

**I. REQUESTING AN EXCEPTION TO THE CLARIFICATION UNIT HYDRAULIC DETENTION TIME (HDT) or SURFACE OVERFLOW RATE (SOR)**

Using a Hydraulic Detention Time (HDT) that is lower than, or Surface Overflow Rate (SOR) higher than those specified in Title 30 of the Texas Administrative Code (30 TAC) §290.42(d)(10) requires an exception. The TCEQ Technical Review and Oversight Team staff requests the following data and operating parameters to be monitored and recorded at the specified frequencies and reported to the TCEQ for verification that the requested clarification HDT and SOR will not contribute to the degradation of potable water quality or quantity. To request an exception to this rule, provide the following information to:

Technical Review and Oversight Team (MC 159)  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, TX 78711-3087

- The submitted full-scale pilot study report for the requested HDT/SOR must contain at least **30 days** of data, at a minimum period of eight hours per day. The 30 days do not need to be consecutive.
- At least one clarification unit, of each size and type, must be in operation at the **requested or lower clarification HDT, or the requested or higher clarification SOR.**
- The as-built dimensions of each clarification unit must be reported.
- At least one associated mixing and flocculation unit must be in operation at a flow rate that corresponds to the SWTP's resulting full-scale production at the requested clarification HDT/SOR.
- The raw water turbidity, pH, temperature, and alkalinity levels must be monitored at least once each day and at any time it is suspected that the raw water quality may have changed.
- The pretreatment chemicals being fed and each of their dosage levels must be reported for each eight-hour period.
- The settled water pH level and flow rate must be monitored at least once each eight-hour shift the piloted clarification basin is in operation.
- The as-built water volumes of the associated flocculation and clarification units and the surface area of the settling zone must be provided for each piloted clarification unit. The corresponding HDT/SOR for each recorded flow rate must be calculated and recorded for submittal.

## II. CLARIFICATION UNIT HDT/SOR PILOT STUDY PROTOCOL

- The maximum raw water turbidity level during the full-scale pilot study must be representative of the historical high observed at the existing SWTP during the last five years.
- The settled water turbidity level during the full-scale pilot study must be monitored at a frequency equal to the HDT of the piloted clarification units operated at the requested clarification HDT/SOR.
- The operators must perform daily calculations to demonstrate that the required inactivation of viruses and *Giardia lamblia* is being continuously accomplished. The disinfectant residual must be monitored at the end of each disinfection zone at least once each day during peak hourly flow rates and any time the pH or temperature of the water changes. **Additional CT calculations must be conducted every time the disinfectant residual at the end of a disinfection zone changes, the flow rate through a zone changes, or the pH or temperature of the water changes.**
- Submit data indicating how the plant ensures that proportioned flow is delivered to each clarification unit. If flow measuring devices are used, they must have been calibrated in the last 12 months. If weirs are used, the level must be verified prior to beginning the clarification HDT/SOR pilot study.
- Quality assurance and quality control data must be provided regarding monitoring equipment calibration methods, frequencies of calibration, and analytical procedures used.
- All collected data must be reported in comparison tables and graphs. The pilot study report shall note and describe all changed operating parameters and discrepancies in the collected data.

**If at any time during the full-scale clarification HDT/SOR pilot study the individual filter effluent or combined filter effluent violate any treatment technique requirements for turbidity as specified in Section §290.111, the finished water must not be sent to distribution.**

**If at any time during the full-scale clarification HDT/SOR pilot study the disinfectant residuals are less than those required to achieve the required inactivation of *Giardia lamblia* and viruses for the current water quality conditions and flow rates, the finished water must not be sent to distribution.**