



**STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT
601 57th Street SE
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: March 31, 2014 – April 30, 2014

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 with flows of 600 GPD or less that serve the connection of single-family dwellings and certain 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 waters of the State. This General Permit will be reissued for five (5) years.

The DWWM continues its agreement with the Bureau for Public Health that it will not grant approval for a surface discharge from single-family residences except when all other means of treatment and disposal have 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 does not want to create new pollution sources. However, Title 64, Series 9, West Virginia Division of Health Legislative Rules, 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 is therefore 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 certain small commercial facilities (food service facilities and industrial wastes are strictly prohibited) with flows 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 perpetual 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.

Applicants for new construction will be required to secure a wasteload allocation (WLA) 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 prohibits permittees from cancelling the 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 WLA and will assign each individual permittee to one of the four (4) available treatment categories. Individual permittees must comply with the effluent limitations of their assigned treatment category and must provide the required treatment technology for their category.

The universe of existing facilities which are eligible for regulation under the general permit numbers approximately 4,800. 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 seven months.

7. DESCRIPTION OF DISCHARGES:

Discharges from regulated facilities will be typical of treated domestic sewage wastewater and will have the following expected effluent qualities, depending upon Limitation Category assigned:

pH range: 6 - 9 standard units

Flow: 600 gallons per day or 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 ($\mu\text{g/l}$)	28	57
Ammonia, Nitrogen (mg/l)	3	6

8. PROPOSED DISCHARGE LIMITATIONS AND TREATMENT REQUIREMENTS

Facilities that are covered under the current general permit, facilities with complete and approvable pending general permit registration/applications, and facilities with complete and approvable pending applications for individual WV/NPDES permits will be covered upon issuance of this general permit. Based upon the most recent wasteload allocation calculations, the facility will be assigned a treatment category and a maximum flow limitation. The assigned treatment category will be the one that most closely approximates the wasteload allocation; however, in no case will the limitations of the assigned category be less stringent than the limitations of the wasteload allocation. Completion of a registration form will be required. Please refer to effluent limitations and monitoring requirements for each category, pages 7 through 12.

9. RATIONALE FOR PROPOSED DISCHARGE LIMITATIONS AND TREATMENT REQUIREMENTS:

A. DISCHARGE LIMITATIONS:

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, Dissolved Oxygen and Ammonia Nitrogen 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.

B. MONITORING REQUIREMENTS:

Self-monitoring and reporting requirements are identical for all permittees regulated under the General Permit. The Legislative Rules of the West Virginia Environmental Quality Board requires that each permit have monitoring requirements to assure compliance with permit limitations. The monitoring requirements in this permit are reasonable for sewage treatment systems of this size. The permittees are 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.

C. TREATMENT REQUIREMENTS

All permittees must provide adequate treatment technologies in order to comply with the established effluent limitations of their assigned treatment category. The DWWM has addressed minimum treatment unit requirements for each category as follows:

Treatment Category A-1

Facilities subject to Treatment Category A-1 are required to provide secondary treatment technology such as an extended aeration "package" sewage treatment plant or equivalent secondary technology. If necessary, bacteria disinfection shall be accomplished through the use of chlorine or an ultraviolet disinfection system.

Treatment Category A-2

Facilities subject to Treatment Category A-2 are required to provide secondary treatment technology such as an extended aeration "package" sewage treatment plant or equivalent secondary technology. If necessary, bacteria disinfection shall be accomplished through the use of chlorine or an ultraviolet disinfection system. However, if a chlorine disinfection system is utilized, a de-chlorination unit must be provided.

Treatment Category B

Facilities subject to Treatment Category B are required to provide secondary treatment technology such as an extended aeration "package" sewage treatment plant or equivalent secondary technology and in addition, must provide a tertiary treatment technology such as media filters and post aeration. If necessary, bacteria disinfection shall be accomplished through the use of chlorine or an ultraviolet disinfection system. However, if a chlorine disinfection system is utilized, a de-chlorination unit must be provided.

Treatment Category C

Facilities subject to Treatment Category C are required to provide PEAT Modules, or equivalent technology, for sewage treatment. If necessary, bacteria disinfection shall be accomplished only through the use of an ultraviolet disinfection system.

10. RATIONALE OF ADDITIONAL REQUIREMENTS

B.1. Self-explanatory

B.2. This explains the frequency of treatment system inspection/maintenance for registrations.

B.3. Describes the addition of monitoring testing of effluent, at least once per permit term.

B.4. Self-explanatory

B.5. This paragraph is to clearly state that only domestic sewage treatment is authorized.

B.6. Self-explanatory

B.7. This paragraph contains the standard reopener clause for development of effluent limitations under the Clean Water Act subsequent to reissuance of the general permit.

B.8. Self-explanatory

B.9. This paragraph delineates the requirements for TRC sampling and analysis.

B.10. Self-explanatory

B.11. This paragraph delineates the requirements for discharge to a stream for which a TMDL has been developed

B.12. Self-explanatory

B.13. Self-explanatory

B.14. Self-explanatory

B.15. Self-explanatory

B.16. Self-explanatory

B.17. Self-explanatory

B.18. This paragraph restricts use of extended aeration systems at seasonal homes due to EPA data that shows facilities with intermittent flows do not do well with extended aeration systems due to the long start-up times.

B.19. This paragraph adds a requirement for flow equalization on new systems to ensure equal, consistent flow of sewage for optimal treatment.

B.20. Self-explanatory

B.21. Prohibits the use of garbage disposals with HAU systems, as they provide for too much organic loading that can restrict proper effluent treatment.

B.22. Self-explanatory

B.23. Self-explanatory

B.24. Self-explanatory

B.25. Added to enforce agency policy of not allowing multiple HAU's in new development, in place of a more appropriate, larger sewage treatment system.

B.26. Added to require New Construction facilities to discharge to a blue-line stream to further protect public health.

B.27. Added requirement of an effluent media filter to discharges to roadside ditches that may contain potable water lines.

B.28. Added to require Nutrient Offsets for New Discharges to the Chesapeake Bay drainage area.

B.29. Self-explanatory

B.30. Self-explanatory

B.31. Self-explanatory

B.32. Self-explanatory

B.33. Self-explanatory

C.1. Self-explanatory

C.2. Self-explanatory

C3. Self-explanatory

C4. Self-explanatory

11. ANTIDegradation Considerations

Of the approximate 4,800 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.

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: Mylinda Maddox

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

Requests for additional information should be directed to Mylinda Maddox at (304) 926-0499, extension 1065.

Attachment A

Discharge Limitations - Treatment Category A.1

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, 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 Other Units (Specify)</u>			<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Avg. Monthly</u>	<u>Max. Daily</u>	<u>Instantaneous Maximum</u>		
Flow		600 GPD		1/Year*	Estimated
Biochemical Oxygen Demand	30 mg/l	60 mg/l	75 mg/l	1/Year*	Grab
Total Suspended Solids	30 mg/l	60 mg/l	75 mg/l	1/Year*	Grab
Fecal Coliform	200 $\frac{\text{counts}}{100 \text{ ml}}$	400 $\frac{\text{counts}}{100 \text{ ml}}$	500 $\frac{\text{counts}}{100 \text{ ml}}$	1/Year*	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 B.3

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 the effective date of this permit and lasting through the expiration date of this permit, 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 Other Units (Specify)</u>			<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Avg. Monthly</u>	<u>Max. Daily</u>	<u>Instantaneous Maximum</u>		
Flow		600 GPD		1/Year*	Estimated
Biochemical Oxygen Demand	30 mg/l	60 mg/l	75 mg/l	1/Year*	Grab
Total Suspended Solids	30 mg/l	60 mg/l	75 mg/l	1/Year*	Grab
Fecal Coliform	200 counts 100 ml	400 counts 100 ml	500 counts 100 ml	1/Year*	Grab
**Total Residual Chlorine	28 µg/l	57 µg/l	70 µg/l	1/Year*	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 B.3.

** See Section B.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.

Discharge Limitations - Treatment Category B Attachment C

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

<u>Effluent Characteristics</u>	<u>Discharge Limitations Other Units (Specify)</u>			<u>Instantaneous Maximum</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Avg. Monthly</u>	<u>Max. Daily</u>				
Flow		600 GPD			1/Year*	Estimated
Biochemical Oxygen Demand	5 mg/l	10 mg/l	12.5 mg/l		1/Year*	Grab
Total Suspended Solids	30 mg/l	60 mg/l	75 mg/l		1/Year*	Grab
Fecal Coliform	200 counts 100 ml	400 counts 100 ml	500 counts 100 ml		1/Year*	Grab
Dissolved Oxygen	Not less than 6.0 mg/l at any given time				1/Year*	Grab
**Total Residual Chlorine	28 µg/l	57 µg/l	70 µg/l		1/Year*	Grab
Ammonia, Nitrogen	3 mg/l	6 mg/l	7.5 mg/l		1/Year*	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 additionally an approved media filter capable of achieving the discharge limitations. 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. Ultraviolet disinfection is strongly recommended for systems discharging to trout streams.

* See Section B.3.

** See Section B.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 the effective date of this permit and lasting through the expiration date of this permit, 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 Other Units (Specify)</u>			<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Avg. Monthly</u>	<u>Max. Daily</u>	<u>Instantaneous Maximum</u>		
Flow		600 GPD		1/Year*	Estimated
Biochemical Oxygen Demand	30 mg/l	60 mg/l	75 mg/l	1/Year*	Grab
Total Suspended Solids	30 mg/l	60 mg/l	75 mg/l	1/Year*	Grab
Fecal Coliform	200 counts 100 ml	400 counts 100 ml	500 counts 100 ml	1/Year*	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 B.3.

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.