

the intake management strategy, as applicable, no later than the applicable date for treatment technique implementation in § 141.701. The State may specify reporting requirements to verify operational practices.

§ 141.726 Pre-filtration treatment toolbox components.

(a) *Presedimentation.* New presedimentation basins that meet the criteria in paragraphs (a)(1) through (4) of this section are eligible for 0.5 log *Cryptosporidium* removal credit. Systems with presedimentation basins existing when the system is required to conduct monitoring under § 141.702(a) may not claim this credit and, during periods when the basins are in use, must collect samples after the basins for the purpose of determining bin classification under § 141.709.

(1) The presedimentation basin must be in continuous operation and must treat all of the flow reaching the treatment plant.

(2) The system must continuously add a coagulant to the presedimentation basin.

(3) Presedimentation basin influent and effluent turbidity must be measured at least once per day or more frequently as determined by the State.

(4) The system must demonstrate on a monthly basis at least 0.5 log reduction of influent turbidity through the presedimentation process in at least 11 of the 12 previous consecutive months.

(i) The monthly demonstration of turbidity reduction must be based on the mean of daily turbidity readings collected under paragraph (a)(3) of this section and calculated as follows: $\log_{10}(\text{monthly mean of daily influent turbidity}) - \log_{10}(\text{monthly mean of daily effluent turbidity})$.

(ii) If the presedimentation process has not been in operation for 12 months, the system must verify on a monthly basis at least 0.5 log reduction of influent turbidity through the presedimentation process, calculated as specified in this paragraph, for at least all but any one of the months of operation.

(b) *Two-stage lime softening.* Systems that operate a two-stage lime softening plant are eligible for an additional 0.5 log *Cryptosporidium* removal credit if there is a second clarification step between the primary clarifier and filter(s) that is operated continuously. Both clarifiers must treat all of the plant flow and a coagulant, which may be excess lime or magnesium hydroxide, must be present in both clarifiers.

(c) *Bank filtration.* New bank filtration that serves as pretreatment to a filtration

plant is eligible for either a 0.5 or a 1.0 log *Cryptosporidium* removal credit towards the requirements of this subpart if it meets the design criteria specified in paragraphs (c)(1) through (c)(5) of this section and the monitoring and reporting criteria of paragraph (c)(6) of this section. Wells with a ground water flow path of at least 25 feet are eligible for 0.5 log removal credit; wells with a ground water flow path of at least 50 feet are eligible for 1.0 log removal credit. The ground water flow path must be determined as specified in paragraph (c)(5) of this section.

(1) Only horizontal and vertical wells are eligible for bank filtration removal credit.

(2) Only wells in granular aquifers are eligible for bank filtration removal credit. Granular aquifers are those comprised of sand, clay, silt, rock fragments, pebbles or larger particles, and minor cement. The aquifer material must be unconsolidated as demonstrated by the aquifer characterization specified in paragraph (c)(3) of this section, unless the system meets the conditions of paragraph (c)(4) of this section. Wells located in consolidated aquifers, fractured bedrock, karst limestone, and gravel aquifers are not eligible for bank filtration removal credit.

(3) A system seeking removal credit for bank filtration must characterize the aquifer at the well site to determine aquifer properties. The aquifer characterization must include the collection of relatively undisturbed continuous core samples from the surface to a depth at least equal to the bottom of the well screen. The recovered core length must be at least 90 percent of the total projected depth to the well screen, and each sampled interval must be a composite of no more than 2 feet in length. A well is eligible for removal credit if at least 90 percent of the composited intervals from the aquifer contain at least 10 percent fine grained material, which is defined as grains less than 1.0 mm in diameter.

(4) Wells constructed in partially consolidated granular aquifers are eligible for removal credit if approved by the State based on a demonstration by the system that the aquifer provides sufficient natural filtration. The demonstration must include a characterization of the extent of cementation and fractures present in the aquifer.

(5) For vertical wells, the ground water flow path is the measured horizontal distance from the edge of the surface water body to the well. This horizontal distance to the surface water must be determined using the floodway

boundary or 100 year flood elevation boundary as delineated on Federal Emergency Management Agency (FEMA) Flood Insurance Rate maps. If the floodway boundary or 100 year flood elevation boundary is not delineated, systems must determine the floodway or 100 year flood elevation boundary using methods substantially equivalent to those used in preparing FEMA Flood Insurance Rate maps. For horizontal wells, the ground water flow path is the closest measured distance from the bed of the river under normal flow conditions to the closest horizontal well lateral intake.

(6) Turbidity measurements must be performed on representative samples from each wellhead at least every four hours that the bank filtration is in operation. Continuous turbidity monitoring at each wellhead may be used if the system validates the continuous measurement for accuracy on a regular basis using a protocol approved by the State. If the monthly average of daily maximum turbidity values at any well exceeds 1 NTU, the system must report this finding to the State within 30 days. In addition, within 30 days of the exceedance, the system must conduct an assessment to determine the cause of the high turbidity levels and submit that assessment to the State for a determination of whether any previously allowed credit is still appropriate.

(7) Systems with bank filtration that serves as pretreatment to a filtration plant and that exists when the system is required to conduct monitoring under § 141.702(a) may not claim this credit. During periods when the bank filtration is in use, systems must collect samples after the bank filtration for the purpose of determining bin classification under § 141.709.

§ 141.727 Treatment performance toolbox components.

(a) *Combined filter performance.* Systems using conventional filtration treatment or direct filtration treatment may claim an additional 0.5 log *Cryptosporidium* removal credit for any month at each plant that demonstrates that combined filter effluent (CFE) turbidity levels are less than or equal to 0.15 NTU in at least 95 percent of the measurements taken each month, based on sample measurements collected under §§ 141.73, 141.173(a) and 141.551. Systems may not claim credit under this paragraph and paragraph (b) in the same month.

(b) *Individual filter performance.* Systems using conventional filtration treatment or direct filtration treatment