

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF KENTUCKY
AT FRANKFORT**

**KENTUCKIANS FOR THE
COMMONWEALTH and SIERRA
CLUB,**

Plaintiffs,

v.

CIVIL ACTION NO. _____

**GINA MCCARTHY, in her official capacity
as ADMINISTRATOR, UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY,**

And

**HEATHER MCTEER TONEY, in her
official capacity as REGIONAL
ADMINISTRATOR, UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY REGION 4,**

Defendants.

COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

INTRODUCTION

1. This action arises under the citizen suit provision of the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq. (hereinafter “the Clean Water Act” or “the CWA”). Plaintiffs seek a declaration that the United States Environmental Protection Agency (EPA) has failed to perform its non-discretionary duty to respond to Plaintiffs’ petition seeking withdrawal of the Commonwealth of Kentucky’s authority to administer the National Pollutant Discharge Elimination System (NPDES) within its borders and an injunction ordering it to promptly respond.

2. Alternatively, this action arises under Administrative Procedure Act, 5 U.S.C. §§ 501 et seq. (hereinafter “the APA”). Plaintiffs seek a declaration that the United States Environmental Protection Agency (EPA) has unreasonably delayed responding to Plaintiffs’ petition seeking withdrawal of the Commonwealth of Kentucky’s authority to administer the National Pollutant Discharge Elimination System (NPDES) within its borders and an injunction ordering it to promptly respond.

3. On March 15, 2010, pursuant to CWA section 402(c)(3), 33 U.S.C. § 1342(c)(3), Plaintiffs submitted a petition to Defendants’ predecessors at EPA asking them “to evaluate the systematic failure of Kentucky to administer and enforce the National Pollutant Discharge Elimination System program and to withdraw the delegation of the program from the Kentucky Energy and Environment Cabinet.” March 15, 2010 Petition (“the March 15th Petition”) at 1, attached as Exhibit A. The petition identified numerous ways in which the Kentucky Energy and Environment Cabinet’s (“the Cabinet” or “Kentucky”) administration of its NPDES permitting and enforcement program failed to meet the requirements of the Act, resulting in widespread harm to the Commonwealth’s waters. On May 3, 2010, Plaintiffs submitted a supplement to the March 15, 2010 petition. May 3, 2010 Supplement (“the May 3rd Supplement”), attached as Exhibit B. Both the March 15th Petition and the May 3rd Supplement (hereinafter, collectively “the Petition” or “Plaintiffs’ Petition”) focused on the Commonwealth’s failure to adequately regulate pollution discharges from the coal mining industry.

4. As of the filing of this complaint, more than four and one half years after receiving Plaintiffs’ Petition, EPA has not offered any substantive written response and has taken no action to withdraw the NPDES authority from the Cabinet. On information and belief, the

vast majority of the failures identified in the Petition and the Supplement remain unaddressed, leading to ongoing degradation of the Commonwealth's waters.

JURISDICTION AND VENUE

5. This court has jurisdiction over this action pursuant to 28 U.S.C. § 1331 (federal question) and 33 U.S.C. § 1365 (Clean Water Act citizens' suit provision).

6. Alternatively, this court has jurisdiction over this action pursuant to 28 U.S.C. § 1331 (federal question) and 5 U.S.C. § 702 (Administrative Procedure Act).

7. On November 7, 2014, Plaintiffs gave notice to the Defendants of their failure to perform their non-discretionary duty to respond to Plaintiffs' Petition and of Plaintiffs' intent to file suit if Defendants did not respond within 60 days, as required by Section 505(b)(2) of the CWA, 33 U.S.C. § 1365(b)(2). More than sixty days have passed since notice was served and Defendants have not offered a response.

8. Venue in this District is proper pursuant to 28 U.S.C. § 1391(e) because a substantial part of the events or omissions giving rise to this claim occurred in this district.

PARTIES

9. Plaintiff Kentuckians For The Commonwealth (KFTC) is a nonprofit organization incorporated in Kentucky with roughly 8,000 members in 90 counties in the Commonwealth. KFTC is a social justice organization whose mission includes the protection of water quality.

10. Plaintiff Sierra Club is a nonprofit corporation incorporated in California, with approximately 600,000 members nationwide and approximately 5,000 members who belong to its Kentucky chapter, called the Cumberland Chapter. The Sierra Club is dedicated to exploring, enjoying, and protecting the wild places of the Earth; to practicing and promoting the responsible use of the Earth's resources and ecosystems; to educating and enlisting humanity to protect and

restore the quality of the natural and human environment; and to using all lawful means to carry out those objectives. The Sierra Club's concerns encompass the exploration, enjoyment and protection of surface waters in Kentucky.

11. Plaintiffs' members' use and enjoyment of the water resources of the Commonwealth for recreational, aesthetic, and other beneficial purposes are adversely affected by the Defendants' failure to respond to Plaintiffs' Petition. Plaintiffs' members use and enjoy rivers, streams, and lakes in the Commonwealth where water quality is threatened by the Cabinet's failure to administer its NPDES program in accordance with the requirements of the CWA. Plaintiffs' members refrain from those activities or enjoy them less because of the Cabinet's failure to regulate pollution discharges as required by law. An order compelling Defendants to substantively respond to Plaintiffs' Petition would provide redress for those injuries.

12. At all relevant times, Plaintiffs were and are "persons" as that term is defined by the CWA, 33 U.S.C. § 1362(5), and the APA, 5 U.S.C. § 551(2).

13. Plaintiffs and their members are persons with interests that are adversely affected by the Defendants' failure to respond to their Petition, and those interests in the use, enjoyment, and protection of waters of the Commonwealth from coal mining pollution are within the zone of interests sought to be protected by the Clean Water Act.

14. Gina McCarthy is sued in her official capacity as Administrator of the United States Environmental Protection Agency, which is the agency of the federal government to which administration and enforcement of the Clean Water Act ("CWA" or "the Act") has been delegated by Congress. Pursuant to CWA section 402(c)(3), the Administrator is responsible for responding to petitions and commencing proceedings to withdraw a state's NPDES delegation.

15. Heather McTeer Toney is sued in her official capacity as the Regional Administrator of the United States Environmental Protection Agency's Region 4, which is the office of EPA directly responsible for oversight of the Commonwealth of Kentucky's administration of its NPDES program.

STATUTORY AND REGULATORY FRAMEWORK

16. The Clean Water Act, 33 U.S.C. § 1251 *et seq.*, is a comprehensive water quality statute designed “to restore and maintain the chemical, physical and biological integrity of the Nation’s waters.” 33 U.S.C. 1251(a).

17. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the “discharge of any pollutant by any person” into waters of the United States except in compliance with the terms of a permit issued pursuant to the Act. Section 402 of the Act, 33 U.S.C. § 1342, establishes the National Pollution Discharge Elimination System (“NPDES”) under which the Administrator of EPA may issue permits for the discharge of pollutants into waters of the United States, upon the condition that such discharges will meet all applicable requirements of the CWA.

18. Permits issued pursuant to the NPDES program define the obligations of the dischargers under the CWA, including setting limitations on rates and quantities of pollutant discharges and establishing monitoring and reporting requirements. 33 U.S.C. § 1342(a)(2); 40 C.F.R. Part 122. Compliance with an NPDES permit is deemed compliance with the Act as a whole. 33 U.S.C. § 1342(k); 40 C.F.R. § 122.5.

19. Section 402(b) of the CWA, 33 U.S.C. § 1342(b), allows the EPA Administrator to authorize any state to administer its own NPDES program upon an application showing that the state possesses adequate authority to carry out all aspects of the program. Authorized state NPDES programs must at all times be in accordance with the federal program. *Id.* at §

1342(c)(2).

20. EPA retains significant oversight over delegated programs. If at any time the Administrator determines that a state is not administering its NPDES program in accordance with the requirements of the federal program, she may initiate proceedings to withdraw the state's NPDES authorization. Section 402(c)(3) of the CWA states that:

Whenever the Administrator determines after public hearing that a State is not administering a program approved under this section in accordance with requirements of this section, he shall so notify the State and, if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days, the Administrator shall withdraw approval of such program. The Administrator shall not withdraw approval of any such program unless he shall first have notified the State, and made public, in writing, the reasons for such withdrawal.

33 U.S.C. § 1342(c)(3).

21. EPA's regulation implementing Section 402(c)(3) states that the "Administrator may order the commencement of withdrawal proceedings on his or her own initiative or in response to a petition from an interested person." 40 C.F.R. § 123.64(b)(1). The regulation makes clear that EPA has a mandatory duty to respond to a petition submitted pursuant to CWA section 402(c)(3), stating that "[t]he Administrator will respond in writing to any petition to commence withdrawal proceedings." *Id.* (emphasis added). Those authorities create a non-discretionary duty for EPA to respond in writing to petitions seeking withdrawal of delegation from non-compliant state programs. See Save the Valley, Inc. v. U.S. E.P.A., 99 F.Supp.2d 981, 984–86 (S.D. Ind. 2000).

22. EPA's regulations explain the that circumstances where withdrawal of a state's NPDES authority is appropriate include:

(1) Where the State's legal authority no longer meets the requirements of this part, including:

(i) Failure of the State to promulgate or enact new authorities when necessary;
or

- (ii) Action by a State legislature or court striking down or limiting State authorities.
- (2) Where the operation of the State program fails to comply with the requirements of this part, including:
- (i) Failure to exercise control over activities required to be regulated under this part, including failure to issue permits;
 - (ii) Repeated issuance of permits which do not conform to the requirements of this part; or
 - (iii) Failure to comply with the public participation requirements of this part.
- (3) Where the State's enforcement program fails to comply with the requirements of this part, including:
- (i) Failure to act on violations of permits or other program requirements;
 - (ii) Failure to seek adequate enforcement penalties or to collect administrative fines when imposed; or
 - (iii) Failure to inspect and monitor activities subject to regulation.
- (4) Where the State program fails to comply with the terms of the Memorandum of Agreement required under § 123.24 (or, in the case of a sewage sludge management program, § 501.14 of this chapter).
- (5) Where the State fails to develop an adequate regulatory program for developing water quality-based effluent limits in NPDES permits.
- (6) Where a Great Lakes State or Tribe (as defined in 40 CFR 132.2) fails to adequately incorporate the NPDES permitting implementation procedures promulgated by the State, Tribe, or EPA pursuant to 40 CFR part 132 into individual permits.

40 C.F.R. § 123.63(a).

23. At all times relevant to this complaint, the Commonwealth of Kentucky has been authorized by EPA to administer an NPDES program for regulating the discharges of pollutants into the waters of the Commonwealth. Permits issued under this program are issued by the Kentucky Energy and Environment Cabinet and are known as “KPDES” permits.

24. Section 505(a)(2) of the CWA, 33 U.S.C. § 1365(a)(2), authorizes any “citizen” to “commence a civil action on his own behalf . . . against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this chapter which is not

discretionary with the Administrator.”

25. In an action brought under Section 505(a) of the CWA, the district court has jurisdiction to “order the Administrator to perform such act or duty.” 33 U.S.C. § 1365(a).

26. Under Section 505(d) of the CWA, 33 U.S.C § 1365(d), the court “may award costs of litigation (including reasonable attorney and expert witness fees) to any prevailing or substantially prevailing party, whenever the court determines such an award is appropriate.”

27. The Administrative Procedure Act (“APA”) provides that “[a] person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof.” 5 U.S.C. § 702.

28. The APA defines “agency action” to include those instances where an agency has failed to act. 5 U.S.C. § 551(13).

29. The EPA is a federal agency whose actions are subject to review under the APA. See 5 U.S.C. § 551(1).

30. The APA mandates that “within a reasonable time, each agency shall proceed to conclude a matter presented to it.” 5 U.S.C. § 555(b).

31. The APA provides that a court shall “compel agency action unlawfully withheld or unreasonably delayed.” 5 U.S.C. § 706(1).

FACTUAL BACKGROUND

32. On March 15, 2010, Plaintiffs submitted a petition to Defendants’ predecessors at EPA asking them “to evaluate the systematic failure of Kentucky to administer and enforce the National Pollutant Discharge Elimination System program and to withdraw the delegation of the program from the Kentucky Energy and Environment Cabinet.” Exhibit A at 1. The groups specifically requested that EPA formally respond to their petition in writing, as required by 33

U.S.C. § 1342(c)(3) and 40 C.F.R. § 123.64(b)(1). Id. at 4.

33. The March 15th Petition provided overwhelming evidence that Kentucky is failing to administer its NPDES program in accordance with the requirements of the CWA. The specific failures described in the March 15th Petition, supported by extensive citations and exhibits, primarily relate to the Cabinet's inadequate regulation of pollution from coal mining operations and include:

- a. Failing to provide adequate staff to administer the NPDES program (Ex. A at 1–2);
- b. Failing to adequately protect its streams from toxic selenium pollution by not including protective effluent limits in NPDES permits (Ex. A at 6–9);
- c. Failing to implement and enforce its narrative aquatic life water quality criteria, including the narrative criterion for conductivity¹, in KPDES permits for coal mining operations, despite overwhelming scientific evidence that conductivity pollution from coal mining activities is causing widespread biological impairment in streams (Ex. A at 9–11);
- d. Failing to protect against harm to aquatic life from iron pollution by promulgating a chronic water quality criterion that is only effective if aquatic life has already been adversely affected by such pollution (Ex. A at 11);
- e. Failing to promulgate numeric water quality criteria for aluminum even though it is known to be causing serious harm to aquatic life uses (Ex. A at 11–12);
- f. Authorizing the majority of coal mining discharges pursuant to a general NPDES permit, as opposed to individual NPDES permits for each operation, despite those discharges not meeting the requirements for coverage under a general permit (Ex. A at 12–13);
- g. Failing to collect data and properly perform reasonable potential analyses to impose necessary effluent limitations in NPDES permits for conductivity, selenium, and other pollutants in general and individual coal mining NPDES permits (Ex. A at 13–22);

¹ Conductivity is a water quality metric. It is a measure of the salinity of a solution, expressed as the ability of the solution to conduct an electric current, and is measured in microSiemens per centimeter ($\mu\text{S}/\text{cm}$). In Appalachian streams receiving drainage from surface coal mines, conductivity values are highly correlative to the concentrations of four primary ions or “salts”: calcium (Ca^+), magnesium (Mg^+), sulfate (SO_4^{2-}), and bicarbonate (HCO_3^-). Each of those ions is a pollutant under the Clean Water Act. 33 U.S.C. §1362(6). Conductivity levels above 300 $\mu\text{S}/\text{cm}$ in Appalachian streams have been shown to have adverse effects on aquatic life, such that they often result in the loss of entire genera of aquatic invertebrates.

- h. Failing to adequately assess its streams for impairment from coal mining pollution and failing to develop Total Maximum Daily Loads (TMDLs) for streams that have been identified as impaired, thus undermining its ability to develop necessary water quality-based effluent limitations (Ex. A at 22–23);
- i. Failing to issue permits for many coal mining reclamation bond forfeiture sites (Ex. A at 23–24); and
- j. Authorizing discharges from abandoned mine land (AML) sites pursuant to a general NPDES permit despite those discharges not meeting the requirements for coverage under a general permit and failing to include any enforceable effluent limitations necessary to prevent violations of water quality standards in that general permit (Ex. A at 24–25).

34. The petition informed EPA that Kentucky’s failure to administer its NPDES program in accordance with the requirements of the CWA was having dire consequences for the health of the Commonwealth’s waters, citing the thousands of miles of rivers and streams that Kentucky itself has determined to be impaired by coal mining. Ex. A at 4. It concluded by stating that “[b]ecause the harm associated with the State’s failure to maintain and administer its NPDES program is severe, irreversible and ongoing, we ask EPA to respond to and take action based on this petition as soon as possible.” Id. at 29.

35. In April 2010, EPA issued a draft document titled Detailed Guidance on Improving EPA Review of Appalachian Surface Coal Mining Operations Under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order (“Detailed Guidance”). That Guidance acknowledged the indisputable scientific evidence that high conductivity discharges from Appalachian coal mining operations have the reasonable potential to harm aquatic life and established a framework for developing water quality-based effluent limitations in NPDES permits to protect against such harm.

36. On May 3, 2010, Plaintiffs submitted to EPA a supplement to their March 15th Petition. The May 3rd Supplement highlighted the inconsistency between Kentucky’s failure to

address conductivity pollution in its NPDES permits for coal mining operations and EPA's Detailed Guidance, which made clear that regulating conductivity pollution from Appalachian surface coal mining operations is essential to protecting aquatic life as required by the CWA. Exhibit B at 4–6. The Supplement also provided additional evidence of Kentucky's failure to follow the required procedures necessary to develop conditions in its NPDES permits that will adequately protect aquatic life. Id. at 6–11.

37. More than four and one half years have passed since Plaintiffs sent their Petition to EPA. Plaintiffs have yet to receive a formal written response as requested and as required by 33 U.S.C. § 1342(c)(3) and 40 C.F.R. § 123.64(b)(1).

38. On information and belief, the vast majority of the failures identified in Plaintiffs' Petition continue to this day.

39. Further failures in the intervening years prompted Plaintiffs to send an additional, separate petition to EPA on September 3, 2014, requesting that EPA initiate formal proceedings under 40 C.F.R. § 123.64(b) to withdraw approval of Kentucky's National Pollutant Discharge Elimination System (NPDES) program on grounds independent from those stated in the March 15, 2010 Petition and May 3, 2010 Supplement. EPA has not responded to that petition.

40. Pursuant to Section 505(b)(2) of the CWA, 33 U.S.C. § 1365(b)(2), Plaintiffs sent a notice of intent letter ("NOI"), postmarked on November 7, 2014, notifying the Defendants of their failure to perform their non-discretionary duty to respond to Plaintiffs' Petition. The NOI notified Defendants of Plaintiffs' intent to file suit if Defendants did not respond within 60 days. The NOI was sent by certified mail, return receipt requested, to the following persons: Gina McCarthy, Administrator of EPA; Heather McTeer Toney, Regional Administrator of EPA Region 4; and Eric Holder, United States Attorney General.

FIRST CLAIM FOR RELIEF

(Failure to Perform Non-Discretionary Duty Under the Clean Water Act)

41. Plaintiffs incorporate by reference all allegations contained in paragraphs 1 through 40 supra.

42. Clean Water Act section 402(c)(3), 33 U.S.C. § 1342(c)(3), and 40 C.F.R. § 122.64(b)(1) establish a non-discretionary duty for the Administrator of EPA to respond in writing to any petition seeking the withdrawal of a state NPDES program delegation.

43. Plaintiffs' submission of their March 15, 2010 Petition and May 3, 2010 Supplement triggered the EPA's non-discretionary duty to provide a written response.

44. More than four and one half years have passed since Plaintiffs submitted their petition and EPA has yet to fulfill its duty to provide a written response.

45. On information and belief, absent an Order from this Court, EPA will remain in violation of the CWA as a result of its failure to perform the non-discretionary duty to respond in writing to petitions submitted pursuant to CWA section 402(c)(3), 33 U.S.C. § 1342(c)(3).

SECOND, ALTERNATIVE CLAIM FOR RELIEF

(Unreasonable Delay Under the Administrative Procedure Act)

46. Plaintiffs incorporate by reference all allegations contained in paragraphs 1 through 40 supra.

47. The Administrative Procedure Act mandates that all federal agencies shall "within a reasonable time . . . proceed to conclude a matter presented to it," 5 U.S.C. § 555(a), and provides that a court shall "compel agency action unlawfully withheld or unreasonably delayed," 5 U.S.C. § 706(1).

48. Plaintiffs' submission of their March 15, 2010 Petition and May 3, 2010 Supplement triggered the EPA's duty under the APA to respond and proceed to conclude the

matters presented in Plaintiffs' Petition within a reasonable time.

49. The more than four and one half year delay between Plaintiffs' submission of their Petition and the filing of this action is patently unreasonable.

50. On information and belief, absent an Order from this Court, EPA's unreasonable delay in responding to Plaintiffs' Petition will continue.

RELIEF REQUESTED

WHEREFORE, Plaintiffs respectfully request that this court enter an Order:

- (1). Declaring that EPA has failed to perform its non-discretionary duty under the Clean Water Act to respond in writing to Plaintiffs' Petition;
- (2). Alternatively, declaring that the EPA's failure to respond to Plaintiffs' Petition for more than four and one half years constitutes an unreasonable delay under the Administrative Procedure Act;
- (3). Ordering EPA to promptly provide a substantive, written response to Plaintiffs' Petition seeking withdrawal of Kentucky's NPDES program delegation;
- (4). Awarding Plaintiffs' attorney fees and all other reasonable expenses incurred in pursuit of this action; and
- (5). Granting other such relief as the Court deems just and proper.

Respectfully submitted,

/s/ Joseph M. Lovett _____
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March 15, 2010

The Honorable Lisa Jackson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Administrator Jackson:

Enclosed is a Petition for withdrawal of the National Pollutant Discharge Elimination System program delegation from the State of Kentucky on behalf of the Appalachian Center for the Economy and the Environment, Sierra Club, Public Justice and Kentuckians for the Commonwealth. These groups petition EPA to evaluate the systematic failure of Kentucky to administer and enforce the National Pollutant Discharge Elimination System program and to withdraw the delegation of the program from the Kentucky Energy and Environment Cabinet.

Respectfully submitted,

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**PETITION FOR WITHDRAWAL OF THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM
DELEGATION FROM THE STATE OF KENTUCKY**

Appalachian Center for the Economy and the Environment, Sierra Club, Public Justice and Kentuckians for the Commonwealth through their undersigned lawyers, hereby petition the United States Environmental Protection Agency, (EPA) to initiate formal proceedings under 40 C.F.R. § 123.64(b) to withdraw approval of the State of Kentucky's National Pollutant Discharge Elimination System (NPDES) program. The Groups request that EPA formally respond to this petition in writing, as required by 40 C.F.R. § 123.64(b)(1); that EPA notify the State of Kentucky that it is not administering the permit program for discharges into the waters of Kentucky in accordance with the Clean Water Act; and that EPA schedule a public hearing regarding these violations. See 33 U.S.C. § 1342(c)(3); 40 C.F.R. § 123.64(b)(1). Because Kentucky has shown that it does not have the ability to administer or enforce its NPDES program in accordance with the Clean Water Act (CWA), EPA must withdraw its approval of the Kentucky NPDES delegation and assume administration and enforcement of the program. Id.

Introduction

We recognize we are asking EPA to take drastic action. Given the nearly complete breakdown of Kentucky's implementation and enforcement of its NPDES program, however, withdrawal of the State's NPDES program is the only remedy that will bring Kentucky into compliance with the Clean Water Act (CWA). In particular, the State's capitulation to the coal industry and its complete failure to prevent widespread contamination of state waters by pollution from coal mining operations leaves EPA no choice but to withdraw its approval of that program.

That breakdown is shown by the remarkable number of impaired stream miles in the state. "The Kentucky Division of Water's (KYDOW) own 2008 list of impaired waters provided to EPA under Section 303(d) of the CWA identified 1,199 stream miles in the Upper Kentucky River watershed, 487 stream miles in the Upper Cumberland River watershed, and 780 stream miles in the Big Sandy/Little Sandy/Tygarts Creek watershed as impaired with coal mining as a suspected source." (11 at 2)¹ We will show, however, that the nearly 2,500 listed miles of impaired streams in the coalfields of eastern Kentucky seriously underestimates the scope of actual stream impairment. Many more streams have been and are being impaired as a result of KYDOW's failure to promulgate protective water quality standards, assure adequate assessment of state waters, comply with EPA guidelines on total maximum daily load development, and issue protective NPDES permits. Recent Scientific studies (including the WET testing data attached to this Petition) make it clear the KYDOW's lack of stewardship has jeopardized the future of Kentucky's waters. EPA must step in now -- before even more irreversible damage is done to the State's waters.

Further, KYDOW does not have sufficient manpower or resources to adequately develop and review mining NPDES permits. In Kentucky just four NPDES permit writers manage 2,353

¹ References will be listed by number in a separate document and will include either the website look up or included on the CD accompanying this document.

mining NPDES permits (588 each).² In contrast, in West Virginia, fifteen mining NPDES permit writers manage 1,266 mining permits (84 each).³ Even West Virginia's staffing is woefully inadequate. NPDES permit writers in Kentucky therefore have to manage seven times as many permits as those managed by permit writers in neighboring West Virginia. This lack of capacity may help to explain why Kentucky's permitting program is so weak and has failed to prevent significant stream impairment.

Executive Summary

1. **Toxicity Testing.** Whole Effluent Toxicity (WET) tests are used to determine the cumulative and synergistic effects of toxic pollution on stream health. Eight recent EPA WET tests in the Kentucky coal fields showed that in all of the tests, streams downstream from surface coal mining sites had chronic toxicity that greatly exceeded the state standard of 1 toxicity unit. Results ranged from 3.9 to as high as 55.2 toxicity units. One of the most toxic streams was downstream from the Guy Cove Research Project site, showing that the claimed mitigation success at that site is a charade. (50) This study shows that coal mining NPDES permits should not be issued without WET limits, yet no such permits have those limits.

2. **Selenium.** Despite overwhelming and incontrovertible evidence of mining's harm to Kentucky's rivers and streams from selenium pollution, KYDOW has not issued a single coal NPDES permit with selenium limits. In fact, the agency has, for all intents and purposes, exempted the coal industry from the *chronic* selenium aquatic life criterion. (9 Fact sheet at 6) Further, even when a mining operation admitted to having a reasonable potential to cause a violation of the *acute* selenium criterion, the agency provided loopholes so that the company, ICG Hazard, was able to avoid restrictions on its selenium discharges. (40, 41, 42, 43) Further, KYDOW has completely failed to take measures such as requiring selenium analysis of geological core samples at mining sites in order to attempt to prevent selenium pollution.

No NPDES permits for surface mines should be issued until adequate core sampling has been conducted, selenium limits are placed on permits with reasonable potential and the operator has demonstrated before permit issuance that it has the ability and commitment to treat its effluent to comply with its permit limits in perpetuity.⁴ KYDOW fails on all three tasks.

3. **Water Quality Standards.** Kentucky's water quality standards program is failing to protect stream uses in three important respects. First, KYDOW has failed to implement and enforce its narrative criteria for conductivity, despite overwhelming scientific evidence that this pollutant is causing widespread biological impairment in streams. Second, KYDOW's chronic numeric criterion for iron has been rendered meaningless by KYDOW's requirement that the criterion does not apply until demonstrated harm to streams from iron has already occurred. Third,

² Data through Kentucky Open Records Law request March 2010.

³ From FOIA request to WVDEP March 2009.

⁴ In fact, to prevent creating discharges with the reasonable potential to cause or contribute to water quality standards violations, no NPDES permits should be issued for operations that will create a perpetual discharge. Economic realities make it certain that most mining operators will not exist nearly as long as the pollution that they create. Even if the operators have the ability to treat the discharges in the short term, it would be extremely difficult to show the ability to treat in perpetuity.

KYDOW has failed to promulgate numeric water quality criteria for aluminum even though it is known to be causing serious harm to aquatic life uses.

4. **General Permits.** Most coal mines in Kentucky are covered under a blanket general permit for their water pollution discharges, rather than site-specific individual permits. KYDOW's general permit procedures are inadequate to detect and prevent violations of water quality standards. For mines with existing permits, KYDOW only requires mine operators to take a single grab sample of their discharges once in five years. For new mines, one sample prior to permitting is all that is required. This testing is usually insufficient to demonstrate that there is no reasonable potential for violations. And even when tests do show that there is reasonable potential, KYDOW misapplies EPA guidance on that issue and ignores that potential. In every case, KYDOW wrongly concludes that no further monitoring is required and no permit limits are necessary. In fact, existing scientific studies, stream monitoring data, and mine permit applications demonstrate that coal mines in Kentucky have a reasonable potential of exceeding numerical and narrative water quality standards for several pollutants, including selenium, iron, aluminum, conductivity and toxicity. These mines should have numerical limits for these pollutants in their permits. Kentucky's general permit also shortchanges public participation requirements, because discharge samples for many pollutants are not required until after the comment period closes, and the comment period for antidegradation review is only fifteen days, rather than the required thirty days.

5. **Individual Permits.** KYDOW's procedures for issuing individual permits also violate the CWA. First, the agency for fifteen priority pollutants only analyzes discharges for compliance with acute water quality criteria, not chronic criteria. KYDOW assumes that the acute criterion is the most limiting one, and bases that assumption on its theory that discharges from mines depend entirely on precipitation. This theory seems to presume that mining discharges are too short and intermittent to compare to chronic criteria, which are based on four-consecutive-day averages. However, even if that theory were correct, EPA guidance requires application of both the acute and chronic criteria in such situations. In fact, KYDOW's theory is incorrect, because mining discharges are not entirely rainfall-dependent and can extend over longer periods when application of the chronic criterion is appropriate. Existing data shows that violations of chronic criteria for some pollutants are already occurring. Second, KYDOW's oversight of individual permit applications is inadequate because permittees use improperly high detection limits and fail to test for aluminum and conductivity.

6. **Impaired Streams.** KYDOW has only evaluated and assigned TMDLs for 51 impaired streams, while 2,000 other impaired streams have no TMDLs. KYDOW cannot meet EPA guidelines for establishing TMDLs for these unaddressed sites within 8-13 years because it has insufficient resources to do so. In addition, KYDOW's data requirements for stream listing automatically exclude many streams because KYDOW does not even assemble enough data to meet those requirements.

7. **Bond Forfeiture and AML Mine Sites.** KYDOW is violating the CWA by failing to require NPDES permits for discharges of acid mine drainage from bond forfeiture sites. For AML sites, KYDOW improperly uses a general permit that fails to set enforceable limits to prevent

violations of water quality standards and instead relies on unenforceable “best management practices.”

The net consequence of these regulatory failures is that toxic discharges from Kentucky coal mines are virtually unregulated and this is likely to be causing widespread stream impairment. The failure to enforce its NPDES program has already devastated Kentucky's waters. Mine discharges are not like conventional industrial discharges that can simply be "turned off" by closing a valve. Because of the perpetual nature of mining discharges, heightened care must be taken in approving permits. Once high selenium or high conductivity discharges are created, they cannot be stopped. The perpetual nature of surface mining discharges makes it essential that EPA steps in to stop the KYDOW from allowing mining operators from creating these problems before they begin. After the problems begin, remedies will likely not be available.

Whole Effluent Toxicity (WET) Testing

Recent studies show the severity of toxic water pollution in the coalfields. Between December 2007 and August 2009, the United States Environmental Protection Agency (EPA) collected water quality samples for chronic WET testing at selected sites in the coalfields of Kentucky and West Virginia. Site selection criteria included: 1) at or downstream from coal mining operations, 2) no intervening pollution sources identified by EPA, and 3) instream conductivity levels greater than 1000 $\mu\text{S}/\text{cm}$. (50 at 2) Eight of the sites tested were located in Kentucky. (50 at 3)

Remarkably all eight of the chronic WET tests collected from Kentucky coalfield streams exceeded the state standard of 1 allowable chronic toxic unit (TU_c). (50 at 4) In fact, two sites exceeded 50 TU_c , 50 times that allowed by the Kentucky water quality standards. Three sites were between 20 – 30 TU_c , and the remaining sites were between 3.9 and 13.2 TU_c . (50 at 3) Generally, a correlation between high conductivity and high TU_c 's was seen in this study. (50 at 4)

The data were derived from EPA standard toxicity testing methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms (EPA-821-R-02-013). Since water samples may contain a mixture of many toxic compounds, these methods are designed to demonstrate the total toxicity of the water rather than the toxicity of a single compound contained in the water column. These standard WET methods are used to identify effluents and ambient receiving waters containing toxic materials that are present in concentrations that result in chronic toxicity. (50 at 2) Chronic WET tests measure the impact on survival and reproduction of a test organism over a seven day time period. (50 at 4)

The EPA technical support document (USEPA, 1991) recommends as a chronic criterion that for most water bodies waters should not exceed a chronic toxic unit (TU_c) of 1.0. Accordingly in Kentucky, the allowable instream concentration of toxic substances, or whole effluents containing toxic substances is also not permitted to exceed a TU_c of 1.0. (50 at 4); 401 KAR 10:031 Sec. 3 (j).

Federal regulations require permitting authorities to include WET testing limits in NPDES permits.

(ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water. 40 CFR 122.44(d)(1)(ii)

And,

(iv) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the numeric criterion for whole effluent toxicity, the permit must contain effluent limits for whole effluent toxicity. 40 CFR 122.44(d)(1)(iv).

Further EPA's Technical Support Document for Water Quality-Based Toxics Control⁵ recommends, "that States fully integrate chemical-specific, whole effluent, and bioassessment approaches into their water quality-based toxic control programs. It is EPA's position that the concept of "independent application" be applied to water quality-based situations. Since each method has unique as well as overlapping attributes, sensitivities, and program applications, no single approach for detecting impacts should be considered uniformly superior to any other approach."

Additionally, EPA outlines the importance of WET limits where there is low or zero flow during critical conditions (coal mining operations are assumed by KYDOW to have a 7Q10 of zero (9 Fact sheet at 6)).

Of particular concern is establishing permit limits for WET for discharges where the effluent flow comprises a high percentage of the available stream flow during critical conditions or otherwise lacks assimilative capacity. In such waters, effluent toxicity may be a source of measurable ambient toxicity (i.e., cause) excursions of numeric or narrative water quality criteria. In this guidance, EPA revises national guidance for establishing appropriate effluent limitations for WET for receiving waters with no assimilative capacity or where dilution is not available. For such situations, the limit derivation procedures described in Chapter 5 of this guidance would result in a maximum daily limit of 1.6 TU_c and an AML of 1.0 TU_c. The 1.0 TU_c AML should be expressed as a monthly median limit instead of an average monthly limit. (39 at 5)

One of the most toxic WET (TU_c = 55.2, August 2009) testing sites in the EPA dataset is located in Long Fork of Buckhorn Creek in the University of Kentucky's Robinson Forest. (50 at 3, maps) A neighboring tributary also is severely toxic and suggests geological characteristics in this region that contribute to the toxic conditions. Id. Frasure Creek Mining (SMCRA permit 813-0328, general NPDES permit KYG045943), one of the seventy-nine pending mining 404

⁵ See USEPA Office of Water. Technical Support Document for Water Quality-Based Toxics Control. March 1991. P. 22.

permits currently under review by EPA under the Surface Coal Mining Memorandum Of Understanding Enhanced Coordination Procedures, is located upstream of the test site. (49) Frasure Creek's proposed operation includes six valley fills and 14,005 feet of stream impacts. (38 at 1) Since the discharges from this operation are authorized under the Kentucky coal general permit (see below for a detailed discussion of that permit), there are no restrictions for many pollutants that will significantly contribute to the toxic condition of Long Fork nor are there limits for whole effluent toxicity. Because other mining operations in the same watershed have led to a violation of the state WET criterion, it is reasonable to expect the proposed discharges from the Frasure Creek mine will contribute to a violation of Kentucky's WET criterion. 401 KAR 10:031 Sec. 3 (j). Mining should not be allowed to proceed at that site unless, among other things: 1) the general NPDES permit authorization of the proposed discharges is revoked; 2) Frasure Creek applies for an individual permit that includes immediately effective water quality based WET limits; and 3) the NPDES permit is not issued until Frasure Creek has demonstrated that it has the ability and commitment to construct and operate a treatment facility that assures compliance with WET limits.

The neighboring toxic site is located in Laurel Fork of Buckhorn Creek ($TU_C = 54.1$, August 2009) and is also in Robinson Forest. (50 at 3, maps) This site is just downstream from the Guy Cove Research Project where University of Kentucky researchers are attempting to create a headwater stream to demonstrate viable mitigation to offset mining impacts to streams. (50 at maps) Despite a recent newspaper story that this mitigation has been successful, the WET score at this site is one of the highest in the EPA study and shows that serious cumulative downstream water quality impacts still remain. Researchers at Guy Cove constructed experimental, partially sealed channels that could carry water down the face of a valley fill but did not prevent the water quality problems downstream of the base of the fill. Other mining operations are also upstream of the test site.⁶

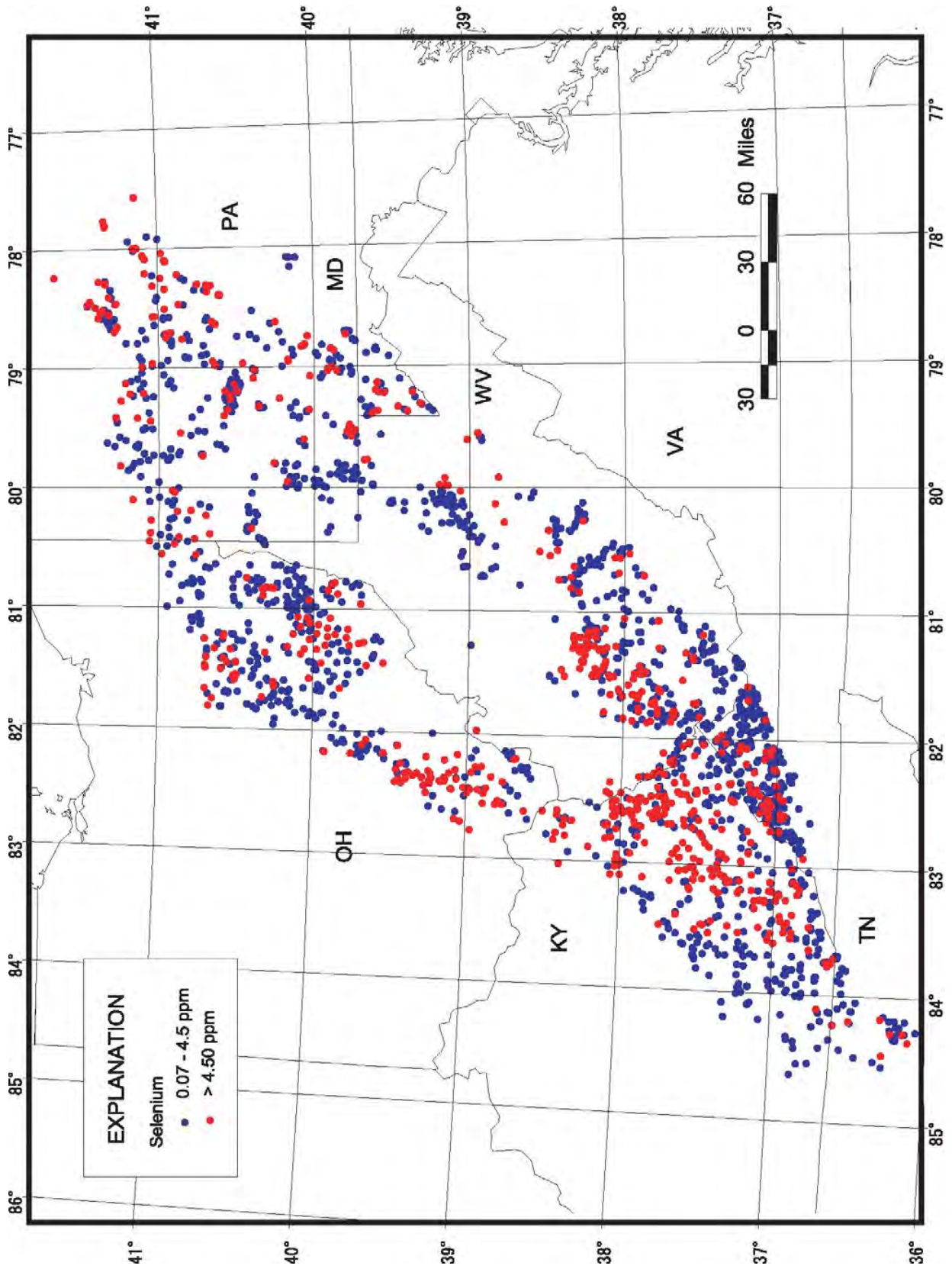
Selenium

As in West Virginia, coal seams in Kentucky are known to be high in selenium. The Mountaintop Mining/Valley Fills in Appalachia Programmatic Environmental Impact Statement (PEIS) found, "in the region [of] MTM/VF mining, the coals can contain an average of 4 ppm of selenium, normal soils can average 0.2 ppm, and the allowable limits in the streams are 5 ug/L (0.005 ppm). Disturbing coal and soils during MTM/VF mining could be expected to result in violations of the stream limit for selenium." (1 at 74)

A 2005 study by the U.S. Geological Survey of core samples taken from coal mines in central Appalachian states found that "[c]oal beds in the middle Middle Pennsylvanian series, from the Cedar Grove coal bed in West Virginia and the correlative Whitesburg coal bed in eastern Kentucky up through the Clarion coal bed in Pennsylvania and Ohio generally have an average selenium concentration greater than 3.9 ppm." (31 at 5) A map of the sampling sites from the USGS study is shown on the following page. *Id.*, Figure 1. The red dots show samples that exceed 4.5 ppm. An analysis of the table supporting this map reveals that, of the 700 samples from eastern Kentucky, 270 exceeded 4.5 ppm, 331 exceeded the 4 ppm average cited in

⁶ See KYSMIS at <http://www.minepermits.ky.gov/sminformationsystem/access.htm>

the PEIS as likely to cause violations of the stream limit for selenium, and 30 fell in the range of 9 to 18 ppm. Data from coal seams in Kentucky could thus be easily used to predict water quality standard exceedances in Kentucky.



KYDOW's own recent study of small headwater streams in eastern Kentucky⁷ shows bioaccumulation of selenium in fish above EPA's draft body burden threshold of 7.9 ug/g and exceedences of Kentucky's chronic selenium water quality standard of 5 ug/l at mining sites. The study looked at headwater tributaries at 13 sites, including six active mining sites, two reclaimed mine sites, and one abandoned mine site. At one active mining site, water downstream from the disturbance exceeded state water quality standards for selenium. Additional water quality data showed elevated levels of selenium on mining sites. Notably, researchers also found fish tissue exceeding EPA's draft recommended fish tissue criterion downstream from three of nine mining sites. Downstream from five other mining sites, researchers found fish with selenium levels of 4-8 ppm which scientists have found can cause adverse effects in sensitive species.

Despite all of the above evidence, there is not a single coal mining NPDES permit with selenium limits in the state of Kentucky. As shown below in the permitting section of the petition, many mining NPDES holders have submitted data to KYDOW that demonstrate a reasonable potential for their pollution discharges to cause or contribute to a selenium water quality standard violation. Despite that data, however, KYDOW has still failed to place selenium limits in a mining permit.

Kentucky's Water Quality Standards Fail to Protect Stream Uses

Each state must develop water quality criteria that protect designated stream uses. 40 C.F.R. § 131.11(a)(1). These criteria form part of the water quality standards for the State. 33 U.S.C. § 1313(c)(2). Criteria and standards form the foundation of each state's National Pollution Discharge Elimination System (NPDES) Program. Under that program, each NPDES permit must include discharge limitations that will "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause or have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(1)(i). Thus, the water quality criteria and standards are the mandatory floor of federal protection of water quality, and NPDES permit limits must be written so as to prohibit discharges which have "reasonable potential" of going below that floor.

Kentucky's water quality standards program related to coal mining pollutants violates these principles in several important respects. First, KYDOW has failed to implement and enforce its narrative criteria for total dissolved solids, despite overwhelming scientific evidence that this pollutant is causing widespread biological impairment in streams. Second, KYDOW's chronic numeric criterion for iron has been rendered meaningless by KYDOW's requirement that the criterion does not apply until demonstrated harm to streams from iron has already occurred. Third, KYDOW has failed to promulgate numeric water quality criteria for aluminum even though it is known to be causing serious harm to aquatic life uses.

1. Kentucky Has Failed to Promulgate a Numeric Criterion or Enforce the Narrative Criterion for Conductivity

⁷ Data from the study received through Kentucky Open Records Law August 2009.

Kentucky has included an improper harm prerequisite in its narrative criterion for conductivity/total dissolved solids (TDS). That criterion states that “[t]otal dissolved solids or specific conductance shall not be changed to the extent that the indigenous aquatic community is adversely affected.” 401 K.A.R. 10:031, Sec. 4(f). Kentucky continues to authorize operations that will violate those narrative criteria. EPA must assure that no permits are authorized in Kentucky that may lead to a violation of the narrative criteria.

Remarkably, despite the fact that mine-impacted streams are sometimes listed on the Kentucky 303(d) list as biologically threatened or impaired by TDS, (22 at 77), NPDES permits for mining operations never have TDS limits. This is in part because there are no numeric water quality criteria for TDS. In absence of numeric criteria, the agency still has a duty to enforce its narrative criterion.

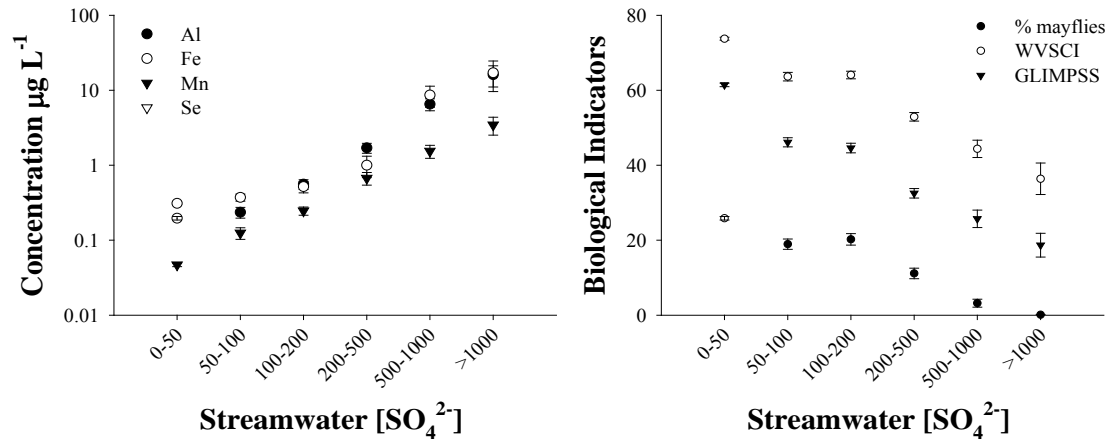
There is overwhelming evidence in an EPA peer-reviewed study that mining operations are strongly associated with biological impairment due to high TDS. (10 at 724) The study states that “[o]ur results indicate that MTM is strongly related to downstream biological impairment, whether raw taxonomic data, individual metrics that represent important components of the macroinvertebrate assemblage, or MMIs [multi-metric indices] are considered.” Id. Further, the study states that all sites with conductivities greater than 500 uS/cm were impaired. (10 at 725) The Mountaintop Mining/Valley Fills in Appalachia PEIS found that the median conductivity at filled sites exceeded that threshold and measured 585 uS/cm (1 at 25). Further, the Kentucky program allowing payment of fees in lieu of mitigation excludes streams for mitigation where conductivity exceed 400 uS/cm because the high level “threatens biological recovery”. (37 at 2)

Other experts reviewing water quality data have drawn the same conclusions. (2 at 3) Mining operations lead to increased concentrations of solutes weathered from exposed rock in stream water including sulfates, bicarbonate, magnesium, and calcium and an increased likelihood of elevated concentrations of trace elements and toxic metals. (2 at 13) In fact, the relationship between mining activities and high sulfate concentrations is so well established that the 2008 WVDEP West Virginia Integrated Water Quality Monitoring and Assessment Report suggested that sulfate concentrations >50 mg/l could be used as an indicator of mining activity:

While an increase in sulfate loading is the most predictable consequence of mountain top mining in the Appalachians, many other substances are released to surface waters as a result of mining activity. In these valleys, the presence of significant carbonate and base cations in parent material neutralizes the acidity of sulfate leaching, but leads to dramatic increases in Ca²⁺, Mg²⁺ and HCO₃ ions. This natural acid buffering potential leads to an increase in the pH of receiving streams (rather than the more well understood acidification associated with acid mine drainage). The release of these ions contributes to dramatic increases in the electrical conductivity and total suspended solids within the water column of receiving streams.

Id. “For many streams it is the cumulative or additive impact of elevated concentrations of multiple stressors that leads to biological impairment – and this is undoubtedly a part of the reason that conductivity (a cumulative measure of ionic strength) is such an effective predictor of biological impairment.” (2 at 16)

A graph using West Virginia Department of Environmental Protection water data downstream from mining operations and corresponding West Virginia Stream Condition Index scores shows the strong correlations between sulfates and associated ions and biological health. In West Virginia a WVSCI score below 60 indicates biological impairment. Id.



Despite the fact that these pollutants both *individually and cumulatively* are likely to harm aquatic life downstream from mining discharges, Kentucky has failed to deny permits that will cause violations of the narrative criteria or to promulgate protective numeric criteria for TDS.

2. Kentucky Has Failed to Promulgate Criteria for Aluminum

Despite the federal requirement that states promulgate criteria to protect stream uses, (See 40 C.F.R. § 131.11(a)(1)) Kentucky has no criteria at all for aluminum despite its association with coal mining⁸ and known harm. Aluminum can suffocate and kill fish by precipitating on their gills and can have deleterious metabolic effects by interfering with electrolyte balance.⁹ EPA has promulgated § 304(a) guidance for aluminum. (4) Neighboring West Virginia has established criteria for aluminum and frequently includes water quality based effluent limits (WQBELs) for it in coal mining NPDES permits. Most importantly as shown below, discharges of aluminum from mining operations in Kentucky exceed levels determined to be harmful by EPA. Thus, Kentucky has no valid basis for excluding this pollutant from regulation.

3. Kentucky Has Promulgated a Meaningless Iron Criterion

In the case of the chronic iron criterion, the state has shielded the coal industry from stringent WQBELs for iron by requiring a demonstration of an adverse effect on aquatic life before the State's 1 mg/l criterion applies to a stream. 401 KAR 10:031, Sec. 6. (Note: the 1 mg/l iron limit is the same as EPA's § 304(a) guidance value for this pollutant). (4) The State has it backwards. Criteria must be designed to "protect stream uses" from harm, not provide a cleanup plan for a

⁸ Aluminum is a parameter of concern at mining operations and is often elevated. (2 at 3)

⁹ Sparling, Donald W. Lowe, T. Peter. 1996. Environmental Hazards of Aluminum to Plants, Invertebrates, Fish and Wildlife. Reviews of Environmental Contamination and Toxicology. Vol. 145. p. 112.

stream already in trouble. 40 C.F.R. § 131.11(a)(1). In Kentucky, in the absence of a demonstration of adverse effects on aquatic life, 3.5 mg/l becomes the chronic iron criterion. That limit is even higher than the average new source performance standard of 3.0 mg/l in the coal mining acid mine drainage effluent guidelines. See 40 C.F.R. § 434.35. Thus, the default chronic iron limit in Kentucky is meaningless and provides no additional protection.

Kentucky's harm prerequisite for iron is especially egregious because the State admittedly lacks the resources or procedures to measure when harm is occurring. In its 2008 305(b) Report to Congress, the State stated that it needed substantial personnel and resources to establish a new biological monitoring program to assess the effectiveness of industrial and other point source monitoring. (5 at 16) In addition to having a shortage of government resources, Kentucky fails to mobilize private resources because it does not include biological monitoring requirements in coal NPDES permit applications. For the prior and newly reissued coal general permit, no biological assessments are required for either new facilities seeking coverage for the first time in a Notice of Intent or existing facilities seeking to renew coverage. (6) Similarly, no biological monitoring is required for coal mining operations applying for individual NPDES permits. (8) In fact, only one macroinvertebrate sample is required for either permit and that could be taken at anytime during the permit cycle. (7, 9) Kentucky has therefore created a Catch-22 situation where iron is controlled only when harm occurs, but iron will never be controlled because Kentucky cannot tell when harm occurs.

NPDES Permits for Coal Mining Operations Fail to Comply with the CWA

Many coal mining NPDES discharges are covered under the Kentucky Coal General permit, however, the state also issues individual NPDES permits for certain types of facilities. (7 Fact sheet at 1-2) Note that many of the defects outlined below for the coal general permit are also true for individual permits.

Coal General Permit

Regulations require that dischargers covered under a general permit “[d]ischarge the same types of waste,” “require the same effluent limitations” and are “subject to the same water quality based effluent limitations.” 40 C.F.R. § 128.28(a) (2) and (3); 401 KAR 5:055, sec. 5(b)2. In addition, “[l]imitations must control all pollutants...which will cause or contribute to a violation of a water quality standard.” 40 C.F.R. § 122.4(i); 401 KAR 5:055, sec. 2(7). Since the general permit does not contain any limits for selenium, TDS, aluminum or iron (based on the 1 mg/l chronic criterion), some discharges covered under the general permit will impermissibly cause or contribute to a water quality standard violation. These discharges are fundamentally different from others authorized under the permit and must be identified *prior* to authorization. This is the fatal flaw of the permit. If KYDOW persists in using a general permit to authorize most discharges from mining operations, the general permit must contain the most stringent water quality based effluent limits for coal related pollutants applicable to any discharger potentially covered by the permit in order to avoid permitting discharges that lead to water quality standard violations. Alternatively, KYDOW could issue only individual permits for these discharges. KYDOW, however, persists in ignoring certain pollutants and has impermissibly issued a permit that fails to comply with the most basic tenets of the CWA.

Further, as stated above, no permit can be issued to a new discharger if the discharge would “cause or contribute to a violation of a water quality standard.” 40 C.F.R. § 122.4(i); 401 KAR 5:055, sec. 2(7). EPA has interpreted this regulation as applying to general NPDES permits. 65 Fed. Reg. 64792 (“this regulation is applicable to all new dischargers irrespective of the type of permit they are seeking coverage under; there is no language in this regulation that exempts new dischargers seeking coverage under a general permit.”) The general permit violates these regulations in two respects.

First, the general permit does not exclude its applicability to new discharges that may cause violations of water quality standards. The Fact Sheet states that the general permit cannot be issued if the receiving water is listed as impaired in Kentucky’s 305(b) report or its 303(d) list, which show which waters are violating water quality standards. (7 at 2) If Kentucky’s assessment program were robust,¹⁰ that exception would prevent the issuance of general permits to dischargers who would otherwise “contribute” additional pollution to a stream that is in violation of a water quality standard. However, this is insufficient. The permit must also prevent the issuance of general permits to discharges that would cause new violations of water quality standards by discharging to streams that are currently assumed to be in compliance with water quality standards.

Second, KYDOW does not require itself or an applicant to determine or certify in its Notice of Intent that its discharge will not cause a violation of water quality standards. In contrast, for its general permits, EPA requires applicants to determine compliance. 65 Fed. Reg. 64793 (“The applicant must avail himself of all discharge characterization data or estimation of discharge character and determine compliance.”). Indeed, KYDOW will not know at the time of permit authorization whether or not a new applicant will cause a violation. KYDOW does not require an applicant to sample or estimate the full characteristics of its discharges prior to receiving permit authorization. Instead, “[i]f there are no existing discharges on the proposed activity then permittee may use data from an adjacent existing activity which is substantially identical. If there are no existing discharges or substantially identical adjacent activities then the permittee has two years following issuance of general permit coverage to submit the data.” (6 at 7)

General Permit – the Details

1. The Coal General Permit Does Not Contain Limits on Conductivity/Total Dissolved Solids

The permit fails to establish effluent limits for conductivity/TDS when some operations covered by the general permit will discharge amounts that will have a reasonable potential to cause biological impairment. (7 at 7) Conductivity has a monitor-only requirement. In its response to public comments, KYDOW stated that at the urging of EPA it is seeking additional information on conductivity discharges because it is “an indicator parameter that provides information relative to any adverse physiological or behavioral responses in humans, animals, fish, and other aquatic life.” (7 Res to comments at 2) In fact, that information already exists. It is well

¹⁰ See below for an assessment of the state’s 303(d) listing procedures.

established by EPA researchers that “based on bioassessment data and specific conductance levels, 93% of the mined streams and none of the unmined streams were impaired, and that there was a strong causal link between mountaintop mining and impairment. (10 at 731) And further, “[a]ll mined sites with specific conductance >500 $\mu\text{S}/\text{cm}$ were rated as impaired.” (10 at 725) Effluent data submitted by a number of mining companies seeking coal general NPDES permit coverage show conductivity levels greatly exceeding the EPA conductivity level where all sites were impaired.¹¹

In addition, EPA recently wrote a letter to the Army Corps of Engineers in reference to Kentucky general NPDES permit holder, Apex Energy. (11)

EPA does not believe that a sufficient reasonable potential analysis has been conducted in accordance with Section 301(b)(1)(C) of the Clean Water Act and 40 C.F.R. 122.4(a, d, and i). Absent an analysis demonstrating that discharges from the proposed mining operations will not have a reasonable potential to cause or contribute to a water quality standards violation, EPA believes that sufficient evidence exists to conclude that it is reasonable to assume that significant water quality degradation will occur.

A growing body of evidence demonstrates that certain pollutants associated with coal mine discharges are causing or contributing to violations of narrative water quality standards. Recent studies have shown that there is a direct correlation between stream impairment and discharge of total dissolved solids (TDS)/specific conductivity (SC) due to coal mining and coal processing.

And further:

In addition to these studies, the Kentucky Division of Water’s own 2008 list of impaired waters provided to EPA under Section 303(d) of the CWA identified 1,199 stream miles in the Upper Kentucky River watershed, 487 stream miles in the Upper Cumberland River watershed, and 780 stream miles in the Big Sandy/Little Sandy/Tygarts Creek watershed as impaired with coal mining as a suspected source. The “2008 Integrated Report to Congress on Water Quality in Kentucky” (305(b) Report), Table 3.31-4, ranks TDS as the seventh leading cause of pollution to Kentucky rivers and streams and ranks SC (specific conductance) as seventeenth. (parenthesis note added)

Based on this strong causal relationship, KYDOW should have placed effluents limits for conductivity in the general permit.

In addition, high conductivities pose emerging threats to aquatic life in the coal fields of Kentucky because of the potential spread of golden algae from neighboring West Virginia. During September of 2009, Dunkard Creek in Monongalia County, West Virginia experienced a biological disaster. Over 130 species of aquatic organisms, including fish, mussels and amphibians died in massive numbers in a 38-mile stretch of stream. (12) The WVDEP identified the cause of the kill as a toxic golden algal bloom. The algae thrives only in waters with high salinity, i.e. high total dissolved solids (TDS). In the case of Dunkard Creek, the primary cause

¹¹ From data received from KYDOW through a January 26, 2011 FOIA request.

of the algal bloom and resulting fish kill was unabated high levels of TDS and chlorides discharged by coal mining operations in Dunkard Creek. (13)

Golden algae are not dispersal limited and can readily be spread by birds, wind or human activities, in some cases for long distances over 100 miles. (14 at 155) Since conditions are conducive to additional toxic events downstream from many mining sites, state and federal agencies must address the increasing possibility of toxic algal blooms as they evaluate the impacts of additional sources of high conductivity discharges from mountaintop mining operations throughout the region.

2. The Coal General Permit Does Not Contain Limits on Selenium

The agency has impermissibly authorized under the coal general permit, discharges with a reasonable potential to cause or contribute to selenium water quality standard violations. Recent notices of intent submitted by mining operations requesting coverage under the July 1, 2009 general permit show a number of discharges with high selenium levels, compared to the selenium water quality standards of 20 ug/l for the acute standard and 5 ug/l for the chronic standard. (examples at 40, 41, 44, 47)

For example, on August 19, 2009 the ICG Hazard Thunder Ridge Mine, SMCRA permit 866-0281 Am. 9, KYG043540, submitted data on representative discharges from the Thunder Ridge Mine seeking authorization under the general permit for additional discharges from amendment 9. ICG first submitted data from three outfalls including outfall 020 with selenium at 29.2 ug/l, nearly 50% higher than the acute selenium standard. (41 at 8). Despite ICG's stated claim that the data was representative of stream discharges, KYDOW apparently determined that outfall 020 was not representative and asked ICG to submit additional data from outfalls discharging to Lower Bad Creek. (43 at 2) The second notice of intent also dated August 19, 2009 showed selenium levels in discharges to Lower Bad Creek as 29.2 µg/l at outfall 020, 8 µg/l at outfall 043, 6 µg/l at outfall 048, 11 µg/l at outfall 048, and 8 µg/l at outfall 52. (40 at 9-13) All of the new data submitted exceeded the chronic selenium standard. Nevertheless, on February 22, 2010, KYDOW sent a letter to ICG approving the new discharges for coverage under the general permit. (42) Thus, the agency with blatant disregard of permitting regulations impermissibly authorized discharges to Lower Bad Creek that will cause and or contribute to selenium water quality standard violations.

Similarly, as part of a notice of intent to seek coverage under the general permit, Clintwood Elkhorn submitted representative selenium data of 10 ug/l from Pond 1 discharging to an unnamed tributary of Dicks Fork of Feds Creek. (44) Then on January 28, 2010 KYDOW sent a letter to Clintwood Elkhorn authorizing general permit coverage for the discharges despite the reasonable potential for the discharges to cause or contribute to a violation of the chronic selenium criterion. (45) Again, in November of 2009, Leeco Inc. submitted effluent data as part of a general permit notice. The data showed selenium effluent levels of 15 ug/l at outfall 015. (47 at 2) Once again, despite exceedances of the chronic selenium standard, KYDOW authorized the discharges under the coal general permit. (48) These are just a few examples of KYDOW's intentional avoidance of enforcing the selenium water quality criteria.

Details on the KYDOW's possible rationale for some of these actions are outlined below in the individual permit section on the agency's handling of priority pollutants.

In addition, for the selenium data that is submitted, minimum detection limits are often 10 ug/l, too high to determine a reasonable potential to exceed the chronic selenium criterion of 5 ug/l.¹² In one instance Bear Branch Coal Company reported an unusual selenium detection limit of 32 ug/l and then simply stated that selenium was not detected in the discharge. (46 at 2)

Further, no assessment of geological cores samples taken from mining sites for selenium content is required to identify and *prevent selenium problems before they develop*. The Mountaintop Mining/ Valley Fills in Appalachia PEIS (1 at 74) first identified selenium as a problem at coal mining sites. The problem was later verified over and over again in neighboring West Virginia. (18)

3. The Coal General Permit Does Not Contain WET Limits

As shown above, some mining operations have a reasonable potential to cause or contribute to a violation of the Kentucky WET criterion. Thus, if KYDOW wants to continue to use a coal general NPDES permit to cover most mining operations, that permit must have water quality based WET limits. In addition, the agency must assure that mining operations are committed to constructing and operating a treatment facility that assures compliance with WET limits.

4. The Coal General Permit Does Not Address Harm to Aquatic Life Caused by Aluminum

The general permit does not address harm to aquatic life caused by aluminum. Effluent data submitted to KYDOW by mining companies seeking coverage under the coal general permit show harmful levels of aluminum that exceed EPA's National Recommended Water Quality Criteria.¹³ For example, in July of 2009 an ICG Knott County, LLC mine holding CWA permit KYG046395 submitted effluent data showing aluminum at 1000 ug/l which greatly exceeds EPA's recommend aluminum acute criterion of 750 ug/l.¹⁴ Since KYDOW assumes a 7Q10 of zero flow for mining receiving streams (9 Fact sheet at 6) and because the coal general permit contains no effluent limits for aluminum, (7) discharges from this mine would impermissibly "cause or have the reasonable potential to cause, or contribute to an excursion above ... State water quality standard, including State narrative criteria for water quality." 40 C.F.R. 122.44(d)(1)(i). Similarly in August of 2009, Raven Resources submitted data reporting aluminum discharges of 2330 ug/l. (3 at 6) Other mining operations are also discharging high levels of aluminum. KYDOW must place aluminum limits in the general permit and also must assure that mining operations are committed to constructing and operating a treatment facility that assures compliance with those limits.

5. KYDOW Does Not Identify Discharges Excluded from General Permit Coverage

¹² From numerous general permit applications received through KY Open Records request.

¹³ From data received through a January 26, 2010 FOIA request to KYDOW

¹⁴ Id.

The Fact Sheet (7 Fact Sheet at 2) for the coal general permit states, “[a]ny operation that is classified as an ‘Alkaline Mine’¹⁵ pursuant to 40 CFR 434.11” is excluded from coverage. Despite that exception, as long as a mining operation has not actively sought classification as an alkaline mine drainage facility (and few if any seek classification), KYDEP allows a facility that may discharge alkaline mine drainage to be covered under the general permit.¹⁶ Thus, mines with alkaline mine drainage can escape the additional scrutiny and public involvement of an individual NPDES permitting process by simply not submitting data that verifies their alkaline mine drainage status.

6. Existing Discharges Are Reauthorized Under the General Permit in a Data Vacuum

Existing discharges authorized under the general permit are automatically renewed without submitting effluent data at the time of permit reissuance.¹⁷ *Thus, KYDOW is making permitting decisions in a near data vacuum without fully characterizing the effluent at literally thousands of outfalls.* Discharge monitoring reports alone do not sufficiently characterize effluent quality. This failure not only further weakens the permitting process but is also in stark contrast to mining NPDES permit holders in West Virginia (most who hold individual NPDES permits) who are required to submit extensive water quality data at each renewal.

7. The Coal General Permit Includes an Illegal Compliance Schedule for Total Recoverable Iron

The permit includes an illegal compliance schedule for total recoverable iron. EPA has interpreted its regulations governing compliance schedules to require at least three findings, adequately supported by the record, *prior* to issuing a compliance schedule. First, the permitting authority must find that the compliance schedule will lead to compliance by the final compliance deadline. Second, the permitting authority must find that the use of the compliance schedule is “appropriate.” Third, the permitting authority must find that the compliance schedule requires compliance “as soon as possible.” 40 C.F.R. § 122.47. Specifically, EPA requires that compliance schedules:

- include interim requirements if the schedule is longer than one year in duration. 40 C.F.R. § 122.47(a)(3)
- include an “enforceable sequence of actions” leading to compliance (29 at 2)
- include an enforceable “final effluent limit in the permit” (29 at 2)
- include a “*reasonable finding, adequately supported by the administrative record*” that the compliance schedule will lead to compliance with the final effluent limits on schedule (emphasis added) (29 at 2)
- include assurances supported by the record that the schedule is “appropriate” and “as soon as possible” (29 at 2).
- Must be based on actions by the permittee and not an agency (such as a TMDL or establishing a water quality standard) (30 at 3)

¹⁵ The term “alkaline, mine drainage” means mine drainage which, before any treatment, has a pH equal to or greater than 6.0 and total iron concentration of less than 10 mg/l. 40cfr434.11(c)

¹⁶ Personal communication between Margaret Janes and KYDOW staff 2/3/10.

¹⁷ Personal communication between Margaret Janes and KYDOW 2/3/10.

Since neither the application nor the permit contain site specific information on compliance schedules, the agency has clearly failed to require a site specific analysis of the operators' ability to meet the new limits including an enforceable sequence of actions leading to compliance, assuring the compliance schedule is appropriate, compliance will be on schedule or as soon as possible. Thus, the permit fails to comply with CWA requirements.

8. Coal General Permit Fails to Comply with Public Participation Requirements of the CWA

The Clean Water Act provides that “[a] copy of each permit application and each permit issued under [the NPDES program] shall be available to the public” and before a permit is approved, the public must have an opportunity for public comment and a hearing. 33 U.S.C. §§ 1342(j), 1342(a)(1). KYDOW’s regulations require this public participation for draft general permits. 401 KAR 5:075, sec. 3. The draft permit must contain all required effluent limitations. Id., sec. 3(4)d. The proposed general permit contains no effluent limits for any of a number of pollutants (conductivity, aluminum, antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium and zinc, cyanide and phenols) for which applicants must submit monitoring data. There is no reason to submit discharge data unless that data may be used to develop an effluent limit. However, Kentucky regulations prohibit issuance of a general permit unless all effluent limits are first published and circulated for public notice and comment in a draft permit accompanied by a fact sheet containing “[a]ny calculations or other necessary explanation of the derivation of specific effluent limitations and conditions.” 401 KAR 5:075, Sec. 4(2)g. KYDOW therefore cannot issue a general permit and later make case-by-case decisions that add new effluent limits for any of these sixteen chemicals without violating its own regulations. Only an individual permit, not a general permit, is designed or authorized to make case-by-case permitting decisions. In addition, the issuance of a general permit “mark[s] the completion” of the decision-making process. *National Ass’n of Home Builders v. U.S. Army Corps of Engineers*, 417 F.3d 1272, 1281 (D.C. Cir. 2005). KYDOW cannot combine an incomplete general permit with a later case-by-case analysis of discharge monitoring data at individual sites.

The coal general permit also fails to comply with CWA public notice requirements for antidegradation review of high quality streams. The permit states, “[p]ursuant to 401 KAR 5:029, Sec. 1(2) public participation is a requirement of a finding by EEC that allowing the lowering of water quality is necessary to accommodate important economic or social development” and further, that the agency “shall receive public comments for a period of 15 days.” (7 Fact sheet at 28) 401 KAR 5:029, Sec. 1(2) states, “[w]here the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State’s continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.” 401 KAR 5:029 1(2) and 40 C.F.R. § 131.12(a)(2). The Kentucky Continuing Planning Process (32 at 3) and federal permitting regulations require a 30-day public and notice comment period for major permit decisions. 40 C.F.R. 124.10(b). Thus, the 15-day comment period fails

to comply with the state continuing planning process and federal regulations and must be revised.

Individual Coal Permits Do Not Address Priority Pollutants

KYDOW is violating the Clean Water Act (CWA) when it writes individual NPDES permits for coal mining operations. It does so because it systematically fails to conduct an analysis of the reasonable potential of coal mining discharges to exceed the chronic criteria of 15 priority pollutants. Mining operations are required to test for these pollutants as part of the application process. Even if a coal mining applicant submits data that would ordinarily trigger a reasonable potential analysis and effluent limits based on chronic criteria, the agency compares the data only to the acute criteria. (9 Fact sheet at 6) Referring to the list of toxic pollutants, KYDOW states in permit fact sheets:

The following table represents the Division of Water's evaluation of the reasonable potential that the discharge of these pollutants would violate water quality standards. Due to the discharges from the activities being precipitation dependant and the receiving waters having a 7Q10 low flow condition of zero (0) cfs the Division of Water has determined that effluent data shall be compared to the acute criterions for these pollutants. Id.

KYDOW's failure to carry out a reasonable potential for chronic criteria of toxic pollutants is impermissible for three major reasons. First, CWA regulations require a reasonable potential analysis for all pollutants of concern:

Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause or have the reasonable potential to cause, or contribute to an excursion above *any* State water quality standard, including State narrative criteria for water quality.

40 C.F.R. § 122.44(d)(1)(i) (emphasis added).

EPA's Technical Support Document for Water Quality-Based Toxics Control (TSD), which states use to write water-quality based NPDES permits, details how states should develop NPDES effluent limits and requires that the most limiting criterion be applied.

Therefore, to prevent impacts to aquatic life or human health, the RWC (receiving water concentration) of the parameter effluent toxicity or an individual toxicant (based on allowable dilution for the criterion) must be less than the most limiting of the applicable criterion, as indicated below. (The RAC as used throughout this chapter incorporates EPA human health criteria and State standards as well.)

RWC < CCC (chronic aquatic life)
RWC < CMC (acute aquatic life)

RWC < RAC (human health)¹⁸

In contrast, KYDOW assumes that the acute criterion is always the most limiting criterion, even though (as we have shown above) the chronic criterion should also apply. The chronic criterion is also usually set at a much lower value. For example, for selenium, the acute criterion is 20 µg/l and the chronic criterion is 5 µg/l. And further,

For water quality-based requirements, the limits are based on maintaining the effluent quality at a level that will comply with water quality standards, even during critical conditions in the receiving water. These requirements are determined by the WLA (waste load allocation). The WLA dictates the required effluent quality which defines the desired level of treatment plant performance or target LTA (long term average).¹⁹

KYDOW defines the critical low-flow condition in the receiving water as that occurring during the 7-day, 10-year statistical interval known as the 7Q10. In this case KYDOW has stated that the 7Q10 flow at the point of the mine discharge is zero. This means that the mine discharge provides all of the flow into the receiving water. As a result, the WLA for that discharge must be set equal to the criterion in question and effluent limits must be determined using that WLA.

Second, even if rainfall were the only driver of mining discharges (which we show below is not the case), rainfall-driven discharges should be not limited based solely on acute criteria. Acute criteria are protective of aquatic life over very short exposures--those “based on one (1) hour exposure that does not exceed the criterion for a given pollutant.” 401 KAR 10:031 Sec. 6 (1) Footnote 6. In contrast, chronic criteria are protective over longer exposures—those “based on ninety-six (96) hour exposure that does not exceed the criterion of a given pollutant more than once every three (3) years on the average.” *Id.*, Footnote 7. Rainfall or snow melt can occur over several days or weeks and the resulting discharges will greatly exceed the one-hour time line for acute exposure thresholds. Thus, even based on KYDOW’s own assertions, its practice of only applying acute criteria is nonsensical and inconsistent with CWA requirements.

Third, while rainfall obviously has a great impact on surface mining NPDES discharges, those discharges are not solely rainfall-dependent. Various studies have documented “significantly higher unit discharge from valley fills than from adjacent unmined watersheds (Wiley and others, 2001). (15 at 17) Further, evidence indicates “that low flows were relatively greater in streams draining valley fills than in streams draining unmined watersheds.” *Id.* Researchers theorized that this happened in part because surface water “would infiltrate the fill instead of running into the stream” thus storing and then slowly draining the water from the fill material to the stream. *Id.* Other USGS studies indicate, “[d]aily streamflows from valley-fill sites generally are greater than daily streamflows from unmined sites during periods of low streamflow. Valley-fill sites have a greater percentage of baseflow and a lower percentage of flow from storm runoff than unmined sites.” (16). This means that sediment ponds downstream from valley fills are likely to discharge long after rainfall events and much longer than the one-hour time frame of acute criteria. In addition, even sediment ditches unassociated with valley fills or hollow fills may

¹⁸ See USEPA Office of Water. Technical Support Document for Water Quality-Based Toxics Control, March 1991, p. 48.

¹⁹ *Id.*, p. 95.

discharge as springs and seeps discharge water into those ditches and create a non-rainfall-driven discharge at the outfall.²⁰ Thus, when a surface mine site is at or near 7Q10 or more-frequently-occurring low-flow conditions, the mine's flow may totally dominate the flow in the receiving stream. Remarkably, this same policy appears to hold true for underground mines where discharges are often pumped. (33 Fact sheet at 6)

KYDOW has collected data demonstrating that coal mining discharges are causing and contributing to chronic water quality criterion exceedances for one of the 15 pollutants in question, selenium. In 2007, the agency sampled water downstream from a mining site at Smith Fork in Pike County. On September 19, 2007, selenium levels were 11.5 ug/l at the toe of the fill and 9.1 ug/l downstream of the outfall.²¹ National Oceanic and Atmospheric Administration data show that it did not rain at nearby Fishtrap Lake on that day. In fact, except for 0.2 inches of rain on September 17, it had not rained at or near this mine site for a week prior to the sampling date. (17) If the most recent rainfall event was two days before sampling, and there was flow at the time of sampling, one must conclude that the flow at this site is not ephemeral and only rainfall-induced, and is likely to last long enough to require measurement against the chronic criterion. Yet according to KYDOW policy, based on this data set, KYDOW would not have set any limits on selenium discharges.

This policy has resulted in permits with effluent limits that do not comply with CWA requirements. For example, in its February 27, 2008 application for individual NPDES permit KY0107140, Sidney Coal Company reported a value of 9 ug/l total selenium as representative of the discharges at its mine. (8 at 9) Yet KYDOW then issued a draft permit on September 23, 2009 with no selenium limits and no selenium monitoring despite the fact that the discharge had a reasonable potential to cause or contribute to the chronic selenium water quality criterion. (9 at 6) In August of 2009, in an application for individual NPDES permit, KY0001970, RiverView Coal reported a value of 13 ug/l total selenium as representative of the discharges at its underground mine and refuse disposal site. (35 at 8) The draft permit issued by KDOW based on this data also had no selenium limits or selenium monitoring. (34)

In sharp contrast, in neighboring West Virginia, the Department of Environmental Protection (WVDEP) routinely assigns water-quality based effluent limits for selenium at coal mine outfalls for discharges with a reasonable potential to cause or contribute to the selenium chronic criterion of 5 ug/l. In fact, as of April 2008, 1,234 coal mining outfalls in West Virginia were assigned selenium limits based on the identical situation described by the KYDOW when they justified the exemption from chronic criteria at Kentucky coal mines. In West Virginia, the assumption is a 7Q10 flow so that the WLA is identical to the chronic criterion, 5ug/l, resulting in effluent limits of 4.7 ug/l average monthly and 8.2 ug/l daily maximum. (18) Thus, KYDOW is impermissibly exempting coal mining discharges from the chronic criteria of the 15 priority (including selenium) pollutants listed in permit applications.

Individual Coal Permits - the Application

Individual permit applications show a variety of flaws that include:

²⁰ Personal communication between WVDEP and Margaret Janes January 19, 2010.

²¹ Data received through the KY Open Records Law

- As noted above for the coal general permit, detection limits for selenium data submitted in the permit applications are frequently too high. In one case, the detection limit for selenium data reported in permit application was 0.05 mg/l, two and one half times greater than the acute selenium criterion of 20 µg/l that KYDOW claims to enforce. (36 at 11)
- When filing out reports on effluent quality permittees frequently state that aluminum is believed absent. This is in marked contrast to data from coal general permits and research data previously discussed that demonstrate the aluminum content of mining effluent can be quite high and is harmful.
- Applicants do not appear to be required to submit conductivity data as part of their application. See applications at <http://www.water.ky.gov/publicassistance/notices/November-December.htm>.

These seemingly minor flaws have likely led to major deficiencies in at least some NPDES permits.

Kentucky Uses Impermissible 303(d) Listing Procedures and TMDL schedules

Kentucky's NPDES permitting program is undermined by flawed 303(d) listing procedures and long delays in the development of total maximum daily loads (TMDLs). Since 1986, Kentucky has completed and EPA has approved 51 TMDLs for various pollutants. (19) This is an average of only a few TMDLs per year. The existing backlog of TMDLs on the most recent TMDL schedule includes over 2,000 stream segments. The agency plans to complete all of these TMDLs by 2021 at an average rate of 167 TMDLs per year. (20) KYDOW admits that they will be unable to meet this schedule without "more staff, lab resources, and especially contractual monies without *continued loss of ambient monitoring resources.*" (5 at 16) (emphasis added) The implication is that the miles of assessed streams in Kentucky will fall as the agency struggles and likely fails to complete all TMDLs.

The earliest 303(d) list available online is from 1990. (21) A number of streams are listed for warm water aquatic life use impairment due to priority organics. (21 at 3) At least some of these streams have apparently been listed for 20 years without a TMDL being developed. Drakes Creek, Town Branch and Mud River are still listed today due to priority organics including PCBs and methylmercury. (22 at 482, 255, 271) The long delay in developing TMDLs does not comply with EPA guidance that requires TMDL to be developed within eight to thirteen years of listing. (23) It seems unlikely given Kentucky's resources and current pace that the long TMDL delays will be resolved even by 2021.

The delays in identifying pollution sources and developing cleanup plans for impaired streams cause significant delays in the development of water-quality based effluent limits. Unfortunately, they are not the only major problem with Kentucky's 303(d)/TMDL program. At the same time the state complains about a lack of resources, it also creates excessively strict data requirements for identifying impaired streams.

303(d) Assessment protocols

The assessment protocols used for the 2008 Integrated Report to Congress are briefly summarized in the 305(b) report. (5 at 64-67) The report states that chemical data was assessed according to EPA guidance from 1997. (5 at 64) (24) In comparing the KYDOW protocol to EPA guidance, however, important differences are evident. EPA states, “at least 10 samples over a 3-year period” are preferred for toxic pollutants and, “[i]f fewer than 10 samples are available, the State should use discretion and consider other factors such as the number of pollutants having a single violation and the magnitude of the exceedance(s)” while making listing decisions. (24 at 3-22) KYDOW generally requires monthly samples over a three-year period in order to determine impairment based on chronic criteria for the priority pollutants and iron. (5 at 65) The only sites with that much data are the 71 large rivers included in Kentucky’s primary ambient network.²² Sites in the State’s rotating watershed ambient network have 12 monthly samples and may also be listed due to exceedence of the chronic criteria but there is reluctance to use data over a single year. (5 at 65).²³ Further discussion with KYDOW indicates that fewer than 12 samples over a three-year period would not be sufficient to support listing.²⁴ In addition, KYDOW states that “[o]bservations that equaled or were only slightly greater than chronic criteria were not considered to exceed water quality standards.” (5 at 65) All of these policies lead in the same direction—an underestimation of impaired streams and fewer WQBELs.

Pre and Post Law Abandoned Mine Sites

Kentucky has failed to issue NPDES permits for point source discharges at bond forfeiture mining sites and has issued an illegal general NPDES permit to cover discharges at abandoned mine land sites.

KYDEP Has Violated the CWA by Failing to Issue NPDES Permits for Coal Mining Bond Forfeiture Sites

Kentucky administers a bond forfeiture reclamation program. Before coal companies begin mining at a site, they must post a reclamation bond. A company’s bond may be forfeited to the State if the company fails to mine and reclaim a site to the standards specified in its mining permit. The forfeited funds are then used by the State to reclaim the site for which the bond was posted. (25) The majority of mining operations submit individual bonds. If reclamation does not resolve water pollution issues through land reclamation and passive water treatment (for example limestone ditches) at the site, the water pollution remains as a liability of the land owner.²⁵ These sites are not issued NPDES permits unless a mining company comes into re-mine or reclaim the site.²⁶

A number of Kentucky bond forfeiture sites produce acid mine drainage (AMD). (26) A 2008 inventory of forfeiture sites with ongoing reclamation needs shows at least 14 sites with offsite

²² Personal communication between KYDOW staff and Margaret Janes February 2, 2010.

²³ Id.

²⁴ Id.

²⁵ Personal communication between Margaret Janes and KYDEP staff in two offices 2/3/10.

²⁶ Id.

water quality AMD impacts that would not be resolved by land reclamation or passive treatment. Numerous other sites have less severe water quality impacts. None of the sites needing passive or active treatment are required to obtain NPDES permits.²⁷ Unpermitted discharges from bond forfeiture sites have frequently exceeded technology-based and water quality-based effluent standards for pH and iron. (26) Under similar circumstances, two West Virginia federal courts have ruled that WVDEP has violated the Clean Water Act by failing to obtain NPDES permits for discharges from such sites. West Virginia Highlands Conservancy v. Huffman, 588 F. Supp.2d 1678 (N.D. W.Va. 2009), and 651 F. Supp.2d 512 (S.D. W.Va. 2009). That same principle applies to unpermitted discharges from Kentucky bond forfeiture sites.

Abandoned Mine Lands (“AML”)

The Federal Surface Mining Control and Reclamation Act of 1977 (as amended) establishes a fund to reclaim abandoned mine lands (AML), which are unreclaimed mine sites that predate federal surface mining regulation. KYDEP has developed a general permit to cover those discharges. (27) The permit, however, fails to comply with the law in several important ways. First, the general permit authorizes discharges that may impermissibly cause or contribute to violations of water quality standards. (27 Fact sheet at 5) It does so by failing to establish numeric effluent limits for any pollutant and rather relies solely on best management practices to control pollution. (27 Fact Sheet at 3) Referring to the watersheds of receiving streams, KYDEP states:

Some of these watersheds may be listed in Kentucky’s most recent 303(d) list of impaired waters. Watersheds on this list may be impaired for a variety of reasons and may require the development of Total Maximum Daily Loads (TMDLs) for certain pollutants. Should a TDML be developed for a watershed covered by this permit, then sites covered by this permit may be required to obtain an individual permit to implement the recommendations of the TDML. (27 Fact Sheet at 2)

The agency states that some of the sites it anticipates will be covered by the general permit have a reasonable potential to cause or contribute to a water quality standard violation. Yet no effluent limits for parameters of concern, (Total Suspended Solids, Dissolved Solids, Settleable Solids, Total Recoverable Metals, Hardness, Sulfates, Sulfides, Nitrates, Nitrites, Phosphorous, ph, etc.), are included in the permit. (27 Fact Sheet at 3) For example, “On or around March 7, 2007, an abandoned mine had a blow out and now acid mine drainage is gushing into Little Dry Fork, just west of Whitesburg, KY .” (28) The blow out of an abandoned deep mine is covered by the AML general permit. According to the narrative of this piece the water is high in conductivity, iron, and manganese and is decimating aquatic life yet the permit places no limits or controls on the discharges.

The permit states that AML sites with few exceptions are automatically covered by the permit.

Due to the number of potential sites that are eligible for this permit, the wide variability of the surface owners/controllers and their resources, and the limited resources of the Division of Water, only large surface owners/controllers will be required to submit an

²⁷ Id

NOI for coverage under this permit. All others will receive automatic inclusion unless the Division of Water specifically requests a notice of intent. Large surface owners/controllers are those individuals or entities that control an accumulative 25% or more of the surface area within a watershed or control surface areas in more than one (1) watershed. (27 at III-1)

Thus, the agency has little to no control of this permit or what types of discharges it will authorize, including AMD blow outs with serious water quality impacts.

Secondly, as previously stated, Kentucky law authorizes the use of general permits only when all point sources within each category:

- a. Involve the same or substantially similar types of operations;
- b. Discharge the same types of wastes;
- c. Require the same effluent limitations or operating conditions;
- d. Require the same or similar monitoring; and
- e. In the opinion of the cabinet, are more appropriately controlled under a general permit than under individual permits.”

401 KAR 5:055, sec. 5(b)2. Thus, all five of these requirements must be satisfied before a general permit may be issued. Describing discharges potentially covered by the permit, the fact sheet states, “[t]he chemical composition is dependent upon the type mineral extracted, the overlying and underlying formations, and the processing of the extracted mineral. The quality of the discharge may vary from extremely poor to meeting the criteria established for the support of aquatic life. (27 Fact Sheet at 4) Thus, the discharges described in the AML general permit are admittedly not similar in quality or degree and thus do not qualify for inclusion in the general permit.

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Conclusion

Because the harm associated with the State's failure to maintain and administer its NPDES program is severe, irreversible and ongoing, we ask EPA to respond to and take action based on this petition as soon as possible.

Respectfully submitted,



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References:

- 1) EPA Region 3. Mountaintop Mining Environmental Impact Statement, Appendix D, Stream Chemistry. April 8, 2002. See <http://www.epa.gov/Region3/mtnstop/eis2003appendices.htm#appd>
- 2) Palmer and Bernhardt, Mountaintop Mining Valley Fills and Aquatic Ecosystems: A Scientific Primer on Impacts and Mitigation Approaches. 2009.
- 3) General permit NOI for Raven Resources, KYG0463099, August 10, 2009.
- 4) See National Recommended Water Quality Criteria at <http://www.epa.gov/waterscience/criteria/wqctable/>
- 5) Kentucky Environmental and Public Protection Cabinet, Division of Water, 2008 Integrated Report to Congress on Water Quality in Kentucky, Volume 1, 305(b) Report. April 1, 2008. See <http://www.water.ky.gov/NR/rdonlyres/1A883375-82DB-46AD-A0DB-3A8BA43EE959/0/2008IntegratedReporttoCongressonWaterQualityinKentuckyVol1.pdf>
- 6) Notice of Intent application for 2009 Kentucky Coal General Permit.
- 7) Kentucky Coal General Permit issued July 1, 2009.
- 8) Individual NPDES application for Sidney Coal Company, CWA NPDES permit, KY0107140. February 27, 2008.
- 9) Individual Draft NPDES for Sidney Coal Company, CWA NPDES permit, KY0107140, September 23, 2009.
- 10) Gregory J. Pond, Margaret E. Passmore, Frank A. Borsuk, Lou Reynolds, Carole J. Rose, "Downstream effects of mountaintop coal mining: comparing biological conditions using family- and genus-level macroinvertebrate bioassessment tools," J. N. Am. Benthol. Soc., 2008, 27(3):717–737 Published online: 8 July 2008.
- 11) Letter from James D. Giattina, Director, Water Protection Division, EPA Region 4, to Col. Keith A. Landry, US Army Corps of Engineers, Louisville District, concerning 404 permit for Apex Energy, 898-0646, December 29, 2009.
- 12) See <http://blogs.wvgazette.com/coaltattoo/2009/10/01/friends-of-dunkard-creek-seek-epa-takeover-on-fish-kill/#more-1257>
- 13) See <http://www.dep.wv.gov/WWE/watershed/wqmonitoring/Pages/DunkardCreekFishKillInformation.aspx>
- 14) Kristiansen, J. 16. Dispersal of fresh water algae – a review. Hydrobiologia 336. 11996.
- 15) Water Resources Investigation Report 02-4303. Comparison of Storm Responses of Streams in Small Unmined and Valley Filled Watersheds, 1999-2001, Ballard Fork , West Virginia. 2003.
- 16) Water-Resources Investigations Report 01-4092. Geomorphology, Low Streamflow, and Stream Temperature in the Mountaintop Coal-Mining Region, Southern West Virginia, 1999-2000, 2001.
- 17) NOAA Kentucky rainfall data for Fishtrap Lake, KY purchased online for September 2007.
- 18) List of mining permit outfalls and limits for selenium from April 2008 FOIA request to WVDEP.
- 19) See <http://www.water.ky.gov/sw/tmdl/Approved+TMDLs.htm>
- 20) Kentucky TMDL schedule from FOIA July 23, 2009.

- 21) See 1990 303(d) list <http://www.water.ky.gov/NR/rdonlyres/B7F92908-FB33-4BA8-ABB9-D87557DAD614/0/303d90.pdf>
- 22) See 2008 303(d) list <http://www.water.ky.gov/NR/rdonlyres/58E97683-C9B7-4F9F-BA87-93671E6A02D9/0/2008volume2final.pdf>
- 23) See <http://www.epa.gov/OWOW/tmdl/ratepace.html>
- 24) See <http://www.epa.gov/owow/monitoring/305bguide/v2ch3.pdf>.
- 25) See <http://www.aml.ky.gov/>
- 26) Spreadsheet detailing water quality status of some bond forfeiture sites from information request May 14, 2009.
- 27) AML General NPDES permit.
- 28) See <http://www.youtube.com/watch?v=aMQCWUdWo1o>
- 29) Memo on compliance schedules from James A Hanlon, Director of Office of Wastewater management USEPA to Alexis Strauss, Director, Water Division, USEPA Region 9, May 10, 2007.
- 30) Letter from Alexis Strauss of USEPA to Celeste Cantu of California State Water Resources Control Board, RE: California SIP, compliance schedule provisions, October 23, 2006.
- 31) S.G. Neuzil, et al., "Spatial Trends in Ash Yield, Sulfur, Selenium, and Other Selected Trace Element Concentrations in Coal Beds of the Appalachian Plateau Region, U.S.A.," USGS Open-File Report 2005-1330 (2005).
- 32) Kentucky Continuing Planning Process, August 31, 2006.
- 33) Draft Permit for Czar Coal, KY0108049, 880-5139.
- 34) Draft permit for Riverview Coal, KY0001970, 913-5015.
- 35) Permit application for Riverview Coal, KY0001970, August 4, 2009.
- 36) Permit application for Czar Coal, KY0040495, August 24, 2007.
- 37) Letter from Mike Hardin KY Department of Fish and Wildlife Resources to Tim Guilfoile, Sierra Club, February 10, 2010.
- 38) Louisville District of the Army Corps of Engineers, Public Notice No. 2009-239, Frasure Creek Mining, April 10, 2009.
- 39) See http://www.epa.gov/npdes/pubs/wet_draft_guidance.pdf
- 40) Permit application number 2, ICG Hazard, Thunder Ridge Mine, KYG043540, August 19, 2009.
- 41) Permit application number 1, ICG Hazard, Thunder Ridge Mine, KYG043540, August 19, 2009.
- 42) General Permit authorization for ICG Hazard KYG043540 Am 8 & 9.
- 43) Letter to KYDOW from Kevin Bailey of Environmental Resources Management Consulting Company, December 29, 2009.
- 44) Effluent characteristics Clintwood Elkhorn 898-4330, KYG046362.
- 45) General permit coverage authorization for Clintwood Elkhorn 898-4330, KYG046362.
- 46) NOI Bear Branch Coal, 897-5100, KYG045353.
- 47) Effluent data NOI Leeco 867-0486 Am. 1, KYG045876.
- 48) General Permit authorization for Leeco, 867-0486 Am. 1, KYG045876.
- 49) Louisville District of the Army Corps of Engineers, Public Notice No. 2009-239, Frasure Creek Mining, April 10, 2009. Maps

50) Mitchelmore, Carys, University of Maryland Center for Environmental Science, Report on the USEPA Whole Effluent Toxicity Testing at Selected Sites in the Coalfields of Kentucky and West Virginia, February 2010 including maps of WET testing sites.



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May 3, 2010

The Honorable Lisa Jackson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
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Washington, D.C. 20460

Dear Administrator Jackson:

Enclosed is a supplement to a Petition for withdrawal of the National Pollutant Discharge Elimination System program delegation from the Commonwealth of Kentucky submitted March 15, 2010 on behalf of the Appalachian Center for the Economy and the Environment, Sierra Club, Public Justice and Kentuckians for the Commonwealth.

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**SUPPLEMENT TO THE PETITION FOR WITHDRAWAL OF THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM
DELEGATION FROM THE STATE OF KENTUCKY**

Appalachian Center for the Economy and the Environment, Sierra Club, Public Justice and Kentuckians for the Commonwealth, hereby supplement their petition dated March 15, 2010 to the United States Environmental Protection Agency (EPA) to withdraw the delegation of the National Pollutant Discharge Elimination System (NPDES) program under the Clean Water Act (CWA) from the Commonwealth of Kentucky. The purpose of this supplement is to make EPA aware of recent developments regarding Kentucky's administration of its NPDES program that further support withdrawing approval of that program.

Kentucky Division of Water (DOW) Has Issued Draft NPDES Permits That Do Not Comply with CWA Requirements

Just a few days ago, the Kentucky Division of Water (DOW) issued public notices for draft individual NPDES permits for new mining operations and for renewals or expansions of existing mining operations.¹ All of the draft mining NPDES permits suffer from nearly identical flaws that must be remedied prior to permit issuance. In every instance DOW makes permitting decisions that violate the CWA and lead to delays in or avoidance of environmental protection, and that allow the coal industry to continue polluting Kentucky's rivers and stream unabated.

1. The Draft Permits Are Inconsistent with EPA's April 2010 Guidance Because They Fail to Analyze or Control Conductivity

In April 2010, EPA issued Detailed Guidance on Improving EPA Review of Appalachian Surface Coal Mining Operations. The Guidance was designed to "assure more consistent, effective and timely compliance of Appalachian surface coal mining operations with the provisions of the CWA."² EPA found that "current permitting practices can be more effective in addressing adverse environmental and water quality effects associated with coal mining by more robustly conducting analyses required by the CWA."³ EPA also found that "[n]umerous studies . . . have shown that high levels of conductivity, dissolved solids, and sulfates are a primary cause of water quality impairments downstream from mine discharges."⁴

To address this problem, EPA established a general framework for addressing conductivity in permitting decisions. Under the CWA, NPDES permits must contain water quality-based effluent limits when necessary to meet water quality standards. 33 U.S.C. § 301(b)(1)(C); 40 C.F.R. § 22.44(d)(1). In order to determine whether water quality-based effluent limits are necessary, the permitting authority is required to conduct a "reasonable potential analysis." A reasonable potential analysis determines whether a discharge will cause, or has the reasonable potential to cause or contribute to, an excursion above a numeric or narrative water quality

¹ See <http://www.water.ky.gov/publicassistance/notices/March+2010.htm> specifically for permits open for comment from 4/16/10 to 5/17/10.

² See http://www.epa.gov/wetlands/guidance/pdf/appalachian_mntop_mining_detailed.pdf p. 5.

³ Id.

⁴ Id.

standard.

In its Guidance, EPA set a guideline that in-stream conductivity levels “below 300 $\mu\text{S}/\text{cm}$ generally will not cause a water quality standard violation,” but such levels “above 500 $\mu\text{S}/\text{cm}$ are likely to be associated with adverse impacts that may rise to the level of exceedances of narrative state water quality standards.” In such situations, “[i]f water quality modeling suggests that in-stream levels will exceed 500 $\mu\text{S}/\text{cm}$, EPA believes that reasonable potential [to violate the narrative standard] likely exists to cause or contribute to an excursion above applicable water quality standards.” This likelihood of reasonable potential can only be rebutted if, “based on site specific data, the state has an alternative interpretation of their water quality standards that is supported by relevant science.”⁵

EPA’s conductivity framework was based in part on a field study that determined that an aquatic life benchmark of 300 $\mu\text{S}/\text{cm}$ was necessary to prevent the extirpation of 95% of invertebrate genera in the region including eastern Kentucky.⁶ An earlier study by Pond *et al* supported a similar limit of 300-500 $\mu\text{S}/\text{cm}$ and found that “[a]ll mined sites with specific conductance >500 $\mu\text{S}/\text{cm}$ were rated as impaired”⁷

DOW’s recent draft permitting decisions are directly inconsistent with EPA’s guidance, in three critical respects. First, DOW has rejected EPA’s presumption, as well as the supporting scientific studies which show, that conductivity greater than 500 $\mu\text{S}/\text{cm}$ will lead to biological stream impairment. Instead, DOW states in the draft permits that it “does not believe that a statewide or regional numerical interpretation of the narrative standard is appropriate,” and that “a site-specific” determination of reasonable potential is necessary for each permit.⁸

Second, DOW has ignored the science showing that sufficient data is currently available to measure and define a benchmark for conductivity-caused stream impairment. Instead, DOW states that it “currently does not possess sufficient site-specific ambient data or discharge data for this proposed activity to determine” if a “reasonable potential” of impairment exists.⁹

Third, even if sufficient site-specific data were not available, EPA’s position is that such data must be gathered **before** a permit can be issued. EPA states in its Guidance that “[p]ermitting authorities should independently seek to obtain such data if not submitted by the applicant or can reject the application as not sufficient.”¹⁰ Instead, of requiring more pre-permit data via these two methods, or alternatively rejecting the application, DOW adopts the much weaker alternative of asking the permittee to gather more data **after** the permit is issued. Thus, the recently issued draft permits impose no conductivity limits, but merely require five quarters of conductivity and toxicity monitoring.¹¹ This means that, at a minimum, needed limits on conductivity will be delayed for years, or that no limits will even be considered for five years until the next time the

⁵ See http://www.epa.gov/wetlands/guidance/pdf/appalachian_mtn_top_mining_detailed.pdf p. 12.

⁶ See *A Field-based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams*, available at <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=220171> p. 20.

⁷ See http://www.epa.gov/Region3/mtn_top/pdf/downstreameffects.pdf p. 725.

⁸ See <http://www.water.ky.gov/publicassistance/notices/March+2010.htm> Sidney Coal Draft Permit Fact Sheet p. 14.

⁹ *Id.*

¹⁰ See http://www.epa.gov/wetlands/guidance/pdf/appalachian_mtn_top_mining_detailed.pdf p. 9

¹¹ *Id.* pp. 14, 22

permit is up for renewal. Moreover, this delay is directly inconsistent with the core principle that “reasonable potential” must be evaluated **before** a permit is issued, not after. 40 C.F.R. 122.44(d)(1)(i).

Thus, DOW must either obtain data prior to permit issuance that proves that the site will not cause or contribute to an excursion above a state standard or follow EPA guidance that presumes impairment downstream from mining operations due to conductivity and place WQBELs for conductivity at all outfalls.

2. DOW’s Permitting Decisions Are Based on an Erroneous State Procedure for Determining Reasonable Potential

DOW’s recent permitting determinations are based on a misapplication of the States “Permitting Procedures for Determining Reasonable Potential.” DOW represents in the draft individual permit fact sheets that it:

developed and received approval from EPA Region 4 for a “reasonable potential” analysis procedure. The procedure requires the comparison of the statistical evaluation of a minimum of five (5) effluent samples to the calculated water quality-based effluent limitations. Should this comparison indicate the concentration of the discharge is 90% or greater of the calculated limit then a “reasonable potential” exists and water quality-based effluent limitations are required.¹² (Emphasis added.)

Thus, DOW’s position is that five site-specific samples are required in every case before a reasonable potential finding can be made. In the absence of such samples, DOW does not even attempt to calculate reasonable potential and no water quality-based effluent limitations are imposed. In effect, with no data, DOW assumes that reasonable potential does not exist. That interpretation is erroneous in at least two respects.

First, DOW’s insistence in the draft permits on the existence of five samples is not consistent with Kentucky’s reasonable potential procedure document. That document provides that,

[w]here reasonable potential does not exist, *or* sufficient data does not exist to make a determination, it may be desirable to require “monitor only” as an interim measure to provide for collection and evaluation of necessary data prior to the determination of an appropriate limitation. Sufficient data is five (5) or more data points. (emphasis added) (4 at 3)

The document also expressly provides that,

[i]n determining reasonable potential, the agency will assume any single data point to be representative of the discharge. . . . As such, a single data point shall be evaluated against what limits might be required [“Kentucky DOW-KPDES Branch: Water Quality Computer Programs” document (June, 2000)] as a direct comparison.

¹² See <http://www.water.ky.gov/publicassistance/notices/March+2010.htm> Sidney Coal Draft Permit Fact Sheet p. 6.

For multiple data points, the data shall be reviewed under one of two approaches. First the data may be averaged and then compared to what the limit would need to be for that constituent to determine whether reasonable potential exists. . . . Secondly, the review may choose a single data point in determining reasonable potential. (4 at 6)

In other words, contrary to the assertion in the draft permits, there is no requirement that a reasonable potential analysis be based on five data points. Rather, a permittee is required to obtain five samples through a “monitor only” requirement “[w]here reasonable potential does not exist, or sufficient data does not exist to make a determination.” That is made clear by the statement in the draft permits that, for a suite of certain pollutants,

After a minimum of five (5) samples DOW will determine if the discharge has reasonable potential to cause or contribute to an excursion of either a narrative or numeric water quality standard. If reasonable potential is demonstrated then DOW shall reopen the permit to include limitations and monitoring as justified by the reasonable potential analysis. However should no reasonable potential be demonstrated then DOW shall reopen the permit to terminate the instream biological and chemical monitoring and the representative outfall monitoring.¹³

Indeed, EPA’s guidance document on this issue requires the permitting authority to make a finding of reasonable potential even if there is only one data point. EPA’s Technical Support Document for Water Quality-Based Toxic Control (TSD) states:

EPA recommends finding that a permittee has “reasonable potential” to exceed a receiving water quality standard if it cannot be demonstrated with a *high confidence level* that the upper bound of the lognormal distribution of effluent concentrations is below the receiving water criteria at specified low-flow conditions. (emphasis added)¹⁴

This guideline applies even if there is only one effluent sample, as shown by the tables in the TSD.¹⁵ Thus, if even one effluent sample approaches or exceeds the EPA limit of 500 $\mu\text{S}/\text{cm}$ for conductivity or a Kentucky state water quality criterion, it would trigger a finding of a reasonable potential to cause or contribute to a water quality standard exceedence, and a WQBEL is necessary. In the case of surface mining discharges, a reasonable potential already exists relative to high conductivity and biological impairment of receiving streams. The EPA guidance document and accompanying studies clearly prove the connection between conductivity and failing biological scores. Thus, DOW should have simply required conductivity monitoring either at representative outfalls at existing mines or at outfalls of nearby mines for new facilities during the permitting process.

For example, ICG Knott County reported stream data (SW-1 is assumed to represent stream data at the mine site) in the immediate vicinity of its discharges of 619 $\mu\text{S}/\text{cm}$ and selenium of .009

¹³ See <http://www.water.ky.gov/publicassistance/notices/March+2010.htm> Enterprise Fact sheet p. 17.

¹⁴ See <http://www.epa.gov/npdes/pubs/owm0264.pdf> p 53.

¹⁵ *Id.* p. 54.

mg/l.¹⁶ Clintwood Elkhorn also reported high conductivity levels, 975 $\mu\text{S}/\text{cm}$, at SW-301.¹⁷ Those data should have triggered a reasonable potential analysis and permit limits for these pollutants yet DOW has apparently ignored the data submitted in the applications.¹⁸

The second flaw in DOW's application of its reasonable potential analysis is that, in the case of surface coal mining discharges, sufficient data exists to create a *presumption* that a reasonable potential exists relative to high conductivity and biological impairment of receiving streams. The EPA guidance document and accompanying studies, all of which are specific to Appalachia, clearly establish the connection between conductivity and failing biological scores. It is relatively simple to confirm this presumption at specific sites. At a minimum, if DOW was acting on the new EPA guidance DOW could have simply required conductivity monitoring representative of the discharges prior to permit issuance. Conductivity is a quick and inexpensive test that could have been readily collected. In the alternative, if DOW chooses to not put WQBELs for conductivity in a permit, it is up to DOW to rebut EPA's assumption by collecting conductivity and biological data *prior to permit issuance* that proves a WQBEL for conductivity is unnecessary.

In the absence of such site-specific data, the existing regional data is sufficient to require a reasonable potential finding and conductivity limits on all outfalls.

3. DOW Requires Redundant Flow Data to Calculate Reasonable Potential

DOW apparently believes that it has inadequate data to determine a reasonable potential analysis for key pollutants because it has inadequate flow data.

One of EPA's primary concerns regarding this permit relates to the performance of a "reasonable potential" analysis for a number of pollutants having either numeric or narrative water quality standards. A key element in performing a "reasonable potential" analysis is the flow regime of the discharge. If the discharge is episodic and of short duration, i.e. less than four days, then the "reasonable potential" analysis should address only acute effects of the discharge. However, if the discharge is episodic and of a longer duration, i.e. four days or greater or continuous, then the "reasonable potential" analysis should address both acute and chronic concerns. Therefore the inclusion of this monitoring requirement is necessary to determine the type of "reasonable potential" analysis that should be conducted and is justified by 40 CFR 122.48(b) which requires permits to specify monitoring requirements sufficient to yield data which is representative of the monitored activity. DOW is proposing the duration be determined for each discharge that is sampled in accordance with the standard effluent limitations and monitoring requirements.¹⁹

¹⁶ See <http://www.water.ky.gov/publicassistance/notices/March+2010.htm> . We assume samples labeled with a prefix of SW are surface waters.

¹⁷ Id.

¹⁸ Remarkably, even when DOW has already determined that the main stream of receiving streams is impaired by total dissolved solids, the agency still fails to do a reasonable potential analysis for mining operations for conductivity. Id. See Sidney Coal Draft Permit Fact Sheet, p. 2.

¹⁹ Id. See Sandlick Draft Permit Fact Sheet, p. 19.

DOW thus requires each applicant to determine flow regimes for representative outfalls in a study plan required of each permittee and in routine permit compliance monitoring.²⁰ Remarkably, these requirements simply repeat past permit requirements for all coal facilities of twice a month flow sampling at all outfalls.²¹ Thus, for existing facilities DOW already has this data. Most importantly, however, since mining discharges are greatly influenced by rainfall, short term studies cannot capture fully the variability of the weather, resulting impacts on the discharges, and contributions to stream flow. (Also see section below on impacts of fill on stream flow)

To address the variability of discharges, effluent limits should be determined using methods in EPA's Technical Support Document. West Virginia Department of Environmental Protection routinely develops WQBELs using such methods and DOW should use them as well. (1)

4. DOW's Use of Mixing Zones for Mining Discharges Is Improper.

The draft mining NPDES permits currently out for comment inappropriately consider the use of a mixing zone for the chronic aquatic life criterion for iron and indicate mixing zones will be considered for other parameters in the future. The permits state, "401 KAR 10:029, Section 4(b) requires the criterion to be met at the edge of the assigned regulatory mixing zone. Regulatory mixing zones are assigned by the cabinet in accordance with the requirements of 401 KAR 10:029, Section 4 and cannot exceed 1/3 of the width of the receiving water when the receiving water is a stream or river."²² In each case DOW then calculates potential limits using a mixing zone.²³

Most mining discharges, however, generally dominate the small headwater receiving streams and thus are not appropriate for consideration of a mixing zone. In particular, discharges from instream ponds or spring influenced sediment ditches may be the only source of water in the stream for significant stretches during low flows. In fact, often during dry weather, it is only when the stream intercepts springs or seeps that dilution of the discharge will occur. Mining NPDES discharges are not solely rainfall-dependent. KOW claims that, "the discharges from the active mining area are assumed to be precipitation-dependent and therefore are not regular or continuous."²⁴ Various studies, however, have documented "significantly higher unit discharge from valley fills than from adjacent unmined watersheds. (2 at 17) Further, evidence indicates "that low flows were relatively greater in streams draining valley fills than in streams draining unmined watersheds." *Id.* Researchers theorized that this happened in part because surface water "would infiltrate the fill instead of running into the stream" thus storing and then slowly draining the water from the fill material to the stream. *Id.* Other USGS studies indicate, "[d]aily streamflows from valley-fill sites generally are greater than daily streamflows from unmined sites during periods of low streamflow. Valley-fill sites have a greater percentage of baseflow and a lower percentage of flow from storm runoff than unmined sites." (3 at 1). This means that

²⁰ *Id.* Sandlick Fact Sheet p. 3-4 and p. I-5.

²¹ See as example Kentucky Coal General NPDES Permits from 2004 and 2009.

²² *Id.* Sidney Coal, Fact sheet p. 8.

²³ Note in every case the technology based effluent was more stringent so the mixing zone based limit was not applied.

²⁴ See <http://www.water.ky.gov/publicassistance/notices/March+2010.htm> Sandlick Draft Permit Fact sheet p. 9.

sediment ponds downstream from valley fills are likely to discharge long after rainfall events. In addition, even sediment ditches unassociated with valley fills or hollow fills may discharge as springs and seeps discharge water into those ditches and create a non-rainfall-driven discharge at the outfall.²⁵ Thus, surface mining discharges frequently dominate the flow in the receiving stream, extend beyond 1/3 the width of the receiving stream, and, thus, do not meet the requirements for a mixing zone.

5. DOW Improperly Fails to Require Both Acute and Chronic Whole Effluent Test (WET) Testing Prior to Permit Issuance

EPA's April 2010 Guidance states that even if it "is infeasible to calculate a numeric effluent limit to implement a narrative water quality standard, the state should include in the permit appropriate WET limits and best management practices (BMPs) to control or abate the discharge of pollutants, consistent with 40 C.F.R. Section 122.44(k)(3)."²⁶ In response to EPA comment letters in 2009 and 2010, DOW is requiring acute WET testing at each mine site on a quarterly basis for 5 quarters from the time of permit issuance.²⁷ DOW chose acute instead of chronic testing despite the fact that the study cited by EPA as a reason for WET test requirements addressed chronic as opposed to acute exposure to mine pollutants.²⁸ DOW has also ignored a recent EPA study showing that 19 of 21 chronic WET tests downstream from surface mining sites exceeded Kentucky's 1TU_c criterion.^{29,30} The same study showed that only two of these same 21 sites tested exceeded Kentucky's 0.3 TU_a acute criterion and those sites were in West Virginia.³¹ Thus, the chronic WET test is a better screening tool for identifying toxic discharge sites than is the acute WET test. Despite this evidence, DOW only required an acute test. As a result, it is likely that many sites with chronic toxicity will wrongly be deemed harmless. In addition, DOW only required the acute WET test to be performed after the permits are issued. Chronic WET tests could easily have been required as part of the permit application. Instead, DOW again chose to delay the evaluation of the impacts of discharges on water quality and the effluent limitations that would likely result.

6. DOW's REASONABLE POTENTIAL ANALYSES FOR THE NARRATIVE SUSPENDED SOLIDS STANDARD HAS NO BASIS

In the draft permits, DOW purports to conduct a reasonable potential analysis for the narrative suspended solids standard. That analysis, however, is fatally flawed for at least two reasons.

First, from the outset, DOW's approach is inconsistent with its own requisite procedures. The Fact Sheets state that,

²⁵ Personal communication between WVDEP and Margaret Janes January 19, 2010.

²⁶ See http://www.epa.gov/wetlands/guidance/pdf/appalachian_mntop_mining_detailed.pdf p. 11 n. 18.

²⁷ See <http://www.water.ky.gov/publicassistance/notices/March+2010.htm> Sidney Coal Fact Sheet p. 20.

²⁸ Id.

²⁹ Id.

³⁰ See <http://www.epa.gov/region03/mntop/pdf/sprucetechsupp.pdf> p. 30.

³¹ Id.

[i]n order to perform a “reasonable potential” analysis in accordance with DOW’s EPA-approved methodology, a numerical interpretation of the narrative standard would be required. However, when evaluating waters of the Commonwealth for compliance with this narrative standard, DOW does not develop a numerical interpretation³²

In other words, DOW’s approach is flawed from the outset.

Second, DOW concludes that the technology based TSS limit of 35 mg/l is protective of the narrative water quality standard for sedimentation because it is more stringent than the 40 mg/l figure that it determined was necessary to protect the narrative standard. Even assuming that DOW were correct about the 40 mg/l level, its analysis fails to grapple with the fact that during major rain events—when total suspended solids concentrations are typically at their highest in mining discharges—the technology based TSS limit is suspended. See 40 C.F.R. Part 434. In other words, at the times when the narrative sedimentation water quality standard is most in jeopardy, technology based mining limits provide no protection. Consequently, DOW’s conclusion that a water quality based effluent limitation for sedimentation is not required is contrary to law.

Conclusion

We believe EPA has no choice but to withdraw primacy from Kentucky. The Kentucky water program with regards to coal NPDES permits is completely outside the bounds of the Clean Water Act. EPA must take immediate steps to remedy Kentucky’s recalcitrance or the state will suffer significant harm.

We remain ready to work with Region 4 and hope to meet with EPA at its earliest convenience. Be aware that time is of the essence.

Respectfully submitted,



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³² See <http://www.water.ky.gov/publicassistance/notices/March+2010.htm> Enterprise Fact Sheet p. 9.

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References:

- (1) Catenary Coal Company Draft NPDES permit, WV1022563
- (2) Water Resources Investigation Report 02-4303. Comparison of Storm Responses of Streams in Small Unmined and Valley Filled Watersheds, 1999-2001, Ballard Fork, West Virginia. 2003.
- (3) Water-Resources Investigations Report 01-4092. Geomorphology, Low Streamflow, and Stream Temperature in the Mountaintop Coal-Mining Region, Southern West Virginia, 1999-2000, 2001
- (4) Kentucky Natural Resources and Environmental Protection Cabinet, Permitting Procedures for Determining "Reasonable Potential," May 1, 2000.