

NSF/ANSI Standard 245 Wastewater Treatment Systems - Nitrogen Reduction

PERFORMANCE TESTING AND EVALUATION

The system shall be assembled, installed, and filled in accordance with the manufacturer's instructions.

The performance of the system shall be evaluated for 26 consecutive weeks. During the testing and evaluation period, the system shall be subjected to 16 weeks of design loading, followed by 7.5 weeks (52 days) of stress loading, and then an additional 2.5 weeks (18 days) of design loading.

The system shall be closed 7 days a week with a wastewater volume equivalent to the daily hydraulic capacity of the system. The following schedule shall be adhered to for dosing:

Dosing Period	Daily Hydraulic Capacity
6:00 AM to 9:00 AM	35%
11:00 AM to 2:00 PM	25%
5:00 PM to 8:00 PM	40%

Stress loading is designed to evaluate a system's performance under four non-ideal conditions.

- 1) Wash Day Stress
- 2) Working Parent Stress
- 3) Power/Equipment Failure Stress
- 4) Vacation Stress

A minimum of 55 non-stress data days shall be required during system performance testing and evaluation. No routine service or maintenance shall be performed on the system to achieve the 55 data days.

The system shall be tested as follows:

Parameter	Sample Type	Sample Location	
		Raw Influent	Treated Effluent
BOD5	Composite	X	
CBOD5	Composite		X
Total Suspended Solids	Composite	X	X
pH	Grab	X	X
Temperature °C	Grab	X	X
Dissolved Oxygen	Grab		X
Alkalinity	Composite	X	X
TKN (as N)	Composite	X	X
Ammonia-N (as N)	Composite	X	X
Nitrite/Nitrate (as N)	Composite		X

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CRITERIA FOR PASSING

Class I Systems

NOTE: The data collected during the stress sequences shall not be included in the calculations, but shall be included in the final report.

CBOD₅

The 30-d average of CBOD₅ concentrations of effluent samples shall not exceed 25 mg/L.

The 7-d average of CBOD₅ concentrations of effluent samples shall not exceed 40 mg/L.

System performance shall not be considered outside the limits established for Class I systems if, during the first calendar month of performance testing and evaluation, 7-d average and 30-d average effluent CBOD₅ concentrations do not equal or exceed 1.4 times the above referenced limits.

TSS

The 30-d average of TSS concentrations of effluent samples shall not exceed 30 mg/L.

The 7-d average of TSS concentrations of effluent samples shall not exceed 45 mg/L.

System performance shall not be considered outside the limits established for Class I systems if, during the first calendar month of performance testing and evaluation, 7-d average and 30-d average effluent TSS concentrations do not equal or exceed 1.4 times the above referenced limits.

TOTAL NITROGEN

The average total nitrogen concentration of all effluent samples shall be less than 50% of the average total nitrogen concentration of all influent samples.

pH

The pH of individual effluent samples shall be between 6.0 and 9.0