R18-9-E321. 4.21 General Permit: Sequencing Batch Reactor, Less Than 3000 Gallons Per Day Design Flow

A. A 4.21 General Permit allows a sequencing batch reactor that consists of at least two vessels, a receiving vessel, and a process vessel, in which the key unit treatment processes, such as aeration and settlement, are sequenced one after the other in the process vessel.
   1. The treatment process is similar to that which occurs in aerobic systems described in other general permits except that in an aerobic system, separate vessels or partitions of the vessel are used for each unit treatment step.
   2. Sequencing batch reactors are considered for use if:
      a. Enhanced biochemical processing is needed to treat wastewater with high organic content,
      b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302, or
      c. A more highly treated and disinfected wastewater is needed.

B. Performance. An applicant shall ensure that a sequencing batch reactor is designed on the basis that it produces treated wastewater that meets the following criteria:
   1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
   2. BOD5 of 30 milligrams per liter, 30-day arithmetic mean;
   3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean. If a total nitrogen level from 15 to 53 milligrams per liter is proposed, the applicant shall submit the specifications on system nitrogen reduction performance and corroborating third party test data with the Notice of Intent; and
   4. Total coliform level of 300,000 (Log10 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Reference design.
   1. An applicant may design and install a sequencing batch reactor that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
   2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

D. Alternative design.
   1. An applicant may submit an alternative to the reference design for a sequencing batch reactor that achieves equal or better performance than that specified in subsection (B), by following the requirements in R18-9-A312(G).
   2. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.
   3. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge.

Historical Note

New Section adopted by final rulemaking at 7 A.A.R. 235, effective January 1, 2001 (Supp. 00-4).