Facility Information

Plant Production
- Current daily production: 6.642 MGD (4,613 gpm)
- Time of operation: Manned 24 hours/day, 7 days/week
- Design capacity: 10 MGD (6,944 gpm)
- Permitted Capacity: 10 MGD (6,944 gpm)
- Allocation Permit: 10MGD

Pumps: Raw water: Three centrifugal horizontal volute pumps: 2@ 10 MGD (6,944 gpm), 1 @ 5 MGD (3,472 gpm)
Finished water: Four vertical turbine pumps: 2 low pressure service @ 3500 gpm, 2 high pressure service @ 2100 gpm
Backwash: Two vertical turbine pumps @ 8,000 gpm
Filter run duration varies seasonally: 72 hours during warm water conditions; 40-50 hours during cold water conditions.

- Backwash procedure: Manually by operator according to a written SOP. The Authority's 5-year capital improvement plan will include a computer programmed backwash sequence to ensure uniform backwashes. The program will allow for operators to manually override the system if necessary.
  - Low rate: 5 minutes at 3,000 gpm, high rate: 8-10 minutes at 7,800 gpm, low rate: 2 minutes at 3,000 gpm, low-low rate: 3 minutes at 1,500 gpm. The 5 year capital improvement plan includes air scour, rather than surface wash, which will be installed in 2014.
  - Rate adjusted seasonally and/or based on inspection results
  - Filter-to-waste: 10 minutes, or until 0.10 NTU is achieved. (Following filter-to-waste, the washed filter flow rate is less than the plant flow for 1 hour following backwash to ripen the filter.)

Storage (plant)

- Clearwell:
  - A baffling factor of 0.3 is used for contact time calculations. A tracer study in August 2007 indicates a baffling factor of 0.48.
  - 1.1 MG at 100% capacity
  - Normal operating level= 80% capacity (0.88MG)
Backwash tank: None, backwash from wash water sump which is located before the clearwell.

Online Equipment

Raw water: Hach Surface Scatter 6 on-line
Combined Settled water: Hach Surface Scatter 6 on-line
Filtered water: Hach 1720E on-line on each filter
Finished water: Great Lakes Model 95 on-line
  - Rosemount inline pH meter
Bench: Hach 2100N turbidimeter

Calibration: Hach 1720E turbidimeters are calibrated monthly with premixed Formazin turbidity standards.
Great Lakes Model 95 is checked with the calibration cube monthly and calibrated with Formazin turbidity standards quarterly (last calibration for IFE and CFE: 7/29/13 and 8/2/13, respectively). Although calibration is performed monthly, only the quarterly calibrations are documented for compliance.
Particle counters: Online Chemtrac PC 2400D on each filter. Cleaned monthly and calibrated as needed.
Chlorine analyzers: 2 Hach CL-17 units: 1 Pre, 1 at entry point; verified monthly with bench analyzer.
Fisher and Porter Head
Loss Gauges: All filters
Streaming Current Detector: HachAF7000

* Excerpted from Aug. 2013 Allegheny County Health Department Filter Plant Performance Evaluation. Notes made at the time of the evaluation may no longer be in effect.