U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

ORDER JO 3900.61

Effective Date

08/24/09

SUBJ: Drinking Water Testing at Air Traffic Organization Facilities

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The Air Traffic Organization (ATO) is committed to providing potable water to its employees in accordance with labor union agreements and Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) regulations. This order provides direction and guidance regarding the testing of drinking water at staffed ATO facilities. The objectives of this policy are to:

- Standardize drinking water testing procedures at ATO facilities;
- Define roles and responsibilities for managing drinking water issues;
- Provide procedures for responding to drinking water quality issues.

This policy applies only to facilities that obtain drinking water from a municipal water source or from a drinking water well serving fewer than 25 people or having fewer than 15 connections. This policy does not apply to facilities that obtain water from cisterns or maintain supplemental chemical treatment systems to treat drinking water.

This policy shall be implemented immediately for all future drinking water testing events. For facilities that have conducted testing within the previous three years, protocols within this policy shall be implemented during the next scheduled sampling event. It is not necessary to retest drinking water that has been sampled within the last three years to comply with this policy.

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Distribution: Selected Air Traffic Organization Offices; A-W (AM)-1; A-X (AM)-2; A-FAF/FAT-0 (STD)

Initiated By: AJW-23

1. Purpose of this Order. This order provides direction and guidance regarding the testing of drinking water at staffed Air Traffic Organization (ATO) facilities. The objectives of this order are to standardize drinking water testing procedures, define roles and responsibilities for managing drinking water issues, and provide procedures for responding to drinking water quality issues.

2. Audience. All ATO employees and managers who are involved in drinking water testing at ATO facilities.

3. Where Can I Find This Order? You can find an electronic copy of this order on the Directives Management Information System (DMIS) website: https://employees.faa.gov/tools_resources/orders_notices/.

4. Roles and Responsibilities.

a. ATO Service Area Directors for En Route and Oceanic (AJE), Terminal (AJT), System Operations (AJR), and Technical Operations (AJW) shall ensure adequate program support, resources and budget for the implementation of this order.

b. ATO Service Center Directors, or their designees, shall assist the ATO Service Area Directors in implementing the requirements of this order at ATO field facilities, including providing technical, planning, and requirements support.

c. ATO Technical Operations Services, Air Traffic Control (ATC) Facilities, Environmental, Occupational Safety and Health (EOSH) Services is responsible for maintaining and updating this drinking water policy, coordinating funding for testing, and providing technical assistance to resolve drinking water issues.

d. Engineering Services Managers are responsible for ensuring testing of drinking water at facilities affected by F&E projects (i.e., newly constructed, staffed ATO facilities and newly plumbed systems at staffed ATO facilities).

e. Safety and Environmental Compliance Managers (SECM's) and Environmental Protection Specialists (EPSs) are responsible for establishing sampling schedules, ensuring sampling is performed at each ATO staffed facility every three (3) years or as needed, providing a summary and guidance of analytical results to the Facility Manager, and providing technical assistance for the development of a Corrective Action Plan.

f. Facility Manager, for purposes of this order, is the person who has overall responsibility for ensuring that maintenance activities are performed at an FAA facility. The Facility Manager serves as the point of contact for employees and union representatives for drinking water issues at that facility. The Facility Manager is responsible for coordinating drinking water testing with the SECM/EPS, posting signs and notices regarding drinking water

issues, maintaining facility analytical reports, and developing and implementing a Corrective Action Plan.

g. Regional Flight Surgeon provides technical assistance for the development of a Corrective Action Plan to address employee health issues related to drinking water.

h. Employees are responsible for elevating any water quality issues to their supervisor or Facility Manager. An employee may be either an FAA employee or FAA contract employee.

5. Applicability.

a. This policy applies to all ATO staffed facilities where FAA employees have access to drinking water from either a public water system or from a drinking water well that serves fewer than 25 people or has fewer than 15 service connections. This policy also applies to newly constructed, staffed ATO facilities and newly plumbed systems at staffed ATO facilities.

b. This policy does not apply to ATO-owned or ATO-leased facilities that:

(1) Obtain drinking water from cisterns.

(2) Chemically treat water prior to it being distributed through faucets, spigots, or shower heads.

(3) Obtain drinking water from wells serving 25 people or more or has 15 or more service connections.

c. For drinking water sampling requirements at facilities where this policy does not apply, contact your SECM/EPS for drinking water testing guidance.

6. Sampling Frequency.

a. Testing at Newly Constructed and Newly Plumbed Facilities. Drinking water will be tested for pH, lead, copper, and total coliforms at newly constructed, staffed ATO facilities and newly plumbed systems at staffed ATO facilities. The testing will be conducted prior to the contractor acceptance inspection (CAI).

b. Ongoing Testing at Staffed Facilities. Drinking water at each staffed ATO facility will be tested triennially (i.e., every three years) to determine the pH and the levels of lead, copper, and total coliforms present in the facility's drinking water.

c. Unscheduled Testing. If an action occurs that could impact the facility's drinking water, the Facility Manager will consult with the SECM/EPS, and based on their professional judgment and specific circumstances, will determine the need for performing drinking water testing. This testing would be conducted in addition to the scheduled triennial testing to confirm the quality of the facility's drinking water. Appendix D, Water Quality Issue Memo, may be

used by the Facility Manager to report the issue to the SECM/EPS. Use of this memo is voluntary. Circumstances that may indicate the need for unscheduled testing may include, but are not limited to:

(1) For FAA facilities obtaining drinking water from wells, hazardous materials spills or known groundwater contamination near the facility.

(2) Water main breaks prior to water entering the facility.

(3) Backflow valve replacement at the facility.

(4) Public advisories (e.g., Boil Water Advisory) issued from local water suppliers.

(5) Numerous objections to water odor, taste, or color by FAA employees.

(6) Sampling plan conducted in accordance with a previously established Corrective Action Plan to restore the drinking water to potable standards.

7. Sampling Procedures.

a. The SECM/EPS and Facility Manager will coordinate the scheduling, preparation and performance of drinking water sampling at each staffed ATO facility. The Facility Manager will be responsible for ensuring that all preparatory procedures for sampling are completed prior to sampling, such as identifying faucets and fountains to be sampled, disabling the faucets and fountains from use for a pre-determined time frame (as specified in Appendix B, Drinking Water Sampling Protocols, or laboratory instructions), posting "DO NOT USE" signs on each faucet and fountain to be tested, and communicating with employees regarding the testing and posted signs.

b. Coordination with a certified testing laboratory must be accomplished prior to sampling. The SECM/EPS, support contractors, or laboratory personnel will collect the samples in accordance with the sampling protocol provided by the laboratory. In the absence of sampling instructions from the laboratory, follow the instructions provided in Appendix B. The lab that will ultimately perform the analysis will provide sample containers along with specific instructions on how to fill sample bottles, sealing the sample containers, labeling sampling containers, and storage, shipping and handling. If the sampling instructions used differ from the instructions specified in Appendix B, the sampling instructions will be provided to interested parties by request.

c. Samples will be collected from all interior drinking water sources (e.g., drinking water fountains, break room/cafeteria sinks, plumbed coffee makers, soda fountains, ice-making machines). Additionally, samples will be collected from 20 percent of the remaining non-drinking water sources that may come into contact with employees (e.g., bathroom sinks, showers, mop room/janitorial closet sinks, fixtures in food preparation areas). It is unnecessary to collect samples from fixtures that do not routinely come into contact with employees (e.g., exterior/interior garden hoses, fire protection systems, chiller system water).

8. Analysis and Reporting.

a. For ATO facilities where water is supplied by a public water system (e.g., municipal water), samples will be analyzed triennially for pH, lead, copper, and total coliforms. Samples may also be tested for other contaminants during triennial testing if there is reasonable potential for the existence of other contaminants in the facility's drinking water (see Appendix C, Other Possible Tests Based on Visual Observations or Other Factors, for other possible tests). The SECM/EPS will consult with the Facility Manager to determine any additional testing parameters.

b. For ATO facilities where water is supplied by a drinking water well that serves fewer than 25 people or has fewer than 15 service connections, samples will be analyzed triennially for pH, lead, copper, total coliforms, and any other contaminants that the SECM/EPS, in coordination with the Facility Manager, has determined appropriate based on local conditions.

c. For additional unscheduled testing outside of the triennial testing for all ATO staffed facilities, the testing parameters will be determined by the SECM/EPS in coordination with the Facility Manager and will be tailored to the particular concern being evaluated.

d. Sample analysis must be conducted by a certified drinking water laboratory. The Environmental Protection Agency (EPA) Safe Drinking Water web site (http://www.epa.gov/safewater/labs) provides information on how to obtain a listing of certified laboratories to test drinking water for each state.

e. The SECM/EPS will receive the laboratory results of the drinking water from the laboratory and provide the Facility Manager with a summary of the findings, followed up by the full analytical report and the raw laboratory data via electronic mail or other means. The analytical results will be compared against EPA drinking water standards (http://www.epa.gov/safewater/contaminants) to determine if contaminant levels are exceeded. The Facility Manager is responsible for disseminating the analytical results (and Corrective Action Plan, if established) to all occupants of the facility. The Facility Manager will serve as the employees' point of contact for all drinking water issues for that facility.

9. Recordkeeping.

a. The Safe Drinking Water Act requires public water supply (PWS) systems to provide annual water quality reports, commonly referred to as Consumer Confidence Reports (CCRs), to their customers. These reports indicate what regulated contaminants are present in the water, the concentration of the contaminants, and if contaminants exceed the maximum contaminant level allowed by EPA drinking water standards. As needed, the Facility Manager will contact the PWS for copies of the CCR.

b. Water quality test results for ATO facilities shall be kept on file by the Facility Manager in accordance with the requirements of FAA Order 1350.15C, Records Organization,

Transfer, and Destruction Standards, for recordkeeping of employee health and safety records. Corrective action plan documentation must also be kept on file at the facility until the corrective action and necessary follow-up have been completed.

10. Elevated Contaminant Level Response Process. When it has been determined that the water quality inside the FAA facility does not meet current EPA drinking water standards or exceeds EPA-established action levels, the Facility Manager will be responsible for performing the following actions.

a. Post signs at all affected fixtures, informing employees not to use the fixtures until further notice.

b. If all potable water fixtures at the facility are affected, obtain bottled water to provide to employees. Bottled water will cease to be provided to employees once potable water is restored in the place of employment.

c. Coordinate with the SECM/EPS, Service Center Planning and Requirements Group, and Regional Flight Surgeon to develop a corrective action plan to document the actions taken to restore water quality to EPA drinking water standards. The corrective action plan must document and address the following aspects:

(1) Actions taken to provide employees potable water.

(2) Employee notification and sanitation procedures.

(3) Actions needed to determine source of contamination.

(4) Actions taken to restore water to potable water standards (e.g., repair/replacement of affected supply system components).

(5) Sampling plan to confirm water meets potable water standards within ten (10) days following correction/abatement.

(6) Medical issues (e.g., blood testing).

d. Inform facility supervisors and employees of the corrective action plan contents.

11. Water Emergency Response Event.

a. A Water Emergency Response event is any event having the potential to compromise potable water to a quality level that does not meet EPA drinking water standards. Examples of events that may compromise water quality and trigger a Water Emergency Response action include hazardous materials spills adjacent to well water supplies, publicly announced water advisories (such as a Boil Water advisory), water main breaks, demolition or other activities that have disturbed potable water piping, or flooding within the immediate area.

b. The Facility Manager will inform the SECM/EPS of any Water Emergency Response event and will institute appropriate interim measures (such as posting "DO NOT USE" signs and providing bottled water) until the water quality at the facility can be verified. The Facility Manager will also ensure that employees are adequately briefed on the potential health effects associated with water quality issues.

c. Based on information provided by the PWS operator (if facility water is supplied by a PWS), the SECM/EPS may conduct sampling to determine potential water contamination levels. If analysis reveals that contaminants in excess of EPA drinking water standards are present, the Facility Manager, in coordination with the SECM/EPS, Service Center Planning and Requirements Group, and Regional Flight Surgeon will establish a corrective action plan to restore the water supply to EPA drinking water standards.

Appendix A. Administrative Information

1. Distribution. This order is distributed in headquarters to the director level within Technical Operations, En Route and Oceanic, Terminal Services, System Operations, the Office of the Service Center, and the Office of Aerospace Medicine; to group level within the ATO Service Centers, and the Technical Operations, En Route and Oceanic, Terminal SERvices, and System Operations Service Areas; to the regional Aerospace Medicine divisions; and to all ATO field offices with a standard distribution.

2. Background. The Safe Drinking Water Act of 1974 was established to protect the quality of drinking water in the U.S. The Act authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards. The Occupational Safety and Health Administration (OSHA) regulations require that potable water be provided in all places of employment, for drinking, washing, and cooking (29 CFR §1910.141(b)(1)(i)).

3. Definitions.

a. Coliform. A group of related bacteria whose presence in drinking water may indicate contamination by disease-causing microorganisms.

b. Community Water System. A public community water system serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. Most FAA employees are served by Community Water Systems.

c. Non-community Water System. A public transient non-community water system is a public water system that is not a public community or a public non-transient non-community water system and serves at least 25 transient individuals for at least 60 days in any given calendar year.

d. Disinfectant. A chemical (commonly chlorine, chloramines, or ozone) or physical process (e.g., ultraviolet light) that kills microorganisms such as bacteria, viruses, and protozoa.

e. Facility Manager. The person who has overall responsibility for ensuring that maintenance activities are performed at an FAA facility.

f. Health Advisory. An EPA document that provides guidance and information on contaminants that can affect human health and that may occur in drinking water, but which EPA does not currently regulate in drinking water.

g. Non-transient, Non-community Water System. A public non-transient non-community water system is a public water system that is not a community water system and regularly serves at least 25 of the same persons for more than 6 months in any given calendar year.

h. Potable Water. Water that meets the standards for drinking purposes of the state and local authority having jurisdiction or water that meets the quality standards prescribed by the EPA's National Interim Primary Drinking Water Regulations, published in 40 CFR Part 141.

i. Public Water System (PWS). Any water system that has at least 15 service connections or regularly services an average of at least 25 people daily for at least 60 days per year.

j. Service connection. A connection to a public water system.

k. Water Emergency Response Event. Any event having the potential to compromise potable water to a quality level that does not meet EPA drinking water standards.

Appendix B: Drinking Water Sampling Protocols

Purpose

The purpose of this appendix is to provide general guidance to establish proper sampling protocols for staffed ATO facilities that are supplied drinking water from either a public water source or a drinking water well that services fewer than 25 people or has fewer than 15 service connections. If the water source falls outside of these parameters, consult the SECM/EPS for additional guidance on sampling.

Preparation for Sampling

1. Conduct a facility walk-through to evaluate pipe composition for all water supply pipes, water faucets, drinking water fountains, and appliances that are connected to water supply lines (e.g., ice makers, coffee makers). Perform an inventory of all drinking water sources (e.g., fountains, break rooms/kitchen sinks, coffee and soda machines that are directly connected to the water system, ice makers). All drinking water sources will be tested.

2. Perform an inventory of all other non-drinking sources that may come into contact with employees (e.g., bathroom sinks, showers, mop room/janitorial closet sinks, fixtures in food preparation areas). Identify 20% of non-drinking water sources to be tested.

3. Ensure that the tested water fixtures are not used for at least 6 hours before the test by marking each fixture to be tested with a sign stating "DO NOT USE". It is permissible to use tape to make the fixture inoperable for the required 6 hours. (NOTE: Do not use a shut off valve to shut the water off at the fixture because it is possible to release some quantities of solder and metal deposits in the valve.)

4. Coordinate with managers to inform them that water is being tested within the next few hours in their facility and to inform all employees to observe signs that will be posted on various fixtures in the facility.

General Sampling Instructions

Contact a certified water testing laboratory to obtain sample containers and detailed sampling instructions. In the absence of detailed instructions from the lab, follow the protocol below.

1. By consulting inventory performed in steps above, determine locations where representative samples will be taken. To prevent sample contamination, use antiseptic techniques (e.g., washing hands with soap and water or sanitizer, use of rubber gloves). If possible, remove aerators and filters from the faucets to be sampled, then wipe fixture with isopropyl alcohol swab or towelette to disinfect.

2. Do not rinse the sample container as it may contain preservatives to protect sample.

3. Hold the sample container in one hand and remove the cap with the other hand. Then, turn on the water and move the container into the running stream without turning the faucet on and off. Do not touch the opening or any interior part of the sample container or cap. Do not set the cap down. Fill to the neck of bottle or fill line.

4. Immediately replace cap and tighten securely. Label bottle with facility, sample location, date and time of sample taken. Follow the laboratory's shipping instructions.

Sampling for Lead and Copper

Because lead and copper may be leached from plumbing systems when water stands in the lines, it is important to follow these procedures:

1. Do not run water for at least 6 hours before collecting this sample. Turn the cold water faucet on and fill the sample container with the first flow from the faucet. Do not allow any water to run before collecting the sample. This is called a "first-draw" or "first-flush" sample.

2. Choose 10% of the faucets being sampled to collect "purged-line" or "flushed" samples. This provides a sample that has not been in contact with the plumbing system for an extended period of time. To collect this second sample, allow the tap to run for at least five minutes.

Lead and Copper Test Results: Fixtures tested must be below action level of 15 parts per billion (ppb) for lead and 1.3 parts per million (ppm) for copper. Both the magnitude of lead and copper concentration and the comparison between the first-draw and flushed samples must be considered when interpreting test results. If results show higher levels of lead and copper in the first-draw sample than the flushed sample, the lead and copper are most likely coming from components of the facility plumbing, such as pipes or fittings. On the other hand, if test results show nearly equal amounts of lead and copper in both the first-draw and flushed samples, the lead and copper are probably coming from a source outside the facility.

Sampling for Total Coliforms

1. After clearing the line by running water for at least 5 minutes, reduce water flow to a clear stream with no bubbles and collect sample.

2. Protect the sample from sunlight and keep it cool but do not freeze.

3. Be sure sample arrives at the laboratory within 24 hours of collection.

Total Coliforms Test Results: Fixtures tested must not have any sample come back positive for total coliforms.

Appendix C: Other Possible Tests Based on Visual Observations or Other Factors

Symptom	Description	Recommended Tests
Stained plumbing fixtures cooking utensils and/or laundry	red or brown	iron
	reddish-brown slime	iron bacteria
	black	manganese
	green or blue	copper
	chalky white	hardness
Off-color water	cloudy	turbidity, suspended solids
	black	hydrogen sulfide, manganese
	brown or yellow	iron, tannic acid
Unusual taste and odor	rotten egg	hydrogen sulfide
	metallic	pH, corrosion index, iron, zinc, copper, lead
	salty	total dissolved solids (TDS), chloride, sodium
	septic, musty, earthy	total coliform bacteria, methane
	alkali, bitter	pH, total dissolved solids (TDS)
	gasoline or oil	hydrocarbon scan
	soapy	surfactants (surface-active agents)
Corrosive water	deposits, pitting of plumbing fixtures	corrosion index, pH, copper, lead
Radon	Undetectable by taste, smell, or sight. Potentially present in well water in regions noted for high radon levels	Radon

Appendix D. Water Quality Issue Memo

(to be used by Facility Manager to report water quality concerns to SECM/EPS)

Facility Information

Facility ID: _____ Facility Manager: _____

Date when water quality issue was received: _____

How was water quality issue brought to your attention:

___ Employee Notification ___ Water Quality Test Result ___ Boil Water Advisory

___ Piping Breech ___ Hazardous Material Spill ___ Other (please explain)

Does facility receive water from:

___ Public Water Utility ___ Well ___ Other ___ Don't Know

Is facility water still considered potable? ___ Yes ___ No ___ Don't Know

Previous Facility Tests

Is a copy of last analysis available for review? When was date of last facility water test?
___ Yes ___ No Date: _____

Were there any water quality issues identified when this test was last conducted?
___ Yes ___ No ___ Don't Know

If Yes, what actions were taken to ensure that water was restored to potable water standards?

Interim Control Measures

If facility water is not considered potable:

Were employees provided access to potable water?
___ Yes ___ No ___ Don't know (contact SECM/EPS for assistance)

Is further analysis scheduled?
___ Yes ___ No ___ Unsure (contact SECM/EPS for assistance)

Have facility fixtures been disabled?
___ Yes ___ No

Have employees been instructed on interim control and sanitation procedures?
___ Yes ___ No Date instructed: _____

Appendix E. Acronym List

ATC	Air Traffic Control
ATO	Air Traffic Organization
CCR	Consumer Confidence Report
DMIS	Directives Management Information System
EOSH	Environmental and Occupational Safety and Health
EPA	Environmental Protection Agency
EPS	Environmental Protection Specialist
FAA	Federal Aviation Administration
OSHA	Occupational Safety and Health Administration
P&R	Planning & Requirements
ppb	parts per billion
ppm	parts per million
PWS	Public Water Supply
SECM	Safety and Environmental Compliance Manager