



UNITED STATES MARINE CORPS  
MARINE CORPS INSTALLATIONS COMMAND  
3000 MARINE CORPS PENTAGON  
WASHINGTON, DC 20350-3000

IN REPLY REFER TO:  
5090  
G-F

FEB 24 2014

MARINE CORPS INSTALLATIONS COMMAND POLICY LETTER 2-14

From: Commander, Marine Corps Installations Command (MCICOM)  
To: Distribution List

Subj: SAMPLING AND TESTING FOR LEAD IN DRINKING WATER IN PRIORITY AREAS

Ref: (a) Safe Drinking Water Act, 42 USC 300f-300j  
(b) SECNAVINST M-5210.1, Records Management Manual  
(c) Navy Medicine Enterprise Nursing Procedures Manual, June 2013  
(d) BUMED INFO Paper "Recommendation to Remove Naval Hospitals from 'Priority Areas' for Lead Testing in Drinking Water", October 2013  
(e) MCO P5090.2A  
(f) 3Ts for Reducing Lead in Drinking Water in Schools Revised Technical Guidance, October 2006  
(g) 3Ts for Reducing Lead in Drinking Water in Child Care Facilities: Revised Technical Guidance, December 2005

Encl: (1) Lead in Drinking Water at Priority Areas Generic Notification Letter Template  
(2) Lead in Drinking Water at Priority Areas Direct Notification Letter Template  
(3) Lead in Drinking Water Fact Sheet Template

1. Situation. Per the references, Marine Corps installations are required to follow U.S. Environmental Protection Agency (EPA) guidelines when testing and sampling drinking water for lead from water fountains, faucets, and other outlets used primarily by children. These "priority areas" are defined as outlets in primary and secondary schools, Child Development Centers (CDCs), School Age Centers, and Youth and Teen Centers. Priority areas do not include on-base or off-base 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 the Department of Defense. Since reference (c) mandates the use of sterile water to reconstitute powdered formula and as recommended by Bureau of Medicine and Surgery in reference (d), hospital pediatric and maternity wards have been removed from the priority area definition.

2. Mission. To provide policy and procedures regarding sampling and testing of drinking water in priority areas at Marine Corps installations in order to ensure a uniform, consistent, and effective program.

3. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent. The leading cause of lead in drinking water is through leaching from plumbing materials and fixtures as water moves through the distribution infrastructure. Even though drinking water from the water treatment plant may meet federal, state, local, and overseas standards, a facility may still encounter elevated lead at the outlet or spigot due to lead in plumbing materials.

(2) Concept of Operations. The EPA is required to publish guidance and testing protocols to assist schools in determining the source and degree of lead contamination in drinking water supplies and, if applicable, in remedying such contamination. EPA has published guidance for both schools and day care centers in references (f) and (g). These references include recommendations regarding developing a sampling plan, interpreting results in order to pinpoint specific outlets that may require corrective action (e.g., water cooler replacement), short and long term remedies, and communicating sampling results.

b. Coordinating Instructions

(1) Tasks. Effective immediately, all installations are directed to implement a three-step program for sampling and testing drinking water in priority areas pursuant to references (f) and (g). Sampling and testing under 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 under the Lead and Copper Rule covered by 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 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 reference (g). If sampling continues to exceed 20 ppb, installations shall institute permanent corrective actions in accordance with references (f) and (g). Step 1 shall be completed for all priority areas by 31 December 2014.

(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, then the requirement to test new construction is waived.

(c) Step 3, Retesting. Installations shall re-test priority areas every five years from the established baseline, or more frequently if required by regulatory agencies.

Subj: SAMPLING AND TESTING FOR LEAD IN DRINKING WATER IN PRIORITY AREAS

4. Administration and Logistics

a. 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 shall be provided to the parents or legal guardians of children attending schools and/or Child Development Centers (CDCs), 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. Templates are provided as enclosures (1), (2), and (3) to facilitate notification of test results to families. In accordance with reference (b), all records of sampling and testing of drinking water in priority areas shall be maintained for 12 years.

b. Funding requests for sampling and testing for lead in drinking water in priority areas should be entered into the Status Tool for the Environmental Program (STEP).

c. Compliance with this policy shall be verified during annual internal Environmental Compliance Evaluations (ECEs) and triennial external ECEs.

d. The requirements reflected in this letter will be included in the next revision of reference (e). The point of contact for this policy is Ms. Misha Turner at (571) 256-2807, or misha.turner@usmc.mil.

5. Command and Signal

a. Command. This policy is applicable to all personnel within MCICOM, its various commands and subcommands.

b. Signal. This policy is effective the date signed.

  
J. G. AYALA

DISTRIBUTION: C

## Generic Letter Template – Lead in Drinking Water Policy

[DATE]

RE: Availability of Lead in Drinking Water Test Results at [SCHOOL/CHILD CARE CENTER NAME]

Dear Parents and Guardians,

The United States Marine Corps is committed to protecting the health of our Marines, civilian staff, and their families by providing safe drinking water. We monitor drinking water quality throughout the base, including testing for lead. It is Marine Corps policy to follow U.S. Environmental Protection Agency (EPA) voluntary guidelines for testing and sampling of water from drinking water fountains, faucets, and other outlets from which children may drink at schools and daycare centers.

EPA suggests that priority area facilities test their drinking water for lead because high levels of lead in drinking water can cause health problems. Pregnant women, infants, and children under 6 years old are most vulnerable to lead exposure. If lead is found at any water outlet at levels above 20 parts per billion (ppb), EPA recommends taking action to reduce lead exposure.

Lead most frequently enters the drinking water by leaching from plumbing materials and fixtures as water moves through the facility's distribution system. Lead is more likely to be found in drinking water when the water has not been run for several hours and has been sitting in the system.

Our safe drinking water program is outlined in Marine Corps policy (Marine Corps Order 5090.2A). This policy provides requirements and guidance regarding sampling and testing of drinking water in priority areas at Marine Corps installations, taking corrective actions, and communicating sampling results. Testing will be conducted on five year intervals or when significant plumbing modifications are made, which exceeds current EPA recommendations.

You can review all of our water testing results in [SCHOOL'S/CHILD CARE CENTER'S NAME] main office during normal business hours without cost or restriction.

If you have any questions about the quality of this [school's/childcare center's] water please contact [NAME] at [NUMBER].

Sincerely,

## Direct Letter Template

### Lead in Drinking Water at Priority Area Facilities

Dear Parents and Guardians:

The United States Marine Corps is committed to protecting the health of our Marines, civilian staff, and their families by providing safe drinking water. We monitor drinking water quality throughout the base, including testing for lead. It is Marine Corps policy to follow U.S. Environmental Protection Agency (EPA) voluntary guidelines for testing and sampling of water from drinking water fountains, faucets, and other outlets from which children may drink at schools and day care centers.

EPA suggests that priority area facilities test their drinking water for lead because high levels of lead in drinking water can cause health problems. Pregnant women, infants, and children under 6 years old are most vulnerable to lead exposure. If lead is found at any water outlet at levels above 20 parts per billion (ppb), EPA recommends taking action to reduce lead exposure.

Lead most frequently enters the drinking water by leaching from plumbing materials and fixtures as water moves through the facility's distribution system. Lead is more likely to be found in drinking water when the water has not been run for several hours and has been sitting in the system.

The Marine Corps' safe drinking water program is outlined in Marine Corps policy (Marine Corps Order P5090.2A). This policy provides requirements and guidance regarding sampling and testing of drinking water in priority areas at Marine Corps installations, taking corrective actions, and communicating sampling results. Testing will be conducted on five year intervals or when significant plumbing modifications are made, which exceeds current EPA recommendations.

Of the [number] water samples we tested at [specific facilities], [number] showed lead levels above the 20 ppb threshold. In other words, [percentage] of the water outlets tested did not have any lead detections of concern.

The outlet(s) with high lead levels was a [type of outlet; e.g., water fountain or kitchen sink faucet] at [specific facility name]. We found the source of the lead was a [specific source of lead; e.g., fixture component or solder]. We addressed the issue by [describe action taken to fix the problem; e.g., securing the outlet or replacing the fixture]. We retested the outlet and found that the problem was [resolved – if unresolved, describe further measures taken].

[Describe additional outlets where lead was found above the 20 ppb threshold.]

[Describe additional mitigating factors. For example: (1) The facilities use commercially-filtered water for drinking water. (2) The outlets requiring additional measures were already out of service. (3) The outlets requiring additional measures were used infrequently for purposes other than providing drinking water (e.g., cleaning, hand washing).]

[Describe planned actions to further mitigate any lead in drinking water issues, if applicable. For example: (1) The outlets placed out of service will be replaced with lead-free fixtures. (2) The outlets placed out of service will be fitted with point-of-use reverse osmosis filters to reduce lead concentrations.]

You can find a copy of all of our water testing results at [specific facility], which is open [hours] and online at [web address]. For more information about drinking water quality, please contact [POC] at [email address and phone number].

Sincerely,



# LEAD *in* DRINKING WATER



*The United States Marine Corps is committed to protecting the health of our Marines, civilian staff, and their families by providing safe drinking water. Drinking water quality, including testing for lead, is monitored throughout the installation. It is Marine Corps policy to follow Environmental Protection Agency (EPA) voluntary guidelines for testing and sampling of water outlets from which children may drink at schools, childcare centers, hospital pediatric wards, and maternity wards. If you have any questions about how [installation] implements the safe drinking water policy, please contact [phone/email contact].*

## WHAT IS LEAD?

- Lead is a naturally occurring metal that can be harmful if inhaled or swallowed.
- Lead can be found in air, soil, dust, food, and water, and is common in plumbing materials and water service lines.
- Exposure to high levels of lead can result in adverse health effects.

## WHAT ARE THE HEALTH RISKS OF LEAD EXPOSURE?

- Pregnant women, infants, and children under 6 years old are the most vulnerable to lead exposure.
- Growing children absorb lead more rapidly and are negatively impacted by a level of lead exposure that would have little effect on an adult.
- A child's mental and physical development can be irreversibly impaired by over-exposure to lead.
- EPA estimates that drinking water can make up 20% or more of a person's total lead exposure.
- Infants who consume mostly mixed formula can receive 40% to 60% of their exposure to lead from drinking water.

## HOW DOES LEAD GET INTO A FACILITY'S DRINKING WATER?

- Even though drinking water from water treatment plants may meet federal, state, local, and overseas standards, a facility may still encounter elevated lead levels at the outlet or spigot due to lead in plumbing materials.
- Lead most frequently enters drinking water from corrosion of materials containing lead in the water distribution system, such as plumbing pipes, solder, water coolers, and faucets.
- Many factors contribute to corrosion, including the acidity of the water, and how long water stands in the plumbing system.

## HOW MUCH LEAD IN DRINKING WATER IS TOO MUCH?

- EPA set a guidance level of 20 parts per billion (ppb) in school or childcare settings to protect children who are exposed to lead in drinking water on a recurrent basis.
- EPA recommends that schools collect samples from water fountains and outlets when they are first used during the day, which maximizes the likelihood that the highest concentrations of lead are found because water remained in plumbing overnight.
- When sampling results show lead levels exceeding 20 ppb, those fountains and outlets are taken out of service until remediation is complete.

## WHAT IS REMEDIATION?

- Remediation refers to both short- and long-term actions taken to reduce the levels of lead in drinking water if test results indicate that there is a lead issue at a school or childcare facility.
- EPA's school sampling protocol was designed to identify specific fountains and faucets that require remediation, such as water cooler replacement.

## WHAT CAN I DO TO PROTECT MY CHILD FROM LEAD EXPOSURE?

- Actions at home to reduce lead exposure are just as important as steps schools or childcare centers take to reduce lead. EPA's lead poisoning home checklist (available at <http://www2.epa.gov/sites/production/files/documents/chancechecklist.pdf>) can help assess lead risks at home. Steps to reduce lead exposure in drinking water at home include:
  - ✓ Running the cold water faucet for 15-30 seconds to flush taps if water has been unused for more than six hours.
  - ✓ Using only cold water for drinking and cooking.
  - ✓ Using bottled water.

## WHERE CAN I FIND MORE INFORMATION?

- Contact your family doctor or pediatrician who can perform blood tests for lead.
- [Water Provider] at [phone/email/website] can provide you with information about your facility's water supply.
- More information on the health effects of lead can be found on EPA's website at <http://www2.epa.gov/lead>.

ACTION MEMO

October 11, 2013

FOR: CHIEF, BUREAU OF MEDICINE AND SURGERY

FROM: RDML Terry Moulton, Deputy Chief, Medical Operations (M3) *tm 10/22/13*

SUBJECT: BUMED Comments on Revised Draft OPNAVINST 5090.1C

- TAB A is the BUMED Comment Matrix and associated Information Paper recommending that hospitals be removed from “priority areas” for testing lead in drinking water, in response to the draft OPNAVINST 5090.1C Policy Memo.
- TAB B is draft OPNAVINST 5090.1C Policy Memo “Sampling and Testing for Lead in Drinking Water in Priority Areas” dated 24 Sep 13.
- TAB C is draft MCO 5090LF “Sampling and Testing for Lead in Drinking Water in Priority Areas”.

RECOMMENDATION: Chief, BUMED approve TAB A for forwarding to OPNAV.



Approve

Disapprove

COORDINATION: TAB D

ATTACHMENTS:

As stated

Prepared by: LCDR Lori Christensen, M03B2, (703) 681-5568 or [lori.christensen@med.navy.mil](mailto:lori.christensen@med.navy.mil)

**Purpose:** Recommendation to Remove Naval Hospitals from the "Priority Areas" for Lead Testing in Drinking Water

**Background:**

- OPNAVINST 5090.1C (Environmental Readiness Program Manual) is currently under revision. As written, para 10-5.2(c) requires lead testing be conducted for all drinking water coolers and outlets in Priority Areas defined as: primary and secondary schools, daycare centers, hospital pediatric wards, maternity wards and food preparation areas located in hospitals. MCO P5090.2A (Environmental Compliance and Protection Manual) has the same testing requirement and uses identical language to define "Priority Areas".

**Discussion:**

- Per the June 2013 update to the Navy Medicine Enterprise Nursing Procedures Manual, powdered formula re-constitution in all Navy hospitals will occur with sterile water. Tap water is specifically noted not to be used for formula in medical treatment facilities by staff members. The specific policy and alert can be viewed at:  
<http://mns.elsevierperformancemanager.com/SkillsConnect/Default.aspx?Token=MNS037882010&SkillID=9015>.
- Current policy to sample for lead in priority areas is based on an EPA recommendation. However, the EPA recommendation and associated technical guidance refer only to testing for lead in drinking water in "schools and child care facilities", not hospitals.
- EPA recommendations include testing of schools and day care centers only because:
  - The target population most at risk is children (6 years and younger) who are most susceptible to potential adverse effects of lead. Similarly, BUMED's formal pediatric lead screening program (BUMEDINST 6200.14B - Pediatric Lead Poisoning Prevention (PLPP) Program - 31 Jul 09) also targets children 6 years and younger.
  - Children spend significant time (months) at these facilities, are likely to consume tap water while at these facilities, and the water use patterns (weekends, holidays, and summer) for these type facilities are intermittent so the potential for lead to leach into water can increase the longer the water remains in contact with lead in plumbing.
- This EPA recommendation is guidance only and not a regulatory compliance requirement under the Safe Drinking Water Act. In addition to the referenced policies, public and municipal water systems must comply with federally mandated drinking water requirements for the control of lead and copper, as stated in the Federal Lead and Copper Rule (LCR).
- Current guidance for other DoD departments (USA, USAF) and civilian hospitals do not include hospitals as priority areas for testing lead in drinking water.
- The application of this requirement to Naval Hospitals is not based on scientific mandates or health risk assessment

**Recommendation:** Remove hospital maternity and pediatric wards from the "priority area" for testing as defined in OPNAVINST 5090.1C and MCO P5090.2A.

**Point of Contact:** LCDR Lori Christensen, BUMED M3, [lori.christensen@med.navy.mil](mailto:lori.christensen@med.navy.mil), (703) 681-5568



DEPARTMENT OF THE NAVY  
OFFICE OF THE ASSISTANT SECRETARY  
(ENERGY, INSTALLATIONS AND ENVIRONMENT)  
1000 NAVY PENTAGON  
WASHINGTON DC 20350-1000

December 20, 2013

MEMORANDUM FOR DEPUTY CHIEF OF NAVAL OPERATIONS (FLEET  
READINESS AND LOGISTICS) (N4)  
DEPUTY COMMANDANT OF THE MARINE CORPS  
(INSTALLATIONS AND LOGISTICS)

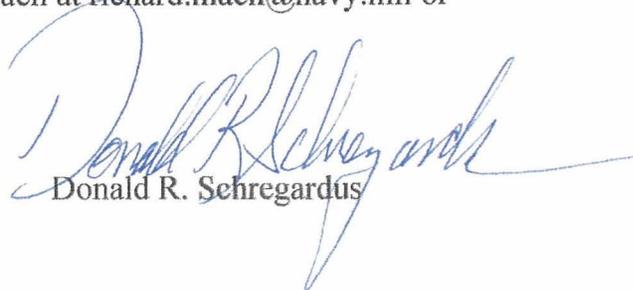
SUBJECT: Sampling and Testing for Lead in Drinking Water in Priority Areas

Ref: (a) OPNAVINST 5090.1C  
(b) MCO 5090.2A  
(c) ASN Memo, 14 Jun 13  
(d) BUMED Memo, 11 Oct 13

The Department of the Navy (DON) is committed to ensuring all men, women, and children who live or work on DON installations and facilities receive safe drinking water. Navy and Marine Corps maintain comprehensive environmental instructions (references (a) and (b)) detailing procedures to meet and exceed requirements found in statute, regulation, and policy. While there is no federal law requiring schools or child care facilities to test drinking water for lead unless the school/facility has its own water supply, references (a) and (b) have proactively required sampling and testing in these "priority areas."

Per reference (c), your staff briefed me regarding your proposed amendments to references (a) and (b). After further discussions between our staffs through the fall, agreement has been reached on all pertinent matters to ensure consistent policy throughout DON regarding lead testing in priority areas. Reference (d) was the final document needed to support removal of hospital maternity and pediatric wards from the definition of priority areas.

I support the immediate release of your policy amendments to references (a) and (b) regarding sampling and testing for lead in drinking water in priority areas. My point of contact is Mr. Richard Mach at richard.mach@navy.mil or (703) 614-5463.

  
Donald R. Schregardus