

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION**

UNITED STATES OF AMERICA, the)
STATE OF WEST VIRGINIA by and through the)
WEST VIRGINIA DEPARTMENT OF)
ENVIRONMENTAL PROTECTION, and the)
COMMONWEALTH OF KENTUCKY by and through)
the KENTUCKY ENERGY AND ENVIRONMENT)
CABINET)

Plaintiffs,)

v.)

ARCH COAL, INC., COAL MAC, INC., MINGO)
LOGAN COAL COMPANY, LONE MOUNTAIN)
PROCESSING, INC., and CUMBERLAND RIVER COAL)
COMPANY)

Defendants.)

CONSENT DECREE

2:11-cv-00133

TABLE OF CONTENTS

I. **BACKGROUND** 1

II. **JURISDICTION AND VENUE** 2

III. **APPLICABILITY** 3

IV. **DEFINITIONS** 4

V. **CIVIL PENALTY** 9

VI. **COMPLIANCE REQUIREMENTS** 10

VII. **INJUNCTIVE RELIEF** 13

VIII. **SELENIUM INJUNCTIVE RELIEF** 28

IX. **REPORTING REQUIREMENTS** 34

X. **STIPULATED PENALTIES** 38

XI. **FORCE MAJEURE** 42

XII. **DISPUTE RESOLUTION** 44

XIII. **INFORMATION COLLECTION AND RETENTION** 46

XIV. **EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS** 49

XV. **COSTS** 51

XVI. **NOTICES** 51

XVII. **EFFECTIVE DATE** 53

XVIII. **RETENTION OF JURISDICTION** 53

XIX. **MODIFICATION** 53

XX. **TERMINATION** 53

XXI. **PUBLIC PARTICIPATION** 54

XXII. **SIGNATORIES/SERVICE** 55

<u>XXIII. INTEGRATION</u>	55
<u>XXIV. FINAL JUDGMENT</u>	55
<u>XXV. APPENDICES</u>	56

I. BACKGROUND

A. Concurrent with the lodging of this Consent Decree, Plaintiffs, the United States of America, on behalf of the United States Environmental Protection Agency (“EPA”), the State of West Virginia by and through the West Virginia Department of Environmental Protection (“WVDEP”), and the Commonwealth of Kentucky by and through the Kentucky Energy and Environment Cabinet have filed a Complaint in this action against Defendants.

B. The Complaint alleges that Defendants violated Sections 301 and 402 of the Federal Water Pollution Control Act as amended by the Clean Water Act of 1977 and the Water Quality Act of 1987 (“CWA” or the “Act”), 33 U.S.C. §§ 1311 and 1342; the West Virginia Water Pollution Control Act (“WPCA”), W. Va. Code § 22-11-8; and Kentucky Revised Statutes §§ 224.10-110 and 224.70-100, *et seq.* Specifically, the Complaint alleges that Defendants discharged and continue to discharge pollutants into State waters and waters of the United States in violation of Section 301 of the Act, 33 U.S.C. § 1311; Section 8 of the WPCA, W. Va. Code § 22-11-8; and Kentucky Revised Statutes § 224.70-110, *et seq.*; and of the conditions and limitations of National Pollutant Discharge Elimination System (“NPDES”) permits issued to Defendants by West Virginia, Kentucky, and Virginia pursuant to Section 402 of the Act, 33 U.S.C. § 1342; Section 8 of the WPCA, W. Va. Code § 22-11-8; Kentucky Revised Statutes § 224.70-110, *et seq.*; and Virginia’s State Water Control Law, Va. Code Ann. § 62.1-44.2, *et seq.*

C. Defendants do not admit any liability to the United States or the States arising out of the transactions or occurrences alleged in the Complaint nor do Defendants admit any fact or legal conclusion alleged in the Complaint.

D. Defendants have undertaken the development and implementation of a Compliance Management System (“CMS”) at all of their eastern operations. This CMS is an integrated system

created for Defendants by the CMS Consultant to standardize and formalize practices and programs used to maintain, track, and improve environmental performance. When complete and fully implemented, the CMS will encompass Legal Requirements beyond the Applicable Law. In addition, Defendants will implement the CMS at all Facilities and Future Facilities at all of their eastern operations.

E. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation among the Parties, and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

II. JURISDICTION AND VENUE

1. This Court has jurisdiction over the Parties and over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, 1355, and 1367, and Section 309(b) of the Clean Water Act, 33 U.S.C. § 1319(b).

2. Venue is proper in the Southern District of West Virginia pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1395(a), as well as Section 309(b) of the Clean Water Act, 33 U.S.C. § 1319(b), because it is the judicial district in which Defendants are located, reside, and/or are doing business, and/or in which a substantial part of the violations alleged in the Complaint occurred.

3. For purposes of this Decree, or any action to enforce this Decree, Defendants consent to the Court's jurisdiction over this Decree and consent to venue in this judicial district.

4. For purposes of this Decree, Defendants agree that the Complaint states claims upon which relief may be granted pursuant to Sections 301 and 402 of the Act, 33 U.S.C. §§ 1311 and 1342, and West Virginia Code § 22-11-1, *et seq.*, and Kentucky Revised Statute § 224.70-110, *et*

seq.

III. APPLICABILITY

5. The provisions of this Consent Decree apply to and are binding upon the United States, the States, and Defendants, and Defendants' successors and/or assigns.

6. The provisions of this Consent Decree shall apply to Facilities located in West Virginia, Virginia, and Kentucky that exist as of the Effective Date.

7. The provisions of this Consent Decree shall apply to Future Facilities located in West Virginia, Virginia, and Kentucky as follows:

a. All provisions of the Decree shall apply to Future Facilities that are located either (i) within the boundaries of existing SMCRA or NPDES permits, or (ii) adjacent to a Facility covered by this Decree;

b. For all other Future Facilities, the provisions of the Decree shall not apply, except that Defendants shall conduct Initial Treatment Systems Audits pursuant to Paragraph 42 as follows: (i) within 90 Days from the initiation of operations by Defendant(s) for Outlets with Persistent Noncompliance Issues; and (ii) within 120 Days from the initiation of operations by Defendant(s) for all remaining Outlets.

8. The provisions of Paragraphs 30 through 41 (Compliance Management System and CMS Audit), 29 (Future Facilities), and 75(c) (Quarterly Report) shall not apply to elements of Defendants' CMS relating to Legal Requirements other than the Applicable Law.

9. Selenium. This Decree only addresses violations of selenium effluent limits relating to NPDES permit No. WV1003763, Outlet 002. The provisions of this Consent Decree do not otherwise apply to selenium effluent limits applicable to Defendants' Facilities or Future Facilities. Notwithstanding, the United States and the States reserve all rights and claims with respect to

selenium in accordance with Paragraphs 122-123 below.

10. No transfer of ownership or operation of any Facility, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve Defendant(s) of their obligation to ensure that the terms of the Decree are implemented, unless (a) the transferee agrees to undertake any unperformed obligations required under this Decree and to be substituted for the applicable Defendant(s) as a Party under the Decree and thus be bound by the terms thereof, (b) the United States, after any necessary consultation with the States, consents to relieve the applicable Defendant(s) of its obligations, and (c) the transferee becomes a Party to this Consent Decree with respect to the transferred Facility, pursuant to Section XIX (Modification). The United States' decision to refuse to approve the substitution of the transferee for the Defendant(s) shall not be subject to judicial review. At least 30 Days prior to such transfer, the applicable Defendant(s) shall provide a copy of this Consent Decree to the proposed transferee and simultaneously provide written notice of the prospective transfer, together with a copy of the provisions of the proposed written agreement pertaining to the successor entity's assumption of responsibilities under this Consent Decree, to EPA Regions 3 and 4, the States, and the United States Department of Justice ("DOJ"), in accordance with Section XVI of this Decree (Notices). Any attempt to transfer ownership or operation of the Facility without complying with this Paragraph constitutes a violation of this Decree.

11. In any action to enforce this Consent Decree, Defendants shall not raise as a defense the failure by any of their officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

IV. DEFINITIONS

12. Terms used in this Consent Decree that are defined in the Act or in regulations

promulgated pursuant to the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. “Applicable Law” shall mean (i) the Clean Water Act (“CWA”), West Virginia Water Pollution Control Act, Kentucky Revised Statutes § 224.70-110, *et seq.*, and Virginia’s State Water Control Law, and (ii) the relevant Surface Mining Control and Reclamation Act (“SMCRA”) programs in each applicable state that relate to the operation, monitoring and maintenance of discharges, drainage and sediment control systems or that may impact water quality; and all associated regulations and performance standards;

b. “Audit Findings” shall mean a written summary of all instances of noncompliance with the CMS Manual noted during the CMS Audit conducted pursuant to Paragraph 38 of this Decree, and all areas of concern identified during the course of that audit which, in the CMS Auditor’s judgment, merit further review or evaluation for potential CMS, environmental, or regulatory impacts;

c. “Audit Response and Action Plan” shall mean a comprehensive plan for bringing the Facilities into full compliance with the CMS Manual and fully addressing all Audit Findings identified in the CMS Audit Report;

d. “Complaint” shall mean the complaint filed by the United States and the States in this action concurrent with the lodging of this Decree;

e. “Compliance Management System” or “CMS” refers to the integrated system created for Defendants by the CMS Consultant to standardize and formalize practices and programs used to maintain, track, and improve environmental performance;

f. "CMS Audit" shall mean the audit conducted by the CMS Auditor pursuant to Paragraph 38 of this Consent Decree following the Audit Protocol attached as Appendix A to this Decree;

g. "CMS Auditor" shall mean the independent third party meeting the requirements of Paragraph 36, who is approved by EPA, in consultation with the States, and contracted by the Defendants to perform the duties set forth in Paragraph 38;

h. "CMS Consultant" shall mean the independent third party approved by EPA, in consultation with the States, and contracted by the Defendants to perform the duties set forth in Paragraph 31;

i. "CMS Manual" shall mean the document attached as Appendix B, and all subsequent amendments thereto, which describes and documents the integrated CMS developed for the Defendants, and which has been approved by EPA, after consultation with the States;

j. "Consent Decree" or "Decree" shall mean this Decree and all appendices attached hereto (listed in Section XXV);

k. "Daily Violation" shall mean (i) any exceedance of a maximum daily discharge limitation, as determined under applicable state or federal law, for any parameters set forth in Defendants' NPDES permits, and identified by a DMR Sample, or (ii) any failure to attain a minimum daily discharge limitation for pH set forth in Defendants' NPDES permits, as determined under applicable state or federal law, and as identified by a DMR Sample;

l. "Day" shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day, except as otherwise provided in Paragraph 85;

m. "Defendants" shall mean Arch Coal Inc., Coal Mac, Inc., Mingo Logan Coal Company, Lone Mountain Processing, Inc., and Cumberland River Coal Company;

n. "Diagnostic Sampling" shall mean sampling to determine necessary treatment measures and/or to evaluate the effectiveness of response actions taken. Such sampling of discharges need not occur at the location designated for required sampling pursuant to the respective permit or be taken in accordance with approved test procedures under 40 C.F.R. Part 136.

o. "Discharge Monitoring Report Sample" or "DMR Sample" shall mean a sample taken in accordance with approved test procedures under 40 C.F.R. Part 136;

p. "Effective Date" shall have the definition provided in Section XVII;

q. "Effluent Limit Violation" shall mean a Daily Violation or a Monthly Violation. Violations of daily maximum and/or monthly average effluent limits for selenium are excluded from this definition;

r. "Environmental Operating Procedures" or "EOPs" shall mean the Facility-specific CMS documents relating to the Applicable Law which describe and document the procedures for implementation of the integrated CMS developed for Defendants' Facilities;

s. "EPA" shall mean the United States Environmental Protection Agency and any of its successor departments or agencies;

t. "Facility" or "Facilities" shall mean Defendants' mining operations, including but not limited to, surface and underground mines, coal processing and preparation plants, coal transportation facilities, Reclaimed Sites, and all associated operations;

u. "Future Facilities" shall mean Facilities that are not acquired, permitted, or otherwise controlled by Defendants until after the Effective Date;

v. “Legal Requirements” shall mean the federal statutes identified under Section 2.2.2.1 of the CMS Manual;

w. “Monthly Violation” shall mean any exceedance, as determined by a DMR Sample, of an average monthly discharge limitation for any parameters set forth in Defendants’ NPDES permits;

x. “NOVs” shall mean, for violations or any noncompliance that may impact water quality, notices of violation under the West Virginia Surface Coal Mining and Reclamation Act, W.Va. Code § 22-3-17 (2004), notices of noncompliance under the Kentucky Surface Mining Act, Ky. Rev. Stat. Ann. § 350.130 (Michie 2004), and/or notices of violation under the Virginia Coal Surface Mining Control and Reclamation Act, Va. Code Ann. § 45.1-245;

y. “NPDES” shall mean the National Pollutant Discharge Elimination System defined in 40 C.F.R. § 122.2 and any State-issued NPDES permit;

z. “Outlet” shall mean an NPDES permitted discharge point;

aa. “Paragraph” shall mean a portion of this Decree identified by an Arabic numeral;

bb. “Parties” shall mean the United States, the State of West Virginia, the Commonwealth of Kentucky, and Defendants;

cc. “Persistent Noncompliance Issues” or “Persistent Noncompliance” shall mean four or more Effluent Limit Violations of a given parameter at an Outlet within any 12-month period;

dd. “Reclaimed Sites” shall mean Facilities that have been regraded to “Phase I” bond release standards under the Surface Mining Control and Reclamation Act, 30 U.S.C. § 1201, *et seq.*;

- ee. “Section” shall mean a portion of this Decree identified by a Roman numeral;
- ff. “States” shall mean the State of West Virginia and the Commonwealth of Kentucky; and
- gg. “United States” shall mean the United States of America, acting on behalf of EPA.

V. CIVIL PENALTY

13. Within 30 Days after the Effective Date of this Consent Decree, Defendants shall pay a total of \$4,000,000 as a civil penalty to the United States and the States.

14. Fifty percent of the civil penalty under this Section (\$2,000,000) shall be paid to the United States. Forty-six percent of the civil penalty under this Section (\$1,840,000) shall be paid to the State of West Virginia and four percent of the civil penalty under this Section (\$160,000) shall be paid to the Commonwealth of Kentucky.

15. Defendants shall make payments to the United States under this Section by FedWire Electronic Funds Transfer (“EFT”) to the U.S. Department of Justice in accordance with written instructions to be provided to Defendants, following entry of this Consent Decree, by the Financial Litigation Unit of the U.S. Attorney’s Office for the Southern District of West Virginia, U.S. Courthouse, 300 Virginia St. S.E., Charleston, WV 25301, 304-345-2200. At the time of payment, Defendants shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, which shall state that the payment is for the civil penalty owed pursuant to this Consent Decree in *United States, et al. v. Arch Coal, Inc., et al.*, and shall reference the DOJ case number, 90-5-1-1-09476/1, to the United States in accordance with Section XVI of this Decree (Notices); by email to acctsreceivable.CINWD@epa.gov; and by mail to:

EPA Cincinnati Finance Office

26 Martin Luther King Drive
Cincinnati, Ohio 45268

16. Defendants shall make payments to the State of West Virginia under this Section by certified or cashier's check to the WVDEP for deposit in the WVDEP's Water Quality Management Fund. Payments shall be mailed to:

Michael Zeto, Chief Inspector
Environmental Enforcement
West Virginia Department of Environmental Protection
601 57th Street, SE, Charleston, WV 25304

17. Defendants shall make payments to the Commonwealth of Kentucky under this Section by certified or cashier's check made payable to the Kentucky State Treasurer. Payments shall reference the civil action number, and be mailed to:

Michael Haines, General Counsel
Energy and Environment Cabinet
2 Hudson Hollow
Frankfurt, KY 40601

18. Defendants shall not deduct any penalties paid under this Decree pursuant to this Section or Section X (Stipulated Penalties) in calculating their federal, state, or local income tax.

VI. COMPLIANCE REQUIREMENTS

19. This Consent Decree in no way affects or relieves Defendants of their responsibility to comply with applicable federal, state, and local laws, regulations, and permits.

20. Defendants shall perform the work required by this Consent Decree in compliance with the requirements of all applicable federal, state, and local laws, regulations, and permits. This Consent Decree shall not be considered as a permit issued pursuant to any federal, state, or local statute or regulation.

21. Approval of Deliverables. After review of any plan, report, or other item that is

required to be submitted and approved pursuant to this Consent Decree, EPA, after consultation with the relevant State, shall in writing: (a) approve the submission; (b) approve the submission with specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission.

22. If the submission is approved pursuant to Paragraph 21(a), Defendants shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 21(b) or 21(c), Defendants shall, upon written direction from EPA, after consultation with the relevant State, take those actions required by the approved plan, report, or other item that EPA, after consultation with the relevant State, determines are technically severable from any disapproved portions, subject to Defendants' right to dispute the specified conditions or EPA's disapproval of the disapproved portions, under Section XII of this Decree (Dispute Resolution).

23. If the submission is disapproved in whole or in part pursuant to Paragraph 21(c) or (d), Defendants shall, within 45 Days of receipt of disapproval or within such other timeframe or upon such other schedule as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Defendants shall proceed in accordance with the preceding Paragraph.

24. Any stipulated penalties applicable to the original submission, as provided in Section X of this Decree (Stipulated Penalties), shall accrue during the 45-Day period or other specified period, but shall not be payable unless the resubmission is untimely or is materially disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material

breach of Defendants' obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

25. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA, after consultation with the States, may again require Defendants to correct any deficiencies, in accordance with the preceding Paragraphs, subject to Defendants' right to invoke Dispute Resolution under Section XII and the right of EPA to seek stipulated penalties as provided in the preceding Paragraph.

26. Permits. Where any compliance obligation under this Section requires Defendants to obtain a federal, state, or local permit or approval, Defendants shall submit timely and substantially complete applications and take all other actions necessary to obtain all such permits or approvals. Defendants may seek relief under the provisions of Section XI of this Consent Decree (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if Defendants have submitted timely and substantially complete applications and have taken all other actions necessary to obtain all such permits or approvals.

27. Within 30 Days of the Effective Date Defendants shall revise the EOPs, or create new work practices ("WPs") or the equivalent, to include specific procedures for implementing the requirements of this Consent Decree, including but not limited to (a) protocols for Outlet Inspections, Internal Environmental Audits, and Third-Party Environmental Audits pursuant to Paragraphs 43-45, (b) protocols for implementation and maintenance of the Audits Database and Violations Database pursuant to Paragraph 46 and Paragraphs 50-52, (c) protocols for all contractors with responsibilities under this Decree to comply with the terms of this Decree, and (d) specifications for the annual training required by Paragraphs 56 and 57.

28. Defendants shall make copies of the Decree and the revised EOPs available to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree. Defendants shall also provide copies of relevant protocols to contractors with responsibilities under this Decree. Defendants shall condition any contract for the performance of work required under this Consent Decree with the performance of the work in conformity with the terms of the Decree.

29. Future Facilities. For Future Facilities subject to this Decree pursuant to Paragraph 7, a Defendant(s)' obligation to comply with the requirements for Outlet Inspections, Audit and Violations Databases, electronic notification of violations, and Effluent Limit Violation Response pursuant to Paragraphs 43 and 46-55 of this Consent Decree shall begin 60 Days from the initiation of operations by Defendant(s). Defendant(s) shall conduct an Initial Treatment System Audit pursuant to Paragraph 42 at Future Facilities by 60 Days from the initiation of operations by Defendant(s) for Outlets with Persistent Noncompliance Issues, and by 90 Days from the initiation of operations by Defendant(s) for all other Outlets. Defendant(s)' obligation to comply with Reporting Requirements, Internal Audits, Third Party Audits, and training requirements pursuant to Section IX and Paragraphs 44-45 and 56-57 with respect to Future Facilities shall begin the second quarter after the initiation of operations by Defendant(s). Defendant(s) shall implement the Compliance Management System at Future Facilities within 9 months of the initiation of operations by Defendant(s).

VII. INJUNCTIVE RELIEF

Compliance Management System

30. Defendants have developed and EPA, after consultation with the States, has approved a CMS Manual for implementing the CMS. Defendants shall implement the CMS through EOPs as

described in the CMS Manual.

31. Defendants have retained and EPA, after consultation with the States, has approved a CMS Consultant to assist with the ongoing implementation of the CMS in accordance with the CMS Manual. Defendants shall bear all costs associated with the CMS Consultant, cooperate fully with the CMS Consultant, and provide the CMS Consultant with access to all records, employees, contractors, and Facilities that the CMS Consultant deems reasonably necessary to effectively perform the CMS Consultant's duties.

32. Selection of replacement CMS Consultant. If at any time Defendants seek to replace the CMS Consultant, Defendants shall submit to EPA and the States a list of two or more proposed consultants to serve as the replacement CMS Consultant, along with (i) the name, affiliation, and address of the proposed consultants; (ii) information demonstrating how each proposed consultant has experience in developing and implementing a CMS; (iii) information demonstrating that the CMS Consultant has a working process knowledge of the Facilities or similar operations, and has a working knowledge of federal and state environmental requirements under the Applicable Law that apply to the Facilities; and (iv) descriptions of any previous work contracts, or financial relationships with Defendants.

a. Within 30 Days of receiving the list of proposed replacement CMS Consultants, EPA, in consultation with the States, shall notify Defendants of whether it approves any consultant(s) on the list. If EPA, after consultation with the States, does not approve any of the proposed replacement CMS Consultants on Defendants' list, then Defendants shall submit another list of proposed replacement CMS Consultants to EPA and the States within 30 Days of receipt of EPA's written notice. If after Defendants have submitted a third list of proposed replacement CMS Consultants, which must be submitted within 30 Days of receipt of written notice that EPA has not

approved any of the consultants on Defendants' second list, the Parties are unable to agree on a replacement CMS Consultant, the Parties agree to resolve the selection of the replacement CMS Consultant through the Dispute Resolution process in Section XII.

b. Within 10 Days after receipt of EPA's approval, Defendants shall select one consultant from those approved by EPA and shall enter into a contract with the replacement CMS Consultant to continue performance of the duties described in Paragraph 31. In the event the replacement CMS Consultant(s) approved by EPA are no longer available or willing to accept the work described in Paragraph 31 when notified of their selection by Defendants, then Defendants shall, within 30 Days of receiving notice that the selected CMS Consultant is no longer available or willing to accept the work, select another consultant approved by EPA and enter into the contract to continue performance of the duties described in Paragraph 31.

33. Certificate of Conformance. Managers responsible for environmental compliance at each Facility (e.g. Engineering Manager or individual functioning in an equivalent capacity) shall include a certification of material conformance with the CMS Manual in quarterly reports to the Corporate Director of Environmental Affairs of Arch Coal, Inc. pursuant to Paragraph 75, or, for any material nonconformance, shall submit in the quarterly reports an explanation of the cause of the nonconformance, remedial steps to be taken, and a date for achieving conformance.

34. Revisions of the CMS Manual. Any revisions to the CMS Manual must be submitted to EPA for review. Material revisions must be approved by EPA. EPA shall notify Defendants within 30 Days of its receipt of the proposed revisions whether approval of those revisions will be required.

CMS Audit

35. In accordance with the procedure set forth in Paragraph 36, Defendants shall hire

a CMS Auditor to conduct a CMS Audit pursuant to Paragraph 38. Defendants shall bear all costs associated with the CMS Auditor, cooperate fully with the CMS Auditor, and provide the CMS Auditor with access to all records, employees, contractors, and Facilities that the CMS Auditor deems reasonably necessary to effectively perform the duties described in Paragraph 38. Defendants may choose to have the CMS Consultant present during the third party CMS Audit and shall also bear all costs associated with the CMS Consultant.

36. Selection of CMS Auditor. No later than ten months after the Effective Date, Defendants shall propose to EPA and the States for approval the selection of two or more proposed CMS Auditors along with (a) the name, affiliation, and address of the proposed consultants; (b) information demonstrating that each proposed CMS Auditor has experience in auditing environmental management systems and/or compliance management systems; and (c) information demonstrating that each proposed Auditor has expertise and competence in the Applicable Law. The proposed CMS Auditors must have no direct financial stake in the outcome of the CMS Audit conducted pursuant to this Consent Decree. Defendants shall disclose to EPA any past or existing contractual or financial relationships when the proposed CMS Auditors are identified. The procedures described in Paragraph 32 shall be used for EPA approval of the CMS Auditor.

37. Within 10 Days of the date that EPA notifies Defendants of the approval of the proposed CMS Auditor, Defendants shall retain the proposed CMS Auditor, thereafter designated the "CMS Auditor," to perform a CMS Audit as further described in Paragraph 38 below.

38. Duties of the CMS Auditor. Defendants' contract with the CMS Auditor shall require the CMS Auditor to perform the following duties:

a. Within 90 Days of the date of its contract with Defendants, the CMS Auditor shall perform a CMS Audit. The CMS Audit shall evaluate the adequacy of CMS implementation

relative to the CMS Manual, and identify areas of concern, from top management down, throughout each major organizational unit with responsibilities under the CMS Manual. The CMS Audit shall be conducted in accordance with Appendix A, and shall determine the following:

(i) To what extent the system, subsystem, program, or task has been implemented, and is being maintained;

(ii) The adequacy of each Facility's internal self-assessment procedures for programs and tasks composing the CMS;

(iii) Whether Defendants are effectively communicating Applicable Law requirements to affected parts of the organization, or those working on behalf of the organization; and

(iv) Whether there are deviations from Defendants' written requirements or procedures.

b. Within 30 Days following the completion of the CMS Audit, the CMS Auditor shall develop and submit a CMS Audit Report to Defendants. Within 45 Days following completion of the CMS Audit, the CMS Auditor shall submit the CMS Audit Report to EPA and the States. The CMS Audit Report shall contain: (i) a summary of the audit process, including any obstacles encountered; (ii) detailed Audit Findings, including the basis for each finding and each area of concern identified; (iii) identification of any Audit Findings corrected or areas of concern addressed during the audit; and (iv) certification that the CMS Audit was conducted in accordance with the provisions of this Decree.

39. Follow-Up Corrective Measures. Within 60 Days of receiving the CMS Audit Report, Defendants shall submit to EPA and the States for review and approval a report responding to the Audit Findings and areas of concern identified in the CMS Audit Report, and providing an

action plan for expeditiously coming into full conformance with the CMS Manual (the "Audit Response and Action Plan").

a. The Audit Response and Action Plan shall be developed in consultation with the CMS Consultant, and shall include the CMS Consultant's recommendations as to (i) whether further improvements should be made to the CMS, CMS Manual, and/or EOPs; and (ii) how to resolve any area of concern or otherwise achieve full implementation of the CMS Manual.

b. The Audit Response and Action Plan shall include the result of any investigations, specific deliverables, responsibility assignments, and an implementation schedule for the identified actions and measures, including those that may have already been completed.

40. EPA, after consultation with the States, will provide comments on the Audit Response and Action Plan and Defendants shall, within 30 Days of receipt of EPA's comments on the Audit Response and Action Plan, submit to EPA a Final Audit Response and Action Plan responding to and addressing EPA's comments.

41. After making any necessary modifications to the Audit Response and Action Plan based on EPA comments, if any, Defendants shall implement the final Audit Response and Action Plan in accordance with the schedules set forth therein.

Audits and Inspections

42. Initial Treatment Systems Audits. Defendants shall conduct an audit of the treatment systems for each Outlet to determine whether the treatment systems in place are adequate to maintain compliance with the Applicable Law at the Facilities.

a. The Initial Treatment Systems Audits shall be conducted according to the following schedule:

(i) Within 45 Days of entry of this Consent Decree, Defendants shall

audit all Outlets with Persistent Noncompliance Issues;

(ii) Within 90 Days of entry of this Consent Decree, Defendants shall audit all remaining Outlets.

b. Initial Treatment System Audits under Paragraph 42(a)(i) shall be conducted by a third-party consultant with at least five years of experience with the requirements of NPDES and SMCRA permits and with treatment systems for and control of relevant effluent parameters in Defendants' NPDES permits. Initial Treatment System Audits under Paragraph 42(a)(ii) shall be conducted by an individual with experience with the requirements of NPDES and SMCRA permits and with treatment systems for and control of relevant effluent parameters in Defendants' NPDES permits, who does not have daily responsibilities at the Facility where the Initial Treatment System Audit is to be conducted.

c. Based on the results of the audits, Defendants shall identify for each Outlet any alterations to and/or maintenance measures for its associated treatment systems that must be taken to achieve and maintain compliance with the Applicable Law and a schedule for such alterations and/or maintenance measures.

d. All alterations and/or maintenance measures identified by the Initial Treatment System Audits must be completed within 120 Days of the Effective Date.

43. Outlet Inspections. Starting with the first full month after the entry of this Consent Decree, Defendants shall conduct Outlet Inspections at least twice a month, at the time of DMR Sampling. Outlet Inspections shall be conducted pursuant to an Outlet Inspection Checklist created by Defendants, which shall include entries for whether: (a) the Outlet is accessible; (b) the Outlet is unobstructed; (c) discharge markers are visible at Outlets in West Virginia; (d) there is any water flow at the Outlet; (e) there are any visual indications of overtopping of the pond or sediment ditch

cell associated with each Outlet; (f) there is erosion or other damage evident jeopardizing the integrity of the embankment of the structure at each Outlet; (g) baffles and retention curtains, if any, are in place; (h) chemical treatment systems, if any, are operational; and (i) chemical treatment valves are appropriately secured. The Outlet Inspection Checklist shall be completed at the time of each Outlet Inspection, shall indicate the date and time of completion, and shall be signed by the individual completing the Outlet Inspection. These inspections may be conducted by qualified personnel, technicians that collect samples for the independent commercial laboratories, or consultants.

44. Internal Environmental Audits. Defendants shall conduct Internal Environmental Audits at each Facility, which shall be conducted under the direction or supervision of an environmental professional with at least five years experience with the requirements of the Applicable Law.

a. The Internal Environmental Audits shall include, but need not be limited to: (i) a treatment system audit pursuant to the requirements of Paragraph 42, (ii) inspections to assess the structural integrity of all slurry pipes, and (iii) an evaluation of compliance with the applicable regulations for drainage and sediment control.

b. Internal Environmental Audits shall be conducted at each Reclaimed Site on an annual basis, and shall include all elements of Paragraph 44(a), as applicable.

c. For all other Facilities, Internal Environmental Audits shall be conducted according to the following schedule:

(i) Treatment system audits under Paragraph 44(a)(i) shall be conducted at Facilities with Outlets that have Persistent Noncompliance Issues on a quarterly basis and shall be conducted at the remaining Outlets on a semi-annual basis.

(ii) Visual inspections of all slurry pipes shall be conducted on a semi-annual basis, and inspections to assess the structural integrity of all slurry pipes shall be conducted on an annual basis.

(iii) Compliance audits under Paragraph 44(a)(iii) shall be conducted on a semi-annual basis.

45. Third-Party Environmental Audits. Defendants shall conduct Third-Party Environmental Audits annually at each Facility. Audits under this Paragraph shall evaluate compliance with this Consent Decree and with the Applicable Law.

46. Audit Database. Within 120 Days of entry of the Consent Decree, Defendants shall create an electronic Audit Database for each Facility. The results of each of the audits and inspections conducted pursuant to Paragraphs 42-45 shall be entered into an electronic Audit Database within three business days of completion. The Audit Database shall include: (a) the date of the audit/inspection; (b) the names of the individuals conducting the audit/inspection; (c) a description of any noncompliances or other areas of concern; (d) the applicable permit number and Outlet; and (e) the planned response to any noncompliances or areas of concern, the individuals responsible for the response, the deadline for the response, and the date of completion of the response. Responses to a noncompliance or other problem identified by an audit or inspection conducted pursuant to Paragraphs 42-45 shall be completed as expeditiously as possible, and shall not take longer than 45 Days to complete, unless an extension of time is granted by EPA in writing. Responses that are not completed by the deadline initially assigned in the Audit Database shall be reported to the Corporate Director of Environmental Affairs of Arch Coal, Inc. as part of the quarterly report identified in Paragraph 75. Defendants may combine this database with the Violations Database required by Paragraph 50.

47. Defendants shall provide any requested information from the Audit Database to EPA and the States within 14 Days of the request.

48. Prior to completion of the Audit Database, Defendants shall implement interim data-tracking measures meeting the requirements of Paragraph 46, which are the functional equivalent of the Audit Database.

DMR Sample Notification and Violation Tracking

49. Electronic Notification: Within 10 Days of entry of this Consent Decree, Defendants shall implement a system which provides for electronic notification, within 24 hours of receipt from the laboratory, of the results of any DMR Sample that shows an exceedance to the General Manager, Engineering Manager, and Environmental Engineer for the related Facility, or to each of the individuals functioning in an equivalent capacity. Such notification shall include all pollutants that are regulated under effluent limits contained in Defendants' NPDES permits, and shall indicate where laboratory results show any exceedance of an effluent limit, identifying the Outlet and date when the exceedance occurred.

50. Violations Database. Within 60 Days of entry of this Consent Decree, Defendants shall create an electronic Violations Database for each Facility that includes the following information for each Effluent Limit Violation at each Outlet beginning on January 1, 2008:

- a. Identification of Outlet by NPDES and SMCRA permit numbers, permittee, and latitude and longitude;
- b. Dates of DMR Samples and DMR Sample results;
- c. NPDES effluent limit that was exceeded;
- d. Percentage by which the limit was exceeded;
- e. Number of Effluent Limit Violations in a row for the same parameter;

f. Number of Effluent Limit Violations for that particular parameter over the preceding 12 months; and

g. Total number of Effluent Limit Violations at that particular Outlet over the preceding 12 months.

51. The Violations Database shall be updated with all Effluent Limit Violations within two business days of receipt of electronic notice pursuant to Paragraph 49. In addition to the information required by Subparagraphs 50(a)- 50(g), updates to the Violations Database under this Paragraph shall include the following information:

a. A description of the cause of the Effluent Limit Violation and the planned response to the Effluent Limit Violation, taking into account any applicable information in the Audit Database and any required actions under Paragraph 55 (Effluent Limit Violation Response);

b. Applicable stipulated penalties; and

c. Date that Effluent Limit Violation ended (if applicable).

52. The Violations Database shall also include entries for CWA violations other than Effluent Limit Violations that occur subsequent to the creation of the Database pursuant to Paragraph 50, including NOV's or unauthorized discharges, along with the following information:

a. Permit number;

b. Description of violation;

c. Date of violation;

d. Cause of violation and planned response, taking into account any applicable information in the Audit Database; and

e. Date that noncompliance ended (if applicable).

53. Defendants shall provide access to the Violations Database to EPA and the States

upon request. In addition, Defendants shall produce any requested information from the Violations Database to EPA and the States within 14 Days of the request.

54. Prior to completion of the Violations Database, Defendants shall implement interim data-tracking measures meeting the requirements of Paragraphs 50-52, which are the functional equivalent of the Violations Database.

Effluent Limit Violation Response

55. Within 60 Days of entry of this Consent Decree, Defendants shall implement a response plan for Effluent Limit Violations, which shall provide for investigation of Effluent Limit Violations and implementation of actions necessary to achieve compliance with the applicable NPDES permit limits. This response plan shall, at a minimum, provide for the following response actions at all Outlets in addition to the requirements of Paragraph 51:

a. **Daily Violation Response**

(i) **Category 1 Daily Violation.** Upon notification of the first Daily Violation at any Outlet, Defendants shall begin daily monitoring and Diagnostic Sampling of discharges and implement treatment measures until the Outlet returns to compliance (i.e., until one compliant DMR Sample result is achieved). Any sample taken within 48 hours of notification of the first Daily Violation that results in a Daily Violation for the same pollutant parameter at the same Outlet is a Category 1 Daily Violation.

(ii) **Category 2 Daily Violation.** Any sample taken after 48 hours of notification of the first Daily Violation that results in a Daily Violation for the same pollutant parameter at the same Outlet and is not subject to Paragraph 55(a)(iii) or 55(a)(iv) is a Category 2 Daily Violation. Upon notification of the first Category 2 Daily Violation, Defendants shall either (1) continue daily monitoring, Diagnostic Sampling, and treatment until the Outlet returns to

compliance (i.e., until one compliant DMR Sample result is achieved), or (2) hire a third-party consultant and comply with the terms of Paragraph 55(a)(iv).

(iii) Category 3 Daily Violation. Any sample taken after 48 hours of notification of the first Category 2 Daily Violation that results in a Daily Violation for the same pollutant parameter at the same Outlet and is not subject to Paragraph 55(a)(iv) is a Category 3 Daily Violation. Upon notification of the first Category 3 Daily Violation for the same pollutant parameter at the same Outlet, Defendants shall (1) continue daily monitoring, Diagnostic Sampling, and treatment, (2) consult with an individual with substantial expertise in Clean Water Act compliance and in treatment systems for and control of relevant effluent parameters in Defendants' NPDES permits, and (3) implement measures recommended by that individual until the Outlet returns to compliance (i.e., until one compliant DMR Sample result is achieved). Alternatively, Defendants may hire a third-party consultant and comply with the terms of Paragraph 55(a)(iv) of this Decree.

(iv) Category 4 Daily Violation. Any sample taken after 48 hours of notification of the first Category 3 Daily Violation that results in a Daily Violation for the same pollutant parameter at the same Outlet is a Category 4 Daily Violation, until the Outlet returns to compliance (i.e., until one compliant DMR Sample result is achieved). Upon notification of the first Category 4 Daily Violation, Defendants shall hire a third-party consultant to examine the problem. Defendants shall continue daily monitoring, Diagnostic Sampling, and treatment of discharges until the Outlet returns to compliance (i.e., until one compliant DMR Sample result is achieved), unless the consultant determines that daily monitoring, Diagnostic Sampling, and treatment will not assist in examining and/or resolving the noncompliance. The consultant shall prepare a report detailing: (1) the cause of the continuing violations; (2) the appropriate level of monitoring and sampling; and (3) a plan to address the continuing violations. Within 30 Days of receipt of the report, Defendants

shall either (i) implement the proposed plan according to the consultant's recommendations or (ii) prepare and implement an alternative plan to address the continuing violations, taking into consideration the consultant's findings as to the cause of the continuing violations and the appropriate level of monitoring and sampling.

(v) If Defendants implement an alternative plan to the consultant's recommendations under Paragraph 55(a)(iv), stipulated penalties of \$10,000 shall accrue for each subsequent Category 4 Daily Violation.

b. Monthly Violation Response

(i) Category 1 Monthly Violation. Upon notification of the first Monthly Violation of a pollutant parameter at any Outlet ("Category 1 Monthly Violation"), Defendants shall conduct monitoring, Diagnostic Sampling, and treatment as appropriate until the Outlet returns to compliance (i.e. until the Outlet meets the monthly average effluent limit).

(ii) Category 2 Monthly Violation. Upon notification of the second Monthly Violation in a row of the same pollutant parameter at the same Outlet ("Category 2 Monthly Violation"), Defendant shall either (1) conduct daily monitoring, Diagnostic Sampling, and treatment until the Outlet returns to compliance (i.e. until the Outlet meets the monthly average effluent limit), or (2) hire a third-party consultant and comply with the terms of Paragraph 55(b)(iv) of this Decree.

(iii) Category 3 Monthly Violation. Upon notification of the third Monthly Violation in a row of the same pollutant parameter at the same Outlet ("Category 3 Monthly Violation"), Defendants shall (1) continue daily monitoring, Diagnostic Sampling, and treatment, (2) consult with an individual with substantial expertise in Clean Water Act compliance and in treatment systems for and control of relevant effluent parameters in Defendants' NPDES permits, and (3)

implement measures recommended by that individual until the Outlet returns to compliance (i.e. until the Outlet meets the monthly average effluent limit). Alternatively, Defendants may hire a third-party consultant and comply with the terms of Paragraph 55(b)(iv) of this Decree.

(iv) Category 4 Monthly Violation. Upon notification of the fourth and any subsequent Monthly Violation in a row of the same pollutant parameter at the same Outlet ("Category 4 Monthly Violation"), Defendants shall hire a third-party consultant to examine the problem. Defendants shall continue daily monitoring, Diagnostic Sampling, and treatment of discharges until the Outlet returns to compliance (i.e., until the Outlet meets the monthly average effluent limit), unless the consultant determines that daily monitoring, Diagnostic Sampling, and treatment will not assist in examining and/or resolving the noncompliance. The consultant shall prepare a report detailing: (1) the cause of the continuing violations; (2) the appropriate level of monitoring and sampling; and (3) a plan to address the continuing violations. Within 30 days of receipt of the report, Defendants shall either (i) implement the proposed plan according to the consultant's recommendations, or (ii) prepare and implement an alternative plan to address the continuing violations, taking into consideration the consultant's findings as to the cause of the continuing violations and the appropriate level of monitoring and sampling.

(v) If Defendants implement an alternative plan to the consultant's recommendations under Paragraph 55(b)(iv), stipulated penalties of \$20,000 shall accrue for each subsequent Category 4 Monthly Violation.

c. If an Outlet is subject to Paragraph 55(a) and/or 55(b) for the same pollutant parameter five separate times within a 12-month period, then Defendants shall comply with the response actions identified in Paragraph 55(a)(iii) or 55(b)(iii).

d. During a violation response sequence pursuant to this Paragraph, if a

Defendant is not able to collect a sample due to no flow conditions on four consecutive days, daily monitoring and sampling pursuant to this Paragraph may be suspended. Any treatment or treatment system modification in progress or expert consultation must continue as scheduled. If an Effluent Limit Violation occurs during the next sampling event for that Outlet, the violation response sequence resumes as if there were no suspension of daily monitoring and sampling.

Training

56. Defendants shall provide and require annual formal training for all individuals with environmental management responsibilities at the Facilities including, but not limited to: (a) Clean Water Act compliance, including sediment control technologies; (b) requirements in the CMS Manual and EOPs relating to the Applicable Law; and (c) obligations in this Consent Decree.

57. Defendants shall provide and require appropriate annual training for all individuals, including all independent contractors, responsible for carrying out activities pursuant to this Consent Decree and/or any relevant requirements relating to the Applicable Law in the CMS Manual and EOPs at the Facilities.

VIII. SELENIUM INJUNCTIVE RELIEF

Definitions

58. In addition to the definitions set forth in Paragraph 12 of this decree, the following definitions shall apply to Sections VIII (Selenium Injunctive Relief), IX (Reporting), and X (Stipulated Penalties):

a. "Selenium Compliance Deadline" shall mean the deadline for achieving compliance with the Selenium Limits, which shall be December 31, 2011;

b. "Selenium Limit(s)" shall mean the maximum daily discharge limitation for selenium of 8.2 µg/L and/or the maximum monthly average discharge limitation for selenium of 4.7

µg/L as set forth in NPDES permit No. WV1003763, Outlet 002;

c. "Selenium Compliance Plan" shall mean the plan for achieving compliance with the Selenium Limits attached as Appendix C to this Decree;

d. "Selenium Defendants" shall mean Arch Coal, Inc. and Coal Mac, Inc.;

e. "Selenium Treatment System" or "System" shall mean the selenium treatment system identified in the Selenium Compliance Plan;

f. "Alternative Selenium Compliance Plan" or "Alternative Plan" shall mean the alternative plan for achieving compliance with the Selenium Limits that satisfies the requirements of Paragraph 68, and has been reviewed and approved by the United States, after consultation with West Virginia, pursuant to Paragraph 68; and

g. "Alternative Selenium Treatment System" shall mean the alternative system for treating selenium identified in the Alternative Selenium Compliance Plan.

Selenium Compliance Plan

59. Selenium Defendants shall implement the Selenium Compliance Plan attached as Appendix C to this Decree and make all other efforts to ensure compliance with the Selenium Limits by the Selenium Compliance Deadline.

60. Within 10 Days of lodging this Consent Decree, Selenium Defendants shall submit to West Virginia all necessary permit applications for implementation of the Selenium Compliance Plan.

61. Within 30 Days after approval of all necessary permits or within 45 Days after the lodging of this Consent Decree, whichever comes later, Selenium Defendants shall begin construction of the Selenium Treatment System. Selenium Defendants shall complete construction and begin operation of the Selenium Treatment System no later than 100 Days after receiving the

necessary permits or 145 Days after the lodging of this Consent Decree, whichever comes later.

62. Upon commencing operation of the Selenium Treatment System and continuing 365 days after the Selenium Compliance Deadline, Selenium Defendants shall conduct:

a. sampling and analysis for the first 180 Days on a bi-weekly basis and thereafter monthly sampling and analysis of System influent, effluent from the anaerobic cell, and the effluent from the aerobic cell, for the following parameters: pH, Oxidation/Reduction Potential (Eh), Dissolved Oxygen, Total Dissolved Solids, Sulfate, Alkalinity, Temperature, and Total Selenium; and

b. quarterly sampling and analysis of System influent, effluent from the anaerobic cell, and the effluent from the aerobic cell, for the following parameters: Selenate (+6), Selenite (+4), Elemental Selenium (0), Arsenic, Cadmium, Copper, Iron, Manganese, Nickel, Zinc, Calcium, Sodium, and Potassium.

Sampling under this Paragraph is in addition to and does not alter any requirements under NPDES permit No. WV1003763. Selenium Defendants shall not be required to continue sampling pursuant to this Paragraph if they are otherwise required to implement the Alternative Selenium Compliance Plan pursuant to Paragraph 70.

63. Within 180 Days after commencing operation of the Selenium Treatment System pursuant to Paragraph 61, but no later than November 1, 2011, Selenium Defendants shall submit to the United States and West Virginia a Selenium Treatment System Evaluation Report.

64. The Selenium Treatment System Evaluation Report ("Report") shall include: (a) an evaluation of the System's effectiveness in removing selenium to date; (b) an analysis of the System's impact, if any, on discharges of other pollutants regulated by NPDES permit No. WV1003763; (c) an analysis, including supporting documentation, of whether the system will ensure

compliance with Selenium Limits by the Selenium Compliance Deadline, taking into account implementation of any proposed changes to improve the performance of the system, if appropriate.

65. For the period beginning on the date of lodging and ending the Day prior to the Selenium Compliance Deadline, Selenium Defendants shall not exceed the following interim effluent levels for NPDES permit No. WV1003763, Outlet 002:

Period Begins	Period Ends	Daily Maximum Interim Level (µg/L)	Monthly Average Interim Level (µg/L)
Date of Lodging	89 Days after commencing operation of the Selenium Treatment System pursuant to Paragraph 61	13	11
90 Days after commencing operation of the Selenium Treatment System pursuant to Paragraph 61	180 Days after commencing operation of the Selenium Treatment System pursuant to Paragraph 61 or 11/1/2011, whichever comes first	10.5	9.0
181 Days after commencing operation of the Selenium Treatment System pursuant to Paragraph 61, or 11/1/2011, whichever comes first	Day prior to Selenium Compliance Deadline	9.5	7.0

66. Selenium Defendants shall achieve compliance with the Selenium Limits no later than the Selenium Compliance Deadline.

67. At all times prior to the Selenium Compliance Deadline, Selenium Defendants shall operate the Facilities associated with NPDES permit No. WV1003763 to maximize compliance with Selenium Limits.

Alternative Selenium Compliance Plan

68. Within 90 Days of lodging of this Consent Decree, Selenium Defendants shall submit

a proposed Alternative Selenium Compliance Plan to the United States and West Virginia for review and approval by the United States, after consultation with West Virginia, pursuant to Paragraphs 21-25 of this Consent Decree. The proposed Alternative Selenium Compliance Plan shall set forth a proposal for achieving compliance with the Selenium Limits by installing either a Reverse Osmosis or Active Biological Treatment system and shall include a detailed schedule for design and implementation of one of those systems. For purposes of this provision, Reverse Osmosis means a technology, with demonstrated success in full-scale applications, that uses a semi-permeable membrane system under pressure to remove selenium to 4.7 µg/L or less; and Active Biological Treatment means a wastewater treatment technology, with demonstrated success in full-scale applications, that uses an attached growth media bioreactor to treat selenium to 4.7 µg/L or less, such as ABMet or equivalent. The proposed Alternative Plan also shall include a schedule for sampling that addresses all the parameters under Paragraph 62 as appropriate for the proposed alternative treatment system.

69. If, after the Effective Date, a new or improved technology becomes available for treating selenium to 4.7 µg/L or less, Selenium Defendants may submit a request to the United States to revise its Alternative Plan to incorporate this new or improved technology. The request must include, with supporting documentation, demonstration that (a) the technology was not previously available or a previously available technology has improved; (b) the technology has proven success at full-scale operational capacity; and (c) an analysis of the benefits to selecting of this technology rather than a technology required under Paragraph 68. The United States, after consultation with West Virginia, may approve, deny, or approve with conditions or other requirements Selenium Defendants' proposed revision of the Alternative Plan. Selenium Defendants shall continue implementing the Alternative Plan in accordance with the schedule established therein unless and

until the United States approves revisions to the Alternative Plan.

70. Selenium Defendants shall be required to implement the Alternative Selenium Compliance Plan if prior to the Selenium Compliance Deadline, the Selenium Treatment System fails to produce the following results: (a) at least four consecutive representative DMR Samples over four consecutive weeks that do not exceed the daily maximum Selenium Limit; and (b) at least two consecutive months, which must include the four-week period in Paragraph 70(a), where the average of the DMR Samples does not exceed the monthly average Selenium Limit. DMR Sample results from the months up through and including December 2011 may be considered for the purposes of this Paragraph. For the purposes of this Paragraph, a DMR Sample result of "no flow" is not considered a valid result nor shall it interrupt the sequence of consecutive DMR Samples under this Paragraph.

71. Any dispute over whether Paragraph 70 requires the Selenium Defendants to implement the Alternative Selenium Compliance Plan shall be resolved pursuant to Section XII (Dispute Resolution), and shall be limited to whether the objective elements of Paragraph 70 have been met. However, pursuant to Paragraph 122 (Reservation of Rights), Plaintiffs reserve their right to seek additional injunctive relief for violations of the Selenium Limits after the Compliance Deadline, including implementation of the Alternative Selenium Compliance Plan.

72. If required under Paragraph 70, Selenium Defendants shall immediately commence implementation of the Alternative Selenium Compliance Plan. Implementation of the Alternative Plan shall be completed in the manner, and in accordance with the schedule established in the Alternative Selenium Compliance Plan as approved by the United States. The approved Alternative Plan shall be deemed incorporated into this Consent Decree.

73. If Selenium Defendants are required to implement the Alternative Selenium

Compliance Plan under Paragraph 70, Selenium Defendants shall submit to West Virginia all necessary permit applications for implementation of the Alternative Plan within 15 Days after the Compliance Deadline.

74. Within 30 Days of approval of the necessary permits, Selenium Defendants shall begin construction of the Alternative Selenium Treatment System pursuant to the Alternative Plan approved under Paragraph 68.

IX. REPORTING REQUIREMENTS

Quarterly Reports

75. The Engineering Manager, or individual operating in an equivalent capacity, for each Facility shall submit quarterly reports to the Corporate Director of Environmental Affairs of Arch Coal, Inc., EPA, and the States. The quarterly reports shall be due at the end of the month following the end of each quarter (i.e. by April 30, July 31, October 31, and January 31), starting with the first full quarter after the Effective Date. The quarterly reports shall contain, at a minimum, the following:

a. Information regarding any CWA violation, including (i) a summary of Effluent Limit Violations at the Facility, including total number of Effluent Limit Violations, total number of Outlets with two or more Effluent Limit Violations in a row of the same parameter, total number of Outlets with Persistent Noncompliance Issues, and total amount of stipulated penalties paid during that quarter; (ii) a summary of any additional CWA violations, including NOV's or unauthorized discharges; (iii) a summary of steps taken or planned steps to remedy the violations identified in (i) and (ii); and (iv) a copy of the Violations Database entries for the relevant quarter;

b. A summary of any instances in which an audit response was not completed by the deadline initially assigned in the Audit Database;

c. A certification of material conformance with the elements of the approved CMS Manual and the EOPs relating to the Applicable Law, or, for any material nonconformance, an explanation of the cause of the nonconformance and remedial steps taken or to be taken; and

d. A copy of any consultant reports generated pursuant to Paragraph 55 during the previous quarter, and any documentation of actions taken in response to the report(s).

76. With respect to Section VIII (Selenium Injunctive Relief), the quarterly reports shall also include:

a. A discussion of what has been accomplished since the last report relating to Section VIII (Selenium Injunctive Relief);

b. Information on whether Selenium Defendants are on schedule with implementation of either the Selenium Compliance Plan or the Alternative Selenium Compliance Plan, whichever applicable, and, if behind schedule, an explanation of why they are behind;

c. Information regarding any exceedances of the interim effluent levels set by Paragraph 65 if applicable or exceedances of the Selenium Limits after the Compliance Deadline, including (i) a summary of the total number of interim effluent level or Selenium Limits exceedances, (ii) stipulated penalties paid during that quarter relating to the exceedances; and (iii) a summary of steps taken or planned steps to remedy the exceedances;

d. Whether Selenium Defendants are in compliance with all other requirements of Section VIII and, if not in compliance, an explanation of why they are not in compliance; and

e. Any sampling data collected pursuant to Paragraphs 62 or 68.

Semi-Annual Reports

77. Defendants shall submit to EPA and the States semi-annual reports at the end of the month following the end of the second and fourth quarters (i.e. July 31 and January 31), beginning

on July 31, 2011. Each written semi-annual report shall include:

- a. The status of Consent Decree implementation, including the status of any construction or compliance measures, and problems encountered or anticipated, together with implemented or proposed solutions;
- b. A description of any noncompliance with the requirements of this Consent Decree and an explanation of the noncompliance's likely cause and the remedial steps taken, or to be taken, to prevent or minimize such noncompliance; and
- c. A description of each Decree violation for which Defendants have submitted to EPA an unresolved Force Majeure claim or intend to submit a Force Majeure claim pursuant to Section XI of this Consent Decree.

Other Reporting Requirements

78. If Defendants violate, or have reason to believe that they may violate, any requirement of this Consent Decree, Defendants shall notify the United States and the States of such violation and its likely duration, in writing, within 7 Days of the day Defendants first become aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Defendants shall so state in the report. Defendants shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 Days of the day Defendants become aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendants of their obligation to provide the notice required by Section XI of this Consent Decree (Force Majeure).

79. Whenever any violation of this Consent Decree or of any applicable permit or any

other event affecting Defendants' performance under this Decree, or the performance of its Facilities, may pose an immediate threat to the public health or welfare or the environment, Defendants shall notify EPA and the relevant State orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after Defendants first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

80. All reports shall be submitted to the persons designated in Section XVI of this Consent Decree (Notices).

81. Each report submitted by Defendants under this Section shall be signed by an official of the submitting party and include the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

82. The reporting requirements of this Consent Decree do not relieve Defendants of any reporting obligation required by the Act or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

83. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

X. STIPULATED PENALTIES

84. Defendants shall be liable for stipulated penalties to the United States and the States for violations as specified below, unless excused under Section XI (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

85. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. If performance is satisfactorily completed, or if a violation ceases on a Saturday, Sunday, or federal holiday, the date of completion of performance and the date that the violation ceases shall be considered to be the date of actual completion or cessation, rather than the following business day. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

86. Any Plaintiff may in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

87. Stipulated penalties shall continue to accrue as provided in Paragraph 85 during any Dispute Resolution under Section XII, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA or the States that is not appealed to the Court, Defendants shall pay accrued penalties determined to be owing, together with interest, to the United States and the States within 30 Days of the effective date of the agreement or the receipt of EPA's or the States' decision or order.

b. If the dispute is appealed to the Court and the United States or the States prevail in whole or in part, Defendants shall pay all accrued penalties determined by the Court to be

owing, together with interest, to the United States and the States within 60 Days of receiving the Court's decision or order, except as provided in subparagraph (c), below.

c. If any Party appeals the Court's decision, Defendants shall pay all accrued penalties determined to be owing, together with interest, within 15 Days of receiving the final appellate court decision.

88. If Defendants fail to pay stipulated penalties according to the terms of this Consent Decree, Defendants shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or the States from seeking any remedy otherwise provided by law for Defendants' failure to pay any stipulated penalties.

89. Subject to the provisions of Section XIV of this Consent Decree (Effect of Settlement/Reservation of Rights), the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States or the States for Defendants' violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of relevant statutory or regulatory requirements, Defendants shall be allowed a credit, for any stipulated penalties paid, against any statutory penalties imposed for such violation.

90. Non-Compliance with Consent Decree. The following stipulated penalties shall accrue per violation per Day for each violation of any requirement of Section V (Civil Penalty); Section VI (Compliance Requirements); Section VII (Injunctive Relief); Section VIII (Selenium Injunctive Relief); and Section XIII (Information Collection and Retention) of this Consent Decree, except as otherwise provided in Paragraphs 95-97:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,000 per Day or portion thereof	1st through 14th Day
\$2,500 per Day or portion thereof	15th through 30th Day
\$4,500 per Day or portion thereof	31st Day and beyond

91. Non-Compliance with Reporting Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the Reporting Requirements under Section IX of this Consent Decree:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$250 per Day or portion thereof	1st through 14th Day
\$500 per Day or portion thereof	15th through 30th Day
\$1,250 per Day or portion thereof	31st Day and beyond

92. Defendants shall pay any stipulated penalty pursuant to Paragraphs 90 and 91 to the United States and the States within 30 Days of receiving a written demand by any Plaintiff. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other.

93. Defendants shall pay fifty percent of any stipulated penalty pursuant to Paragraphs 90 and 91 to the United States, forty-six percent to West Virginia, and four percent to Kentucky.

94. Defendants shall pay stipulated penalties owing to the United States pursuant to Paragraphs 90 and 91 in the manner set forth in Paragraph 15 and with the confirmation notices and transmittal letter information required by Paragraph 15, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid. Defendants shall pay stipulated penalties owing to the States pursuant to Paragraphs 90 and 91 in the manner set forth in Paragraphs 16 and 17 and with the confirmation notice required by Paragraphs 16 and 17, except that the notice shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

95. Non-Compliance with NPDES Permit Limits. The following stipulated penalties

shall accrue for each Effluent Limit Violation that occurs at one of Defendants' Facilities after the Effective Date of this Consent Decree:

Per Daily Violation

\$1,000

\$2,500

\$5,000

\$10,000

Period of Noncompliance

1st Daily Violation; Category 1 Daily Violation

Category 2 Daily Violation

Category 3 Daily Violation; Category 4 Daily Violation

Category 4 Daily Violation pursuant to Paragraph 55(a)(v)

Per Monthly Violation

\$2,000

\$5,000

\$10,000

\$20,000

Period of Noncompliance

Category 1 Monthly Violation

Category 2 Monthly Violation

Category 3 Monthly Violation; Category 4 Monthly Violation

Category 4 Monthly Violation pursuant to Paragraph 55(b)(v)

96. Non-Compliance with Selenium Interim Effluent Levels: The following stipulated penalties shall accrue for each exceedance of the interim effluent levels for selenium set forth in Paragraph 65.

Per Exceedance of Daily Maximum Interim Level: \$1,000

Per Exceedance of Monthly Average Interim Level: \$2,000

97. Non-Compliance with Selenium Limits: The following stipulated penalties shall accrue for each violation of a Selenium Limit after the Selenium Compliance Deadline:

Per Exceedance of Daily Maximum Selenium Limit: \$7,500

Per Exceedance of Monthly Average Selenium Limit: \$15,000

98. Defendants shall pay all stipulated penalties due pursuant to Paragraphs 95-97 at the end of the month following the end of each quarter (i.e., by April 30, July 31, October 31, and January 31). Defendants shall pay fifty percent of stipulated penalties due pursuant to Paragraphs 95-97 to the United States. Defendants shall pay the remaining amount of stipulated penalties due pursuant to Paragraph 95 to the State in which the effluent limit violation occurred, or to the United

States if the violation occurred in the Commonwealth of Virginia. Defendant shall pay the remaining fifty percent of stipulated penalties due pursuant to Paragraphs 96-97 to West Virginia.

99. Defendants shall make payments to the United States for stipulated penalties due pursuant to Paragraphs 95-97 by FedWire Electronic Funds Transfer following the procedure specified in Paragraph 15, and notice of such payment shall be sent to EPA with Defendants' quarterly reports required by Paragraph 75. Defendants shall make payments to the States following the procedure specified in Paragraphs 16 and 17, and notice of such payment shall be sent to the States with Defendants' quarterly reports required by Paragraph 75.

XI. FORCE MAJEURE

100. "Force Majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Defendants, of any entity controlled by Defendants, or of Defendants' contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Defendants' best efforts to fulfill the obligation. The requirement that Defendants exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential Force Majeure event and best efforts to address the effects of any such event (a) as it is occurring and (b) after it has occurred to prevent or minimize any resulting delay to the greatest extent possible. "Force Majeure" does not include Defendants' financial inability to perform any obligation under this Consent Decree.

101. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a Force Majeure event, Defendants shall provide notice orally or by electronic or facsimile transmission to EPA and the States within 72 hours of when Defendants first knew that the event might cause a delay. Within 7 Days thereafter, Defendants shall provide in writing to EPA and the States an explanation and description of the

reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Defendants' rationale for attributing such delay to a Force Majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. Defendants shall include with any notice all available documentation supporting the claim that the delay was attributable to a Force Majeure. Failure to comply with the above requirements shall preclude Defendants from asserting any claim of Force Majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Defendants shall be deemed to know of any circumstance of which Defendants, any entity controlled by Defendants, or Defendants' contractors knew or should have known.

102. If EPA, after a reasonable opportunity for review and comment by the States, agrees that the delay or anticipated delay is attributable to a Force Majeure event, the time for performance of the obligations under this Consent Decree that are affected by the Force Majeure event will be extended by EPA, after a reasonable opportunity for review and comment by the States, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the Force Majeure event shall not, of itself, extend the time for performance of any other obligation. EPA will notify Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the Force Majeure event.

103. If EPA, after a reasonable opportunity for review and comment by the States, does not agree that the delay or anticipated delay has been or will be caused by a Force Majeure event, EPA will notify Defendants in writing of its decision.

104. If Defendants elect to invoke the dispute resolution procedures set forth in Section

XII (Dispute Resolution) in response to EPA's determination in Paragraph 103, it shall do so no later than 20 Days after receipt of EPA's notice. In any such proceeding, Defendants shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a Force Majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Defendants complied with the requirements of Paragraphs 100 and 101, above. If Defendants carry this burden, the delay at issue shall be deemed not to be a violation of the affected obligation of this Consent Decree identified to EPA and the Court.

XII. DISPUTE RESOLUTION

105. Unless otherwise expressly provided for in this Consent Decree, the Dispute Resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Defendants' failure to seek resolution of a dispute under this Section shall preclude Defendants from raising any such issue as a defense to an action by the United States or the States to enforce any obligation of Defendants arising under this Decree.

106. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendants send the United States and the States a written Notice of Dispute. The Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 30 Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States, after consultation with the States, shall be considered binding unless, within 15 Days after the conclusion of the informal negotiation period, Defendants invoke formal

dispute resolution procedures as set forth below.

107. Formal Dispute Resolution. Defendants shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States and the States a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Defendants' position and any supporting documentation relied upon by Defendants.

108. The United States shall serve its Statement of Position within 45 Days of receipt of Defendants' Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States, and shall be developed in consultation with the States. The United States' Statement of Position shall be binding on Defendants, unless Defendants file a motion for judicial review of the dispute in accordance with Paragraph 110.

109. An administrative record of the dispute shall be maintained by EPA and shall contain all Statements of Position, including supporting documentation, submitted pursuant to this Section.

110. Defendants may seek judicial review of the dispute by filing with the Court and serving on the United States and the States, in accordance with Section XVI of this Consent Decree (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within 20 Days of receipt of the United States' Statement of Position pursuant to Paragraph 108. The motion shall contain a written statement of Defendants' position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of this Consent Decree.

111. The United States and/or the States shall respond to Defendants' motion within the

time period allowed by the Local Rules of this Court. Defendants may file a reply memorandum, to the extent permitted by the Local Rules.

112. Standard of Review

a. Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 107 pertaining to the adequacy or appropriateness of plans, procedures to implement plans, schedules or any other items requiring approval by EPA under this Consent Decree; the adequacy of the performance of work undertaken pursuant to this Consent Decree; and all other disputes that are accorded review on the administrative record under applicable principles of administrative law, Defendants shall have the burden of demonstrating, based on the administrative record, that the position of the United States is arbitrary and capricious or otherwise not in accordance with law.

b. Other Disputes. Except as otherwise provided in this Consent Decree, in any other dispute brought under Paragraph 107, Defendants shall bear the burden of demonstrating that its position fulfills the terms, conditions, requirements, and objectives of this Consent Decree.

113. The invocation of Dispute Resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendants under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 87. If Defendants do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section X (Stipulated Penalties).

XIII. INFORMATION COLLECTION AND RETENTION

114. The United States, the States, and their designated representatives, including

attorneys, contractors, and consultants, shall have the right of entry onto any property under the ownership or control of the Defendants, at all reasonable times, upon presentation of credentials, to:

- a. monitor the progress of activities required under this Consent Decree;
- b. verify any data or information submitted to the United States in accordance with the terms of this Consent Decree;
- c. obtain samples and, upon request, splits of any samples taken by Defendants or its representatives, contractors, or consultants relating to Defendants' compliance with this Consent Decree;
- d. obtain documentary evidence, including photographs and similar data relating to Defendants' compliance with this Consent Decree; and
- e. assess Defendants' compliance with this Consent Decree.

115. Upon request, Defendants shall provide EPA and the States or their authorized representatives splits of any samples taken by Defendants relating to the Facilities' compliance with this Consent Decree. Upon request, EPA and the States shall provide Defendants splits of any samples taken by EPA or the States.

116. Until three years after the termination of this Consent Decree, Defendants shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Defendants' performance of its obligations under this Consent Decree. The foregoing may be maintained electronically. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the

United States or the States, Defendants shall provide copies of any non-privileged documents, records, or other information required to be maintained under this Paragraph.

117. At the conclusion of the information-retention period provided in the preceding Paragraph, Defendants shall notify the United States and the States at least 60 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States or the States, Defendants shall deliver copies of any such non-privileged documents, records, or other information to EPA or the States. After the expiration of the 60-Day period identified in this Paragraph, Defendants' obligations with respect to document retention under this Decree shall terminate and Defendants shall be entitled to reinstate the application of its standard document retention policies.

118. Defendants may assert that information required to be provided to the United States or the States under Paragraphs 116 and 117 of this Decree is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Defendants assert such a privilege, they shall provide the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of each author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by Defendants. However, no documents, records, or other information required to be created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

119. Defendants may assert that information provided to the United States or the States under this Decree is protected as Confidential Business Information ("CBI") by following the procedures set forth in 40 C.F.R. Part 2, Kentucky Revised Statutes § 224.10-210, or W. Va. Code § 29B-1-4(a)(1), as applicable. The United States, Kentucky, and West Virginia will treat such

materials in accordance with the applicable federal or state CBI regulations.

120. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or the States pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Defendants to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XIV. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

121. This Consent Decree resolves the civil claims of the United States and the States for the violations alleged in the Complaint filed in this action.

122. The United States and the States reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree, except as expressly stated in Paragraph 121. This Consent Decree shall not be construed to limit the rights of the United States or the States to obtain penalties or injunctive relief under the Act or implementing regulations (including, but not limited to, penalties or injunctive relief for violations of any permit limit for selenium discharges, including discharges from NPDES permit No. WV1003763, Outlet 002), or under other federal or state laws, regulations, or permit conditions, except as expressly specified in Paragraph 121.

123. In any subsequent administrative or judicial proceeding initiated by the United States or the States for injunctive relief, civil penalties, or other appropriate relief relating to the Defendants' violations, Defendants shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the States in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph

121 of this Section.

124. This Consent Decree is not a permit, or a modification of any permit, under any federal, state, or local laws or regulations. Defendants are responsible for achieving and maintaining complete compliance with all applicable federal, state, and local laws, regulations, and permits; and Defendants' compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and the States do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that Defendants' compliance with any aspect of this Consent Decree shall result in compliance with provisions of the Act, 33 U.S.C. § 1311, *et seq.*, or with any other provisions of federal, state, or local laws, regulations, or permits. Application for construction grants, State Revolving Loan Funds, or any other grants or loans, or other delays caused by inadequate Facility planning or plans and specifications on the part of Defendants shall not be cause for extension of any required compliance date in this Consent Decree.

125. This Consent Decree does not limit or affect the rights of Defendants or of the United States or the States against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Defendants, except as otherwise provided by law.

126. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

127. By the execution of this Consent Decree, Defendants release and shall hold harmless the United States and the States, their instrumentalities, agents, and employees, in their official and personal capacities, of any and all liability or claims arising out of or otherwise related to the negotiations leading to this Consent Decree and all matters contained therein.

XV. COSTS

128. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and the States shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendants.

XVI. NOTICES

129. Unless otherwise specified herein, whenever notifications, submissions, reports, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

To the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-1-1-09476/1

To EPA:

Director, Office of Civil Enforcement
U.S. Environmental Protection Agency
Ariel Rios Building, 2241A
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

NPDES Enforcement Branch Chief
U.S. EPA Region III
1650 Arch Street, 3WP42
Philadelphia, PA 19103

Yvette C. Roundtree
Senior Assistant Regional Counsel
U.S. EPA, Region III, 3RC20
1650 Arch Street
Philadelphia, PA 19103

To the State of West Virginia

Chief Inspector, Environmental Enforcement
West Virginia Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Director, Division of Mining and Reclamation
West Virginia Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Chief, Office of Legal Services
West Virginia Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

To the Commonwealth of Kentucky

Paul Rothman
Kentucky Department for Natural Resources
2 Hudson Hollow
Frankfort, KY 40601

Peter Goodman
Kentucky Division of Water
200 Fair Oaks
Frankfort, KY 40601

To Defendants:

Arch Coal, Inc.
Attention: General Counsel
One City Place Drive, Ste. 300
St. Louis, Missouri 63141

130. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

131. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XVII. EFFECTIVE DATE

132. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter this Consent Decree is granted, whichever occurs first, as recorded on the Court's docket.

XVIII. RETENTION OF JURISDICTION

133. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections XII (Dispute Resolution) or XIX (Modification) or effectuating or enforcing compliance with the terms of this Decree.

XIX. MODIFICATION

134. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to this Decree, it shall be effective only upon approval by the Court. Deadline extensions of less than 45 days shall not be considered a material change to the Decree requiring Court approval.

135. Any disputes concerning modification of this Decree shall be resolved pursuant to Section XII of this Decree (Dispute Resolution); provided, however, that, instead of the burden of proof provided by Paragraph 112, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XX. TERMINATION

136. After Defendants have completed the requirements of Paragraphs 30-41 (Compliance Management System and CMS Audit) of this Decree and have thereafter maintained continuous

satisfactory compliance with Section VI (Compliance Requirements), Section VII (Injunctive Relief), and Section IX (Reporting Requirements) of this Consent Decree for a period of four years; have completed the requirements of Section VIII (Selenium Injunctive Relief); and have paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree, Defendants may serve upon the United States and the States a Request for Termination, stating that Defendants have satisfied those requirements, together with all necessary supporting documentation.

137. Following receipt by the United States and the States of Defendants' Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Defendants have satisfactorily complied with the requirements for termination of this Consent Decree. If the United States, after consultation with the States, agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

138. If the United States, after consultation with the States, does not agree that the Decree may be terminated, Defendants may invoke Dispute Resolution under Section XII of this Decree. However, Defendants shall not seek Dispute Resolution of any dispute regarding termination, under Paragraph 107 of Section XII, until 30 Days after service of their Request for Termination.

XXI. PUBLIC PARTICIPATION

139. This Consent Decree shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding this Consent Decree disclose facts or considerations indicating that this Consent Decree is inappropriate, improper, or inadequate. Defendants consent to entry of this Consent Decree without further notice and agree not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision

of the Decree, unless the United States has notified Defendants in writing that it no longer supports entry of the Decree.

XXII. SIGNATORIES/SERVICE

140. Each undersigned representative of the Defendants, the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice, and the undersigned representative of the States certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

141. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Defendants agree to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXIII. INTEGRATION

142. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than deliverables that are subsequently submitted and approved pursuant to this Decree, no other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Decree or the settlement it represents, nor shall it be used in construing the terms of this Decree.

XXIV. FINAL JUDGMENT

143. Upon approval and entry of this Consent Decree by the Court, this Consent Decree

shall constitute a final judgment of the Court as to the United States, the States, and Defendants. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XXV. APPENDICES

144. The following appendices are attached to and part of this Consent Decree:

Appendix A: Audit Protocol

Appendix B: CMS Manual

Appendix C: Selenium Compliance Plan

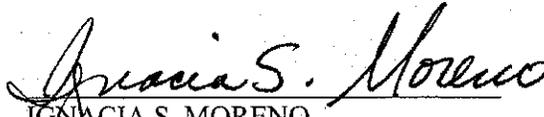
SO ORDERED THIS _____ DAY OF _____, 2011.

United States District Judge
Southern District of West Virginia

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States, et al.*
v. Arch Coal Inc., et al.

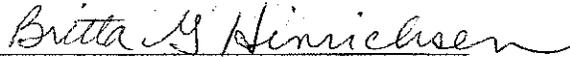
FOR THE UNITED STATES OF AMERICA

Date: 2/25/11



IGNACIA S. MORENO
Assistant Attorney General
Environment and Natural Resources Division

Date: 2/28/11



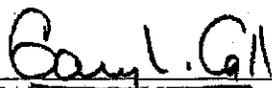
LAURA A. THOMS
BRITTA G. HINRICHSEN
Trial Attorneys
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States, et al.*
v. Arch Coal, Inc., et al.

FOR THE UNITED STATES OF AMERICA

R. BOOTH GOODWIN II
United States Attorney

Date: 2/28/11



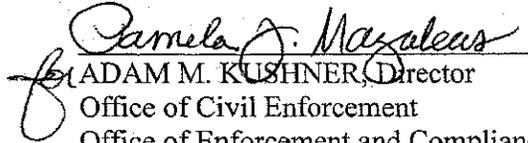
GARY L. CALL
Assistant United States Attorney
WV State Bar Number 589
P.O. Box 1713
Charleston, WV 25326
Tel: 304-345-2200
Fax: 304-347-5440
E-mail: gary.call@usdoj.gov

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States, et al. v. Arch Coal, Inc., et al.*

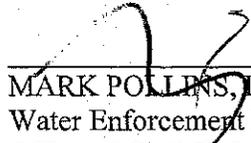
FOR THE UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY



CYNTHIA GILES, Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460



ADAM M. KUSHNER, Director
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460



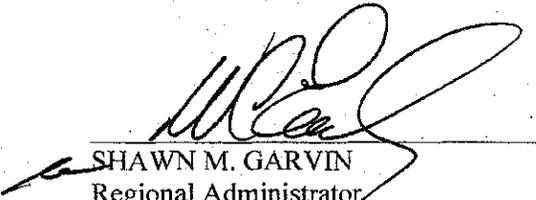
MARK POLLENS, Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460



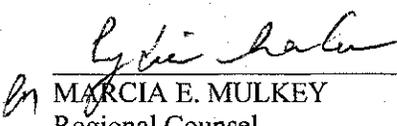
MELISSA K. RAACK, Attorney Advisor
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States, et al. v. Arch Coal, Inc., et al.*

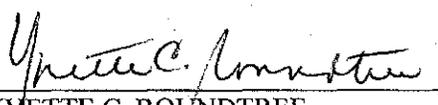
FOR THE UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY



SHAWN M. GARVIN
Regional Administrator
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029
215-814-2998
215-814-2901 (fax)



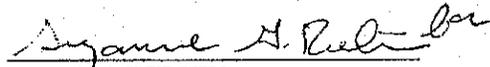
MARCIA E. MULKEY
Regional Counsel
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029
215-814-2650
215-814-2603 (fax)



YVETTE C. ROUNDTREE
Senior Assistant/Regional Counsel
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, PA 19103-2029
215-814-2685
215-814-2603 (fax)

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States, et al. v. Arch Coal, Inc., et al.*

FOR THE UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY



MARY J. WILKES

Regional Counsel

United States Environmental Protection Agency,

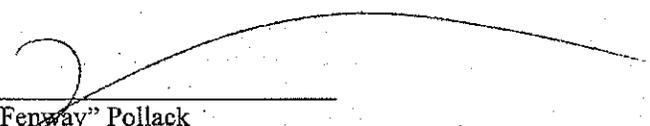
Region 4

61 Forsyth Street

Atlanta, GA 30303

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States, et al. v. Arch Coal, Inc., et al.*

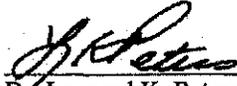
FOR THE WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION



A.M. "Fenway" Pollack
Senior Counsel
West Virginia Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States, et al. v. Arch Coal, Inc., et al.*

FOR KENTUCKY ENERGY AND ENVIRONMENT
CABINET



Dr. Leonard K. Peters, Secretary
Kentucky Energy and Environment Cabinet



C. Michael Haines, General Counsel
Kentucky Energy and Environment Cabinet

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of *United States, et al. v. Arch Coal, Inc., et al.*

FOR DEFENDANTS ARCH COAL, INC., COAL
MAC, INC., MINGO LOGAN COAL COMPANY,
LONE MOUNTAIN PROCESSING, INC., and
CUMBERLAND RIVER COAL COMPANY



Robert Shanks
President, Eastern Operations
Arch Coal, Inc.

APPENDIX A
AUDIT PROTOCOL

Arch Coal, Inc. (ACI) has retained the services of a compliance management system (CMS) Consultant to assist with development and implementation of the CMS. A CMS Auditor will also be contracted to perform a CMS Audit in accordance with the provisions of the Consent Decree. ACI will bear the costs associated with the CMS Consultant and CMS Auditor, cooperate fully with the CMS Consultant and CMS Auditor, and provide both with access to relevant records, employees, contractors, and facilities that each deems reasonably necessary to effectively perform their duties as set forth in the Consent Decree and this Appendix.

Capitalized terms within this Appendix shall have the same meaning ascribed to them in the Consent Decree, unless otherwise indicated.

1. CMS Consultant

ACI has retained the services of EnviroGroup Limited as a CMS Consultant. If at any time ACI seeks to replace the CMS Consultant, the procedures contained in Paragraph 32 of the Consent Decree will be followed.

The CMS Consultant will continue to provide assistance with the development, implementation, training, auditing, and refinement of the CMS Manual and Environmental Operating Procedures (EOPs) for the ACI operations.

2. CMS Auditor

ACI will retain the services of a CMS Auditor as described in Paragraphs 36 and 37 of the CD. The CMS Auditor will be responsible for conducting the duties outlined in Paragraph 38 of the CD.

The contract between ACI and the CMS Auditor will specify the following duties:

- a.) The CMS Audit will evaluate the adequacy of CMS implementation relative to the CMS Manual and identify areas of concern, from top management down, throughout each major organization unit with responsibilities under the CMS Manual. The CMS Audit shall determine the following:
 - i. To what extent the system, subsystem, program, or task has been implemented, and is being maintained;
 - ii. The adequacy of each Facility's internal self-assessment procedures for programs and tasks composing the CMS;
 - iii. Whether ACI is effectively communicating Applicable Law requirements to affected parts of the organization, or those working on behalf of the organization; and
 - iv. Whether there are deviations from ACI's written requirements or procedures.
- b.) Within 30 Days following completion of the CMS Audit, the CMS Auditor shall develop and submit a draft CMS Audit Report to the ACI Corporate Director, Environmental Affairs. The final CMS Audit Report shall be submitted by the CMS Auditor to EPA, the State where the operation audited is located and the ACI Corporate Director, Environmental Affairs within 45 Days following the completion of the CMS Audit.

3. Audit Protocol

The following sections define the CMS Audit schedule and duration, audit process, information that will be available to the CMS Auditor(s), guidelines for conducting site staff interviews, and CMS Auditor qualifications.

3.1 CMS Audit Schedule and Duration

A proposed schedule will be distributed at least two weeks before the anticipated CMS Audit dates to assure essential staff and information will be available. It may be necessary to adjust the audit schedule to accommodate previous commitments or the unavailability of site staff. The anticipated duration of the audit at each Facility will be specified in the schedule.

3.2 CMS Audit Process

The CMS Audit involves four main steps, as described below.

- a.) Planning – Prior to the CMS Audit, an outline or questionnaire will be drafted and forwarded to the operation approximately four (4) weeks in advance of the site visit. The outline/questionnaire will identify those areas of the operation to be examined and the records to be reviewed. The purpose of this is to ensure that pertinent information and key personnel are available at the time of the Audit.
- b.) Site Visit – A site visit to the operations will be conducted as part of the CMS Audit to evaluate how well CMS practices are being implemented in the field. The site visit will involve a combination of a site tour, personnel interviews of site staff and contractors involved with the CMS or environmental programs, and a records review.
- c.) Reporting – Non-conformances with the CMS identified during the site visit will be disclosed at the time the non-conformance is discovered and will also be reported at a close-out meeting and summarized in a draft report. The CMS Audit Report will contain:
 - i. A summary of the Audit process, including any obstacles encountered;
 - ii. Detailed Audit Findings, including the basis for each finding and each area of concern identified;
 - iii. Identification of any Audit Findings corrected or areas of concern addressed during the audit; and
 - iv. A certification that the CMS Audit was conducted in accordance with the provisions of the Consent Decree.
- d.) Audit Follow-Up – Within 60 Days of receiving the final CMS Audit Report, ACI will submit to EPA and the State for review and approval a report responding to the Audit Findings and areas of concern identified in the CMS Audit Report and providing an action plan for expeditiously coming into full conformance with the provisions in the CMS Manual (the “Audit Response and Action Plan”). The Audit Response and Action Plan shall be developed in consultation with the CMS Consultant, and shall include the CMS Consultant’s recommendations as to (i) whether further improvements should be made to the CMS, CMS Manual, and/or EOPs; and (ii) how to resolve any area of concern or otherwise achieve full implementation of the CMS Manual. The Audit Response and Action Plan shall include the result of any investigations, specific deliverables, responsibility assignments, and an implementation schedule for the identified actions and measures, including those that may have already been completed.

3.3 Documentation Eligible for CMS Audit

The following information will be available to the CMS Auditor to the extent it is available at the ACI operations for the period January 1, 2008 to the present time.

- National Pollutant Discharge Elimination System (NPDES) information
 - NPDES Permits, Modifications, Revisions, & Renewals
 - Discharge Monitoring Reports (DMRs)
 - Correspondence with agencies regarding NPDES permitting and compliance
 - Certified laboratory sheets for NPDES samples
 - Field data for NPDES samples
 - Water sampling calibration records
 - NPDES violations, orders to comply, cessation orders, and other compliance notices
 - Existing spreadsheet summaries of NPDES data and exceedances
- CMS Information
 - Environmental Policy
 - CMS Manual
 - Management System Procedures (MSP)
 - Minimum Requirements
 - Best Practice Guidance (BPG)
 - Environmental Operating Procedures (EOP)
 - Work Practices (WP)
 - Management Review reports
 - Training Materials
 - Training Records
- Consent Decree Information
 - Initial Treatment System Audit reports prepared pursuant to Paragraph 42 of the Consent Decree
 - Outlet Inspection Checklists reports prepared pursuant to Paragraph 43 of the Consent Decree
 - Internal Audit Reports prepared pursuant to Paragraph 44 of the Consent Decree
 - Third-Party Environmental Audit Reports pursuant to Paragraph 45 of the Consent Decree
 - Audit Database created pursuant to Paragraph 46 of the Consent Decree
 - NPDES Violations Database created pursuant to Paragraph 50 of the Consent Decree; and
 - Third-Party Consultant reports for Category 4 violations.

3.4 Staff Interviews

Interviews may include, but not be limited to, representatives of the operations staff, contractors, site management, and ACI Corporate Environmental professionals involved with implementation of the CMS. At least one representative from each of these groups will typically be interviewed at each operation.

4. CMS Auditor Qualifications

Auditors performing the CMS Audit will have appropriate qualifications in accordance with the provisions of Paragraph 36 of the Consent Decree.

- **Team Leader** --Responsible for scheduling and planning the Audit, compiling the appropriate team, and for submitting the Facility questionnaire or list to the site prior to the visit. The Team Leader is also responsible for leading the site visit, preparing the CMS Audit Report and findings, submitting the draft CMS Audit Report to the ACI Corporate Director, Environmental Affairs within 30 Days following the completion of the CMS Audit as well as transmitting the final CMS Audit Report to EPA, State where the audited operation is located and the ACI Corporate Director, Environmental Affairs within 45 Days following completion of the CMS Audit.
- **Team Members** --Responsible for participating in the assessments and for reviewing those areas assigned by the Team Leader. Also responsible for identifying, summarizing, documenting and communicating findings/observations to the Team Leader.

APPENDIX B
CMS MANUAL

Compliance Management System Manual

For

Arch Coal, Inc. and Subsidiary Companies

December 3, 2009

TABLE OF CONTENTS

TABLE OF CONTENTS	2
1.0 INTRODUCTION	3
1.1 Purpose and Scope	3
2.0 The Compliance Management System (CMS)	3
2.1 Environmental Policy	3
2.2 Planning	3
2.2.1 Environmental Aspects	3
2.2.2 Legal and Other Requirements	4
2.2.2.1 Legal Requirements	4
2.2.2.2 Other Programs	4
2.2.3 Objectives and Targets	6
2.3 Implementation and Operation	6
2.3.1 Resources, Roles, Responsibility and Authority	6
2.3.2 Competence, Training and Awareness	8
2.3.3 Communication	9
2.3.4 Documentation	10
2.3.5 Control of Documents	10
2.3.6 Operational Control	11
2.3.7 Emergency Preparedness and Response	11
2.4 Checking	11
2.4.1 Monitoring and Measurement	12
2.4.2 Evaluation of Compliance	12
2.4.3 Nonconformity, Corrective Actions and Preventive Action	12
2.4.4 Control of Records	12
2.4.5 Internal Audit	12
2.5 Management Review	13
2.6 Revision History	14

1.0 INTRODUCTION

Arch Coal, Inc. has developed a Compliance Management System (CMS) applicable to its operating subsidiaries. Unless otherwise indicated, the operating subsidiaries are cumulatively referred to herein as "ACI." This manual describes the various components of the CMS.

1.1 Purpose and Scope

The CMS is designed to assist the operations in understanding the full nature and extent of mandatory compliance with applicable requirements specified in pertinent environmental regulations, permits, licenses, authorizations, and other approvals, stipulations or agreements. The CMS standardizes and formalizes the practices and programs used to maintain, track and improve environmental performance.

This CMS Manual contains references to other documents that may be used to assure compliance including: Management System Procedures, Minimum Requirements, Best Practice Guidance, Environmental Operating Procedures, Work Practices, Forms, Templates, Schedules, Calendars, Flow Diagrams and other forms of guidance or reference materials, as appropriate. It is anticipated that this CMS Manual and other elements of this program will be refined and modified, when necessary, for continued improvement of the system. In the event of a conflict, the requirements in applicable authorizations, permits, regulations, and laws will prevail over the CMS Manual, Management System Procedures, Minimum Requirements, Best Practice Guidance, Environmental Operating Procedures, and Work Practices.

2.0 The Compliance Management System (CMS)

This section of the CMS Manual provides background information and defines the nature of the CMS relative to applicable environmental requirements.

2.1 Environmental Policy

ACI has published an Environmental Policy as stated in Appendix 1. The ACI Environmental Policy can be communicated to employees through training and the company Intranet.

2.2 Planning

2.2.1 Environmental Aspects

The environmental aspects considered by ACI for the purposes of planning its CMS are associated with those activities identified in applicable National Environmental Policy Act (NEPA) documents, Surface Mining Control and Reclamation Act (SMCRA) permits, Spill Prevention Control and Countermeasure (SPCC) Plans and other existing approvals, authorizations or programs.

2.2.2 Legal and Other Requirements

The CMS provides a framework for defining the various legal and other requirements pertaining to environmental compliance at the operations. The CMS functions to assist in ensuring compliance with environmental permits, approvals, authorizations, licenses, and applicable regulatory requirements. ACI has developed a list itemizing those environmental programs that may apply to the various operations, recognizing that applicability and specific requirements differ between the operations, regions and states. The major environmental regulatory programs that may be applicable are listed in Section 2.2.2.1. Any other applicable environmental permits, approvals, authorizations, licenses, and regulatory requirements will also be identified for each operation.

The individual operations are responsible for developing and maintaining a comprehensive list of applicable environmental permits, approvals, authorizations, licenses, and pertinent regulatory requirements. A system for identifying permit conditions, stipulations, commitments and other applicable requirements is prepared by each operation to ensure required activities are conducted, implemented, and/or reported. In those instances where the permit applications submitted under certain programs form a part of the ultimate permit, those applications are examined for important information pertaining to compliance and a summary is developed of applicable limitations.

2.2.2.1 Legal Requirements

- Clean Water Act (CWA)
- Clean Air Act (CAA)
- Safe Drinking Water Act (SDWA)
- Emergency Planning and Community Right to Know Act (EPCRA)
- Resource Conservation & Recovery Act (RCRA)
- Toxic Substances Control Act (TSCA)
- Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA)
- Surface Mining Control and Reclamation Act (SMCRA)

2.2.2.2 Other Programs

A number of environmental programs have been implemented voluntarily to communicate and improve environmental performance within the organization. Some of these programs are intended to address existing and evolving regulatory requirements. These programs may include those activities associated with compiling the following:

- Coal Slurry Impoundments, Refuse Piles, Embankments & Dams Assessments
- Pollution Legal Liability Insurance Information
- Management System Procedures, Minimum Requirements, Best Practice Guidance, and Environmental Operating Procedures, Work Practices, Forms, Templates, Schedules, Calendars, Flow Diagrams and other forms of guidance or reference materials.

○ Management System Procedures

These documents contain corporate level procedures defining how the company will implement certain aspects of the CMS. Written Management System Procedures are limited to those elements where more detail than what is provided in the CMS Manual is needed to describe the process, such as:

- Training (Section 2.3.2 of the CMS Manual)
- Document Control (Sections 2.3.4 & 2.3.5 of the CMS Manual)
- Internal Audits (Sections 2.2.2, 2.4.2, & 2.4.5 of the CMS Manual)
- Records Control (Section 2.4.4 of the CMS Manual)

○ Minimum Requirements

The Minimum Requirements documents are intended to define and clarify the functions to be performed by the operations with respect to certain aspects of the environmental programs outlined under Section 2.2.2.1. Minimum Requirements for Corporate Reporting and for Clean Water Act compliance have been finalized, distributed and posted on the ACI Intranet. Additional Minimum Requirements documents will be developed on an as needed basis based upon identified gaps, new regulatory developments, technological improvements, or unforeseen circumstances.

○ Best Practice Guidance

Best Practice Guidance documents are developed to provide general guidance on the applicability and requirements of the regulatory programs identified in Section 2.2.2.1. The Best Practice Guidance documents are designed to assist with the implementation of particular components of the environmental programs and may reflect unique jurisdictional requirements. ACI Best Practice Guidance documents are available on the ACI Intranet. The Best Practice Guidance documents are subject to change based upon identified gaps, new regulatory developments, technological improvements, or unforeseen circumstances.

○ Environmental Operating Procedures

The Environmental Operating Procedures (EOPs) are used to define how overall compliance is to be achieved with respect to specific components of the environmental programs identified in Section 2.2.2.1. Due to the differences between jurisdictions, the EOPs are expected to be tailored to the specific needs of a particular operation and may not be entirely consistent from one facility to another. EOPs are typically developed in response to a request from an operation or as the result of specific audit findings. EOPs are available to the operations on the ACI Intranet. The EOP documents are reviewed and updated, as necessary, to reflect operational, technological, and regulatory changes.

○ Work Practices

These are documents that provide detailed “how to” instructions for staff who are responsible for carrying out various tasks identified in the EOPs. Work Practices may be developed by the operations or by corporate in response to a request for such documents.

- Forms, Templates, Schedules, Calendars, Flow Diagrams, etc.

These documents are usually developed by the operations to support, explain and assist with meeting and/or documenting compliance with regulatory or CMS requirements.

2.2.3 Objectives and Targets

ACI has established and documented environmental objectives and targets. The operations regularly report on environmental performance to the corporate office. Monthly reporting to corporate on SMCRA compliance has been in place for over 10 years. An annual internal competition is conducted, called the ACI President’s Environmental Achievement Award. The award competition has historically assigned the greatest number of points for a single category to SMCRA compliance. Tracking of performance under non-SMCRA environmental programs is also being conducted on a quarterly basis as described in the Minimum Requirements document for Corporate Reporting. Quarterly environmental performance reports containing a summary of the information described in this Minimum Requirements document are prepared and distributed to senior management at the Corporate and Regional levels. These programs reflect the importance senior management assigns to environmental compliance.

2.3 Implementation and Operation

The following sections describe the resources and mechanisms that ACI is using to establish, implement, maintain and improve the CMS as well as assure environmental compliance.

2.3.1 Resources, Roles, Responsibility, and Authority

Coordination, cooperation, collaboration and communication between all levels of the organization are vitally important in environmental compliance. The activities described in the following sections may be conducted by qualified staff, consultants, contractors, commercial laboratories, or others as appropriate. The Corporate Director, Environmental Affairs is responsible for overall implementation of the CMS.

- Corporate
 - Compiling and distributing environmental performance statistics provided by the operations for all applicable programs, including:
 - Verifying and publishing monthly performance statistics using the number of SMCRA NOV’s and inspections provided by each operation.

- Disseminating environmental bulletins prepared by the operations for SMCRA NOVs describing the incident, corrective actions and preventive measures.
 - Summarizing and disseminating the quarterly environmental performance report.
- Reporting, as appropriate, to Senior Management and the ACI Board of Directors on environmental compliance, performance, and accomplishments.
- Assisting with environmental issues identified by the Regional and Operational Staff.
- Reviewing, commenting and tracking of new or revised federal regulatory requirements as well as those initiatives identified by the Regional or Operational staff at the state and local level.
- CMS Manual and framework development, implementation, tracking, and refinement, including:
 - Preparing, finalizing and distributing Management System Procedures, Minimum Requirements, Best Practice Guidance, EOPs, Work Practices, and other appropriate guidance documents, reference materials, and training information in cooperation with the Regional and Operational staff.
 - Developing, circulating, and refining templates for checklists, inspection forms, and other effective mechanisms for verifying compliance, identifying problems, and documenting corrective actions.
 - Preparing procedures for internal, external (i.e., interested parties) and agency communications on non-compliance notifications at the Operational, Regional and Corporate levels.
 - Scheduling and conducting environmental audits, assessments, and reviews with the Regional and Operational staff.
 - Coordinating evaluation, selection, and implementation of a company-wide tracking system or the development of compliance checklists required for sampling, monitoring, inspecting, and reporting.
- Regional/Operational
 - Summarizing and distributing performance statistics on all environmental programs to Corporate, including:
 - Preparing environmental bulletins describing SMCRA NOVs and providing those to Corporate in a timely manner.
 - Developing monthly summaries for Corporate on the number of SMCRA NOVs and inspections.
 - Providing to Corporate a quarterly environmental performance report.
 - Coordinating and participating in all aspects of the CMS (e.g., reviewing and commenting on draft documents, implementation, etc.).
 - Developing, implementing and maintaining effective measures (e.g., schedules, calendars, checklists, etc.), as needed, to address all permit conditions, stipulations, compliance schedules, sampling/monitoring requirements, reporting obligations, and all other environmental requirements within established deadlines or specified time periods.
 - Participating, as needed, in the evaluation, selection, and implementation of a company-wide tracking system or the development of compliance checklists.

- Identifying water, air and other exceedances, causes, corrective actions, and preventive measures.
- Conducting data quality assurance, quality control, tracking, trending, and outlier identification.
- Maintaining and retaining required records for monitoring, inspections, training, reporting, notifications, and all other aspects of the environmental programs.
- Preparing, finalizing and distributing EOPs, Work Practices, Forms, Templates, Schedules, Calendars, Flow Diagrams and other appropriate guidance documents.
- Reviewing and commenting upon draft Management System Procedures, Minimum Requirements, Best Practice Guidance, EOPs, Work Practices and other guidance documents where needed.
- Implementing Minimum Requirements and using Best Practice Guidance, EOPs, Work Practices and other appropriate guidance documents.
- Obtaining required environmental training, authorizations, and certifications.
- Developing and implementing environmental training programs, as appropriate.
- Utilizing checklists, forms, or logs to record activities that assess environmental compliance.
- Conducting environmental audits, reviews, or assessments of operations areas.
- Participating in environmental audits, reviews, and assessments of other operations, non-owned disposal facilities and commercial laboratories.
- Assuring that staff, consultants, or contractors have appropriate training, experience and certifications for assigned environmental tasks.

2.3.2 Competence, Training and Awareness

Environmental compliance training and awareness programs are used to ensure that staff performing tasks for ACI is competent and have the required knowledge, training and understanding of the importance of such tasks. Competency is assessed based on the level of training (both formal and informal), experience, past performance, and comprehension of the assigned tasks and associated guidance, protocols, and instructions. Training requirements and approaches are addressed in the Management System Procedure for Training and, in certain circumstances, Work Practices associated with media specific compliance EOP's for the operations or in site specific training materials.

Environmental training is designed to make employees and others that are working on behalf of ACI aware of:

- The company and site-specific environmental policies and relevant Management System Procedures, Minimum Requirements, Best Practice Guidance, EOPs, Work Practices, or other relevant protocols and instructions.
- The importance of environmental compliance and the existence of a CMS.
- The potential consequences of departure from specified requirements, guidance, protocols, and instructions.

General environmental awareness considerations are described during new hire training and required annual Mine Safety and Health Administration (MSHA) refresher training. Job-specific

training required under certain programs will be explained in the training materials developed by each operation. Contractors, consultants, and suppliers will also receive appropriate training according to the amount of time spent on-site and the nature of their work.

Training records are maintained by the appropriate department at each operation. The training records typically include a sign-in sheet and a copy of the material covered during the training.

2.3.3 Communication

Procedures are used for communicating information to internal and external audiences and for receiving input from external parties.

Internal Communication: The importance of environmental compliance has been communicated by senior management to all levels of the organization for many years. ACI's Board of Directors and Senior Officers insist that the coal producing subsidiaries strive to lead the industry in environmental compliance. The Chief Executive Officer (CEO) emphasizes that environmental compliance is a core value at the annual shareholder meetings and other venues involving ACI staff. This message is regularly echoed by the President and Chief Operating Officer (COO) and Senior Vice President of Operations.

The Senior Vice President of Operations sends a regular update via e-mail to Corporate and Regional/Operational management summarizing any SMCRA NOV's received by the operations since the prior update. The SMCRA compliance data is provided to the Senior Vice President of Operations by the Regional Presidents who obtain the data from Presidents/General Managers at each operation. The General Managers have primary responsibility for ensuring compliance with environmental requirements and have a direct reporting obligation to the Regional Presidents, who in turn report to the Senior Vice President of Operations. Reporting to each General Manager is an Engineering/Environmental Manager that also has overall responsibility for environmental matters. Within the framework of ACI overall corporate environmental guidance and subject to the implemented systems for environmental compliance management and reporting, the General Managers in ACI organizational structure have broad authority to implement and perform programs to ensure environmental compliance.

Corporate is responsible for establishing mission statements and policies that define the overall philosophy and direction of the company with respect to environmental matters. Management System Procedures, Minimum Requirements, Best Practice Guidance, EOPs, Work Practices and related documents are prepared by Corporate in cooperation with the Regional/Operational staff to help assure the environmental programs are being properly interpreted and implemented by the operations. Compilation and distribution of environmental performance statistics received from the operations on a monthly and quarterly basis are other important Corporate functions. This includes distributing environmental bulletins prepared by an operation that receives a SMCRA NOV to the other facilities and senior management in an effort to minimize the potential for a similar incident elsewhere. Similarly, Corporate is also responsible for preparing and disseminating monthly summaries of SMCRA NOV's to all of the operations and senior management. Quarterly environmental performance reports are also prepared and distributed to senior management at the Corporate and Regional levels.

Informational meetings held at the operations stress the importance of maintaining compliance. Environmental staff attends meetings, conducts training, and works with supervisors to help ensure that environmental compliance requirements are met. E-mails, bulletin boards, safety meetings, and the company Intranet also are used to communicate information to employees. All new employees at the operations receive environmental awareness training at the time of being hired. The mine site employees receive additional environmental awareness training at least annually during annual MSHA refresher training. Safety meetings or other opportunities may be used as issues arise to discuss environmental programs at the operational level.

External Communication: The importance of environmental stewardship is emphasized in the Annual Report, Corporate Responsibility Report, and ACI website. Environmental awards and case studies are highlighted in these reports. The operations often work closely with certain citizens groups and private landowners. The regulatory authorities are an important external audience in all jurisdictions. Relevant written and verbal correspondence from external parties, including environmental regulatory agencies and community members, are presently maintained by Engineering/Environmental Department staff.

2.3.4 Documentation

There are several documents developed as part of the ACI CMS to define the environmental compliance programs at various levels of the organization. These documents include:

- Environmental Policy
- CMS Manual
- Management System Procedures
- Minimum Requirements
- Best Practice Guidance Documents
- Environmental Operating Procedures (EOPs)
- Work Practices
- Documents and records required by programs listed in Section 2.2.2.1 (e.g., Forms, Templates, Schedules, Calendars, Flow Diagrams, etc.)

The Management System Procedures, Minimum Requirements, and Best Practice Guidance will typically be developed by Corporate with involvement by the Regional/Operational Staff. The operations are responsible for identifying those programs where site-specific EOPs are needed to ensure compliance. The EOPs will typically be developed at the Corporate and Regional levels with participation by the operations. EOPs may also be developed by the operations for review and comment by Corporate. Work Practices are usually developed at the operations with assistance from Corporate. EOPs and Work Practices may not be necessary at some operations due to the existence of other programs and measures designed to assure compliance. Forms, logs, checklists, templates, schedules, calendars, flow diagrams and other appropriate guidance documents are also typically prepared by the operations with assistance from Corporate.

2.3.5 Control of Documents

The Document Control Management System Procedure establishes methods for controlling documents generated as part of the ACI CMS. This procedure is used to assure that CMS documents:

- Are formatted similarly with adequate detail to assure the subject being addressed is understandable and clearly defined;
- Indicate the revision number, date, section and nature of the changes;
- Are reviewed and approved prior to issuance;
- Are updated, as necessary;
- Are legible and available to employees and contractors, where necessary; and
- If obsolete, have been appropriately labeled or otherwise identified to prevent their unintended use.

2.3.6 Operational Control

The Management System Procedures, Minimum Requirements, Best Practice Guidance, EOPs, Work Practices, checklists, forms, logs and other information used to assist with compliance represent the primary measures used with respect to operational control. Some of these documents will be used to translate the requirements in permits and other authorizations, regulations, and this CMS into terms and approaches understandable at relevant levels of the operations. Additional operational controls may be developed to include other programs on a prioritized basis over time. As described in previous sections, each operation is responsible for identifying those areas where EOPs and other appropriate guidance documents are useful to assist compliance. Assistance will be provided in developing those documents at the Corporate and Regional levels.

2.3.7 Emergency Preparedness and Response

Emergency response and crisis management plans have been developed for many operations and the corporate office. These plans are typically developed and maintained by the Safety Department in cooperation with the operations and External Affairs Department. These plans identify internal and external notification procedures and requirements including contact information and those authorized to communicate outside the company. Similarly, the SPCC addresses internal and external reporting as well as define the nature and frequency of inspections, training requirements, and recordkeeping with an emphasis on the importance of preventive measures and corrective actions in the event of an incident. Additional information on required notifications and reporting of environmental incidents is provided in the Minimum Requirements for Corporate Reporting available on the ACI Intranet.

2.4 Checking

The following section of the manual describes the measures established to ensure that potential deficiencies with environmental compliance are identified, corrected, and reported appropriately. This includes conducting routine inspections, performing internal self evaluations, initiating corrective actions, instituting preventive measures and maintaining records to demonstrate compliance.

2.4.1 Monitoring and Measurement

Forms, logs, checklists, calendars, schedules or automated notification systems are used to assure required monitoring, sampling, reporting, inspections, recordkeeping and submittals are being conducted in accordance with applicable requirements. EOPs and/or Work Practices emphasize the importance of proper sampling techniques, recordkeeping, data QA/QC, reporting, and other elements of the monitoring programs as needed. Appropriate training accompanies the EOPs. Required monitoring is conducted by the operations or qualified third-party contractors. The detection of exceedances by the laboratories or operations typically may occur days or weeks after sample collection. As such, a field review by the Engineering/Environmental Manager or an appropriate designee is not always warranted. Regardless, an attempt to reconstruct the conditions occurring on the date of sample collection is conducted so the cause, corrective actions and preventive measures can be determined. As part of this process, the laboratory may elect to reanalyze a sample or more closely examine the instrument calibration records, calculations, and potential interferences. Any exceedances or non-compliances identified in connection with the monitoring programs are reported to the Corporate Director, Environmental Affairs on a quarterly basis.

Monitoring equipment that is used to collect environmental data is calibrated according to manufacturer recommendations. Calibration records are maintained with the associated environmental files or by the consultant or commercial lab responsible for sampling or analysis. Other pertinent monitoring documentation is maintained at the operations and/or the commercial laboratories.

2.4.2 Evaluation of Compliance

The previously described programs for tracking and reporting of SMCRA NOV's on a monthly basis and performance under other environmental programs on a quarterly basis are used to evaluate overall compliance with legal requirements. The internal auditing programs described in Section 2.4.5 are another mechanism for evaluating compliance.

2.4.3 Nonconformity, Corrective Actions and Preventive Action

Deficiencies identified during routine inspections, reviews, self assessments or audits are documented and tracked using several different approaches. These may consist of identifying the location, issue, suggested corrective measure(s) and recommended preventive action on a checklist, log, or inspection report for routine inspections or reviews. More detailed findings and recommendations are typically associated with assessments and audit reports. Regardless of the format, the individual initially identifying an issue or a representative from Engineering/Environmental will typically be responsible for tracking resolution in cooperation with the responsible department. In those instances where preventive actions are appropriate, a joint or cooperative resolution by Engineering/Environmental and the responsible department will usually be implemented and documented. Minimum Requirements, Best Practice Guidance or other effective measures may be developed in some cases to minimize the potential for reoccurrence elsewhere.

A less formal process is used for issues identified in the field that may not warrant a formal corrective action. If an issue is identified that is not being addressed through this informal process in a timely fashion, the Engineering/Environmental Manager or General Manager may get involved.

2.4.4 Control of Records

Each operation is responsible for maintaining environmental records required by the applicable environmental statutes, regulations, permits and other approvals or authorizations for at least five years. Records should be easy to find and protected from loss or damage.

2.4.5 Internal Audit

Several programs have been established for assessing the compliance status of the operations with respect to the programs listed in Section 2.2.2.1. These programs include the following:

- Internal environmental reviews of selected operations using teams consisting of Corporate, Regional/Operational staff. These teams review compliance with a wide range of environmental programs. Third-party contractors are used as needed to assist with these reviews.
- Internal CMS audits for evaluating conformance of each operation to the ACI CMS Manual, Management System Procedures, Minimum Requirements, Best Practice Guidance, Environmental Operating Procedures, Work Practices, and forms, checklists, templates, schedules, calendars, flow diagrams, etc.
- Periodic site reviews conducted by environmental, engineering, operations, maintenance, and administrative staff at the operations.
- Routine inspections and reviews required under applicable environmental permits and programs.
- Audits of contractors, vendors, and non-owned disposal (NOD) facilities conducted by Corporate with the assistance of third-party consultants, Regional/Operational staff.

Records of compliance self evaluations and external compliance audits are maintained as confidential business information and subject to applicable legal privileges.

2.5 Management Review

A formal review of environmental compliance will be conducted periodically at each operation by the Corporate, Regional/Operational staff. The purpose of these meetings is to evaluate environmental programs and their effectiveness at maintaining compliance with regulatory requirements, permits, approvals, licenses and other authorizations. The periodic review meeting agenda will typically include the following topics:

- A review of the overall environmental performance of ACI.
- A discussion of any unresolved issues, corrective actions or preventive measures.
- A review of potential resource needs.
- A discussion of changing circumstances or anticipated issues such as new regulatory requirements that may impact the business.

- A discussion of approaches, objectives, or recommendations to improve environmental compliance over the next year.
- A discussion of significant accomplishments and awards.

These reviews will be documented and provided to senior management as appropriate.

2.6 Revision History

Revision Number	Date of Revision	By Whom	Section Revised	Summary of Revision
00	December 2008	Scott Lewis	NA	Initial release of document
01	April 14, 2009	Scott Lewis	All	Update to include Management System Procedures and change Standard Operating Procedure to Environment Operating Procedure.
02	December 3, 2009	Scott Lewis	All	Update to provide consistency with other CMS documents (e.g., Management System Procedures, EOPs, etc.).

APPENDIX 1
ARCH COAL, INC. AND SUBSIDIARIES
ENVIRONMENTAL POLICY



Arch Coal, Inc. and Subsidiaries
Environmental Policy

Arch Coal, Inc. (ACI) and its operating subsidiaries (jointly "ACI") have a strong commitment to the environment as responsible corporate citizens. We believe innovation, optimization, technological improvements, and continually striving for excellence are key elements of being an industry leader in environmental performance. Our vision is to be the most environmentally responsible supplier of coal-based energy in the world. ACI will accomplish these objectives by:

Compliance

Complying with applicable environmental laws, regulations, permits, authorizations, and other pertinent requirements.

Commitment

Striving to continuously improve our environmental programs and performance.

Training and Communication

Enhancing environmental awareness and performance through training of employees and contractors.

Communicating with employees, stakeholders, and the communities in which we operate.

Stewardship and Responsibility

Implementing effective and innovative environmental and reclamation programs reflecting our commitment to being responsible caretakers of the land.

Sustainability

Recognizing and balancing the economic, social, community, and environmental aspects of sustainable development.

Pollution Prevention

Practicing pollution prevention through conservation, reuse, and recycling.

APPENDIX C
Selenium Compliance Plan

1. Selenium Defendants shall construct a passive biological treatment system (“Selenium Treatment System”) at Outlet 002 of NPDES permit No. 1003763 in accordance with the plans and specifications set forth in Attachment 1 to this Appendix.

2. The Selenium Treatment System shall be designed to achieve compliance with the Selenium Limits by the Selenium Compliance Deadline.

3. The Selenium Treatment System shall be designed to:

a. Treat selenium laden water from an 8.7 acre watershed, primarily the Estep Hollow fill;

b. Treat at least 60 gallons per minute of feed water; and

c. Minimize potential ecological exposures and risk to fish and wildlife.

4. As further depicted and described in Attachment 1, the Treatment System shall include the following series of treatment cells:

a. Cell 1 – Vertical Downflow Bioreactor. This cell shall include a vertical downflow bioreactor consisting of a bed of enriched organic substrate over a limestone bed, with water ponded to an approximately 3-foot depth above the top of the substrate. The 0.16-acre cell shall be constructed with a 60 mil HDPE liner. Water will percolate down through the media and gravel beds and into a collector network of perforated intake pipe structures. The media shall consist of a mixture of composted manure, sawdust, wood chips, hay/straw, peat and limestone chips (i.e., sand-sized limestone grains). The flow will pass through the pipe via gravity downgradient to the inlet distribution system in Cell 2. Cell 1 shall be fenced to exclude people for safety and shall, at a minimum, be covered by a net to exclude birds and other animals.

b. Cell 2 – Vertical Upflow Wetland. This cell shall consist of an approximately 0.14-acre vertical upflow wetland consisting of a bed of sphagnum peat moss, overlying a bed of limestone, with water ponded near the surface of the peat substrate. Cell 2 shall be constructed with a 60 mil HDPE liner, but vegetation will either colonize or be planted in the peat substrate. Water will be distributed at the bottom of the media beds and will flow upward. Perforated pipe collectors shall be spread across the surface of the bed and discharge through a stoplog-type of overflow control structure to Cell 3. Cell 2 shall be fenced to exclude people for safety.

c. Cell 3 – Subsurface Flow Wetland. This cell shall consist of an approximately 0.16-acre pulsed-flow emergent wetland growing in a limestone gravel bed. The depth of ponded water will vary multiple times throughout the day from <1 foot below the gravel bed to 0.5-foot above the bed. The water level fluctuation will be caused by a passively operated siphon outflow structure at the outlet that pulses water to Cell 4. Cell 3 shall be planted with emergent vegetation such as cattails or bulrush.

d. Cell 4 – Subsurface Flow Wetland. This cell shall consist of an approximately 0.11-acre surface flow marsh cell designed to polish biochemical oxygen demand and related organic products that may be released by the bioreactor cell. Cell 4 shall be approximately 1 foot in depth and fully vegetated by emergent wetland vegetation such as cattails and bulrush, planted in native topsoil. Water from this Cell will be discharged over an overflow structure.

5. Selenium Defendants may propose deviations to the plans and specifications contained in Attachment 1, provided the deviations do not materially alter the Treatment System function and comply with Paragraphs 2 and 3 of this Appendix. Any deviations shall be subject to the review and approval of EPA, after consultation with the State. Any approved deviation shall be deemed incorporated into this Consent Decree.