

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT
601 57th Street SE, Second Floor
Charleston, WV 25304-2345

FACT SHEET, INFORMATION, AND RATIONALE
FOR
WV/NPDES GENERAL PERMIT
DISPOSAL OF SEWAGE FROM SMALL
SEWAGE TREATMENT SYSTEMS SERVING
INDIVIDUAL RESIDENCES

1. NAME AND ADDRESS OF APPLICANT

Any owner and operator of a sewage disposal system serving individual residences in the State who will be regulated under the terms of this proposed General Permit.

2. GENERAL WV/NPDES PERMIT NO.: WV0107000

3. COUNTY: Any WV County; RECEIVING STREAM: Any WV Stream

4. PUBLIC COMMENT PERIOD

5. DESCRIPTION OF APPLICANT'S FACILITY OR ACTIVITY:

Small sewage disposal system that serves the connection of single family dwellings and the connection of small commercial facilities (food service facilities and industrial wastes are strictly prohibited) with capacity of 600 gallons per day and less.

6. GENERAL INFORMATION:

The Division of Water and Waste Management (DWWM) is reissuing a General WV/NPDES Water Pollution Control Permit to regulate discharges from domestic sewage disposal systems that have design flows of 600 GPD or less and serve the connection of single family dwellings and the connection of small commercial facilities (food service facilities and industrial wastes are strictly prohibited). The General Permit will authorize the installation, operation and maintenance of domestic sewage disposal systems, or parts thereof, and the direct discharge of treated wastewater to the waters of the State. It is proposed that this General Permit be reissued for five (5) years.

The DWWM currently issues a WV/NPDES Water Pollution Control Permits for small sewage treatment systems, serving individual residences. The DWWM continues its agreement with the Bureau for Public Health that it will not grant approval for surface discharge for single-family residences except when all other means of treatment and disposal had proven ineffective and a real or potential public health hazard exists. The need of this agreement was due to a lack of adequate resources at the DWWM to permit these types of small discharges and the lack of an adequate inspection and enforcement program at both DWWM and the Bureau for Public Health. The DWWM did not want to create new pollution sources. The modified rule, Title 64, Series 9, West Virginia Division of Health Legislative Rules now allows use of home aeration units (HAU) for new single-family residences.

The DWWM has determined that these discharges still need to be regulated to protect State waters and, therefore, is proposing to reissue this permit. All facilities that are currently permitted shall be required by the agency to renew their current WV/NPDES Water Pollution Control Permit for small sewage treatment systems, serving individual residences through this reissued permit.

Only those sewage treatment systems serving the connection of single-family dwellings and the connection of small commercial facilities (food service facilities and industrial wastes are strictly prohibited) with flow capacities of 600 GPD or less will be provided coverage under this permit.

Coverage under this permit will be required, through site registration, prior to construction of the facility.

Coverage under this permit will be issued jointly to the owner and operator (maintenance contractor) of the facility. Facilities without a maintenance contract, providing coverage through the permit period, will not be granted coverage under this permit.

Coverage under this permit will be required for all proposed facilities, existing facilities installed under previous agreement and facilities to correct existing problems.

The applicant will be required to secure the wasteload allocation, prior to filing application for coverage under this permit. This procedure is used to determine if the receiving stream is available for discharge and the type of treatment needed to protect the State Water Quality Standards.

This General Permit requires permittee not to cancel maintenance contract without prior approval of this agency. This is to further insure that the permitted facility is properly operated and remains under a maintenance contract.

Upon receipt of the registration application form, the Division will review the contained information and prescribed wasteload allocation and will assign each individual permittee to one of four (4) available treatment categories. Individual permittees must comply with the effluent limitations of their assigned treatment category and must provide the minimum treatment technology for their category.

The universe of existing facilities which are eligible for regulation under the general permit numbers approximately 4,000. Currently permitted facilities wishing to continue discharging under the new general permit will be required to submit a completed site registration application form. Although, any facility registered during the last six months of the current general permit term will automatically be provided coverage under the new general permit without being required to submit a new site registration application form. However, these facilities will be required to submit a new maintenance contract valid for the 5-year term of the new general permit. To provide for continued permit coverage during the reissuance process, the existing general permit will be extended nine months.

7. DESCRIPTION OF DISCHARGES:

Discharges from regulated facilities will be typical of treated domestic wastewater and will have the following characteristics:

pH range: 6 - 9 standard units

Flow: 600 gallons per day and less

Dissolved Oxygen: Not less than 6.0 mg/l at any given time

Parameter	Effluent Concentration	
	Monthly Avg.	Daily Max.
Biochemical Oxygen Demand (mg/l)	5 - 30	10 - 60
Total Suspended Solids (mg/l)	30	60
Fecal Coliform (counts/100 ml)	200	400
Total Residual Chlorine (μ g/l)	28	57

8. PROPOSED DISCHARGE LIMITATIONS AND TREATMENT REQUIREMENTS

See Attachments A, and B.

9. RATIONALE FOR PROPOSED DISCHARGE LIMITATIONS AND TREATMENT REQUIREMENTS:

Treatment Category A

BOD₅, TSS, and pH limitations are equal to secondary treatment standards. Fecal Coliform, Dissolved Oxygen, and Total Residual Chlorine limitations are imposed to protect the State water quality standard for those parameters. A requirement for dechlorination was added during the 2004 permit reissuance. This was not a requirement for those systems permitted prior to March 30, 2004. Therefore Category A was divided into Category A1, representing those systems permitted prior to March 30, 2004 and Category A2, representing Category A systems permitted after March 30, 2004. This decision is carried forward into the proposed draft permit.

Treatment Category B

The TSS and pH limitations are equal to the secondary treatment standards. BOD₅ and Dissolved Oxygen limitations are imposed to protect the Dissolved Oxygen water quality standards. Fecal Coliform, Dissolved Oxygen, and Total Residual Chlorine limitations are imposed to protect the State water quality standard for those parameters.

Treatment Category C

Treatment limitations are the same as Category A2. Category C was created to allow for a more relaxed maintenance schedule for media filter systems that utilize an ultraviolet disinfection system due to their increased stability as a treatment unit.

Maximum Daily and Instantaneous Maximum Limitations

Maximum Daily and Instantaneous Maximum Limitations are based upon a ratio of 2.0 and 2.5 respectively to the Average Monthly Limitations. The DWWM feels that the use of these ratios allows for short-term operational variances, which frequently occur in the facilities of the small flow dischargers. Maximum Daily and Instantaneous Maximum limitations also provide the Division of Water and Waste Management with more enforceable limitations for its field personnel based on the fact that these limitations allow for short term or grab sampling in monitoring for permit compliance.

10. MONITORING REQUIREMENTS:

In lieu of self-monitoring of the discharge, permittee is required to have a plan to properly maintain this facility and have a maintenance contract (through the permit period). Coverage is also issued jointly to owner and operator of the facility to further assure compliance.

11. ANTIDegradation CONSIDERATIONS

Of the approximate 4,000 current permittees, those with no new or expanded discharges will be provided reissued coverage without going through a Tier 2 antidegradation review. New or expanded facilities will be required to obtain an approved Waste Load Allocation showing a D.O. sag <0.3 mg/l, which shows de minimus impact.

12. Revisions and Additions to Section C, Other Requirements

2. Revised to reflect the addition of Category C. Once the data base becomes available, the agency wants everyone to use it.

7. The condition was revised to delineate when the system should be pumped.

13. The chlorine chamber has to be inspected, cleaned and repaired periodically. Field reviews indicate that this is not being done. Therefore, this condition is proposed. According to the 64CSR47 Section 5.15.f.2 of the West Virginia Legislative Rules, the chlorine contact chamber shall provide 15 minutes of residency time for peak flows. EPA data shows that wastewater peak flows of 100 gallons per hour are not unusual for residential dwellings. Therefore, the minimum required size of a chlorine contact chamber would be 25 gallons. The design of the chlorine contact chamber is per the requirements of 64CSR47 Section 5.15.f.3.

14. This condition was added so that inspectors are able to determine when service is due. The registration number is to identify the permittee.

16. Field reviews showed that some systems were being completely buried. This makes regular service and inspection difficult and unlikely. Therefore, this condition is proposed. The registration number on the lid will assist with identifying the permittee if/when the system does not have a service provider.

17. EPA data shows that facilities with intermittent flows do not do well with extended aeration systems due to the long start-up times.

18. The systems are approved for use in West Virginia based on their NSF certification. In order to have the expectation of obtaining the same results as the test facility, the system must be installed as it was tested.

Although the manufacturer may not have tested with a trash tank, there are circumstances such as increased organic loading where the manufacturer may feel the installation of one is prudent. There are circumstances where the system may not be able to attenuate the peak flows and the manufacturer may recommend the installation of a flow equalization tank.

19. Often the discharge pipe will be located near other discharging pipes. The requirement that the pipe be marked with the registration number is to aid in the inspection and sampling of the system.

20. A garbage disposal will likely cause the system to become organically overloaded and will increase the frequency of pumping. This can greatly inhibit system performance. Therefore it is proposed to ban their use.

21. This condition is proposed to help ensure that the UV disinfection systems are properly maintained.

22. Standard reopener clause for permit if conditions warrant.

The State of West Virginia, Department of Environmental Protection, Division of Water and Waste Management, has made a tentative decision for a State NPDES Permit as listed on this Fact Sheet. In order to provide public participation on the proposed issuance of the required permit, the following information is being supplied in accordance with 47CSR10, Section 11.3.e.2 and 3, of the West Virginia Legislative Rules.

During the public comment period, any interested person may submit written comments on the draft permit in writing and addressed to:

Director, Division of Water and Waste Management, DEP
601 57th St., S.E.
Charleston, WV 25304
Attention: Ann Baldwin

If information received during the public comment period appears to raise substantial new questions, the Director may reopen the public comment period.

A public hearing is scheduled to be held May 21, 2009 from 6 p.m. to 8 p.m. at DEP's Headquarters, 601 57th St., S.E., Charleston, WV 25304.

Requests for additional information should be directed to Ann Baldwin at (304) 926-0499, extension 1027.

Attachment A

Discharge Limitations - Treatment Category A.1

During the period beginning on, permittees who have been assigned to Treatment Category A.1 are authorized to discharge from the point source. The discharge shall comply with the following:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Sample Type</u>
	<u>Avg. Monthly</u>	<u>Max. Daily</u>	<u>Instantaneous Maximum</u>	
Flow		600 GPD		Estimated
Biochemical Oxygen Demand	30 mg/l	60 mg/l	75 mg/l	Grab
Total Suspended Solids	30 mg/l	60 mg/l	75 mg/l	Grab
Fecal Coliform	200 <u>counts</u> 100 ml	400 <u>counts</u> 100 ml	500 <u>counts</u> 100 ml	Grab

The pH shall not be less than 6.0 standard units and not more than 9.0 standard units.

Facilities subject to Treatment Category A.1 are required to provide an extended aeration “package” sewage treatment plant or equivalent units. Disinfection shall be accomplished through the use of chlorination or an ultraviolet disinfection system.

*See Section C.9

This discharge shall not cause violation of Title 46, Series 1, Section 3, of the West Virginia Legislative Rules issued pursuant to Chapter 22B, Article 3.

Attachment B

Discharge Limitations - Treatment Category A.2

During the period beginning on permittees who have been assigned to Treatment Category A.2 are authorized to discharge from the point source. The discharge shall comply with the following:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u> <u>Other Units (Specify)</u>			<u>Sample Type</u>
	<u>Avg. Monthly</u>	<u>Max. Daily</u>	<u>Instantaneous Maximum</u>	
Flow		600 GPD		Estimated
Biochemical Oxygen Demand	30 mg/l	60 mg/l	75 mg/l	Grab
Total Suspended Solids	30 mg/l	60 mg/l	75 mg/l	Grab
Fecal Coliform	200 $\frac{\text{counts}}{100 \text{ ml}}$	400 $\frac{\text{counts}}{100 \text{ ml}}$	500 $\frac{\text{counts}}{100 \text{ ml}}$	Grab
*Total Residual Chlorine	28 □ g/l	57 □ g/l	70 □ g/l	Grab

The pH shall not be less than 6.0 standard units and not more than 9.0 standard units.

Facilities subject to Treatment Category A.2 are required to provide an extended aeration “package” sewage treatment plant or equivalent units. Disinfection shall be accomplished through the use of chlorination and dechlorination or an ultraviolet disinfection system.

*See Section C.9

This discharge shall not cause violation of Title 46, Series 1, Section 3, of the West Virginia Legislative Rules issued pursuant to Chapter 22B, Article 3.

Attachment C

Discharge Limitations - *Treatment Category B*

During the period beginning on and lasting through , permittees who have been assigned to Treatment Category B are authorized to discharge from the point source. The discharge shall comply with the following:

Discharge Limitations Other Units (Specify)

<u>Effluent Characteristics</u>	<u>Avg. Monthly</u>	<u>Max. Daily</u>	<u>Instantaneous Maximum</u>	<u>Sample Type</u>
Flow		600 GPD		Estimated
Biochemical Oxygen Demand	5 mg/l	10 mg/l	12.5 mg/l	Grab
Total Suspended Solids	30 mg/l	60 mg/l	75 mg/l	Grab
Fecal Coliform	200 counts 100 ml	400 <u>counts</u> 100 ml	500 <u>counts</u> 100 ml	Grab
*Total Residual Chlorine	28 µg/l	57 µg/l	70 µg/l	Grab
Dissolved Oxygen	Not less than 6.0 mg/l at any given time			Grab

The pH shall not be less than 6.0 standard units and not more than 9.0 standard units.

Facilities subject to Treatment Category B are required to provide an extended aeration “package” sewage treatment plant or equivalent unit and an alternative surface sand filter or a rapid sand filter or equivalent unit. Disinfection shall be accomplished through the use of chlorination and dechlorination or an ultraviolet disinfection system. Post aeration of the final effluent is required, if necessary.

* See Section C.10

This discharge shall not cause violation of Title 46, Series 1, Section 3, of the West Virginia Legislative Rules issued pursuant to Chapter 22B, Article 3.

Attachment D

Discharge Limitations - Treatment Category C

During the period beginning on, permittees who have been assigned to Treatment Category C are authorized to discharge from the point source. The discharge shall comply with the following:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u> <u>Other Units (Specify)</u>			<u>Sample Type</u>
	<u>Avg. Monthly</u>	<u>Max. Daily</u>	<u>Instantaneous Maximum</u>	
Flow		600 GPD		Estimated
Biochemical Oxygen Demand	30 mg/l	60 mg/l	75 mg/l	Grab
Total Suspended Solids	30 mg/l	60 mg/l	75 mg/l	Grab
Fecal Coliform	200 <u>counts</u> 100 ml	400 <u>counts</u> 100 ml	500 <u>counts</u> 100 ml	Grab
*Total Residual Chlorine	28 □ g/l	57 □ g/l	70 □ g/l	Grab

The pH shall not be less than 6.0 standard units and not more than 9.0 standard units.

Facilities subject to Treatment Category C are required to provide a media filter. Disinfection shall be accomplished through the use of an ultraviolet disinfection system.

*See Section C.9

This discharge shall not cause violation of Title 46, Series 1, Section 3, of the West Virginia Legislative Rules issued pursuant to Chapter 22B, Article 3.