester;
and

(5) Promptly repair or replace defective backflow preventers, and retain cross-connection and backflow preventer inspection and maintenance records for at least 5 years.

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c. Reference (l) provides guidance to Navy installations for complying with this requirement and reference (m) provides EPA guidance on the Cross-Connection Control Program.

21-3.10. Operation and Maintenance. Installations that own or operate water systems (public and non-public, permitted and non-permitted) shall develop and implement an operation and maintenance program applicable to the system. Minimum requirements of the program are to meet the requirements of reference (a), in particular part 141.63, paragraph (d)(3) which stresses "proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, and continual maintenance of positive water pressure in all parts of the distribution system." The program shall include the proper implementation and documentation of:

- a. Emergency and preventive maintenance;
- b. System disinfection after maintenance work is performed;
- c. Scheduled flushing of the system;
- d. Reduction of water quality problems (as needed);
- e. Implementation and documentation of a valve exercise and maintenance program;
- f. Proper operation and maintenance of storage tanks and reservoirs;
- g. Maintenance of current water distribution maps;
- h. Documentation of location and dates of water line breakage;
- i. Documentation of emergency operations procedures required as a result of events such as earthquakes, hurricanes, chemical releases, and terrorist activities; and
- j. Determination of response roles and responsibilities as well as contingency plans for providing potable water to the Navy installation. Reference (n) provides information on emergency planning.

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21-3.11. Sanitary Surveys. In many instances, a state may require treatment plants or PWSs experiencing compliance problems, particularly with microbial pathogens, to perform a sanitary survey. The state regulatory agency will usually perform the survey; however, 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 Navy PWSs shall perform a sanitary survey every 5 years.

a. Survey Requirements. For treatment plants, the survey should include the following:

- (1) Verification and reevaluation of vulnerability assessments, watershed protection programs, and wellhead protection programs, as applicable;
- (2) Examination of the source water physical components and condition;
- (3) 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, contact time assessment as defined in part 141.2 of reference (a);
- (4) 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;
- (5) Evaluation of the ability of the treatment plant to respond to changes in raw water fluctuations; and
- (6) Evaluation of the treatment plant's emergency power supply and security measures.

b. Distribution System Sanitary Survey Review

- (1) Concerning the distribution system, the sanitary survey should include a review of the operations and maintenance program to ensure attention to 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 replacements;
 - (e) Effective corrosion control program, if applicable;
 - (f) Comprehensive cross-connection control program;
 - (g) Aggressive valve and hydrant exercise program;
 - (h) Adequate water quality monitoring program that achieves compliance with the appropriate regulations and provides for effective water quality control;
 - (i) Adequate flushing program, preferably a unidirectional flushing program that is implemented on a yearly basis; and
 - (j) Review of location and dates of water line breakage and system failures to evaluate overall system reliability.
- (2) Reference (o) includes more information on sanitary surveys.

21-3.12. Consumptive Use Permits. In coordination with legal and technical staff at the BSO and appropriate region commander, installations that withdraw groundwater shall:

- a. Document historical water use;
- b. Determine reasonably foreseeable future water uses;
- c. Evaluate water rights laws;
- d. Determine on a case-by-case basis whether the installation should obtain a consumptive use permit; and
- e. Ensure, if applying for a consumptive use permit, that restrictions will not impact mission requirements or existing water rights.

21-3.13. Exemption from Permitting. Navy installations that qualify for exemption from PWS permitting shall apply, in

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writing, to the regulatory agency with SDWA primacy for an exemption. In some cases, regulators issue a permit when it is not required.

21-3.14. Recordkeeping. In the absence of more stringent federal, state, or local recordkeeping requirements, installations shall maintain records as follows:

- a. Bacteriological results - 5 years;
- b. Chemical results - 10 years;
- c. Lead and copper testing results - 12 years;
- d. Actions taken to correct violations - 3 years after acting on the particular violation involved;
- e. Sanitary survey reports - 10 years;
- f. Variance or exemption records - 5 years following the expiration of such variance or exemption;
- g. Water treatment plant and distribution system operating records (including monthly reports) - 5 years;
- h. Cross-connection inspection records - 5 years; and
- i. CCRs - 5 years.

21-3.15. Sampling and Analysis. Installations shall use laboratories certified by EPA or the cognizant state to perform all PWS SDWA compliance sample analyses. Installations must collect water samples at points that represent the quality of water in the distribution system. Sampling and testing shall comply with chapter 7 (Sampling and Laboratory Testing) requirements.

21-3.16. Fines and Penalties. Reference (p) waives sovereign immunity for the payment of fines and penalties imposed by federal, state, or local agencies for violations. In addition, EPA may assess administrative penalties of up to \$25,000 per day per violation.

21-3.17. Certification and Training

- a. All Navy personnel involved in the drinking water program shall receive appropriate environmental training (refer

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to chapter 3 (Environmental Readiness Training) for detailed information). Installations shall ensure their water treatment and distribution system operators are trained and certified per applicable federal, state, and local regulations. Training should include the following elements:

(1) Basic water plant and distribution system design and operation;

(2) Basic maintenance and calibration of plant controls and equipment;

(3) Water plant and distribution systems treatment principles, including chemical storage and handling;

(4) Water sampling and analysis;

(5) Water plant and distribution system documentation and reporting requirements; and

(6) Cross-connection control and backflow prevention.

b. Reference (p) requires states to develop operator certification programs which must specify minimum standards for operators of community and non-transient, non-community PWSs. Details include provisions for certification, recertification, and grandfathering.

21-4 Responsibilities

21-4.1. OPNAV (N45) shall:

a. Coordinate the overall implementation of SDWA requirements,

b. Issue policy guidance as needed,

c. Act as the assessment sponsor for SDWA projects, and

d. Approve or disapprove monitoring waivers for bacteriological sampling by Navy consecutive non-community water systems.

21-4.2 CNIC shall:

a. Serve as executive agent for drinking water quality matters for all Navy shore facilities and installations;

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b. Provide annually, by 15 December, a report on the status of Navy shore facility and installation drinking water quality for the previous fiscal year as specified in section 21-3.1.c;

21-4.3 NAVFACENGCOM shall support CNIC on all aspects of drinking water system management, including, but not limited to: operation, maintenance, repair, compliance testing results from the United States accredited and certified laboratories, and compliance with applicable drinking water quality standards.

21-4.4. BUMED shall:

a. Establish and publish appropriate medical surveillance guidance for Navy water systems; and

b. Provide public health advice and consultative services to CNIC and Navy commands for drinking water quality to include: risk assessment and risk communication; review of drinking water sampling and compliance data; public health assistance on preparation of consumer confidence reports and public notifications; and health related recommendations when water does not meet U.S. water quality standards; and

c. Determine when drinking water system issues or discrepancies warrant implementation of alternative water supplies and coordinate corrective action with the CNIC and NAVFACENGCOM.

21-4.5. Regional environmental coordinators (RECs) shall:

a. Provide coordination and assistance to installations within the applicable region regarding implementation of this chapter; and

b. Assist BSOs with resolution of issues and communication with OPNAV (N45) and federal, state, and local regulators.

21-4.6. BSOs shall:

a. Implement SDWA program requirements at their shore installations;

b. Plan, program, budget, and provide funding for current and future requirements of SDWA, state and local regulations, E.O.s, and Navy policy; and

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c. Ensure activities under their command comply with current federal, state, regional, and local laws, E.O.s, regulations, and permits.

d. Provide any information to CNIC as necessary for the annual drinking water quality report to VCNO specified in section 21-3.1.c.

21-4.7. Commanding officers (COs) or officers in charge of shore installations shall:

a. Ensure the installation is in compliance with all federal, state, and local regulations; E.O.s; and Navy policy pertaining to drinking water;

b. Identify, plan, program, budget, and implement requirements for current and future requirements under SDWA state and local regulations, E.O.s, and Navy policy;

c. Ensure contracts between Navy and water suppliers require the supplier to provide the results of all permit required NPDWR monitoring performed on raw and treated water that serves the applicable Navy installation or command at least once a year;

d. Ensure all personnel involved in the drinking water program are properly trained; and

e. Report noncompliance with any NPDWR.

21-5 Definitions

21-5.1. Action Level. The AL is the concentration of lead or copper in water that is used to determine compliance with the Lead and Copper Rule. Under the Lead and Copper Rule, ALs have replaced lead and copper MCLs.

21-5.2. Backflow Preventer. A backflow preventer is an approved device, assembly, or piping arrangement (i.e., air gap) used to prevent backflow into a potable water system.

21-5.3. Community Water System. A CWS is a PWS that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

21-5.4. Consecutive Public Water System. A consecutive PWS is a water system which has no water production or source facility

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of its own, which obtains all of its water from another water system, and meets the definition of a PWS.

21-5.5. Consecutive Water System. A consecutive water system is a water system which has no water production or source facility of its own and which obtains all of its water from another water system. A consecutive water system may be further classified as any of the water system types shown in figure 21-1.

21-5.6. Consumer. A consumer is any person served by a PWS. Human consumption includes drinking, bathing, showering, cooking, dishwashing, and maintaining oral hygiene.

21-5.7. Consumer Confidence Report. A CCR is an annual report which provides water quality information to consumers. The CCR must contain mandatory information and be delivered to customers annually by 1 July.

21-5.8. Consumptive Use Permit. A consumptive use permit regulates the withdrawal of groundwater.

21-5.9. Cross-Connection. A cross-connection is any physical arrangement whereby a water supply system is connected, directly or indirectly, with any other sewer, drain, plumbing fixture, or other device which contains or may contain contaminated water.

21-5.10. Customer. A customer is a billing unit or service connection to which water is delivered.

21-5.11. Disinfectant. A disinfectant is any oxidant including, but not limited to, chlorine, chlorine dioxide, chloramines, and ozone added to any part of the treatment or distribution process for the purpose of killing or inactivating pathogenic microorganisms.

21-5.12. Disinfection Byproducts. Disinfection byproducts are compounds formed from the reaction of a disinfectant with organic and inorganic compounds in the source water during the disinfection process.

21-5.13. Emergency Response Plan. The potable water ERP shall include, but not be limited to, plans, procedures, and identification of equipment that can be implemented and utilized in the event of a terrorist or other intentional attack on the PWS.

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21-5.14. Lead-Free. Solders and flux are considered lead-free if they contain no more than 0.2 percent lead; wetted surfaces of pipes, pipe fittings, plumbing fittings, plumbing fixture and fixtures are considered lead-free if they contain no more than an 8 percent (note: beginning January 2014, this will change from 8 percent to a weighted average of 0.25 percent lead).

21-5.15. Lead Service Line. A lead service line is a service line made of lead that connects the water main to the building inlet and any lead pigtail, gooseneck, or other fitting that is connected to such lead line.

21-5.16. Maximum Contaminant Level. The MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a PWS.

21-5.17. Non-Community Water System. A non-community water system is a PWS that is not a CWS. There are two kinds of non-community water systems: transient and non-transient.

21-5.18. Non-Transient, Non-Community Water System. A NTNCWS is a PWS that is not a CWS and that regularly serves at least 25 of the same persons over 6 months per year.

21-5.19. Permitted Public Water System. A permitted PWS is a PWS that has been issued a permit or other formal authorization to operate (i.e., has been issued a PWS identification number).

21-5.20. Potable Water. Potable water is water that has been examined and treated to meet the proper standards and declared by the responsible authorities to be fit for drinking.

21-5.21. Public Water System

a. A PWS is a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year. Such term includes:

(1) Any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and

(2) Any collection or pretreatment storage facilities not under such control, used primarily in connection with such system.

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b. A PWS is either a CWS or a non-community water system. Figure 21-1 helps installations determine what type of system they operate.

21-5.22. Sanitary Survey. A sanitary survey is an on-site review of the water sources, facilities, equipment, operation, and maintenance of a PWS for the purpose of evaluating the adequacy of such sources, facilities, equipment, operation, and maintenance for producing and distributing safe drinking water.

21-5.23. Selling Water. There is no definition of "selling water" in the SDWA. Refer to discussion under section 21-3.2.

21-5.24. Service Connection. A service connection is the opening, including all fittings and appurtenances, at the water main through which water is supplied to the user.

21-5.25. Source Water Assessment Program. Source water assessment programs delineate source water protection areas, inventory significant contaminants in these areas, and determine the susceptibility of each public water supply to contamination.

21-5.26. Source Water Protection Program. Source water protection programs are state efforts to manage identified sources of contamination in a manner that will protect drinking water supplies based on the source water assessment program.

21-5.27. Supplier of Water. A supplier of water is any person who owns or operates a PWS. Under SDWA, a person is defined as an individual, corporation, company, association, partnership, municipality, or federal, state, or tribal agency.

21-5.28. Transient, Non-Community Water System. A TNCWS is a non-community water system that does not regularly serve at least 25 of the same persons over 6 months per year.

21-5.29. Treatment Technique. A TT is a required process intended to reduce the level of a contaminant in drinking water.

21-5.30. Underground Injection. Underground injection means well injection (i.e., the subsurface emplacement of fluids through a bored, drilled, or driven well or through a dug well where the depth of the dug well is greater than the largest surface dimension (reference (i))).

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21-5.31. Water System Vulnerability Assessment. A WSVA is an assessment of the vulnerability of a PWS to a terrorist attack or other intentional acts intended to substantially disrupt the ability of the system to provide safe and reliable supply of drinking water.

21-5.32. Well. A well is a bored, drilled, or driven shaft; or a dug hole whose depth is greater than the largest surface dimension.

21-5.33. Wellhead Protection Program. A wellhead protection program is a program to protect groundwater supply wells and well fields that contribute drinking water to public water supply systems.