**Surface Water Treatment Plant - Plan Review List (DRAFT)**

Address the following items during the DDW internal plan review process for surface water treatment plants (surface water WTP). This list is NOT for inorganics/organics WTP.

1. Describe the source & water quality concerns, including source name, SDWIS source ID, historical data, flow range, turbidity range, whether source water Bin Classification data have been gathered/reviewed/determined, etc.
2. Identify the plant or facility name (matching with the name listed in DDW SDWIS database) and SDWIS ID.
3. Describe the treatment processes and technologies (e.g., conventional filtration, membrane filtration, direct filtration, disinfection by chlorine/chlorine dioxide/UV/ozonation, etc.). Include manufacturer/brand/model info for package plant.
4. Indicate whether pre-treatment is included in the treatment processes. Describe the pre-treatment process if applicable.
5. Describe pilot test or bench top test (e.g., procedures, parameters, duration, results, etc.). Describe how to determine whether or not pre-treatment is needed, and the reason for selecting a specific pre-treatment process.
6. Describe whether pre- and/or post- chlorination or disinfection processes are included in the treatment processes.
7. Describe the treatment goals (required minimum log inactivation or removal) for Giardia, virus, and Crypto. Describe the proposed strategy in meeting these goals.
8. Describe the disinfection CT calculation for each treatment process and the overall CT through the plant.
9. Describe whether pH adjustment is needed.
10. Describe # of treatment trains, capacity of each train, and capacity of the treatment plant.
11. Make sure there is no uncontrolled bypass water line for surface water WTP. (This is the major difference between surface water and inorganics/organics treatments. It is not allowed to blend untreated surface water with treated water to serve the water users.)
12. Describe the waste stream (e.g., sludge, wastewater, brine, etc.) and how they will be handled. Verify the water system has a legal means to dispose all of the waste types. Include cc to the relevant agencies (such as Division of Water Quality, local sewer authority, etc.).
13. Describe whether ANSI/NSF 61 certification exists for the proposed treatment process or unit (except conventional and direct filtration plants).
14. Describe all chemicals that will be used during the treatment processes. Describe whether the chemicals used meet the ANSI/NSF 60 standard.
15. Identify the relevant rules or sections applicable to this review, e.g., R309-525, R309-530-8, etc. If applicable, describe the issues related to specific rule requirements.
16. The Plan Approval (PA) letter for a surface water WTP should include the information required for issuing an Operating Permit (OP). Customize the generic OP checklist to include specific requirements for items that would be required for issuing an OP for surface water WTP.

* Specify “water quality data” required to verify the performance of the treatment plant.
  1. how many sets of before & after water quality sample data
  2. what parameters will be sampled (e.g., turbidity, minimum chlorine residual, etc.)
  3. what frequency to sample (e.g., every 4 hours, or daily sample at least one day apart for very small water systems); etc.
* WTP location data

1. Customize the generic “surface water WTP monitoring and reporting addendum” template.
   1. Attach the preliminary monitoring and reporting information to the plan approval (PA) before starting the workflow of the PA letter. This preliminary information helps the water system to design the PLC and SCADA programming. If applicable, obtain the relevant paragraphs from the Rules Section and include them in the plan approval letter for informational/educational purpose.
   2. The formal monitoring and reporting requirements must be included in the Operating Permit (OP). It is an addendum to the OP for a surface water WTP.
2. Consult with the DDW Rules Section staff (i.e., the rule manager for the specific contaminant). Consult with Eva Nieminski for surface water technical assistance and federal regulations if needed.

* Surface water WTP monthly report: Mark Hansen
* Disinfection: Brad Holdaway
* WQ data review & WTP monitoring schedule: Rachael Cassady