

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). The Department is required to conduct these important inspections on a routine cycle. Since 1988, the FPPE program has assisted water systems with violation prevention, water treatment plant optimization and valuable information sharing. Included in this letter is additional information about the FPPE program and a description of the main activities that will take place. 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 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 alert us prior to initiating the backwash of a filter where equipment is connected. It's best to choose a filter that is ready for a regularly scheduled backwash, and backwash it in the same manner as normal.

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, drawings and specifications for the treatment plant.

We are especially interested in the following information, listed below. **It is very important to note that the bolded information listed below is related to regulatory requirements and must be readily available upon request for DEP review per 25 Pa. Code §109.6(a)(1). DEP is requesting the bolded information listed below be emailed to me at least 5 business days prior to the first day of the onsite FPPE and the remaining information that is not bolded may be emailed in advance of the onsite FPPE or made available during the first day of the onsite FPPE:**

Water Treatment Plant

- **EP disinfectant residual, individual filter effluent (IFE) turbidity and combined filter effluent (CFE) turbidity** (This data set should include the most recent compliance reporting month of continuous data (at least one value every 15 minutes) as well as plant startup and shutdown values that represent water being produced to the system. Data collected while filters are offline, in filter-to-waste mode, or while the plant was not producing water to the system should be excluded from the data set or if kept in the data set, clearly identified as nonproduction water. Note that filter-to-waste, rewash, and rinse are all terms that operators may use interchangeably for the same filtration mode.)
- Daily max turbidity values of the raw water, (settled water), IFE and CFE (at least for the previous 12 months if this data is not entered into WebOAS)
- **Previous 12 months of Turbidimeter calibration history**
- **Last reportable month of daily *Giardia* Inactivation values** (w/associated baffling factors, pH, free chlorine residuals, temperatures, flows, and volumes)
- **Previous 12 Months of Filter Bed Evaluation Program results and SOP's**
- **Alarm and shutdown set points for IFE & CFE turbidity, EP residual, clearwell/tank level for *Giardia* log inactivation and alarm testing history**
- **Method 334.0 calibration forms: analyst IDC, online IDC, benchtop and/or handheld initial calibration verification and quarterly primary verifications, and weekly grab samples**
- “As built” schematics and/or accurate dimensions to include baffling and volumes of tanks, basins and piping, especially for any segment used in the *Giardia* Inactivation calculations
- Process control testing results (pH, alkalinity, jar testing results, zeta potential)
- Standard Operating Procedures (SOPs), dosage charts and chemical feed calibration curves
- Operational goals and targets
- Current list of certified operators and operator in responsible charge (ORC)
- Backwash SOPs, rates, times, volumes and typical flow rates

The evaluation team may consist of multiple DEP staff: (Sanitarian) from the (District Office Name) District Office, (Engineer Name) from the XXXXX Regional Office, and myself. The size of this team is larger than normal DEP inspections 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 and followed up on by compliance staff as appropriate. 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/clarification),

(Operator/Water System)

(Date)

Water Treatment Plant

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 when the plant is meeting these performance goals.

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

Thank you for arranging your schedule to participate in this important evaluation. 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.pa.gov (click on the search icon in the upper right corner, then type “FPPE”).

Please call me at XXX.XXX.XXXX or email at 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)

Water Treatment Plant

(Date)

bcc: (Sanitarian)
(Sanitarian Supervisor)
(Tech. Services/Engineer)
File