



## For Water System Operators: Preparing for a Water Treatment Plant Inspection

### What to have available during the site visit:

- **Previous 12 months of the following data:**
  - Raw water turbidity data
  - Settled water turbidity data (measured daily for 2.5-log WTPs)
  - Individual filter turbidity data (IFE)
  - Monthly operating reports
  - Raw water alkalinity data (measured and recorded weekly if using alum)
  - pH records for corrosion control treatment
  - **Membrane Filtration:** Daily integrity testing data/records.
- **Records for the following:**
  - Chemical dosages records in mg/L
  - Feed pump calibration records including pump curve graphs
  - Turbidity profiles (on each filter after backwash quarterly)
  - Turbidimeter calibration records (calibrated quarterly)
  - Written decision making protocol for under-certified operators as established by the Direct Responsible Charge Operator
  - Standard WTP Operating Procedures

### Be prepared to demonstrate the following during the site visit:

- Combined Filter Effluent (CFE) turbidimeter draws water after all filter effluents combine prior to storage.
- If backwash water is recycled, the return location is prior to any chemical addition.
- CTs are calculated using data from the most recent tracer study and pH/temp/chlorine residual from the 1st user.
- A flow meter is present on the effluent line of the clearwell.
- The presence of an alarm on high turbidity levels and low chlorine residual (if serving >3300 population) when plant is operated with no operators on site. Be knowledgeable of

what the set points are for the alarm for high turbidity, low chlorine and high chlorine (when applicable).

- **Cartridge/Bag Filtration:** Pressure gauges are present and functioning both before and after the final cartridge or bag filter. Be knowledgeable about the psid in which the filters are changed and why.
- **Slow Sand Filtration:** Describe the scraping/cleaning/ripening protocol for the filters.
- **Membrane Filtration:** Post filtration turbidimeters on each unit (i.e. each independently piped section).
- **Diatomaceous Earth Filtration:** Body feed is added with influent flow.

#### **Other tips for good WTP operation:**

- Collect and record raw water turbidity data weekly.
- Assure all chart (circle and strip charts) recorders document turbidity >5.5 NTU.
- Assure all calibration standards are valid (not expired).
- Measure flow through turbidimeters to assure it's within the manufacturer's recommended range for accuracy.
- Understand and be ready to describe how backwash cycles are initiated in your WTP.
- Understand and be ready to describe the methods used to trigger chemical dosage changes in your WTP.
- Be able to demonstrate your knowledge of chemical dosage strengths (%) and ability to convert dosages from mg/L to ml/min.
- Understand and be ready to describe the data used in your WTP to determine the duration of filter-to-waste cycles after backwash and what criteria are used to put a filter back on-line.