



INVITATION TO RURAL, SMALL, TERRITORIAL, AND TRIBAL UTILITIES TO APPLY TO RECEIVE A FREE AUTOMATIC SAMPLER AND FLOW METER PACKAGE

Applications are due no later than 11:59 pm Eastern Time on Friday, February 21, 2025, at:
<https://wef.secure-platform.com/a/solicitations/352/home>

During the COVID-19 pandemic, wastewater-based disease surveillance emerged as a tool for understanding COVID-19 infection trends in communities independent of healthcare-seeking behavior and clinical testing resources. The Water Environment Federation (WEF) is inviting applications from utilities serving small, rural, territorial, or tribal communities interested in receiving an automatic sampler with flow meter as part of our activities under our Cooperative Agreement with the US Centers for Disease Control and Prevention (CDC). Although utilities are NOT required to participate in wastewater surveillance programs after receipt of the autosampler (and flow meter, if requested), they are strongly encouraged to consider doing so. WEF can provide the necessary contacts and connections to enable wastewater surveillance program participation.

Background

Participation in wastewater surveillance to date has skewed toward larger, well-resourced utilities. These resources include but are not limited to continuous in-situ monitors, automatic samplers, and flow meters. WEF and CDC would like to expand the program to a wider array of wastewater treatment plants serving underrepresented populations.

Automatic samplers (also known as composite samplers or peristaltic samplers and hereinafter referred to as “autosamplers”) can collect up to 24 distinct samples before they must be restocked with empty bottles. They can be programmed to collect samples at specific time intervals. Autosamplers facilitate collection of representative wastewater samples for disease surveillance, but also can enable improved understanding of organic, solids, and nutrient loadings to wastewater treatment facilities. By providing new autosamplers (with flow meters, if requested) at no cost to at least 20 utilities serving small, rural, territorial, or tribal communities, this project aims to expand access to wastewater surveillance to underrepresented communities. While at least 20 utilities will be supplied with an autosampler (and flow meter, if requested) as part of this program, the total number of participating utilities (and therefore autosamplers provided) may exceed 20 depending on demand and available budget.

Utilities will apply to receive an autosampler as part of this program and will indicate their preference for either a full-size, refrigerated sampler that can be used to collect a sample where power is available (such as in a pumping station, at the influent to a treatment facility, or for primary sludge sampling) or portable, compact autosampler that could be deployed in locations without available power (such as a manhole). In addition, utilities selecting a refrigerated sampler may opt for either a standard model or a model suitable for operation in cold ambient temperatures, as described in more detail in the next section. Utilities can also indicate whether they would like to receive a flow meter to be used with their autosampler.

Eligibility

Eligible utilities include those that:

- Are located in a rural county according to the Health Resources and Service Administration¹; **and/or**
- Serve communities with 10,000 or fewer people or operate a water resource recovery facility (WRRF) with an average daily wastewater flow of less than 1 million gallons per day (MGD)² (e.g., are “small”); **and/or**
- Are located in a U.S. territory or on tribal lands within the U.S. and territories; **and**
- Have not received an autosampler or flow meter from WEF in the past.

Autosamplers and flow meters cannot be shipped to locations outside the U.S. and each utility is eligible for no more than one autosampler and one flow meter.

Items Included with Free Autosampler and Flow Meter Package

Utilities receiving an autosampler (and flow meter, if requested) as part of this program will be provided with a complete autosampler/flow meter package all at no cost and as described below. Up to one autosampler/flow meter package will be provided per treatment facility per utility. The description of the package contents is provided below.

Each participating utility will receive one complete autosampler (and flow meter, if requested) package suitable for sustained collection of 24-hour, uniform time (not flow-paced) composite wastewater samples. Each package will contain:

1. One of three types of autosampler units, depending on the preference of the participating utility, either:
 - (a) refrigerated autosampler suitable for operation in ambient temperatures from 0 to 45°C (hereinafter referred to as a “standard refrigerated autosampler”);
 - (b) refrigerated autosampler suitable for operation in ambient temperatures from -30 to 45°C (hereinafter referred to as a “cold-weather refrigerated autosampler”); or
 - (c) portable autosampler suitable for deployment in an 18-inch manhole.
2. For all autosamplers: A peristaltic sampling pump capable of at least 20 feet of lift.
3. For all autosamplers: A single-bottle configuration and a total of three plastic bottles (one primary and two spares) for use with the autosamplers, each with a minimum capacity of 9 liters.
4. For all autosamplers: A weighted strainer for installation at the end of the sample/suction tubing that is in the wastewater flow.
5. For all autosamplers: A full-container shutoff.
6. For standard or cold-weather refrigerated autosamplers: A power supply.
7. For portable autosamplers: A battery charger assembly and two batteries.
8. For portable autosamplers: A configuration that allows the addition of ice around the sample bottle or in the autosampler base to keep the composited sample cool during collection.

¹ See this document for a list of rural counties: <https://data.hrsa.gov/Content/Documents/tools/rural-health/forhpeligibleareas.pdf>

² This definition is used to be consistent with the US Environmental Protection Agency definition of small communities. See: <https://www.epa.gov/small-and-rural-wastewater-systems/learn-about-small-wastewater-systems>.

9. For all autosamplers: Programming capabilities that allow wastewater to be collected at intervals as close as 10 minutes and provide the ability to purge the sample/suction tubing between sampling events.
10. For all autosamplers: Extra peristaltic pump head tubing (enough for two pump head tubing changes), pump discharge tubing (10 ft minimum), sample/suction tubing (100 ft minimum), and a tube cutter or other tool for cutting the pump, discharge, and sample/suction tubing to the appropriate lengths.
11. For utilities requesting a flow meter: either an ultrasonic level sensor with flow meter or a contact area velocity flow meter that is designed to be used with the autosampler and is suitable for the intended sampling application and the autosampler selected.
12. For all autosamplers: A warranty that the autosamplers and flow meters, under normal use and service, will be free from defects in materials and workmanship for at least 12 months after delivery and, if not, that the autosampler will be replaced.

Each package includes instruction in the use of the autosampler and, if applicable, flow meter. Specifically, each participating utility will be given access to an autosampler and flow meter user manual, a “quick start” guide, as well as startup video(s). These documents will be available on nwbe.org, a wastewater surveillance website maintained by WEF. Participating utilities will also be able to attend live virtual events organized and run by the autosampler vendor.

Topics to be covered during the video(s) and live virtual events will include:

- Health and safety considerations during autosampler and flow meter use
- Initial autosampler and flow meter assembly and setup
 - **Note: Although confined space entry will not be required for autosampler installation, it may be required for flow meter installation, depending on the installation configuration. The startup support provided as part of this program will not include confined space entry training, however.**
- Autosampler parts cleaning and regular maintenance
- Programming
- Flow meter calibration
- Sample tubing positioning best practices
- Replacement of pump head, pump discharge, and pump suction/sample tubing
- Quality assurance and quality control procedures to calibrate the pump and avoid cross contamination
- Troubleshooting common issues
- Basic shipping considerations

Each participating utility will also receive troubleshooting support from the autosampler vendor for at least three months from the date the utility representative attends a live virtual event. The vendor will provide a phone number and email address that the participating utilities can use for questions and troubleshooting support, and utility questions and requests for assistance will be answered via phone or email by the vendor within 48 hours.

Anticipated Schedule

Utilities are invited to submit their applications for participation in this program by February 21, 2025. Autosampler and flow meter shipment is expected to take place between April 2025 and July 2025.

Utility Application Requirements

WEF requests that utilities submit the following information to be considered for this program:

- Utility representative name, title, email address, and phone number
- WRRF name and address
- National Pollutant Discharge Elimination System (NPDES) permit number (or Facility Registry Service [FRS] or state-equivalent identification number)
- Population in utility's collection system service area based on the latest available data
- County name
- Annual average daily flow in the WRRF influent for the 2022, 2023, and 2024 calendar years (in gallons per day)
- An indication of (1) the type of autosampler requested and (2) whether a flow meter is wanted
- Brief description of the intended sampling location (manhole, influent channel, lift station)
- If a flow meter is requested, an indication of the intended location to be used for flow metering, including where in the treatment process the flow would be measured and whether there is a weir or flume already present at that location

Utility Application Evaluation Criteria

Utility applications submitted by the deadline will be reviewed for completeness. Only utilities submitting a complete application and meeting the eligibility criteria (see "Eligibility" above) will be considered for inclusion in the program. If the number of eligible utilities submitting a complete application by the deadline exceeds the number of autosamplers and flow meters that can be provided under the program, then utilities will be ranked based on Social Vulnerability Index (SVI)³ and Environmental Justice Index (EJI)⁴ data. Autosamplers and flow meters will be assigned to utilities considered most (highest SVI and EJI) vulnerable based on SVI and EJI data available for the county in which the utility WRRF is located.

As described above, utilities are NOT required to participate in wastewater surveillance programs after receipt of the autosampler. They are strongly encouraged to consider doing so, however. WEF can provide the necessary contacts and connections to enable wastewater surveillance program participation.

Question Submittal Information

If an applicant has any questions about this program, please email nwbe@wef.org.

Application Submittal Information

Applications should be submitted at <https://wef.secure-platform.com/a/solicitations/352/home> ***no later than 11:59 pm on February 21, 2025***. At this online portal, utilities will enter the requested information detailed in the "Utility Application Requirements" section. Note that a WEF membership is NOT required to submit an application. However, a utility will need to create a free account to be able to access the online application portal. ***After entering the requested information, please don't forget to hit "Save and Finalize" (instead of "Save") and then click "OK", or your application will not be processed.*** Proposals submitted by email will not be accepted.

³ <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>

⁴ <https://www.atsdr.cdc.gov/placeandhealth/eji/index.html>