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

FACT SHEET, INFORMATION, AND RATIONALE FOR WV/NPDES GENERAL PERMIT GROUNDWATER REMEDIATION OF PETROLEUM-CONTAMINATED SITES

1. NAME AND ADDRESS OF APPLICANT

Any owner/operator of a wastewater treatment system for discharging or proposing to discharge wastewater associated with the remediation of petroleum contaminated sites and agreeing to be regulated under the terms of this proposed General Permit.

2. GENERAL WV/NPDES PERMIT NO.: WV0113727

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

4. PUBLIC COMMENT PERIOD: Feb 13, 2023 - March 28, 2023

5. DESCRIPTION OF APPLICANT'S FACILITY OR ACTIVITY:

The General Permit is designed to regulate discharges from facilities that treat groundwater or surface water that has been contaminated by gasoline, diesel fuel, marine fuel, kerosene, and other petroleum fuel.

6. DESCRIPTION OF DISCHARGES:

Discharges covered under this General Permit will be from leaking underground storage tanks and other similar hydrocarbon-remediation projects. These projects typically involve identification of leaking underground storage tanks or other devices; determination of the extent of the contamination, especially the determination of any effects on groundwater; excavation of the tank or other devices and contaminated soil; and treatment of contaminated groundwater or, other related surface water.

The treatment often involves pumping out contaminated groundwater, stormwater, or ponded water on site, treating it at the surface (minimum technology, generally free product removal, air stripping and/or granular activated carbon), and discharging back to groundwater or surface water. The minimum technology for removal of dissolved petroleum hydrocarbons from groundwater (as referenced in this Fact Sheet) has advanced such that, for properly designed and operated systems, pollutants can routinely be reduced to below detection limits. This General Permit is intended to cover the discharge of treated groundwater or other associated surface water, as well as that of contaminated groundwater that has been collected from pump tests or collected storm water prior to full scale operation of the remediation project.

Based on historical data previously submitted to the DWWM by permitted sites with properly sized, operated and maintained treatment systems, the following effluent quality is expected:

pH	**maintained between 6.0 & 9.0 standard units.**
Benzene, Toluene, Ethylbenzene, Total Petroleum Hydrocarbon, and Polynuclear Aromatic Hydrocarbons	**below detection limits of approved analytical procedures as listed in 40 CFR 136.**
Total Recoverable Lead, Total Recoverable Iron and Total Recoverable Manganese	**variable, depending on water source and treatment processes used.**

In order to allow these much-needed remediation projects to be promptly carried out, no additional public notice requirements will be provided for proposed facilities making applications for coverage under this General Permit.

7. COVERAGE UNDER THE GENERAL PERMIT

This General Permit proposes to provide coverage for persons operating remediation projects where the contaminants are petroleum-based fuels or products. The Director has the authority to require any owner/operator to apply for and obtain an individual permit. This authority will be exercised when the Director determines that the receiving water will be better protected by such a permit.

Proposed treatment facilities are eligible for coverage under the General Permit.

Those facilities to be regulated under the terms of the General Permit will be required to provide adequate treatment technologies and to achieve compliance with the limitation category requirements assigned.

There are approximately 9 facilities currently registered under the existing general permit. If those facilities wish to continue discharging, they will be required to register under the new General Permit.

8. WHEN TO APPLY

State NPDES rules require permit applications to be filed at least 180 days prior to the commencement of the activity. The Agency is attempting, through this General Permit process, to streamline the permitting of this particular activity. Therefore, projects which may potentially obtain coverage under this General Permit and which submit a complete site registration application form shall make that submission at least sixty (60) days prior to the anticipated date of discharge.

Those operations with in-process remediation and existing discharges at the time of issuance of the General Permit will be required to apply within thirty (30) days of receipt of reissuance package.

9. PROPOSED EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS:

All establishments covered by this general permit will be required to sample, analyze and submit Discharge Monitoring Reports (DMRs) for the designated parameters once every quarter. For the specific limitations and monitoring requirements, refer to the pages 2 through 9 of the General Permit**.**

10. RATIONALE FOR PROPOSED DISCHARGE CATEGORIES, LIMITATIONS, MONITORING AND TREATMENT REQUIREMENTS:

A. Discharge Categories:

1. Limitation Category I

This limitation category will generally be assigned to facilities with discharges into large receiving streams [instream waste concentration (IWC*) less than 10%]. The agency may also assign this category to facilities with discharges into small receiving streams (IWC* greater than 10%) if it has data showing the background concentrations for the pollutants of concern in the receiving stream are at or near zero and that discharges in compliance with the effluent limitations of this category will assure compliance with water quality standards (WQS).

2. Limitation Category I-A

This limitation category will generally be assigned to facilities with discharges into large trout waters receiving streams (IWC* less than 10%). The agency may also assign this category to facilities with discharges into small trout waters receiving streams (IWC* greater than 10%) if it has data showing the background concentrations for the pollutants of concern in the receiving stream are at or near zero and that discharges in compliance with the effluent limitations of this category will assure compliance with WQS.

3. Limitation Category I-B

This limitation category will be assigned to facilities with discharges within 0.5 miles of a water treatment plant intake in compliance with Public “A”, Human Health Standards, on large receiving streams (IWC* less than 10%). The agency may also assign this category to facilities with discharges into small Public “A” waters receiving streams (IWC* greater than 10%) if it has data showing the background concentrations for the pollutants of concern in the receiving stream are at or near zero and that discharges in compliance with the effluent limitations of this category will assure compliance with WQS.

4. Limitation Category II

This limitation category will generally be assigned to facilities with discharges into small receiving streams [IWC* greater than 10%]. The agency may also assign this category to facilities with discharges into large receiving streams (IWC* less than 10%) if it has data showing that high background concentrations for the pollutants of concern exist in the receiving stream and that discharges in compliance with the effluent limitations of Category I will not assure compliance with WQS.

5. Limitation Category II-A

This limitation category will generally be assigned to facilities with discharges into small trout waters receiving streams (IWC* greater than 10%). The agency may also assign this category to facilities with discharges into large trout waters receiving streams (IWC* less than 10%) if it has data showing that high background concentrations for the pollutants of concern exist in the receiving stream and that discharges in compliance with the effluent limitations of Category I-A will not assure compliance with WQS.

6. Limitation Category II-B

This limitation category will be assigned to facilities with discharges within 0.5 miles of a water treatment plant intake in compliance with Public "A", Human Health Standards, on small receiving streams (IWC* greater than 10%). The agency may also assign this category to facilities with discharges into large Public "A" receiving streams (IWC* less than 10%) if it has data showing that high background concentrations for the pollutants of concern exist in the receiving stream and that discharges in compliance with the effluent limitations of Category I-B will not assure compliance with WQS.

7. Limitation Category III

This limitation category will be assigned to facilities that inject the treated effluent back into the groundwater.

8. Groundwater Monitoring Well Requirements

The monitoring requirements in this category are required to be performed by operations that are not conducted in accordance with a Corrective Action Plan issued by the DWWM. This monitoring will aid in determining the effectiveness of the treatment systems and when remediation has been completed to a satisfactory level.

*NOTE: IWC = Qd / (Qd + 7Q10), where Qd = flow of the discharge in cubic feet / second (CFS), and 7Q10 $_3$ = the minimum mean seven consecutive day drought flow in CFS of the receiving stream with a 10-year return frequency.

B. Discharge Limitations:

Flow - Monitor (MGD) Maximum - Technology Based

Monitor only is proposed to determine any potential impact the discharge may have on the receiving stream. This is consistent with Title 47, Series 10, Section 6.3.h.1.B. of the WVLR.

Total Petroleum Hydrocarbons - Monitor (mg/l) Maximum - Technology Based

All Categories. Monitoring only is proposed for TPH to determine the overall removal efficiency of the system. No water quality standard exists for this parameter.

At present, the test method most favored by both industry and government for TPH is Test Method 8015. This method is a gas chromatograph test with a flame ionizing detector. This test can be run either for Gasoline Range Organics (GRO) or Diesel Range Organics (DRO), and it is important that the permittee use a wide window extract and test for both GRO and DRO.

Benzene - Water Quality Based

Category I and I-A – 1.98 (µg/l) Average & 2.88 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 0.66 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.33 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 0.66 (µg/l) Average & 0.96(µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 0.66 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 0.66 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 0.66 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category III – 5.0 (µg/l) Maximum

The limit for Category III was developed using the Standards of Purity and Quality (SPQ) values assigned in 47 CSR 12.

Groundwater Monitoring Wells - Monitor (µg/l) Maximum

Groundwater Monitoring Wells are a requirement to allow for testing and monitoring of the contaminated groundwater and to aid in determining the effectiveness of the treatment systems and when remediation has been completed to a satisfactory level. Water from these monitoring wells is NOT being discharged to waters of the State, only tested to monitor progress of the remediation, and thus, effluent limitations are not required. A previous General Permit had a Max Daily limit of 5.0 µg/l, which was changed to Monitor Only with a previous reissuance.

Toluene - Water Quality Based

Category I and I-A – 170 (µg/l) Average & 250 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 57 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 29 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A – 57 (µg/l) Average & 80 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 57 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 57 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 57 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category III – 1.0 (mg/l) Maximum

The limit for Category III was developed using the Standards of Purity and Quality (SPQ) values assigned in 47 CSR 12.

Groundwater Monitoring Wells - Monitor (mg/l) Maximum

Groundwater Monitoring Wells are a requirement to allow for testing and monitoring of the contaminated groundwater and to aid in determining the effectiveness of the treatment systems and when remediation has been completed to a satisfactory level. Water from these monitoring wells is NOT being discharged to waters of the State, only tested to monitor progress of the remediation, and thus, effluent limitations are not required. A previous General Permit had a Max Daily limit of 1.0 mg/l, which was changed to Monitor Only with a previous reissuance.

Ethylbenzene - Water Quality Based

Category I and I-A - 204 (µg/l) Average & 298 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 68 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 34 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A – 68 µg/l Average & 99 µg/l Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 68 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 68 µg/l Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 68 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category III – 0.7 (mg/l) Maximum

The limit for Category III was developed using the Standards of Purity and Quality (SPQ) values assigned in 47 CSR 12.

Groundwater Monitoring Wells - Monitor (µg/l) Maximum

Groundwater Monitoring Wells are a requirement to allow for testing and monitoring of the contaminated groundwater and to aid in determining the effectiveness of the treatment systems and when remediation has been completed to a satisfactory level. Water from these monitoring wells is NOT being discharged to waters of the State, only tested to monitor progress of the remediation, and thus, effluent limitations are not required. A previous General Permit had a Max Daily limit of 0.7 mg/l, which was changed to Monitor Only with a previous reissuance.

Polynuclear Aromatic Hydrocarbons (PAH) Constituents - Water Quality Based

Benzo (a) Anthracene; Benzo (a) Pyrene; Benzo (b) Fluoranthene; Benzo (k) Fluoranthene; Chrysene; Dibenzo (a, h) Anthracene and Ideno (1, 2, 3-cd) Pyrene.

***Note: A previous General Permit required monitoring of PAH's as a singular effluent characteristic. The current, 2022 version, of 47CSR2, Requirements Governing Water Quality Standards list the above 7 PAH constituents, each having there own water quality criteria for Human Health. The current 47CSR2, Requirements Governing Water Quality Standards, does not include criteria for Naphthalene, Benzo(g,h,i)perylene, Acenaphthylene, and Phenanthrene, which were included in the list of PAH's in a previous permit, Section B.8. Because 47CSR2 does not have water quality criteria for these 4 compounds, no monitoring or limitations were included in the new General Permit.**

Benzo (a) Anthracene- Water Quality Based

Category I and I-A - 0.0036 (µg/l) Average & 0.0053 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits these seven PAH constituents for Category I and I-A were developed using the water quality criteria of 0.0012 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.0006 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR. The Minimum Detection Limit for these seven PAH constituents is above the effluent limits, hence; non-detect is considered to be in compliance with this limitation.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 0.0012 (µg/l) Average & 0.0018 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 0.0012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 0.0012 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 0.0012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Benzo (a) Pyrene - Water Quality Based

Category I and I-A - 0.00036 (µg/l) Average & 0.00053 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits these seven PAH constituents for Category I and I-A were developed using the water quality criteria of 0.00012 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.00006 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR. The Minimum Detection Limit for these seven PAH constituents is above the effluent limits, hence; non-detect is considered to be in compliance with this limitation.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 0.00012 (µg/l) Average & 0.00018 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 0.00012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 0.00012 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 0.00012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category III – **Benzo (a) Pyrene** - 0.2 (µg/l) Maximum

The limit for Benzo (a) Pyrene in Category III was developed using the Standards of Purity and Quality values assigned in 47 CSR 12. It is the only PAH constituent in the SPQ.

Benzo (b) Fluoranthene - Water Quality Based

Category I and I-A - 0.0036 (µg/l) Average & 0.0053 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits these seven PAH constituents for Category I and I-A were developed using the water quality criteria of 0.0012 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.0006 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR. The Minimum Detection Limit for these seven PAH constituents is above the effluent limits, hence; non-detect is considered to be in compliance with this limitation.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 0.0012 (µg/l) Average & 0.0018 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 0.0012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 0.0012 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 0.0012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Benzo (k) Fluoranthene - Water Quality Based

Category I and I-A - 0.036 (µg/l) Average & 0.053 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits these seven PAH constituents for Category I and I-A were developed using the water quality criteria of 0.012 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.006 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR. The Minimum Detection Limit for these seven PAH constituents is above the effluent limits, hence; non-detect is considered to be in compliance with this limitation.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 0.012 (µg/l) Average & 0.018 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 0.012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 0.012 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 0.012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Chrysene - Water Quality Based

Category I and I-A - 0.36 (µg/l) Average & 0.53 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits these seven PAH constituents for Category I and I-A were developed using the water quality criteria of 0.12 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.06 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR. The Minimum Detection Limit for these seven PAH constituents is above the effluent limits, hence; non-detect is considered to be in compliance with this limitation.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 0.12 (µg/l) Average & 0.18 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 0.12 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 0.12 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 0.12 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Dibenzo (a, h) Anthracene- Water Quality Based

Category I and I-A - 0.00036 (µg/l) Average & 0.00053 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits these seven PAH constituents for Category I and I-A were developed using the water quality criteria of 0.00012 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.00006 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR. The Minimum Detection Limit for these seven PAH constituents is above the effluent limits, hence; non-detect is considered to be in compliance with this limitation.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 0.00012 (µg/l) Average & 0.00018 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 0.00012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 0.00012 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 0.00012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Ideno (1, 2, 3-cd) Pyrene - Water Quality Based

Category I and I-A - 0.0036 (µg/l) Average & 0.0053 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits these seven PAH constituents for Category I and I-A were developed using the water quality criteria of 0.0012 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.0006 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR. The Minimum Detection Limit for these seven PAH constituents is above the effluent limits, hence; non-detect is considered to be in compliance with this limitation.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 0.0012 (µg/l) Average & 0.0018 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 0.0012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 0.0012 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 0.0012 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Acenaphthene

Category I and I-A - 210 (µg/l) Average & 306 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 70 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 35 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 70 (µg/l) Average & 102 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 70 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 70 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 70 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Anthracene

Category I and I-A - 900 (µg/l) Average & 1,310 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 300 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 150 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A – 300 (µg/l) Average & 440 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 300 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 300 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 300 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Fluoranthene

Category I and I-A - 60 (µg/l) Average & 88 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 20 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 10 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 20 (µg/l) Average & 29 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 20 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 20 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 20 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Fluorene

Category I and I-A - 150 (µg/l) Average & 219 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 50 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 25 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A – 50 (µg/l) Average & 73 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 50 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 50 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 50 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Pyrene

Category I and I-A - 60 (µg/l) Average & 88 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 20 µg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 10 µg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A - 20 (µg/l) Average & 29 (µg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 20 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 20 (µg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 20 µg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Naphthalene - Water Quality Based

Groundwater Monitoring Wells - Monitor (µg/l) Maximum

Naphthalene was chosen in an effort to assess any impacts of PAH to the groundwater, chiefly because it has the highest solubility of any PAH in water. Further, PAH are common constituents found in diesel fuel.

Xylenes – Standards of Purity and Quality

Category III – **Xylene** - 10 (mg/l) Maximum

The limit for Xylenes, Total in Category III was developed using the Standards of Purity and Quality values assigned in 47 CSR 12.

Groundwater Monitoring Wells - Monitor (µg/l) Maximum

Groundwater Monitoring Wells are a requirement to allow for testing and monitoring of the contaminated groundwater and to aid in determining the effectiveness of the treatment systems and when remediation has been completed to a satisfactory level. Water from these monitoring wells is NOT being discharged to waters of the State, only tested to monitor progress of the remediation, and thus, effluent limitations are not required. A previous General Permit had a Max Daily limit of 10.0 mg/l, which was changed to Monitor Only with a previous reissuance.

Total Recoverable Lead - Water Quality Based

Category I, I-A, and I-B - 7.8 (µg/l) Average & 15.6 (µg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I, I-A and I-B were developed using the water quality criteria of 3.18 µg/l (Chronic Aquatic) and assuming an IWC of less than 10%, a receiving stream background concentration of 1.59 µg/l and a default dilution factor of five for the chronic mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II, II-A or II-B, or the facility may be required to obtain a site-specific permit.

Categories II, II-A, and II-B – 2.6 (µg/l) Average & 5.2 (µg/l) Maximum

The limits for Categories II, II-A and II-B were developed using the water quality criteria of 3.18 µg/l (Chronic Aquatic) and assuming an IWC of greater than 10%, a receiving stream background and no dilution. Consistent with Title 47, Series 10, Sections 6.3.d and 6.3.h.1.C. of the WVLR.

Category III – 15.0 (µg/l) Maximum

The limit for Category III was developed using the Standards of Purity and Quality (SPQ) values assigned in 47 CSR 12.

Groundwater Monitoring Wells - Monitor (µg/l) Maximum

Groundwater Monitoring Wells are a requirement to allow for testing and monitoring of the contaminated groundwater and to aid in determining the effectiveness of the treatment systems and when remediation has been completed to a satisfactory level. Water from these monitoring wells is NOT being discharged to waters of the State, only tested to monitor progress of the remediation, and thus, effluent limitations are not required. A previous General Permit had a Max Daily limit of 15.0 µg/l, which was changed to Monitor Only with a previous reissuance.

Total Recoverable Iron - Water Quality Based

Category I - 3.68 (mg/l) Average & 6.56 (mg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I were developed using the water quality criteria of 1.5 mg/l {Chronic Aquatic(AML) and Human Health(MDL)} and assuming an IWC of less than 10%, a receiving stream background concentration of 0.75 mg/l and a default dilution factor of five, which is the chronic mixing zone and the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II, or the facility may be required to obtain a site-specific permit.

Category I-A - 2.45 (mg/l) Average & 4.92 (mg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I-A were developed using the water quality criteria of 1.0 mg/l (Chronic for trout waters) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.5 mg/l and a default dilution factor of five, which is the chronic mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II-A, or the facility may be required to obtain a site-specific permit.

Categories II – 1.23 (mg/l) Average & 2.2 (mg/l) Maximum

The limits for Categories II were developed using the water quality criteria of 1.5 mg/l (Chronic Aquatic – Average; Human Health for Maximum) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Categories II-A – 0.82 (mg/l) Average & 1.64 (mg/l) Maximum

The limits for Categories II-A were developed using the water quality criteria of 1.0 mg/l (Chronic for trout streams) as end of pipe effluent limits. (See attached spreadsheets). Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B – 1.5 (mg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 1.5 mg/l (Human Health for Maximum) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category II-B – 1.23 (mg/l) Average & 1.5 (mg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 1.5 mg/l (Chronic – Average; Human Health for Maximum) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Total Recoverable Manganese - Water Quality Based

Category I and I-A - 3.0 (mg/l) Average & 4.4 (mg/l) Maximum

The water quality based effluent limit (WQBEL) limits for Category I and I-A were developed using the water quality criteria of 1.0 mg/l (Human Health) and assuming an IWC of less than 10%, a receiving stream background concentration of 0.5 mg/l and a default dilution factor of five, which is the chronic human health mixing zone for the discharge. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

NOTE: The Agency recognizes that the background concentration for some receiving streams may exceed the assumed value. The IWC restriction, however, provides mitigation for situations where actual receiving stream information is unavailable. If data exists showing the background concentration higher than that assumed, the facility will be assigned to Category II or II-A, or the facility may be required to obtain a site-specific permit.

Categories II and II-A – 1.0 (mg/l) Average & 1.4 (mg/l) Maximum

The limits for Categories II and II-A were developed using the water quality criteria of 1.0 mg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

Category I-B and II-B – 1.0 (mg/l) Maximum

The limits for Categories I-B and II-B were developed using the water quality criteria of 1.0 mg/l (Human Health) as end of pipe effluent limits. Consistent with Title 47, Series 10, Sections 6.3.d. and 6.3.h.1.C. of the WVLR.

pH - Maintained between 6.0 - 9.0 (std units) Technology Based

This is consistent with Title 47, Series 10, Section 6.3.h.1.C. of the WVLR. Also, the proposed limit will satisfy the applicable water quality standards.

C. Monitoring Requirements:

Self-monitoring and reporting requirements are identical for all permittees regulated under the General Permit. The WVLR requires that each permit have monitoring requirements to assure compliance with permit limitations.

D. Treatment Requirements:
All permittees must provide adequate treatment technologies in order to comply with the established effluent limitations of their assigned limitation category. In all likelihood, air stripping will be used to treat volatiles, due to the high volatility of many of the soluble constituents involved, and carbon adsorption will be used to treat situations where polynuclear aromatic hydrocarbons (semi-volatiles) are involved. Data submitted to the Division of Water & Waste Management by ongoing projects, the Risk Reduction Engineering Laboratory (RREL) database, and The Treatability Manual (U.S. EPA Office of Research and Development) all indicate that air stripping is a viable technology for volatile organic removal. Carbon adsorption may be used either separately to better control semi-volatile compounds or in combination with air stripping, specifically to address air quality concerns that may arise from volatilizing certain constituents. With the data that is available it appears that the use and proper operation of air stripping and carbon adsorption technology will result in achieving proposed limits.

12. RATIONALE OF ADDITIONAL REQUIREMENTS

B.1 - Describes online permitting system utilized for submitting new and reissuance permit applications.

B.2 - This identifies situations in which the Director may require a facility covered by this permit to be covered by an individual permit or when such facility may approach the Director on its own initiative to obtain coverage by an individual permit.

B.3 - Describes if coverage of a facility permit registration is subject to an appeal, the facility permit registration will be considered an individual permit and will only affect the specific facility.

B.4 - Section outlines minimum treatment system to be utilized.

B.5 - According to the Risk Reduction Engineering Laboratory (RREL) database, all the parameters in this permit are treatable by activated sludge. Discharge into a Publicly-Owned Treatment Works (POTW) would provide additional treatment and help insure that pollutants are removed. If the POTW does not have available capacity as certified by the appropriate pretreatment authority, or is otherwise unwilling to accept the waste stream, then direct discharge subject to permit conditions (either general or individual permit) may be permitted.

B.6 - The general permit may not cover all situations to the extent necessary to protect the environment. For this reason, the Division of Water & Waste Management may require an individual permit or deny permit coverage as individual situations are evaluated.

B.7 - Self-explanatory

B.8 - The middle distillates (diesel fuel, marine fuel, heating oil, kerosene and jet fuel) all contain

significant amounts of polynuclear aromatic hydrocarbons (PAH). Polynuclear aromatic hydrocarbons have a water quality standard of 3.8 nanograms per liter and detection limit of 10 micrograms per liter. Therefore, a site contaminated with a middle distillate could have PAH in the water at levels that could violate water quality without their detection in any monitoring. The best available treatment technology for PAH is apparently carbon adsorption, therefore this technology is required at all sites where middle distillates are present regardless of PAH contamination appearing in the monitoring.

B.9 - Standard re-opener clause

B.10 - Specifies when the effluent limitations and monitoring requirements are applicable.

B.11 - Explanation of process used to calculate effluent limitations in Categories I and I-A, utilizing default mixing factors and assumed background concentrations.

B.12 - Section 11 of the 2018 WV Corrective Action Guidance Document (CAGD) for Leaking Aboveground (LAST) & Leaking Underground Storage Tank (LUST) stipulates requirements and actions to be pursued to assure compliance with 22-12 of the West Virginia Code. In instances where C.A.P.'s are not required due to the nature of the project, further action on the part of the DWWM through the issuance of an individual permit or enforcement action may be necessary. 47 CSR 12 is now the Section for Requirements Covering Groundwater Standards, previously 46 CSR12.

B.13 - Self-explanatory

B.14 - Submission of DMR reports are required as per 47 CSR 10-5.10. of the WVLR.

B.15 - Self-explanatory

B.16 - As the requirements for monitoring the discharge from the remediation process can cease upon termination of the process (unless otherwise required under 11.1.4. of the 2018 CAGD/LAST & LUST), coverage for the requirements of Sections A.1, A.2, A.3, A.4, A.5, A.6, A.7 of the permit may be eliminated at that time. As groundwater may still be impacted to various degrees including those to levels exceeding Standards specified in Title 47, Series 12, monitoring of the groundwater must continue during the term of coverage under the General Permit until at least two consecutive quarters of collected data reveal compliance with the appropriate Standards (such consecutive quarters including the minimum one year time frame required under Section 11.1.4. of the 2018 WV Corrective Action Guidance Document (CAGD) for Leaking Aboveground (LAST) & Leaking Underground Storage Tank (LUST)). In the event compliance cannot be achieved during the term of coverage, it will be necessary for the permittee to provide written notification to the DWWM at which time other appropriate action by the agency may be pursued.

B.17 - This paragraph delineates the requirements for discharge to a stream for which a TMDL has been developed.

B.18 - Self-explanatory

B.19 - Self-explanatory

B.20 - Self-explanatory

B.21 - Self-explanatory

B.22 - Describes that permit coverage does not relieve permittee of responsibilities, liabilities for damaged caused from its activities.

B.23 - Statement that the General Permit can be review, revised and updated by the Director after reviewed at reissuance, and/or before then.

B.24 - Self-explanatory

B.25 - Self-explanatory

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 Title 47, Series 10, 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 and may request a public hearing. Comments will be accepted until March 20, 2018. They should be addressed to:

Director, Division of Water and Waste Management
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304
Attention: Melissa Atkins
Phone: (304) 926-0499, Extension 43857
Fax: (304) 926-0463
Email: Melissa.Atkins@wv.gov

The request shall state the nature of the issues proposed to be raised in the hearing and must be received within the comment period. The Director shall hold a public hearing whenever he or she finds, based on requests, a significant degree of public interest on issues relevant to the draft permit.

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

All applicable information concerning any permit application and the tentative decisions is on file and may be inspected, by appointment, or copies obtained, at a nominal cost, at the offices of the Division of Water and Waste Management, 601 57th Street, SE, Charleston, West Virginia 25304, Monday through Friday (except State holidays) between 8:00 a.m. to 4:00 p.m.

Hearing impaired individuals having access to a Telecommunication Device for the Deaf (TDD) may contact our agency by calling (304) 926-0489. Calls must be made between 8:30 a.m. to 3:30 p.m. Monday through Friday.

Requests for additional information should be directed to Melissa Atkins at (304) 926-0499, Extension 43857.