Operations Camp: Topics Covered

- **CMOM**
  - Added to NPDES permits
  - FRWRD does not require CMOM because they don’t own their own sanitary system
  - To determine sewer sizes, capacity, etc. in the service area
  - Establishes a long-term control plan
  - FOG as subset of CMOM originally
  - For grease in lift stations – it’s best to exercise the water levels
  - Requires annual updates on SSO procedures, inventory, inspection plan (~20% of the system per year)
  - Violation notices may start to come with fines

- **Nutrient Limits**
  - Total Phosphorus limit in the Fox River basin was set at 1 mg/L until the 1970s, when it was determined that it wasn’t having the intended impact. The phosphorus limit was removed for WWTPs south of the dam.
  - March 2012 FRWRD started bio-P. They’ve ranged from 0.3 mg/L to about 0.8 mg/L since.
  - Crystal Lake WWTP #3 uses alum and achieves an effluent TP of about 0.1 mg/L.
  - Upcoming limits are TBD – 1 mg/L technology-based limit may not be enough to achieve water quality improvements
  - Blowers need to be able to turn down for adequate BNR
  - TMDL limits can include changes for other point sources, wetlands, dam removal, and in some cases soda taxes have been proposed.
    - Wetlands must be upstream of the WWTP discharge.
  - Impoundments, habitats, and ripples have a negative impact on watershed
  - TMDLs effectively take a longer time for coming into compliance.
  - IAWA recommends a lower limit for WWTPs with filters (proposed).
  - We’re in “regulatory paralysis” – expanding capacity requires design for nutrient removal to limits that are not set by permit.
  - Capacity increases trigger new limits.
  - Commissioning a BNR plant takes time. FRWRD took about 8 weeks to get their phosphorus removal system up and running.
  - Funding with grants can supplement BNR for blower / BNR projects.

- **Fecal Indicators**
  - Currently we’re regulated based on a geometric mean.
  - Regulations may change to consider to total coliform or *e. coli*
- A certified lab is probably not going to be required for this.

- **Blending**
  - Defined as “bypassing any unit process”
    - Example: primary treatment and disinfection of excess flow
  - Would require a “No Feasible Alternatives” analysis every five year
  - Distinguishes blending and CSOs based on whether on the plant site, before treatment
  - Excess flow is sampled before recombining
  - This regulation comes back from the CMOM plans.

- **Odor Control**
  - Crystal Lake and Wheaton use OMI Eco-Sorb odor control, which is expensive.
  - Others use masking agents, activated carbon (does not remove mercaptans), ozone, and hydrogen peroxide (Fox Metro). Each is different in terms of efficacy.

- **Safety**
  - **MSDS** - The MSDS system will be changing from the US system to the European system, essentially changing to icons for the forms.
    - The suppliers will supply the new MSDS forms. WWTPs must maintain them available to employees and contractors.
  - **NFPA** was discussed briefly

- **Other: Disinfection**
  - Most facilities have converted from chlorine gas to bleach systems or UV.
  - Replacement parts can be expensive.
  - Some facilities use chlorine tablets for excess flow.

Attendees also toured the new FRWRD Administration Building’s geothermal / effluent reuse system.

**Operations Challenge Test: Operators vs. Engineers**

2012 Winners: **Engineers**

2011 Winners: **Operators**

**Facility Tour of the Fox River Water Reclamation District West WWTP**