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**FACT SHEET**  
General Permit For  
Coal Mining, Processing, and Associated Activities  
Located in the Western Kentucky Coal Field  
**KPDES No.:** KYGW40000  
**AI No.:** 35050  
**Date:** August 29, 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](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](mailto:DOWPublicNotice@ky.gov)

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# **SECTION 1**

## **FACILITIES COVERED**

## **1. FACILITIES COVERED**

Establishments engaged in the mining and/or processing of coal and associated activities within the counties of Breckinridge, Butler, Caldwell, Christian, Crittenden, Daviess, Edmonson, Grayson, Hancock, Henderson, Hopkins, McLean, Muhlenberg, Ohio, Union, Warren or Webster. 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 KYGW40000 (KYGW4):

- 1) are physically located within the Kentucky counties listed in Section 1,
- 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, and
- 3) do not have continuous discharges.

For the purposes of this permit, continuous discharge is defined as a discharge that occurs without interruption.

### **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 to 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;
- 5) New or expanded coal mining and/or processing operations that propose to discharge within five (5) miles upstream of any existing domestic water supply intake listed in 401 KAR 10:026, Section 5(2)(b) Table B; or
- 6) Coal mining and/or processing activities that the 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 KPDES permit KYGW40000 addressing the discharge of treated wastewaters from existing source and news source coal mining and/or coal processing operations within the 17 counties of the Western Kentucky coal field.

## **SECTION 2**

### **RECEIVING WATER INFORMATION**

## **2. RECEIVING / INTAKE WATERS**

### **2.1. Receiving Waters**

Various water bodies within the Green River and Tradewater River Basins, and portions of the Lower Cumberland, Ohio, Salt and Tennessee 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, Domestic Water Supply and/or Outstanding State Resource Water other than those listed as Threatened or Endangered Species.

### **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 10,000 cfs for the Ohio River.

## **SECTION 3**

### **EFFLUENT REQUIREMENTS**

**3. EFFLUENT REQUIREMENTS**

The effluent requirements are divided into two categories; (1) non-reclamation areas and (2) reclamation areas. 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 mine both active and post mining, and surface areas of coal mines where reclamation activities have not yet commenced.

**3.1. Non-Reclamation Areas**

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

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 <sup>1</sup>	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 <sup>1</sup>	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 <sup>2</sup>	TS000	TU <sub>A</sub>	N/A	N/A	N/A	1.00	1/Quarter	( <sup>2</sup> )
Specific Conductivity	00095	µS/cm	N/A	Report	Report	N/A	2/Month	Grab
Total Sulfate (as SO <sub>4</sub> )	00945	mg/l	N/A	Report	Report	N/A	2/Month	Grab
Total Recoverable Selenium	00981	µg/l	N/A	5.0 ( <sup>3</sup> )	20	N/A	2/Month	Grab
Total Recoverable Selenium (Fish Tissue)	01148	mg/Kg dry weight	N/A	N/A	N/A	8.6	( <sup>3</sup> )	( <sup>3</sup> )
Precipitation Volume	79777	Inches	N/A	N/A	N/A	Report	( <sup>4</sup> )	Grab

<sup>1</sup>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.  
<sup>2</sup> Two discrete grab samples collected during periods of discharge at least 2 hours apart but no more than 48 hours apart.  
<sup>3</sup>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.  
<sup>4</sup>Precipitation 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. Reclamation Areas**

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

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	1/Month	Instantaneous
Settleable Solids <sup>1</sup>	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 <sub>4</sub> )	00945	mg/l	N/A	Report	Report	N/A	1/Month	Grab
Precipitation Volume	79777	Inches	N/A	N/A	N/A	Report	( <sup>2</sup> )	Grab

<sup>1</sup>Settleable 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.  
<sup>2</sup>Precipitation 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 water quality-based effluent limitations (WQBELs).

The permittee shall provide certification to DOW that describe conditions are met using the eNOI-KYG04, available on DEP’s forms library site at: <http://dep.ky.gov/formslibrary/Pages/default.aspx>.

### 3.3. 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 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
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 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 4.								
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 <sub>3</sub> N)								
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 REQUIREMENTS**

#### 4. JUSTIFICATION OF 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), and 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.

The following 2009 Coal General Permit exclusions have not been included in this general permit:

1. New or expanded operations proposing to discharge directly into or to a direct first or second order tributary of a publicly owned lake or reservoir as listed in 401 KAR 10:026, Section 5;
2. New or expanded operations proposing to discharge directly into a water body that has been categorized as an Exceptional Water (EW) as listed in 401 KAR 10:030;
3. New or expanded operations involving the dredging of coal from waters of the Commonwealth;
4. New or expanded operations involving the wet beneficiation (washing) of coal
5. New or expanded operations involving the disposal of coal slurry into waters of the Commonwealth or underground injection;
6. Any operation using or proposing to use Anhydrous Ammonia as a treatment option; or
7. Any operation proposing to dispose of solid or special wastes within the mining area

DOW has determined that the removal of these specific exclusions is appropriate because the new general permits include effluent limits and conditions specific to these categories of discharges, including whole effluent toxicity (WET) limits and biological-based limits, and in-stream water quality trend analyses for specific conductivity, total suspended solids, and sulfates which are used as triggers for an enforceable adaptive management plan. These limitations and conditions are a significant improvement over the 2009 general permit. Although these exclusions may no longer be present in the general permits, exclusion 6 in Section 1.2 of the general permits provides that DOW may require any discharger to obtain an individual permit that would be more appropriately controlled using an individual permit.

Other reasons for removing the exclusions that were in the 2009 general permit include:

Due to changes in the mining regulations contained in 405 KAR there is only one (1) permitted active coal dredging operation within the physical and political boundaries of Kentucky located on the Big Sandy River. The individual KPDES permit that covers this operation has conditions that have not been incorporated into the general therefore it would not be eligible for coverage based on the current requirements of its individual permit;

Due to a number of factors related to the precision of application, the cost, supply and other non-environmental regulatory constraints the use of anhydrous ammonia as a viable treatment option has been abandoned; and

In 1992 the exclusion for the disposal of solid or special wastes within the mining area was added to the general permit in the anticipation that coal ash from coal fired power plants would be disposed of within the mine area in accordance with statutory and regulatory changes in 1988. Only one coal operation since 1988 has proposed to accept coal ash for disposal in the mine area.

DOW has modified the Outstanding State Resource Water (OSRW) exclusion to address 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 OSRW due its support of a federally listed Threatened or Endangered Species as listed in Table C of 401 KAR 10:026, Section 5. This is a change from the 2009 Coal General Permit which excluded all OSRWs from general permit coverage. The reason for this change in the exclusion is that OSRWs that do not support such species are categorized under Kentucky's Antidegradation Policy Implementation Procedures as Exceptional Waters and thus the existing water quality of these waterbodies may be lowered in accordance with 401 KAR 10:030, Section 1(2)(b). However if DOW determines that a coal operation that discharges to such a water body is better addressed by an individual permit then an individual permit can be required pursuant to exclusion 6 in Section 1.2. The same is true for any water body that has been identified as supporting a federally listed Threatened or Endangered Species but that water body has not yet been listed in Table C of 401 KAR 10:026, Section 5.

The general permit water quality-based effluent limitations, which are equivalent to the water quality standards, ensure that discharges permitted pursuant to the general permit whether discharged to an impaired or unimpaired water will not cause or contribute to an impairment of a water body for which a TMDL has not been developed because the water quality standard must be met in the discharge itself. Kentucky has determined that the permit conditions in the general permits, the proposed effluent limitations, trend analyses, adaptive management requirements, etc., provide assurance that the discharge will not cause or contribute to existing violations of WQS. In the case of a pollutant of concern that is causing or contributing to an impairment of a water body for which a TMDL has not been developed, the general permit does not already limit, and reasonable potential has been demonstrated for that pollutant, DOW will require an individual permit in accordance with exclusion 6 in Section 1.2.

#### **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 analysis 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 5 summarizes the RPA for WQBELs performed on the data submitted in compliance with the requirements of the Coal General Permit (effective 08/01/2009). 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 standards for acute and chronic aquatic life criteria and human health fish consumption criteria. Although the human health domestic water supply criteria apply at the point of withdrawal DOW compared the discharge concentrations directly to these values. 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.

The pollutants for which reasonable potential was performed are those that analytical effluent data must be provided in accordance with the application requirements in 40 C.F.R. § 122.21(g)(7)(v) as amended by Note 1. [At 46 FR 2046, Jan. 8, 1981, the Environmental Protection Agency suspended until further notice §122.21(g)(7)(v)(A) and the corresponding portions of Item V-C of the NPDES application Form 2C as they apply to coal mines. This suspension continues in effect.]. These required pollutants are consistent with those reviewed by EPA during the development of the effluent limitation guidelines for the coal mining industry and contemplated by DOW in developing this general permit. Other pollutants that produce an acute or chronic toxic effect are addressed by WET testing pursuant to 401 KAR 10:031, Sections 2 and 4.

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 will 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.

### **Conductivity**

In contrast to the streams of eastern Kentucky, DOW does not at this time have the in-stream water quality and effluent discharge data in western Kentucky associated with coal mining operations that indicates a reasonable potential to exceed the narrative water quality standard for conductivity, which is the basis for which the in-stream biological limits, in-stream water quality trend monitoring, and adaptive management requirements are imposed in the eastern Kentucky general permit. The streams in the western Kentucky coal fields generally do not exhibit impairments related to conductivity. This is largely due to a substantial difference in the geology and the corresponding biology in the streams of eastern and western Kentucky. The geology of the western Kentucky coalfields includes more carbonates and the residence time of the water in the watersheds tends to make the western Kentucky water older and more mature; meaning that the water generally includes significantly greater and different total dissolved solids than the upland streams of eastern Kentucky. With the harder water of the western Kentucky coalfields comes a benthic fauna that is correspondingly more tolerant of elevated total dissolved solids. As such, the threshold for impairment via conductivity is much greater for western Kentucky streams and DOW correspondingly observes fewer streams in western Kentucky where conductivity causes impairment.

Based on this information, DOW determined that reasonable potential does not generally exist in the western Kentucky coal field for coal mining discharges to exceed the narrative water quality standard for conductivity as it relates to the development of the western Kentucky general permit requirements. Consequently, DOW determined that it is not appropriate at this time to require the conductivity requirements imposed in the eastern Kentucky general permit for mining operations in western Kentucky. Any facility for which DOW has information to indicate or otherwise believes has reasonable potential to cause or contribute to excursions above water quality standards DOW has the authority to require an individual permit.

TABLE 5.												
Percentile Exceeding Standard												
Pollutant	DWS RP**			Fish RP			Effluent Hardness					
							RP Acute			RP Chronic		
	70%	90%	100%	70%	90%	100%	70%	90%	100%	70%	90%	100%
Antimony	8%	4%	4%	0%	0%	0%	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	1%	1%	1%	N/A	N/A	N/A	0%	0%	0%	0%	0%	0%
Beryllium	0%	0%	0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium*	0%	0%	0%	N/A	N/A	N/A	0%	0%	0%	6%	6%	5%
Chromium	0%	0%	0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper*	0%	0%	0%	N/A	N/A	N/A	2%	1%	1%	2%	2%	2%
Cyanide, Free	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lead*	0%	0%	0%	N/A	N/A	N/A	0%	0%	0%	3%	3%	3%
Mercury	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Nickel*	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	2%
Phenol	0%	0%	0%	0%	0%	0%	N/A	N/A	N/A	N/A	N/A	N/A
Silver*	N/A	N/A	N/A	N/A	N/A	N/A	0%	0%	0%	N/A	N/A	N/A
Thallium	3%	3%	3%	2%	1%	1%	N/A	N/A	N/A	N/A	N/A	N/A
Zinc*	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

\*Hardness based parameters

\*\*DWS comparisons is a direct comparisons to the WQ standard which is applicable at the point of withdrawal.

N/A means no applicable due to no water quality criterion

Table 6 illustrates the percentage of sediment control structures 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 sediment control structures to justify the imposition of selenium requirements.

TABLE 6.							
Sediment Control Structure	# of Samples	Chronic ( $\mu\text{g/l}$ )			Acute (20 $\mu\text{g/l}$ )		
		> 3.5	> 4.5	> 5	> 14	> 18	> 20
	95	33.68%	30.53%	26.32%	7.37%	3.16%	3.16%

#### 4.2. Flow Duration

The acute 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. Sediment control structures that exhibit either continuous or average discharge durations of greater than 96 hours in length are not eligible for coverage under this general permit.

### **4.3. Non-Reclamation Areas**

Effluent limitations for non-reclamation areas are applicable to sediment control structures that receive drainage from 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.

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 this 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.

#### **4.3.1. 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 434.55]. 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. WET testing has been opposed

#### **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 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. 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 water quality-based effluent limitations (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.

##### **4.4.1. 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. 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)].

##### **4.4.3. 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.

##### **4.4.4. 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)].

##### **4.4.5. 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)].

#### **4.4.6. 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.

#### **4.5. 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.

##### **4.5.1. 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.

###### **4.5.1.1. 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)].

###### **4.5.1.2. 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).

###### **4.5.1.3. 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).

##### **4.5.2. Discharge to Water Body**

###### **4.5.2.1. 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)].

###### **4.5.2.2. 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.

###### **4.5.2.3. 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).

###### **4.5.2.4. 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.

**4.5.2.5. 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**

Section 303(e)(3)(F) of the CWA authorizes the use of a compliance schedule to meet effluent requirements based on new or revised water quality standards provided the compliance schedule duration does not exceed that specified in Sections 301(b)(1), 301(b)(2), 306 and 307. DOW anticipates existing facilities will need to make modifications to their operations to achieve compliance with the revised water quality standards for selenium therefore a compliance schedule has been included in the permits. DOW agrees that 40 C.F.R. §122.47(a)(1) requires the compliance schedule be designed to achieve compliance as soon as possible. In this case the language has been modified to require compliance “as soon as possible but no later than January 1, 2016”.

The compliance schedule for existing facilities implementing a new requirement is provided in 40 CFR 122.47(a). 40 CFR 122.47(a) states that a permit may when appropriate specify a schedule of compliance leading to compliance with the CWA and regulations. Monitoring is a regulatory requirement established in 40 CFR 122.48(b) and is further supported by 40 CFR 122.41(j) which establishes how monitoring results are to be reported.

In addition, concerns have been expressed regarding the availability of sufficient laboratory infrastructure in the state and the region for the substantial demand on sample collection, fish tissue analysis and WET analysis created by these new general permit requirements. It is estimated that DOW will receive between 1200 and 1500 NOIs for coverage under these general permits. The immediate demand for these services may surpass the local and regional capacities.

Finally, due to the expected volume of renewal NOIs the agency has changed due date for submission of the NOI to 180 days from the effective date of the permit. As a practical matter, because the agency will be processing new and expanded operations for the first several months after this permit becomes effective, the compliance schedule for existing facilities will only extend compliance with the new general permit coverage a few months.

### **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 the eNOI 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. 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)].

### **5.5. 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].

**5.6. Certified Operator**

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

**5.7. 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.

**5.8. Continuation of Expiring Permit**

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

**5.9. 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 Western Kentucky Coal General Permit Coverage Letter (WKCL) 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)].

**5.10. Effluent Data for New Operations**

Within two (2) years of commencing discharge new operations shall submit to DOW actual discharge data for the pollutants required by the eNOI.

## **SECTION 6**

### **OTHER INFORMATION**

## **6. OTHER INFORMATION**

### **6.1. Permit Duration**

The permit shall have a duration of five (5) years 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 [DEP.KORA@ky.gov](mailto:DEP.KORA@ky.gov).