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FACT SHEET

General Permit For
Coal Mining, Processing, and Associated Activities
Located in the Eastern Kentucky Coal Field

KPDES No.: KYGE40000

AI No.: 35050

Date: May 14, 2014

Public Notice Information

Public Notice Start Date: May 15, 2014

Comment Due Date: July 1, 2014

Information concerning the public notice process may be obtained on the Division of Water's Public Notice Webpage at the following address:

http://dep.gateway.ky.gov/eSearch/Search_Pending_Approvals.aspx?Program=Wastewater&NumDaysDoc=30

Comments may be filed electronically at the following e-mail address: DOWPublicNotice@ky.gov

SECTION 1

FACILITIES COVERED

1. FACILITIES COVERED

Establishments engaged in the mining and/or processing of coal and associated activities within the counties of Bath, Bell, Boyd, Breathitt, Carter, Clay, Cumberland, Elliott, Estill, Floyd, Greenup, Harlan, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, McCreary, Madison, Magoffin, Martin, Menifee, Montgomery, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Rowan, Wayne, Whitley or Wolfe. At anytime after coverage under this general permit is granted to a facility, the permittee may elect to opt out of the general permit by filing Forms 1 and C to obtain an individual KPDES permit. The general permit coverage will remain in effect until the individual permit becomes effective.

1.1. Eligibility

Only those coal mining and/or processing operations meeting the following requirements are eligible for coverage under KYGE40000 (KYGE4):

1) are physically located within the Kentucky counties listed in Section 1, and
2) have obtained a Surface Mining Control and Reclamation Act (SMCRA) permit from Department for Natural Resources (DNR) or are in the process of obtaining a SMCRA permit,

1.2. Exclusions

The following are excluded from coverage under this general permit:

1) Coal mining and/or processing operations that directly discharge to or propose to directly discharge to a receiving water body that has been categorized as an “Impaired Water” for a pollutant or pollutants of concern that may be associated with such activities and for which an approved Total Maximum Daily Load (TMDL) has been developed;
2) Coal mining and/or processing operations that directly discharge to or propose to directly discharge to a receiving water body that has been designated as Coldwater Aquatic Habitat (CAH) as listed in Table C of 401 KAR 10:026, Section 5;
3) Coal mining and/or processing operations that directly discharge to or propose to directly discharge to a receiving water body that has been designated as an Outstanding State Resource Water (OSRW) due its support of a federally listed Threatened or Endangered Species as listed in Table C of 401 KAR 10:026, Section 5;
4) Coal mining and/or processing operations that directly discharge to or propose to directly discharge to a receiving water body that has been categorized as an Outstanding National Resource Water (ONRW) as listed in 401 KAR 10:030, Section 1; or
5) Coal mining and/or processing activities that Division of Water (DOW) has determined would be more appropriately addressed by an individual permit or an alternate general permit.

1.3. Treatment Provided

Sedimentation

1.4. Permitting Action

Issuance of a new general KDPES permit KYGE40000 addressing the discharge of treated wastewaters existing source and news source coal mining and/or coal processing operations within the 39 counties of the Eastern Kentucky coal field.

SECTION 2

RECEIVING WATER INFORMATION

2. RECEIVING / INTAKE WATERS

2.1. Receiving Waters

Various water bodies within the Big Sandy, Little Sandy, Tygarts, and upper Cumberland River Basins, and portions of the Kentucky and Licking River Basins

2.2. Stream Segment Use Classifications

Includes all water bodies that have been designated by DOW singularly or in combination thereof as: Warmwater Aquatic Habitat, Primary Contact Recreation, Secondary Contact Recreation and/or Domestic Water Supply.

2.3. Stream Segment Antidegradation Categorization

Included are those water bodies which have been categorized as High Quality Waters, Impaired Waters, or Exceptional Waters.

2.4. Stream Low Flow Condition

The 7-day, 10-year low flow conditions of the receiving streams vary from zero (0) cubic feet per second (cfs) to over 500 cfs.

SECTION 3

EFFLUENT REQUIREMENTS

3. EFFLUENT REQUIREMENTS

The effluent requirements are divided into the following categories; (1) underground workings and coal preparation plants and associated areas, (2) in-stream sediment control structures, and (3) bench sediment control structures. In-stream sediment control structures are those sediment control structures that are constructed within the natural drainage way of a water body or have a continuous discharge of more than 4 consecutive days. Bench sediment control structures are sediment control structures that do not meet the definition of an in-stream sediment control structure.

Reclamation areas are defined in 401 KAR 5:065, Section 2(9) [40 CFR 434.11(l)] as the "surface area of a coal mine which has been returned to required contour and on which revegetation (specifically, seeding or planting) work has commenced." Non-reclamation areas are all other areas that do not meet the definition of a reclamation area, i.e. coal preparation plants and coal preparation plant associated areas, underground workings of an underground both active and post mining, and surface areas of coal mines where reclamation activities have not yet commenced.

3.1. Underground Workings, and Coal Preparation Plants and Associated Areas

The following effluent limitations and monitoring requirements are imposed on discharges which contain drainage from coal preparation plants, coal preparation plant associated areas, and/or the underground workings of an underground mine both active and post mining.

TABLE 1.

EFFLUENT LIMITATIONS							MONITORING REQUIREMENTS	
Effluent Characteristic	**STORET Code**	**Units**	**Minimum**	**Monthly Average**	**Daily Maximum**	**Maximum**	**Frequency**	**Sample Type**
Flow	50050	MGD	N/A	Report	Report	N/A	2/Month	Instantaneous
Total Suspended Solids[1]	00530	mg/l	N/A	35	70	N/A	2/Month	Grab
Total Recoverable Iron	00980	mg/l	N/A	3.0	4.0	N/A	2/Month	Grab
Total Recoverable Manganese[1]	11123	mg/l	N/A	2.0	4.0	N/A	2/Month	Grab
pH	00400	SU	6.0	N/A	N/A	9.0	2/Month	Grab
Acute WET[2]	TS000	TU_A	N/A	N/A	N/A	1.00	1/Quarter	([2])
Specific Conductivity	00095	µS/cm	N/A	Report	Report	N/A	2/Month	Grab
Total Sulfate (as SO_4)	00945	mg/l	N/A	Report	Report	N/A	2/Month	Grab
Total Recoverable Selenium	00981	µg/l	N/A	5.0 [(3)]	20	N/A	2/Month	Grab
Total Recoverable Selenium (Fish Tissue)	01148	mg/Kg dry weight	N/A	N/A	N/A	8.6	([3])	([3])
Precipitation Volume	79777	Inches	N/A	N/A	N/A	Report	([4])	Grab

[1]Total Suspended Solids and Total Recoverable Manganese are eligible for alternate effluent limitations and monitoring requirements on a case-by-case basis provided a qualifying precipitation event has occurred and the permittee has requested the alternate requirements for that event.
[2] Two discrete grab samples collected during periods of discharge at least 2 hours apart but no more than 48 hours apart.
[3]Should the monthly average concentration of total recoverable selenium exceed 5.0 µg/l the permittee shall collect a sufficient number of fish the following month and analyze the fish tissue for selenium residue.
[4]Precipitaton volume is required only when a permittee is applying for alternate effluent limitations and monitoring requirements for Total Suspended Solids and/or Total Recoverable Manganese.

3.2. In-Stream Sediment Control Structures

The following effluent limitations and monitoring requirements apply to discharges from any KPDES Outfall classified as an in-stream sediment control structure. For the purposes of this permit in-stream sediment control structures are those sediment control structures that are constructed within the natural drainage way of a water body or have a continuous discharge or have an average discharge duration of 96 hours or more.

TABLE 2.

EFFLUENT LIMITATIONS							MONITORING REQUIREMENTS	
Effluent Characteristic	**STORET Code**	**Units**	**Minimum**	**Monthly Average**	**Daily Maximum**	**Maximum**	**Frequency**	**Sample Type**
Flow	50050	MGD	N/A	Report	Report	N/A	2/Month	Instantaneous
Total Suspended Solids[1]	00530	mg/l	N/A	35	70	N/A	2/Month	Grab
Total Recoverable Iron	00980	mg/l	N/A	3.0	4.0	N/A	2/Month	Grab
Total Recoverable Manganese[1]	11123	mg/l	N/A	2.0	4.0	N/A	2/Month	Grab
pH	00400	SU	6.0	N/A	N/A	9.0	2/Month	Grab
Chronic WET[2]	TS000	TU_C	N/A	N/A	N/A	1.00	1/Quarter	([2])
Specific Conductivity	00095	µS/cm	N/A	Report	Report	N/A	2/Month	Grab
Total Sulfate (as SO_4)	00945	mg/l	N/A	Report	Report	N/A	2/Month	Grab
Total Recoverable Selenium	00981	µg/l	N/A	5.0 [(3)]	20	N/A	2/Month	Grab
Total Recoverable Selenium (Fish Tissue)	01148	mg/Kg dry weight	N/A	N/A	N/A	8.6	([3])	([3])
Precipitation Volume	79777	Inches	N/A	N/A	N/A	Report	([4])	Grab

[1]Total Suspended Solids and Total Recoverable Manganese are eligible for alternate effluent limitations and monitoring requirements on a case-by-case basis provided a qualifying precipitation event has occurred and the permittee has requested the alternate requirements for that event.
[2] Three sets of two discrete grab samples collected and composited on days 1, 3 and 5 of the discharge. The samples shall be collected during periods of discharge at least 2 hours apart but no more than 48 hours apart.
[3]Should the monthly average concentration of total recoverable selenium exceed 5.0 µg/l the permittee shall collect sufficient a sufficient number of fish the following month and analyze the fish tissue for selenium residue.
[4]Precipitaton volume is required only when a permittee is applying for alternate effluent limitations and monitoring requirements for Total Suspended Solids and/or Total Recoverable Manganese.

The following effluent limitations and monitoring requirements apply to discharges from any KPDES Outfall classified as an in-stream sediment control structure that receives drainage from reclamation areas only.

TABLE 3.

EFFLUENT LIMITATIONS							MONITORING REQUIREMENTS	
Effluent Characteristic	**STORET Code**	**Units**	**Minimum**	**Monthly Average**	**Daily Maximum**	**Maximum**	**Frequency**	**Sample Type**
Flow	50050	MGD	N/A	Report	Report	N/A	1/Month	Instantaneous
Settleable Solids[1]	00545	ml/l	N/A	N/A	N/A	0.5	1/Month	Grab
pH	00400	SU	6.0	N/A	N/A	9.0	1/Month	Grab
Specific Conductivity	00095	µS/cm	N/A	Report	Report	N/A	1/Month	Grab
Total Sulfate (as SO_4)	00945	mg/l	N/A	Report	Report	N/A	1/Month	Grab
Precipitation Volume	79777	Inches	N/A	N/A	N/A	Report	([2])	Grab

[1]Total Suspended Solids and Total Recoverable Manganese are eligible for alternate effluent limitations and monitoring requirements on a case-by-case basis provided a qualifying precipitation event has occurred and the permittee has requested the alternate requirements for that event.
[2]Precipitaton volume is required only when a permittee is applying for alternate effluent limitations and monitoring requirements for Total Suspended Solids and/or Total Recoverable Manganese.

To transition from active mining effluent limitations and monitoring requirements to reclamation area effluent limitations and monitoring requirements the following conditions apply:

(1) There is no drainage from:
   a. Active surface mine areas,
   b. Underground workings of underground mines (active or post mining), or
   c. Coal preparation plant or coal preparation associated area;
(2) The effluent from the sediment control structure has been substantially in compliance with the water quality-based effluent limitations (WQBELs).

The permittee shall provide certification to DOW that described conditions are met using the DOW General Coal Information Update eForm found at: https://dep.gateway.ky.gov/eportal/default.aspx.

3.3. Bench Sediment Control Structures

The following effluent limitations and monitoring requirements apply to discharges from any KPDES Outfall classified as a bench sediment control structure.

TABLE 4.

EFFLUENT LIMITATIONS							MONITORING REQUIREMENTS	
Effluent Characteristic	**STORET Code**	**Units**	**Minimum**	**Monthly Average**	**Daily Maximum**	**Maximum**	**Frequency**	**Sample Type**
Flow	50050	MGD	N/A	Report	Report	N/A	2/Month	Instantaneous
Total Suspended Solids[1]	00530	mg/l	N/A	35	70	N/A	2/Month	Grab
Total Recoverable Iron	00980	mg/l	N/A	3.0	4.0	N/A	2/Month	Grab
Total Recoverable Manganese[1]	11123	mg/l	N/A	2.0	4.0	N/A	2/Month	Grab
pH	00400	SU	6.0	N/A	N/A	9.0	2/Month	Grab
Specific Conductivity	00095	µS/cm	N/A	Report	Report	N/A	2/Month	Grab
Total Sulfate (as SO_4)	00945	mg/l	N/A	Report	Report	N/A	2/Month	Grab
Precipitation Volume	79777	Inches	N/A	N/A	N/A	Report	([2])	Grab

[1]Total Suspended Solids and Total Recoverable Manganese are eligible for alternate effluent limitations and monitoring requirements on a case-by-case basis provided a qualifying precipitation event has occurred and the permittee has requested the alternate requirements for that event.
[2]Precipitaton volume is required only when a permittee is applying for alternate effluent limitations and monitoring requirements for Total Suspended Solids and/or Total Recoverable Manganese.

The following effluent limitations and monitoring requirements are imposed on discharges which contain drainage from reclamation areas only.

TABLE 5.

EFFLUENT LIMITATIONS							MONITORING REQUIREMENTS	
Effluent Characteristic	**STORET Code**	**Units**	**Minimum**	**Monthly Average**	**Daily Maximum**	**Maximum**	**Frequency**	**Sample Type**
Flow	50050	MGD	N/A	Report	Report	N/A	1/Month	Instantaneous
Settleable Solids[1]	00545	ml/l	N/A	N/A	N/A	0.5	1/Month	Grab
pH	00400	SU	6.0	N/A	N/A	9.0	1/Month	Grab
Specific Conductivity	00095	µS/cm	N/A	Report	Report	N/A	1/Month	Grab
Total Sulfate (as SO_4)	00945	mg/l	N/A	Report	Report	N/A	1/Month	Grab
Precipitation Volume	79777	Inches	N/A	N/A	N/A	Report	([2])	Grab

[1]Settable Solids is eligible for alternate effluent limitations and monitoring requirements on a case-by-case basis provided a qualifying precipitation event has occurred and the permittee has requested the alternate requirements for that event.
[2]Precipitaton volume is required only when a permittee is applying for alternate effluent limitations and monitoring requirements for Settleable Solids.

To transition from active mining effluent limitations and monitoring requirements to reclamation area effluent limitations and monitoring requirements the following conditions apply:

(1) There is no drainage from:
   a. Active surface mine areas,
   b. Underground workings of underground mines (active or post mining), or
   c. Coal preparation plant or coal preparation associated area;
(2) The effluent from the sediment control structure has been substantially in compliance with the WQBELs.

The permittee shall provide certification to DOW that described conditions are met using the DOW General Coal Information Update eForm found at: https://dep.gateway.ky.gov/eportal/default.aspx

3.4. Sanitary Wastewater

The following effluent limitations and monitoring requirements apply to the discharge of treated sanitary wastewaters to another treatment system. These limits apply before commingling with waters of the other treatment system.

TABLE 6.

EFFLUENT LIMITATIONS							MONITORING REQUIREMENTS	
Effluent Characteristic	**STORET Code**	**Units**	**Minimum**	**Monthly Average**	**Daily Maximum**	**Maximum**	**Frequency**	**Sample Type**
Flow	50050	MGD	N/A	Report	Report	N/A	1/Month	Instantaneous
Biochemical Oxygen Demand (5 day)	00310	mg/l	N/A	30	45	N/A	1/Month	Grab
Total Suspended Solids	00530	mg/l	N/A	30	45	N/A	1/Month	Grab
The permittee shall provide disinfection of the treated effluent prior to commingling with waters of the sediment basin.								

The following effluent limitations and monitoring requirements apply to the direct discharge of treated sanitary wastewaters to a water of the Commonwealth. These limits apply before discharge to or mixing with the waters of the receiving stream.

TABLE 7.

EFFLUENT LIMITATIONS							MONITORING REQUIREMENTS	
Effluent Characteristic	**STORET Code**	**Units**	**Minimum**	**Monthly Average**	**Weekly Average**	**Maximum**	**Frequency**	**Sample Type**
Flow	50050	MGD	N/A	Report	Report	N/A	1/Month	Instantaneous
Carbonaceous Biochemical Oxygen Demand (5 day)	00310	mg/l	N/A	10	15	N/A	1/Month	Grab
Total Suspended Solids	00530	mg/l	N/A	30	45	N/A	1/Month	Grab
Ammonia (as NH_3N)								
May 1 – October 31	00610	mg/l	N/A	2.0	3.0	N/A	1/Month	Grab
November 1 – April 30	00610	mg/l	N/A	5.0	7.5	N/A	1/Month	Grab
E. Coli	51040	#/100 ml	N/A	130	240	N/A	1/Month	Grab
Dissolved Oxygen	00300	mg/l	7.0	N/A	N/A	N/A	1/Month	Grab
Total Residual Chlorine	50060	mg/l	N/A	0.011	0.019	N/A	1/Month	Grab
pH	00400	SU	6.0	N/A	N/A	9.0	1/Month	Grab

SECTION 4

JUSTIFICATION OF PROPOSEDREQUIREMENTS

4. JUSTIFICATION OF PROPOSED REQUIREMENTS

The Kentucky Administrative Regulations (KARs) cited have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs). Pursuant to 401 KAR 5:065, Section 2(4) [40 CFR 122.44], each federally or delegated state-issued NPDES permit shall include conditions meeting technology-based effluent limitations and standards and water quality standards and state requirements.

The Best Practicable Control Technology Currently Available (BPT) and the Best Available Technology Economically Achievable (BAT) requirements for existing sources have not been included for these parameters. DOW has elected not include these limitations due to the new source determination dates for: (1) coal preparation plants (January 31, 1982) and the initiation or major alteration of coal mining activities (May 4, 1984). Permittees with operations that can qualify as an existing source are required to obtain an individual KPDES permit in order to avail themselves of these limitations.

This general permit includes only requirements for acid mine drainage and acid coal preparation plants and coal preparation plant associated areas. DOW has elected to not include alkaline mine drainage or alkaline coal preparation plants and coal preparation plant associated areas under this general permit due to the minimal number of operations previously classified as such. Alkaline mine drainage [40 CFR 434 Subpart D, 40 CFR 434.52(b)(2), 40 CFR 434.53(b)(2), 40 CFR 434.55(b)(2)] and alkaline coal preparation plants and coal preparation plant associated areas [40 CFR 434.22(b), 40 CFR 434.23(b) and 40 CFR 434.25(b)] do not include requirements for total recoverable manganese. Permittees with operations that can qualify as alkaline are required to obtain an individual KPDES permit in order to avail themselves of this reduction in effluent requirements.

4.1. Reasonable Potential Analysis

The parameters selected for effluent limitations and monitoring were primarily determined based on a reasonable potential analysis (RPA) performed by DOW utilizing data submitted in response to the requirements of the current Coal General Permit and data submitted as part of the Notice of Intent (NOI) process for seeking coverage under that permit. The RPA compares the discharge levels of a pollutant to the calculated WQBEL for that pollutant. In accordance with DOW's RPA procedures, if the pollutant concentration of the discharge is 70% or greater of the calculated WQBEL then a permit monitoring requirement for that pollutant may be appropriate. If the pollutant concentration of the discharge is greater than 90% of the calculated WQBEL, then a permit effluent limitation for that pollutant is required.

Table 8 summarizes the RPA for both acute and chronic WQBELs performed on the data submitted in compliance with the requirements of the Coal General Permit (effective 08/01/2009). Those pollutants for which neither acute nor chronic water quality criteria exist are denoted with an N/A. In performing the RPA, DOW assumed the worst case scenario for receiving water 7Q10 low flow conditions, the effluent comprises the stream. Under such conditions the discharge concentrations are compared directly to the water quality standard. Based on the RPA information summarized in Table 8, DOW did not impose effluent limitations or monitoring in this general permit for the following pollutants: (1) arsenic, (2) cadmium, (3) copper, (4) free cyanide, (5) lead, (6) mercury, (7) nickel, (8) silver or (9) zinc.

DOW will perform RPA on operations required to submit an electronic NOI (eNOI) and should reasonable potential (RP) be demonstrated that an effluent limitation is required for one or more of these pollutants, an individual permit may be required pursuant to Exclusion 5 under Section 1.2 of the permit and this Fact Sheet. Should DOW determine that an individual KPDES is required, the applicant shall submit completed Forms 1 and C within 30 days of notification by DOW.

TABLE 8.						
Pollutant	Effluent Hardness					
	RP Acute			RP Chronic		
	70%	90%	100%	70%	90%	100%
Antimony	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	0%	0%	0%	0%	0%	0%
Beryllium	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium*	0%	0%	0%	7%	4%	4%
Chromium	N/A	N/A	N/A	N/A	N/A	N/A
Copper*	0%	0%	0%	0%	0%	0%
Cyanide, Free	0%	0%	0%	0%	0%	0%
Lead*	0%	0%	0%	4%	4%	4%
Mercury	0%	0%	0%	0%	0%	0%
Nickel*	0%	0%	0%	2%	2%	0%
Phenol	N/A	N/A	N/A	N/A	N/A	N/A
Silver*	0%	0%	0%	N/A	N/A	N/A
Thallium	N/A	N/A	N/A	N/A	N/A	N/A
Zinc*	0%	0%	0%	0%	0%	0%
*Hardness dependent parameter						

Table 9 illustrates the percentage of instream sediment control structures, for the purposes of this permit in-stream sediment control structures are those sediment control structures that are constructed within the natural drainage way of a water body, have a continuous discharge, or have an average discharge duration of 96 hours or more, that exhibited RP for the acute and chronic selenium WQBELs for data collected from NOIs filed from 2009 thru 2013. Based on these percentages, DOW determined that RP for chronic WQBELs existed for a sufficient number of in-stream sediment control structures to justify the imposition of selenium requirements.

TABLE 9.							
Instream Sediment Control Structure	# of Samples	Chronic (µg/l)			Acute (20 µg/l)		
		> 3.5	> 4.5	> 5	> 14	> 18	> 20
	401	25.44%	18.95%	15.96%	2.99%	1.25%	1.00%

DOW also evaluated the data collected from 2009 thru 2013 for non-instream sediment control structures, sediment control structures that do not meet the definition of an in-stream sediment control structure, e.g., bench ponds. Table 10 illustrates the percentage of non-instream sediment control structures that exhibited RP for acute selenium WQBELs.

TABLE 10.				
Non-Instream Sediment Control Structure	# of Samples	Acute (20 µg/l)		
		> 14	> 18	> 20
	145	2.07%	1.38%	0.69%

Such structures are characterized by short term, less than 96 hour duration, sporadic discharges. Under such conditions DOW has determined that chronic concerns are not present and therefore performs RPA

on acute WQBELs. Based on the RPA, DOW determined that RP for acute WQBELs does not exist for non-instream sediment control structures.

4.2. Flow Duration

The aquatic life water quality criteria are developed on magnitude, duration and frequency. Chronic criteria are expressed as maximum four day average concentrations that are not to be exceeded more than once every three years on average. Acute criteria are expressed as the maximum one hour average concentration not to be exceeded more than once every three years on average. Therefore the duration of a discharge is essential in determining the applicability of a criterion. Discharges that are continuous would be subject to both chronic and acute criteria. Sporadic short term discharges would not be of sufficient duration to cause chronic concerns. Therefore acute concerns will be evaluated for such discharges.

To determine if chronic concerns exist, DOW is including within the eNOI questions related to flow duration. The applicant will be required to indicate if a sediment control structure has a continuous discharge, average discharge duration of 96 hours or greater in length or average discharge duration that is less than 96 hours in length. Typically instream sediment control structures exhibit either continuous or average discharge durations of 96 hours or greater and non-instream sediment control structures, defined as bench ponds for the purposes of this permit, exhibit average discharge durations less than 96 hours in length.

All instream sediment control structures and any non-instream sediment control structure that exhibits either continuous or average discharge durations of greater than 96 hours in length shall be subject to both chronic and acute WQBELs. All bench sediment structures, except for those that exhibit either continuous or average discharge durations of greater than 96 hours in length, shall be subject to acute WQBELs only.

4.3. Underground Workings, and Coal Preparation Plants and Associated Areas

4.3.1. Flow

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(i)(1)(ii)].

4.3.2. Total Suspended Solids

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44] and 401 KAR 5:065, Section 2(9) [40 CFR 434]. The limitations are representative of the New Source Performance Standards (NSPS) applicable to coal preparation plants and coal preparation plant associated areas [40 CFR 434.25], acid mine drainage from active surface mining and underground mining operations [40 CFR 434.35], and acid mine drainage from post mining drainage from the underground workings of an underground mine [40 CFR 434.55].

4.3.3. Total Recoverable Iron

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44], 401 KAR 5:065, Section 2(9) [40 CFR 434] and 401 KAR 10:031, Section 4. The limitations are representative of the New Source Performance Standards (NSPS) applicable to coal preparation plants and coal preparation plant associated areas [40 CFR 434.25], acid mine drainage from active surface mining and underground mining operations [40 CFR 434.35], and acid mine drainage from post mining drainage from the underground workings of an underground mine [40 CFR.55]. The daily maximum concentration has been set at 4.0 mg/l to protect water quality.

4.3.4. Total Recoverable Manganese

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44] and 401 KAR 5:065, Section 2(9) [40 CFR 434]. The limitations are representative of the New Source Performance Standards (NSPS) requirements applicable to coal preparation plants and coal preparation plant associated areas [40 CFR 434.25(a)], acid mine drainage from active surface mining and underground mining operations [40 CFR 434.35], and acid mine drainage from post mining drainage from the underground workings of an underground mine [40 CFR 434.55(b)(1)].

4.3.5. pH

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44], 401 KAR 5:065, Section 2(9) [40 CFR 434], and 401 KAR 10:031, Section 4.

4.3.6. Acute Whole Effluent Toxicity

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(d)] and 401 KAR 10:031, Section 4.

4.3.7. Specific Conductivity

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.3.8. Total Sulfate

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.3.9. Total Recoverable Selenium

The monthly average effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(d)] and 401 KAR 10:031, Section 4. The monthly average concentration of 5 µg/l serves both as a trigger for the collection of adequate number of fish to conduct selenium residue in fish tissue testing and as a limitation in the event the permittee is unable to collect the required number of fish. These limitations are consistent with Kentucky's water quality standards for total recoverable selenium. The incorporation on Appendix A of the collection and handling requirements established in "Methods for Collection of Selenium Residue in Fish Tissue Used to Determine KPDES Permit Compliance" is consistent with the requirements of 401 KAR 5:070, Section 3[40 CFR 122.48(a)].

The daily maximum effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(d)] and 40 CFR 131.21 modified by the "Alaska Rule". 40 CFR 122.44(d) requires state issued NPDES permits to include effluent limits based on applicable state water quality standards. The "Alaska Rule" modification of 40 CFR 131.21 requires state water quality standards adopted after May 30, 2000 be approved by EPA before those standards may be used to develop water quality-based NPDES permit effluent limitations. In 2013 DOW revised the acute selenium criterion; however, EPA did not approve that criterion. Therefore, the revised acute criterion cannot be used to develop KPDES permit water quality-based effluent limitations. In such cases the State water quality standards last approved by EPA shall be the applicable water quality standard for purposes of KPDES permitting. In Kentucky the last selenium acute criterion approve by EPA is 20 µg/l; thus DOW shall impose in KPDES permits 20 µg/l as the daily maximum effluent limitation for selenium.

4.3.10. Precipitation Volume

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)]. Monitoring and reporting of precipitation volume is a conditional requirement that applies when the permittee is seeking alternate precipitation effluent limitations for a specific discharge event. The precipitation volume along with the type of drainage received by the sediment control structure determines eligibility.

4.4. In-Stream Sediment Control Structures – Active Mining

4.4.1. Flow

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(i)(1)(ii)].

4.4.2. Total Suspended Solids

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44] and 401 KAR 5:065, Section 2(9) [40 CFR 434]. The limitations are representative of the New Source Performance Standards (NSPS) acid mine drainage from active surface mining operations [40 CFR 434.35].

4.4.3. Total Recoverable Iron

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44], 401 KAR 5:065, Section 2(9) [40 CFR 434] and 401 KAR 10:031, Section 4. The limitations are representative of the New Source Performance Standards (NSPS) applicable to acid mine drainage from active surface mining operations [40 CFR 434.35]. The daily maximum concentration has been set at 4.0 mg/l to protect water quality.

4.4.4. Total Recoverable Manganese

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44] and 401 KAR 5:065, Section 2(9) [40 CFR 434]. The limitations are representative of the New Source Performance Standards (NSPS) requirements applicable to acid mine drainage from active surface mining operations [40 CFR 434.35].

4.4.5. pH

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44], 401 KAR 5:065, Section 2(9) [40 CFR 434] and 401 KAR 10:031, Section 4.

4.4.6. Chronic Whole Effluent Toxicity

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(d)] and 401 KAR 10:031, Section 4. Chronic whole effluent toxicity is imposed in lieu of acute whole effluent toxicity due to in-stream sediment control structures exhibit base flows during dry weather conditions.

4.4.7. Specific Conductivity

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.4.8. Total Sulfate

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.4.9. Total Recoverable Selenium

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(d)] and 401 KAR 10:031, Section 4. The monthly average concentration of 5 µg/l serves both as a trigger for the collection of adequate number of fish to conduct selenium residue in fish tissue testing, and as a limitation in the event the permittee is unable to collect the required number of fish. These limitations are consistent with Kentucky's water quality standards for total recoverable selenium. The incorporation on Appendix A of the collection and handling requirements established in "Methods for Collection of Selenium Residue in Fish Tissue Used to Determine KPDES Permit Compliance" is consistent with the requirements of 401 KAR 5:070, Section 3[40 CFR 122.48(a)].

The daily maximum effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(d)] and 40 CFR 131.21 modified by the "Alaska Rule". 40 CFR 122.44(d) requires state issued NPDES permits to include effluent limits based on applicable state water quality standards. The "Alaska Rule" modification of 40 CFR 131.21 requires state water quality standards adopted after May 30, 2000 be approved by EPA before those standards may be used to develop water quality-based NPDES permit effluent limitations. In 2013 DOW revised the acute selenium criterion; however, EPA did not approve that criterion. Therefore, the revised acute criterion cannot be used to develop KPDES permit water quality-based effluent limitations. In such cases the State water quality standards last approved by EPA shall be the applicable water quality standard for purposes of KPDES permitting. In Kentucky the last selenium acute criterion approve by EPA is 20 µg/l; thus DOW shall impose in KPDES permits 20 µg/l as the daily maximum effluent limitation for selenium.

4.4.10. Precipitation Volume

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)]. Monitoring and reporting of precipitation volume is a conditional requirement that applies when the permittee is seeking alternate precipitation effluent limitations for a specific discharge event. The precipitation volume along with the type of drainage received by the sediment control structure determines eligibility.

4.5. In-Stream Sediment Control Structures – Reclamation Areas

Effluent limitations for reclamation areas are applicable to sediment control structures that receive drainage from the "surface area of a coal mine which has been returned to the required contour and on which revegetation (specifically, seeding or planting) work has commenced". These limits are available on an outfall by outfall, i.e. sediment control structure by sediment control structure basis. In order for an outfall to be transitioned from active mining to reclamation area status, the following prerequisites must be met.

(1) There is no drainage from:
   a. Active surface mine areas,
   b. Underground workings of underground mines (active or post mining), or
   c. Coal preparation plant or coal preparation associated area;

(2) The effluent from the sediment control structure has been substantially in compliance with the WQBELs.

In general, DOW is of the opinion that once the surface area of a coal mine has been returned to the required contour and revegetation has commenced, there should be no reasonable potential for violations of water quality standards. In order to support and justify this opinion, DOW will not transition an outfall to reclamation area limitations if there is not substantial compliance with the water quality-based effluent limitations applied to the active mining areas.

4.5.1. Flow

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(i)(1)(ii)].

4.5.2. Settleable Solids

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44] and 401 KAR 5:065, Section 2(9) [40 CFR 434]. The limitations are representative of the New Source Performance Standards (NSPS) applicable to reclamation areas [40 CFR 434.55(a)].

4.5.3. pH

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44], 401 KAR 5:065, Section 2(9) [40 CFR 434] and 401 KAR 10:031, Section 4.

4.5.4. Specific Conductivity

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.5.5. Total Sulfate

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.5.6. Precipitation Volume

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)]. Monitoring and reporting of precipitation volume is a conditional requirement that applies when the permittee is seeking alternate precipitation effluent limitations for a specific discharge event. The precipitation volume along with the type of drainage received by the sediment control structure determines eligibility.

4.6. Bench Sediment Control Structures – Active Mining

Due to the sporadic nature of discharges, i.e. discharges that occur only as a result of major precipitation events from bench sediment control structures, DOW is of the opinion that reasonable potential for these discharges to result in violations of the chronic water quality standards exists. Therefore the imposition of the total recoverable selenium chronic trigger and whole effluent toxicity testing to implement narrative water quality standards is not necessary.

4.6.1. Flow

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(i)(1)(ii)].

4.6.2. Total Suspended Solids

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44] and 401 KAR 5:065, Section 2(9) [40 CFR 434]. The limitations are representative of the New Source Performance Standards (NSPS) acid mine drainage from active surface mining operations [40 CFR 434.35].

4.6.3. Total Recoverable Iron

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44], 401 KAR 5:065, Section 2(9) [40 CFR 434] and 401 KAR 10:031, Section 4. The limitations are representative of the New Source Performance Standards (NSPS) applicable to acid mine drainage from active surface mining operations [40 CFR 434.35]. The daily maximum concentration has been set at 4.0 mg/l to protect water quality.

4.6.4. Total Recoverable Manganese

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44] and 401 KAR 5:065, Section 2(9) [40 CFR 434]. The limitations are representative of the New Source Performance Standards (NSPS) requirements applicable to acid mine drainage from active surface mining operations [40 CFR 434.35].

4.6.5. pH

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44], 401 KAR 5:065, Section 2(9) [40 CFR 434] and 401 KAR 10:031, Section 4.

4.6.6. Specific Conductivity

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.6.7. Total Sulfate

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.6.8. Precipitation Volume

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)]. Monitoring and reporting of precipitation volume is a conditional requirement that applies when the permittee is seeking alternate precipitation effluent limitations for a specific discharge event. The precipitation volume along with the type of drainage received by the sediment control structure determines eligibility.

4.7. Bench Sediment Control Structures – Reclamation Areas

Effluent limitations for reclamation areas are applicable to sediment control structures that receive drainage from the "surface area of a coal mine which has been returned to the required contour and on which revegetation (specifically, seeding or planting) work has commenced". These limits are available on an outfall by outfall, i.e. sediment control structure by sediment control structure basis. In order for an outfall to be transitioned from active mining to reclamation area status, the following prerequisites must be met.

(1) There is no drainage from:
   a. Active surface mine areas,
   b. Underground workings of underground mines (active or post mining), or
   c. Coal preparation plant or coal preparation associated area;
(2) The effluent from the sediment control structure has been substantially in compliance with the WQBELs.

In general DOW is of the opinion that once the surface area of a coal mine has been returned to the required contour and revegetation has commenced, there should be no reasonable potential for violations of water quality standards. In order to support and justify this opinion, DOW will not transition an outfall to reclamation area limitations if there is not substantial compliance with the water quality-based effluent limitations applied to the active mining areas.

4.7.1. Flow

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(i)(1)(ii)].

4.7.2. Settleable Solids

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44] and 401 KAR 5:065, Section 2(9) [40 CFR 434]. The limitations are representative of the New Source Performance Standards (NSPS) applicable to reclamation areas [40 CFR 434.55(a)].

4.7.3. pH

The effluent limitations for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44], 401 KAR 5:065, Section 2(9) [40 CFR 434] and 401 KAR 10:031, Section 4.

4.7.4. Specific Conductivity

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.7.5. Total Sulfate

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)].

4.7.6. Precipitation Volume

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:070, Section 3 [40 CFR 122.48(b)]. Monitoring and reporting of precipitation volume is a conditional requirement that applies when the permittee is seeking alternate precipitation effluent limitations for a specific discharge event. The precipitation volume along with the type of drainage received by the sediment control structure determines eligibility.

4.8. Sanitary Wastewaters

Sanitary wastewaters are biochemically degradable wastewaters generated by bathhouses and offices located on a mine site or at a coal preparation plant. Such effluents shall, at a minimum, meet the technology-based treatment standards of secondary treatment defined in 401 KAR 5:045, Section 2.

4.8.1. Discharge to Other Treatment Plant

When wastewaters subject to technology-based effluent limitations are commingled with other wastewaters in another treatment plant such as a sediment control pond, determination of compliance with the technology-based standards may not be possible. Therefore in such cases 401 KAR 5:065, Section 2(5) [40 CFR 122.45(h)] requires the imposition of the technology-based standards at an internal monitoring point.

4.8.1.1. Flow

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(i)(1)(ii)].

4.8.1.2. Biochemical Oxygen Demand

The effluent limitations for this parameter are consistent with the secondary treatment for biochemically degradable waste requirements of 401 KAR 5:045, Section 2(1).

4.8.1.3. Total Suspended Solids

The effluent limitations for this parameter are consistent with the biochemically degradable waste requirements of 401 KAR 5:045, Section 2(2).

4.8.2. Discharge to Waterbody

4.8.2.1. Flow

The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(i)(1)(ii)].

4.8.2.2. Carbonaceous Biochemical Oxygen Demand

The effluent limitations for this parameter are consistent with the biochemically degradable waste requirements of 401 KAR 5:045, Section 2(1) and water quality standards in 401 KAR 10:031, Section 4.

4.8.2.3. Total Suspended Solids

The effluent limitations for this parameter are consistent with the biochemically degradable waste requirements of 401 KAR 5:045, Section 2(2).

4.8.2.4. Ammonia, Dissolved Oxygen, pH and Total Residual Chlorine

The effluent limitations for these parameters consistent with the water quality standards for unionized ammonia in 401 KAR 10:031, Section 4.

4.8.2.5. E. Coli

The effluent limitations for this parameter consistent with the water quality standards for dissolved oxygen in 401 KAR 10:031, Section 6.

SECTION 5

SCHEDULE OF COMPLIANCE
AND
OTHER CONDITIONS

5. SCHEDULE OF COMPLIANCE AND OTHER CONDITIONS

5.1. Schedule of Compliance

The permittee will comply with all requirements by the effective date of the permit except as allowed pursuant to 401 KAR 5:070, Section 2 [40 CFR 122.47(a)]. DOW has included one year compliance schedules for existing operations only for whole effluent toxicity testing and selenium limitations to allow the permittee to achieve compliance with new conditions that have not here-to-for been applied to such operations. Additionally, all operations shall begin using laboratories certified pursuant to 401 KAR 5:320 within one year of the effective date of the administrative regulation.

5.2. Alternate Precipitation Effluent Limitations

The availability of alternate precipitation effluent limitations for technology-based effluent requirements is authorized by 401 KAR 5:065, Section 2(9) [40 CFR 434.63].

5.3. Antidegradation

The conditions of 401 KAR 10:029, Section 1 have been satisfied. In accordance with 401 KAR 10:030, Section 1(3)(b)(2) DOW is requiring new and expanded operations to submit with NOI a Socioeconomic Demonstration and Alternatives Analysis (SDAA). It is the practice of DOW to public notice the acceptance of a SDAA for a period of 15 days to meet the public participation requirements of 401 KAR 10:029, Section 1(2).

5.4. In-Stream Monitoring Requirements

The imposition of in-stream biological trending and water quality trending requirements is consistent with the requirements of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(d)]. These requirements are implemented through Section 5 and Subsection 6.9 of the permit and are in the judgment of DOW necessary to determine compliance with the narrative standards for specific conductance.

5.5. Best Management Practices Plan

The imposition of a best management practices plan is consistent with 401 KAR 5:065, Section 2(4) [40 CFR 122.44(k)].

5.6. Notice of Intent

The information requirements of the Notice of Intent are consistent with the requirements of 401 KAR 5:065, Section 2(a)1a [40 CFR 122.28]

5.7. Certified Operator

This requirement for the operation of a sanitary wastewater treatment plant is consistent with 401 KAR 5:010.

5.8. Certified Laboratory

This requirement for environmental analysis to be performed by a certified laboratory is consistent with the requirements of 401 KAR 5:320, Section 3.

5.9. Continuation of Expiring Permit

Continuation of coverage under this permit after its expiration is consistent with the 401 KAR 5:060, Section 2(4).

5.10. Substantially Identical Outfalls

Substantially identical outfalls are outfalls that receive drainage from the same type of activities, utilize the same type of sediment control structures, are within the same watershed, are expected to produce similar effluents and would be subject to the same effluent limitations. In such cases, DOW may authorize the permittee, upon request, to monitor representative outfalls for compliance purposes. Such requests

shall be made at the time of coverage or modification of coverage under this general permit, and shall include sufficient documentation to justify the selection of the representative outfalls. If approved, the permittee shall submit the data from the representative outfall on the DMRs for each outfall substantially similar to the representative outfall. Violations, corrective actions, and/or selenium fish tissue monitoring triggered by monitoring results from the representative outfall shall apply to all substantially identical outfalls. The EKCL will identify DOW approved representative outfalls and those outfalls deemed to be substantially identical.

DOW is providing this option to permittees to address logistics and costs associated with the sampling and monitoring the conditions of this permit. The use of representative outfalls is consistent with the requirements of 401 KAR 5:065, Section 2(1) [40 CFR 122.41(j)(1).

SECTION 6

OTHER INFORMATION

6. OTHER INFORMATION

6.1. Permit Duration

The permit duration shall be five (5) years in length from the effective date unless modified or reissued. This permit includes facilities in all five Basin Management Units of the Kentucky Watershed Management Framework.

6.2. Permit and Public Notice Information

The draft permit, fact sheet and public notice are available on the DOW Public Notice web page and the Department of Environmental Protection's Pending Approvals Search web page at:

http://water.ky.gov/Pages/PublicNotices.aspx:

6.3. References and Cited Documents

All material and documents referenced or cited in this fact sheet are parts of the permit information as described above and are readily available at the Division of Water Central Office. Information regarding these materials may be obtained from the Division of Water's Open Records Coordinator at (502) 564-3410 or by e-mail at dowopenrecords@ky.gov.