



Public Water System - Self Guide for Point-of-Use (POU) and Point of Entry (POE) Treatment Devices Permitting and Approval Process

Introduction to and Requirements for POU and POE treatment for Public Water Systems

Public water systems (PWS) have many challenges associated with removing naturally occurring contaminants from drinking water supplies; they often find the path to compliance challenging. Prior to 1996, all water systems were required to use centralized treatment systems for the removal of naturally occurring contaminants. The 1996 Amendments to the Safe Drinking Water Act (SDWA) removed the prohibition on using point-of-use (POU) and point-of-entry (POE) treatment devices for public water systems in order to achieve compliance with some of the Maximum Contaminant Levels (MCLs) established under the National Primary Drinking Water Regulations. POU/POE treatment may not be used to meet drinking water standards for microbiological contaminants and nitrate. Microbial or nitrate MCL violations may constitute exceedance(s) of acute contaminants, which means consumers may suffer from illness shortly after ingestion from a public water supply.

POU devices may not be used for the treatment of radon or volatile organic compounds. The reason for this prohibition is that POU devices do not provide adequate protection against exposure through inhalation or skin-contact with such contaminants at the untreated taps (e.g., showerheads).

Lead and Copper Note: POE devices may not be used alone to comply with the lead and Copper rule because these contaminants can be added from internal plumbing. If a POE is installed, the tap should only be used for cleaning and washing purposes. Water for cooking or drinking should come only from the tap with the POU device.

For a small system to use POE/POU in lieu of treatment, MassDEP will follow 310 CMR 22.13A- Small System Variance and Exemptions Provision.

The MassDEP regulations which apply to POU/POE devices can be found in 310 CMR 22.23. A copy of the MassDEP Drinking Water regulations can be located at <http://www.mass.gov/eea/agencies/massdep/water/regulations/310-cmr-22-00-massachusetts-drinking-water-regulations.html>. The definition of POU/POE devices in the regulations is:

Point-of-entry Treatment Device (POE) means a device installed to treat the water entering a house or building for the purpose of reducing contaminants in the water distributed throughout the house or building.

Point-of-use Treatment Device (POU) means a treatment device installed on a single faucet or spigot used for the purpose of reducing contaminants in drinking water at that one faucet or spigot.

The MassDEP regulations also state: “Public water systems may use point-of-use (POU) and/or point-of-entry (POE) devices to comply with an MCL in 310 CMR 22.00, provided that the system receives the prior written approval of the Department in accordance with 310 CMR 22.04 and complies with the following minimum requirements.....”

POU and POE treatment devices rely on many of the same treatment technologies that have been used in central treatment plants. However, while central treatment plants treat all water distributed to consumers to the same level, POU and POE treatment devices are designed to treat only a portion of the total flow. POU devices treat only the water intended for direct consumption (drinking and cooking), typically at a single tap or limited number of taps, while POE treatment devices are typically installed to treat all water entering a single home, business, school, or facility. The cost savings achieved through selective treatment may enable some systems to provide more protection to their consumers than they might otherwise be able to afford. As a practical matter, POU and POE treatment is used most often by a PWS with a limited number of connections because the PWS must have ownership of and have legal authority to access the devices for maintenance.

MassDEP recognizes that POU and POE treatment may be an attractive compliance option for many small water systems and supports their use where appropriate, provided the program established by a water system provides the level of public health

protection required in the SDWA. The Department will review each system's desire to use a POU/POE program on a case-by-case basis taking into consideration the number of service connections, population being served, contaminant of concern, proposed treatment processes, and a system's overall ability to carry out such program.

A PWS opting for the POU/POE treatment option to comply with applicable drinking water regulations must carefully consider cost of implementation, customer education, legal issues/potential liabilities, pilot testing, device/installation requirements, water sampling reporting and notification requirements, as well as any matter of waste handling. Operation and maintenance (O & M) costs also must be factored in. O&M costs are those expenses associated with maintaining a working POU/POE system that involves water sampling at each tap for drinking, reporting sampling results, labor, service contracts, recordkeeping, liability insurance and related administrative functions.

Ultimately, POU or POE treatment devices may be an option for some small PWSs or small distribution systems within a PWS where central treatment is not affordable.

Instructions to Applicant – How to Use This Self Guide

The purpose of this Drinking Water Program (DWP) Self Guide is to assist public water systems (PWS)¹ that are interested in using POU/POE treatment to comply with an applicable drinking water requirement to prepare drinking water program permit applications and requests for approval that comply with current MassDEP regulations, policies, and guidance found at <http://www.mass.gov/eea/agencies/massdep/water/drinking/>. Completion of this self guide will ensure that the applicant has considered minimum permitting aspects identified by the MassDEP Drinking Water Program. Interested PWS or facilities that meet the definition of a PWS in accordance with 310 CMR 22.02, are strongly recommended to consult with MassDEP Drinking Water Program staff before completing this self guide. Please note: MassDEP may require additional information as regulations, standards, or procedures are implemented or revised. **This self guide does not need to be submitted to MassDEP**, but may be used in planning consultations with MassDEP staff.

Step 1. Find the regional MassDEP office for the city or town where your proposed system is located:
<http://www.mass.gov/eea/agencies/massdep/about/contacts/find-the-massdep-regional-office-for-your-city-or-town.html>

Step 2. Contact the regional MassDEP office in advance of planning for the installation of POU/POE devices by a Public Water System. MassDEP staff will help you determine if a POU/POE device is applicable for your PWS and if this guide is applicable to you and to identify all permits and approvals that you will need.

MassDEP Contact List

Region	Name	Phone	Email
NERO - (Northeast)	Kristin Divris	508-887-0021	Kristin.Divris@mass.gov
SERO - (Southeast)	Richard Rondeau	508-946-2816	Richard.Rondeau@state.ma.us
CERO - (Central)	Robert Bostwick	508-849-4036	Robert.Bostwick@state.ma.us
WERO - (Western)	Deirdre Doherty	413-755-2148	Deirdre.Doherty@state.ma.us
BOSTON - (HQ)	Margaret Finn	617- 292-5746	Margaret.Finn@state.ma.us
	Frank Niles	617-574-6871	Frank.Niles@state.ma.us
Drinking Water Program email address: ProgramDirector-DWP@state.ma.us , 617-292-5770			

¹ Public Water System means 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 daily at least 60 days of the year. A public water system includes a "community water system" or a "non-community water system". For more information refer to PWS definition in MassDEP's regulations at <http://www.mass.gov/eea/agencies/massdep/water/regulations/regulations-and-standards.html#1>

- Step 3. Discuss your plans with MassDEP staff and check off all required items on the attached self guide. Review the web links for more information on any item. You may wish to record the name of the MassDEP staff you contacted and the date of your discussion for future contact.
- Step 4. Submit your permit and/or approval request as specified by your regional contact and the MassDEP information. MassDEP has various application fees with a waiver policy in certain cases. Refer to the forms for more information or to the schedule of water supply fees and permit codes at:
<http://www.mass.gov/eea/agencies/massdep/service/approvals/>

Drinking Water System - Self Guide

For POU/POE Devices

This guide lists the minimum MassDEP/DWP Approvals., Permits, and Other Required Documents Needed for approval per 310 CMR 22.04 and 310 CMR 22.23 to install Point of Use or Point of Entry treatment devices in order to comply with the MassDEP Drinking Water standards and regulations.

Item # Check / if applicable Discuss with MassDEP contact	Permit/Approval or Other Documentation Needed for all PWS MassDEP may require the following permits/approvals and other documents prior to the system receiving final approval to operate. View the web link for more information on the item.	Comments Include explanations of not applicable (N/A) items in this column
Part A – Approval of Device(s) New Technology Approval In accordance with 310 CMR 22.04(8)(a) No supplier of water shall add, install or use any chemicals, drinking water additives, or treatment devices or equipment that come into contact with drinking water unless such devices or equipment have received the prior written approval of the Department.		
1 <input type="checkbox"/>	Check if your device is already approved for use: http://www.mass.gov/eea/docs/dep/water/drinking/alpha/i-thru-z/poepou.xls	
2 <input type="checkbox"/>	If the device has not been approved it must be reviewed and permitted in accordance with 310 CMR 22.04(8) See the list of permits needed to approve the device at http://www.mass.gov/eea/agencies/massdep/water/approvals/new-technology-approvals.html This technology permit application must be completed by the manufacturer of the device. Devices must be ANSI/NSF or equivalent third party certified products. Send your permit application to the MassDEP Drinking Water Program, Boston Office, 1 Winter Street, MA 02108. Attention New Technology/POU-POE Include the information listed below:	
A <input type="checkbox"/>	Pilot testing of devices and water quality results in accordance with 310 CMR 22.04(8)(c)(2).	
B <input type="checkbox"/>	Flow meter. For new technology to be used in POU/POE installations, a flow meter must be included if the filter media/membrane replacement or scheduling happens based on totalized flow, as required for the necessary maintenance and monitoring of the device's performance as per 310 CMR 22.23 (4)(g).	
C <input type="checkbox"/>	Mechanical warning. For new technology to be used in POU/POE installations, a mechanical warning must be included to alert the user that device is no longer treating water in accordance with 310 CMR 22.23 (4)(b).	
Part B – Approval for Water System In accordance with 310 CMR 22.04 (1) Any person proposing to construct a new public water system, or operate a public water system or to substantially modify an existing public water system shall obtain the written approval of the Department.... To receive approval for your system you must submit both permit applications and other documents for approval. Below are the minimum list of permits and approvals that will be necessary to be considered for approval		
1 <input type="checkbox"/>	MassDEP Permit Application for a PWS to modify and existing PWS by installing POU/POE devices. There are two categories of permits for approval to install POU/POE treatment depending on the number of units:	

A <input type="checkbox"/>	BRP WS 30: POU or POE treatment device at 1 to 9 locations on the same distribution system http://www.mass.gov/eea/agencies/massdep/service/approvals/brp-ws-30.html	
B <input type="checkbox"/>	BRP WS 35: POU or POE treatment device at 10 or more locations on the same distribution system http://www.mass.gov/eea/agencies/massdep/service/approvals/brp-ws-35.html	
In your application to the MassDEP Drinking Water Program, Regional Office to install the devices on a PWS Include the information listed below to:		
	Consecutive System. A Consecutive PWS is a public water system that receives some or all of its finished water from one or more wholesale systems. See information on consecutive at http://www.mass.gov/eea/agencies/massdep/water/drinking/water-systems-ops.html#6	
2 <input type="checkbox"/>	A <input type="checkbox"/> Will the installation of the POU/POE devices create a Consecutive PWS regulated by the Department in accordance with 310CMR 22.03(3)? Yes <input type="checkbox"/> or No <input type="checkbox"/>	
	B <input type="checkbox"/> Consecutive System Agreement Will the installation of the POU/POE devices create a Consecutive PWS that meets the exemption criteria of 310 CMR 22.03(3)? Yes <input type="checkbox"/> or No <input type="checkbox"/> If yes, in accordance with 310CMR 22.03(4) documentation must be provided to show that the supplying system is responsible for the combined system's compliance with 310 CMR 22.00	
3 <input type="checkbox"/>	Business Plan/Capacity Development Plan to show the ability to successful Technically, Financially and Managerially operate and maintain the system for the foreseeable future in accordance with 310 CMR 22.04 (1)(c) and 310 CMR 22.04(3) See: http://www.mass.gov/eea/agencies/massdep/water/drinking/water-systems-ops.html#3	
4 <input type="checkbox"/>	Map of system showing location of proposed POU/POE devices as well as a schematic of plumbing showing components of the POU/POE device, piping for potable water supply and any waste discharge piping. As per 310 CMR 22.19(6).	
5 <input type="checkbox"/>	Field testing of the device to determine if it performs adequately with source water, in accordance with 310 CMR 22.04 (9) and 310 CMR 22.23 (4)(h).	
6 <input type="checkbox"/>	Microbiological Safety Assurance Plan- The PWS must ensure that of the microbiological safety of water is NOT compromised after POU/POE installations, in accordance with 310 CMR 22.23 (4)(f and i). For water treated with activated carbon, PWS must consider the potential for increasing concentration in heterotrophic bacteria concentrations. It may be necessary to use frequent backwashing, post contactor disinfection, and HPC monitoring to ensure that the microbiological safety of the water is not compromised. Note: Centralized disinfection may be required, including the maintenance of a residual disinfectant.	

7 <input type="checkbox"/>	<p>Cross Connection Control Plan for Backflow prevention is required per 310 CMR 22.22 (3) For example, reverse osmosis (RO) POU devices shall be installed in a manner so that the concentrated waste stream may be properly discharged through an approved air gap. See and http://www.mass.gov/eea/agencies/massdep/water/drinking/water-systems-ops.html#8</p>	
8 <input type="checkbox"/>	<p>Operation and Maintenance (O&M) written procedures: maintenance schedule, log, tasks, spare parts, etc. as per 310 CMR 22.04 (3).</p> <p>Monitoring/sampling schedule: Once a system is approved and in operation, initial monitoring must be provided to show that each device consistently and reliably achieves drinking water quality standards. After that, a minimum of quarterly sampling.</p>	
9 <input type="checkbox"/>	<p>Emergency Response Plan (Written Contingency Plan) in accordance with 310 CMR 22.04 (13).</p> <p>PWS emergency response plan must include actions in the event of loss of water supply or distribution pipe related mechanical failure to supply water to \geq 50% water users served by the system</p> <p>All repairs and replacements must be completed in a timely manner and as soon as possible. Repairs and replacements should occur no later than 14 days after the failure of the device.</p> <p>In the event, a device is inoperable (or temporarily out of service) for a period beyond any normal maintenance activities, contact the MassDEP's Drinking Water Program. Under such temporary situations, bottled water may be required to be supplied unless potable water complying with drinking water standards may be available from another tap. See: http://www.mass.gov/eea/agencies/massdep/water/drinking/water-systems-ops.html#12</p>	
10 <input type="checkbox"/>	<p>Certified Operator Plan, as required in accordance with 310 CMR 22.11(B).</p> <p>For example: manganese removal using ion exchange to meet the Health Advisory level requires an operator with a Class 1-T license or higher. See: http://www.mass.gov/eea/agencies/massdep/water/drinking/water-systems-ops.html#5</p>	
11 <input type="checkbox"/>	<p>Compliance with Uniform State Plumbing Code 248 CMR 2.00</p> <p>310 CMR 22.23 (4) (d) says the POU or POE device shall be installed in conformance with 248 CMR 2.00</p>	
12 <input type="checkbox"/>	<p>Other permit(s), approval(s) or documents as determined by the MassDEP</p> <p>_____</p> <p>_____</p>	
Item #	For Community Water Systems only:	Comments
13 <input type="checkbox"/>	<p>Public Meeting. It is recommended that for community systems considering the installation of POU devices, a public meeting with water users be held to obtain approval before considering a POU treatment option. There must be 100% homeowner participation as 310 CMR 22.23 (4)(g) requires that <u>all</u> consumers be protected. Also see 310 CMR 22.23 (4) (k).</p>	
14 <input type="checkbox"/>	<p>Documentation. The PWS must document that customers are required to and have agreed to participate in the POU/POE treatment program as required by 310 CMR 22.23 (4) (k).</p>	
15 <input type="checkbox"/>	<p>Access Agreement (legal authority of PWS) in place between PWS and water users regarding maintenance/replacement and monitoring of POU/POE devices at each location and/or each household within the community system. PWS must have access to all devices for sampling and maintenance, in accordance with 310 CMR 22.23 (4)(a) and (k).</p> <p>See EPA document for templates:</p>	

	http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_pou-poe_june6-2006.pdf In accordance with 310 CMR 22.23 (4) (a) PWS MUST own and is responsible for maintaining all POU/POE devices and may NOT delegate its responsibilities to homeowners.	
16 <input type="checkbox"/>	Education and Outreach Plan and Materials: Education materials must be supplied by PWS to new customers and existing water users (ongoing) summarizing potential health effects of contaminant of concern and benefits of POU/POE devices. Education can be done through the required Consumer Confidence Report. New residents should be given educational information within 15 days of beginning water service. A plan for continuing education and awareness is needed. See 310 CMR 22.23 (4) (l) , (m) and (n).	
17 <input type="checkbox"/>	Operation and Maintenance (O&M) written procedures must include plans for sufficient devices that are properly installed, maintained and monitored such that all consumers will be protected. Plans must accommodate a POU/POE treatment unit where a service connection exists but currently is not active and/or, if newly constructed water lines are being considered in order to ensure that all customers are protected pursuant to: 310 CMR 22.23 (4)(g)	
	<p>When all applicable items from above are approved you will receive a Final Approval of Completed Works Letter from MassDEP which may include a PWS ID number (if you have created a new PWS) and a Sampling Schedule*. Refer to Massachusetts Drinking Water Program Testing Requirements for Public Water Systems: http://www.mass.gov/dep/water/laws/fsmonreq.pdf</p> <p>Once a system is approved and in operation, the following minimum reports and information are required:</p> <ol style="list-style-type: none"> 1. TNC water systems are required at a minimum to test their water for coliform bacteria, nitrate, nitrite, and sodium using a state certified lab, and report the results. http://www.mass.gov/dep/water/drinking/standards/dwstand.htm 2. Monthly chemical reporting form to be submitted monthly (if any treatment chemicals are added to PWS) http://www.mass.gov/dep/water/approvals/chemtrea.pdf ** 3. Water Treatment Chemical Feed System Control and Alarm Testing Log http://www.mass.gov/dep/water/compliance/tpalarmb.pdf ** 4. Consumer Confidence Reports (annually to customers required) http://www.mass.gov/dep/water/drinking/systems.htm#ccr 5. Safe Drinking Water Act Assessment. Bills for the Massachusetts Federal Safe Drinking Water Act Assessment are mailed to all public water systems based on water use reported for previous calendar year. Minimum bill is \$20.00. http://www.mass.gov/dep/water/drinking/systems.htm#sdwa 6. Annual Statistical Reporting (eASR) Form (This report is submitted online and requires proof of identity) http://www.mass.gov/dep/water/approvals/dwsforms.htm#statrep 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ 	

Applicants may wish to keep the following information:

PWS location (Address): _____

Date of contact or consultation with MassDEP staff: _____

Name, phone # and email address of MassDEP contact: _____