

SAFE DRINKING WATER

(Date)

(Operator)

(Water Authority)

(Road)

(City, State Zip)

Re: Filter Plant Performance Evaluation

(Water Authority)

PWSID # ( )

(Township, County)

Dear (.....):

The Department of Environmental Protection (DEP) has chosen the (Plant Name) Water Treatment Plant to undergo a Filter Plant Performance Evaluation (FPPE) on (Date and Time) as part of a routine evaluation cycle. Through FPPEs, DEP has been able to assist water systems in optimizing their water treatment plants since 1988. Recently, I contacted you concerning the FPPE. Included in this letter is additional information about the FPPE program and a description of the activities that will take place during the FPPE. Please read this letter carefully as there may have been changes since the previous FPPE.

Upon arrival at the filter plant, DEP staff will set up one or more turbidimeters. This equipment will require a tap, preferably three-quarter inch hose thread, on the piping from two (2) individual filter effluent (IFE) lines leaving the filters so that we can obtain samples from the individual filters and if possible on the combined filter effluent line. Sometime during the day, we will ask you or your staff to backwash a filter where equipment is connected. It's best to pick one that is ready for a regularly scheduled backwash.

Following the equipment set-up, we will ask plant staff to take the evaluation team on an extensive tour of the facilities. During the tour, the evaluation team will spend a considerable amount of time reviewing operational practices, individual treatment processes, chemical adjustments, backwash procedures, regulatory issues and more. We will review monitoring records, including any laboratory sheets, plant log sheets, and drawings and specifications for the treatment plant. We are especially interested in the following information:

- Daily max turbidity values of the raw water, (settled water), **combined filter effluent** (CFE) and **individual filter effluent** (IFE) (if this data is not entered into WebOAS) for 1 year.
- **Turbidimeter calibration history**
- Daily **CT values** (w/associated **baffling factors, pH, free chlorine residuals, temperatures, flows**, and any other variables affecting CTs).
- "As built" schematics and/or accurate dimensions of tanks, basins and piping, especially for any segment used in the CT calculations.
- Process control testing results (pH, alkalinity, jar testing results, zeta potential).
- Standard Operating Procedures (SOPs), dosage charts and chemical feed calibration curves.

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- **Method 334 calibration forms:** analyst IDC, online IDC. Benchtop and/or handheld IDC, weekly grab samples, quarterly primary verification.
- Alarm set points and **alarm testing history**
- Operational goals and targets
- Current list of certified operators and operator in responsible charge (ORC).
- Backwash SOPs, rates, times, volumes and typical flow rates
- **Filter Bed Evaluation Program SOPs and results**

This information can be sent to me ahead of time or have it available at the time of the inspection. Note: the highlighted information is related to regulatory requirements and should be readily available for DEP review.

The evaluation team may consist of multiple DEP staff: (Mr./Ms. Sanitarian) from the (District Office Name) District Office, (Mr./Ms. Engineer Name) from the XXXXX Regional Office, and myself. The size of this team is larger than normal DEP surveys because of the extent of the evaluation and the specific expertise needed. Please note, while the focus of the FPPE is optimization, regulatory issues related to the filter plant will also be reviewed by the evaluation team. This team approach has been helpful to operators at over 1,200 FPPEs that DEP has performed to date.

After the onsite evaluation is completed, I will schedule an Exit Meeting within a 4-5 weeks to share the results of the FPPE report. Water system attendees should include operators, managers, and appropriate water system decision makers. The meeting can be held at the water plant, the water systems office, or any other location that has adequate meeting space for the number of attendees.

Over the years, filter plant operators have become increasingly aware of the need to protect consumers from waterborne pathogens by optimizing *each* major unit process (multiple barriers) in the plant. These processes – chemical treatment, (flocculation, sedimentation), filtration and disinfection – all receive focused attention, not just filtered water turbidity and finished chlorine levels. Many operators now recognize that consistent settled water turbidity levels of (NTU #) or less from the sedimentation process and 0.10 NTU or less from each filter, even when the raw water quality is variable, means they are optimizing performance of their filter plants. Accordingly, the chances of microbial breakthrough into the finished water is much lower than in past years.

We realize that these optimization goals are more stringent than current requirements of the Pennsylvania Safe Drinking Water Regulations. The FPPE objective is to optimize water treatment plant performance in order to minimize the chances of a waterborne disease outbreak caused by *Giardia*, *Cryptosporidium*, or other organisms. For example, the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) recognizes optimized turbidity performance as a treatment option for additional *Cryptosporidium* removal. Therefore, optimized filter plants are better positioned to treat source waters with elevated pathogen loading and meet LT2 requirements. Furthermore, obtaining a good rating in the FPPE program will place the water system in a better position to meet more stringent regulatory requirements in the future. Filter

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plants that have been striving for optimization are much more prepared for the recent regulatory updates, such as daily *Giardia* Inactivation calculations, alarm and shutdown requirements and continuous CFE monitoring.

Thank you for arranging your schedule to assist us in evaluating the (Plant Name) Water Treatment Plant. We believe that you will find the results of this evaluation valuable in maintaining compliance with present and future drinking water regulations as well as optimizing the plant for the removal of disease causing organisms and providing the highest quality water possible. If you have access to the Internet, you may obtain more information at [www.dep.state.pa.us](http://www.dep.state.pa.us) (click on the search/keyword box in the upper left corner, then type "FPPE").

Please call me at XXX.XXX.XXXX or email at [XXXXXX@pa.gov](mailto:XXXXXX@pa.gov) if you wish to discuss additional details of the FPPE.

Sincerely,

FPPE Staff  
Compliance Specialist/FPPE  
Safe Drinking Water Program

(Operator/Water System)

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(Date)

bcc: (Sanitarian, DO)  
(Sanitarian Supervisor, DO))  
(Tech. Services/Engineer, SCRO)  
File 2b  
Stephanie Stoner, SCRO