

REQUESTING AN EXCEPTION TO THE FILTER HYDRAULIC LOADING RATE (HLR):

Using a hydraulic loading rate (HLR) that is higher than those specified in 30 TAC §290.42(d)(11)(B) requires an exception. The TCEQ Technical Review and Oversight Team staff requests the following data and operating parameters be monitored and recorded at the specified frequencies and reported to the TCEQ for verification that the requested filter HLR 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 must contain at least **30 days** of data using a pretreatment scheme that will be used in full-scale operation at the requested filter HLR. Please note that these days do not have to be consecutive. The TCEQ does not want potable water discharged to waste.

We strongly recommend that the filter be operated continuously for the duration of a filter run. However, shorter runs may be necessary if site conditions do not allow for continuous filter operation. This condition should be avoided as starting up a dirty or partially fouled filter may result in a treatment technique violation. If the filter is backwashed before a full filter run is completed, it does not provide accurate data at the requested filter HLR.

- At least one associated mixing, flocculation and clarification unit must be in operation at a flow rate that corresponds to the SWTP's resulting full-scale production at the requested filter HLR.
- At least one full-scale gravity filter must be in operation at the **requested filter HLR, or higher**, for at least 30 days, at a minimum period of eight hours per day. Please note that although more than one of the gravity filters may be piloted, data for at least one specific filter of each size, types of media, depths of media and L/d ratio (bed depth "L" divided by average filter grain effective size "d") must be piloted for the entire filter pilot study period at the requested filter HLR.
- The types of media, effective size range, and the depth of each type of media that makes up each piloted filter's granular media must be provided to verify the L/d ratio.
- Report the as-built dimensions of each filter.
- 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 individual filter effluent (IFE) and combined filter effluent (CFE) turbidity levels at the end of each piloted filter run must be monitored and reported. The minimum, maximum, average, and 95 percentile turbidity levels must be reported for each piloted filter and the CFE.
- The rate-of-flow controllers or flow indicating devices and backwash flow indicating devices for each piloted filter must have been calibrated within the last 12 months before starting the filter HLR pilot study.
- Each piloted filter's flow rate must be monitored and reported at the beginning and end of each filter run and the corresponding filter HLR calculated and reported.

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- The backwash procedure, or procedures if modified, must be reported in detail.
- The length of filter runs, unit filter run volumes, quantity of backwash water used per filter run, and the corresponding filter HLR for each pilot study filter run must be monitored and reported.
- If a piloted filter's IFE exceeds a turbidity level of **0.5 NTU at four hours after being returned to service from shutdown or backwash, the filter** must be taken out of service and backwashed. If this procedure is required more than once during any consecutive 24-hour operating period for a piloted filter or combination of piloted filters, treatment or operational corrections must be made before continuing the gravity filter HLR pilot study. Each occurrence and treatment corrections made must be reported in detail.
- The operators must perform daily calculations to demonstrate that the required inactivation of viruses *Cryptosporidium* 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, or the flow rate through a zone changes, or the pH or temperature of the water changes.**
- 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 filter HLR pilot study report must note and describe all changes in operating parameters and discrepancies in the collected data.

If at any time during the full-scale filter HLR pilot study the IFE or CFE violates 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 filter HLR 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.