25 years

PLEXUS scientific

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COMMITTEE ON RESOURCES

2012 MAR -8 AM 11: 33

March 2, 2012

Committee on Natural Resources
U.S. House of Representatives
1324 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Hastings and Subcommittee Chairman Lamborn:

I am responding to your letter of February 10, 2012, in which you requested documents and other items relating to Plexus's work as a subcontractor to Polu Kai Services (PKS) on the Environmental Impact Statement for the Office of Surface Mining's (OSM) Stream Protection Rule.

Most, if not all, of our project documents were posted on PKS's SharePoint drive created especially for this project. This facilitated sharing of documents, information, and drafts among Team members and with OSM. OSM project personnel had access to the contractor team's SharePoint portal, as well as one of their own hosted by PKS. Inasmuch as OSM terminated the project, I no longer have access to the SharePoint and do not know what documents or information remain.

The information summarized below and provided in hard copy and on the enclosed CD is, therefore, from my records of the project, most of which focused on those areas for which I was responsible. For example, I was only tangentially involved with the Regulatory Impact Analysis (RIA), so my records are sparse and incomplete regarding the economic impact analysis.

This response is organized in the same manner as your request, with my response following your requested information. Likewise, the tabs in the enclosed notebook correspond to your numbered questions, and the accompanying CD contains folders corresponding to the numbered questions.

Documents and Items to be Produced

1. **Any and all documents and communication relating to concerns, discussions, comments, or questions regarding the quality of Plexus's or any of its subcontractor's work from May 1, 2010 to the present.**

4501 Ford Avenue
Suite 1200
Alexandria, VA 22302
Tel: 703-820-3339

7130 Minstrel Way
Suite 215
Columbia, MD 21045
Tel: 443-319-8055

Response:

Cure Notice. The most notable communication from OSM regarding its perception of the quality of the Team's work is reflected in the OSM's Cure Notice letter dated February 8, 2011. The Team, collectively and via individual companies' input, took great exception to OSM's statements of alleged deficiencies. Each subcontractor provided PKS with input to the Team's response to the cure notice. The Team's response addressed each of OSM's alleged deficiencies and detailed OSM's numerous missteps, delays, and changed guidance that resulted in delays, revisions, and wholesale rewrites of various sections of the Chapters. As the Prime, PKS provided the Team's response to the cure notice and would be the best source for the response with all its supporting documents.

FW EIS Cure Notice.msg

The transcripts of the February 1, 2011 meeting in Washington, DC, and the February 10, 2011 meeting in Lexington, KY also provide some discussion of the various changes and issues surrounding the project. I have only a portion of the transcripts for that meeting. The remainder have presumably been provided by PKS. (See Tab 1/Folder 1: email, John Maxwell, 4/12/11, subject: transcribed meeting minutes).

transcribed meeting minutes.msg

Transcripts of other joint OSM – Team meetings should illustrate the level of discussion and exchange of information and ideas. Other than Part 1 of the Kick-off meeting (see Response to Question 6e), I no longer have access to those transcripts or recordings.

Public Open Houses. From the outset of the project, the Team approached the project as a collaboration, both among the contractors, as well as with OSM. We recognized that the Team needed to understand the elements of the agency's approach so that we could identify the issues and frame the analysis. The agency seemed to be happy with our performance early in the project, starting with the Public Scoping initiatives that we implemented on an extremely compressed schedule, conducting public open houses in nine (9) towns in coal mining areas across the country in just 10 days. See Tab 1/Folder 1: various emails summarized below

- 6/21/10 Bilbao (first project manager) to Bell re: Comments on Public Involvement Plan (PIP); "excellent PIP."

RE Draft PIP (6.40 KB).msg

- Uranowski (OSM technical team) to Bell re: Retransmission of earlier comments on PIP; "like the idea of having initial station describing EIS process."

FW DRAFT PIP (16.7 KB).msg

- 6/22/10 Bilbao forwarding Winters' (OSM technical team; rulemaking lead) email re: Comments on PIP; "very good job."

FW DRAFT PIP (12.0 KB).msg

- 6/22/10 Bilbao forwarding Mali's (OSM public affairs lead) email re: Comments on PIP; "looks good"; "reads smoothly and covers the necessary bases."

FW DRAFT PIP.msg

- 7/20/10 Bilbao to Bell re: Carbondale Open House; "great work"

RE Carbondale Open House (9.38 KB).msg

- 7/22/10 and 7/23/10 Bilbao to Bell re: Birmingham Open House; "excellent job"; "great work"

RE Recap of Birmingham Open Hou

RE News Media Attends Birmingham C

- 7/28/10 Bilbao to Bell re: Beckley Open House; "excellent job"

RE Summary of Beckley Open House (:

- 8/9/10 Sloanhoffer (KO) to Bell re: Scoping Report and timing; acknowledges OSM provided thousands of emailed comments a week late

RE Scoping Meetings (11.2 KB).msg

- 8/13/10 Sloanhoffer (KO) to Bell Email String re: Mailed comments still not provided; government creating delay

RE Status of Mailed-In Comments (10.2 KB).r

- 8/31/10 Bell to Craynon (Initial EIS lead/replaced Bilbao as project manager) re: Submission of Draft Scoping Report (hard copy not printed, but electronic version included here and on CD)

DRAFT Scoping Report (2.26 MB).msg

- 8/31/10 Uranowski to Bell re: Draft Scoping Report; "great job"

DRAFT Scoping Report (8.29 KB).msg

I continued to provide summary reports after each open house, but received no additional feedback from Ms. Bilbao, project manager, as she was traveling at first and then was replaced as project manager during the last open houses in Kentucky and West Virginia.

We were able to deliver our Draft Scoping Report on time despite numerous delays in receiving from OSM public comments that had been provided directly to the agency (see Sloanhoffer emails above). Nonetheless, the emails make clear that the quality of the work before, during, and after the open houses was "great" or "excellent."

Preliminary Draft EIS Chapters. OSM required that the Team submit each Chapter for review and comment as it was completed. This approach is not unusual and not unworkable, except in this case, the agency was continually changing, rewording, adding, or deleting alternatives and approaches, even after it had approved a section or Chapter. This constant turmoil affected the analytical process going forward and caused the disjointedness among sections and Chapters 2, 3, and 4.

As the agency struggled to define the Need and Purpose of the federal action (Chapter 1 of an EIS) and provide a comprehensive Description of Proposed Action and Alternatives (Chapter 2), the Team stepped in to provide the needed expertise and structure, albeit with some considerable struggle within the agency to settle on specific approaches and language. These critical first two Chapters of an EIS define the framework for analyzing the Affected Environment (Chapter 3) and the Environmental Consequences (Chapter 4).

Yet, it took weeks for the agency to settle on and agree on concepts, language, and organizational changes for Chapters 1 and 2, which resulted in delays and false starts for the technical analyses by the subject matter experts. OSM's initial attempts at defining the Need and Purpose were provided in the prime contract's

statement of work, but it was wholly inadequate and the Team had to substantially rewrite it. Even after the OSM staff had reviewed and approved the redrafted Chapter 1, however, we learned that the Director had comments that had not been provided previously and additional reorganization and revisions were required.

Chapter 2 was in flux for virtually the entire nine month effort, making substantive analysis in Chapters 3 and 4 a somewhat moving target. Because the rulemaking sought to undertake a complete review of all aspects of SMCRA with an emphasis on stream protection, the list of alternatives and various combinations thereof was extremely complex. In the Notice of Intent, the agency identified 11 principal elements on which it sought public comment. As the Team attempted to lock in the various alternatives, the agency continued to change, add, or delete alternatives within the 11 areas. Even more complicating was the fact that the agency wanted to combine the 11 individual elements into five (5) overarching alternatives, so that we had alternatives within alternatives covering the 11 elements. For example, Alternative 1 was the No Action alternative, incorporating the status quo of each of the 11 elements. Alternative 2 was to be the most protective of the environment, thus incorporating the most environmentally protect alternative of each of the 11 elements. Alternative 5 was the Preferred Alternative, reflecting the new Stream Protection Rule/SMCRA revision language for each of the 11 elements.

I mention this backdrop because OSM's criticisms of the Team then and since largely grew out of a complex analytical structure dictated by OSM and what appeared to be an internal OSM debate. Initially, OSM organized into two teams – an EIS team and a rulemaking team – ostensibly to separate the informed decision making NEPA process from the technical rule writing. After a while it was apparent, the two groups did not agree.

2. Any and all recordings of meetings attended by Plexus, other contractors, OSM, and/or DOI.

Response: Each OSM – Team meeting, in person and telephonic, was supposed to be recorded and transcribed. PKS personnel used digital recorders to record the meetings. Once transcribed, I believe the previous meetings were taped over. I only have one audio recording, recorded on or about February 2, 2011, of a meeting between PKS project manager and OSM economist. It's very poor quality as it was recorded on one of the participant's cell phone. (See email, Randy Sosa, subject: Voice Notes from RIA Meeting with Ben Simon)

Voice Notes from RIA
Meeting with Ben Sim

3. **Any and all transcripts of meeting recordings between Plexus, other contractors, OSM, and DOI.**

   Response: The transcriptions were placed on the PKS SharePoint. Few of us had any opportunity or time, for that matter, to refer to the transcripts given the compressed time schedule. Most of us relied on our notes and our memories for relevant details, direction, or requirements. As such, I have only the one email with the transcription of part of the February 1st and 10th meetings, as previously noted. (See email, John Maxwell, 4/12/11, subject: transcribed meeting minutes)(appended above in Response to Question 1).

4. **Any and all documents and communication relating to the economic impact or potential job loss estimates or figures from October 1, 2010 to the present.**

   Response: Inasmuch as Plexus was not directly involved in development or discussions concerning the economic impact analysis or preparation of the RIA, we have limited information.

   See Response to Question 2. See also below email from John Maxwell forwarding a copy of the Conceptual Regulatory Impact Analysis Summary to the Team, along with questions from OSM regarding the production shift methods.

   RIA Summary submitted to OSM on :

   Without elaborating or attempting to explain their import, I have attached several emails regarding the RIA study area, organization, schedule, and drafts.

   Study Area for RIA.msg | RE Study Area for RIA.msg | RE Study Area for RIA.msg | Draft RIA Outline - Proposed Stream Prot | RE Conceptual RIA schedule.msg

   FW Montana Counties - Follow up.r | OSM - October 19 F2F for RIARIA.msg | FW ria.msg | RE Clarification on the Cure Notice.msg

5. **Any and all documents related to Plexus's role in the preparation of the Environmental Impact Statement for the proposed Stream Protection Rule, including but not limited to any descriptions of which portions of the EIS Plexus was responsible for.**

   Response: The PKS-Plexus subcontract provides the best description of the scope of Plexus's role in preparation of the EIS. Among other responsibilities as depicted in Appendix A of the subcontract, Plexus provided advice and input on compliance with NEPA regulatory; implementation of the public involvement process, drafting portions of Chapters 1 and 2; review and editorial comment (not

technical or substantive) of Chapters 3 and 4; and overall assembly and production of the PDEIS.

6.24.10 PKS Plexus Agreement(jmm).doc

6. Any and all documents and communications relating to the baseline parameters provided by the DOI or OSM including but not limited to:

a. The baseline parameters that were provided to the contractor teams prior to and including February 2011.

Response: Initially, OSM directed the team to use 2008 production data. That guidance, however, was later questioned by the technical team and other alternatives were suggested (see Response to Question 6b).

Stephanie Varvell's (COR) email dated 12/20/10, subject: Confirmation of EIS Analytical Methodology – confirming use of 2008 data, as approved by John Craynon, EIS lead and project manager

RE Confirmation of EIS Analysis Methodol

b. The baselines and parameters provided to the contractors after February 2011.

Response: In January and February 2011, OSM questioned the use of the 2008 production data as the baseline from which production shifts should be measured. The Team and OSM discussed alternatives, as evidenced by the transcript and emails described below:

Transcript of discussions on 2/1/11 (partial transcript provided in Response to Question 1).

John Morgan's email dated 2/6/11, subject: Coal Production Forecast, suggesting dynamic modeling based on 2010 data published by the Energy Information Administration (EIA)

Coal Production Forecast (8.81 KB).ms

Bill Winters' (rulemaking lead and third project manager) email dated 2/8/11, 7:27am, subject: Coal Production Forecast, stating he "likes the dynamic idea a lot."

Re Coal Production Forecast (10.6 KB).ms

Bill Winters' email dated 2/8/11, 12:29pm, subject: Strategy to address Comments & Concerns, in which he suggests the use of a 2-3 year average to determine baseline conditions (page 2 of Chapter 4 Word attachment).

FW Strategy to address Comments C

As indicated in the emails and discussion above, there may be valid reasons to shift from reliance on the 2008 data, but there was too little time to discuss the merits and too little time to change the documents and analysis already underway or near completion. So, while OSM criticized the use of the 2008 data, it is what OSM initially required.

c. The decision to expand the scoping opportunities for the re-write of the Rule.

Response: The OSM Request for Proposal (which later became the Statement of Work for this EIS contract) stated that the contractor would be required to participate in the scoping process (paragraph 6.1), but it did not indicate the expected level of effort. In response to question a question regarding how many scoping meeting were contemplated, the contracting officer responded:

> We don't have any plans but for contingency planning purposes there should be 5 line items to include: 2 meetings in Appalachia, 1 in Western Region, 1 in mid-continent, and one in DC. These line items should only be charged if the meetings actually occur.

This seemed a bit odd since Scoping is an important first step in the NEPA process, without which a subsequent legal challenge would almost certainly succeed. We provided cost estimates for the five meetings.

At the project kick-off meeting on June 7, 2010, we were surprised to learn that the agency indeed did not intend on conducting *any* scoping meetings in conjunction with the EIS development. OSM personnel indicated that over the past several weeks, the Director had met with target audiences, invited guests, and special interest groups regarding the agency's plans, but OSM did not characterize those meetings as NEPA scoping meetings. The Team strongly advised the project manager, EIS lead, Deputy Director, and Director to conduct some level of public scoping as part of this EIS. We cautioned that failure to do so would put

in jeopardy the rest of the EIS effort and open the agency to litigation, a distinct possibility anyway given the controversial nature of the proposed federal action.

The Director took our recommendations under advisement. On June 8th, OSM informed the Team that the agency had decided to move forward with public scoping, the form, location, and timing of which would need to be determined quickly as no additional time would be provided in the schedule. OSM decided to conduct public open houses, a less formal approach than a public meeting or hearing, in nine (9) towns in coal mining regions across the country. The coal experts on the Team provided several options for locations. Plexus was responsible for arranging and conducting the public open houses. Part 1 of the kick-off meeting transcript is attached, but we had not yet discussed the public involvement strategy. I do not have a copy of the transcripts for the rest of the Kick-off meeting.

Several days later, OSM settled on the nine locations: Carbondale, IL; Evansville, IN; Fairfield, TX; Birmingham, AL; Hazard, KY; Beckley, WV; Morgantown, WV; Farmington, NM, and Gillette, WY. Plexus drafted a Public Involvement Plan, arranged venues, lodging, transportation, newspaper notices, court reporters, and security for each of the locations. All nine (9) public open houses were held July 19 – 29, 2010. Thereafter, Plexus compiled and analyzed the over 20,500 public comments that were received at the open houses (445), via email (20,011), via courier or surface mail (111), and via the federal website (4). Plexus provided a Scoping Report on August 31, 2010.

d. The decision to use the 2008 coal production numbers, the 2010 coal production numbers, or an average of the three years combined in creating the assumption for the EIS or the RIA

Response: See Responses to Questions 6a and 6b above and emails cited therein. Other subcontractors may have more specific direction since they were responsible for those tasks and areas of the EIS process. Plexus was only peripherally involved in this coal-specific analysis.

e. Whether the proposed rule would cover only surface mining or surface and underground mining.

Response: Although the Team had repeatedly raised the applicability of the new rules to underground mining, it was not until our OSM – Team meeting on 9/20/10 that the project manager provided a definitive answer. The Team and even some OSM personnel were surprise to learn that OSM intended to develop new rules applicable to underground mining. Some of the pertinent issues were reflected in a list of action items arising out of the meeting.

- 9/23/10 Bell to Sosa Email reflecting Bell's recollection of action items, including references to underground mining.

RE Action Items.msg

PKS raised the Team's concerns in a letter dated 9/24/10, an unsigned copy of which is included at Tab 6/Folder 6 (the signed version would be in the PKS or OSM files).

The Team continued to research whether any mention of underground mining applicability had been made, going back to the Kick-off meeting on June 7-8, 2010. Part 1 of the transcript of that meeting is attached below and indicates that the discussion centered on surface mining and the rulemaking, with no mention of underground mining. I do not know if the rest of the transcripts for the kick-off meeting addressed the underground mining question, but it remained an open issue.

- 9/30/10 Sosa to Maxwell Email with Part 1 of Kick-off Meeting Transcript in which discussion is about surface mining and no mention is made of underground mining.

FW Discovery.msg

The discussion of underground mining continued during OSM – Team meetings and discussions between the PKS and the contracting officer. Despite OSM's assertions, the issue of the new rules applicability to underground mining was still very much in question as evidenced by the below email:

- 10/5/10 Sosa to Team Email stating that OSM lawyers were questioning whether the underground mining impacts could be brought within the rulemaking since notice had never been provided by the agency.

RE Underground Mining.msg

On 10/7/10, the contracting officer responded to the PKS 9/24/10 letter, indicating the agency's view underground mining impacts are within the scope of the PKS contract.

FW Fw .msg

The discussion regarding underground mining continued, as reflected in the 10/26/10 email from Team member Steve Gardner to John Craynon (project manager) seeking clarification.

RE Underground
Mining Clarifications F

f. The implementation timeline for the Stream Protection Rule

Response: By email dated 2/18/11, Bill Winters forwarded to John Morgan, Steve Gardner, and Dianne Shawley a document entitled, "Implementation of Stream Protection Rule."

FW Implementation
Timeline (23.8 KB).ms

g. Assumptions that the 2008 Rules was in effect and being enforced across the United States

Response: This assumption was discussed at the February 1, 2011 Washington, DC meeting between OSM and the Team, a partial transcript of which has been identified previously in the Response to Questions 1 and 6b.

7. Copies of any and all agreements to maintain confidentiality including but not limited to "gag" or suppression orders or agreements and related conditions associated with such orders or agreements.

Response: The prime contract's Statement of Work (which was incorporated in full into the Plexus subcontract attached in the Response to Question 5 above) restricts the dissemination of information by the contractor team to anyone without the approval of the contracting officer (SOW paragraph D on page 29 of 109 and SOW paragraph F.3.2 on page 85 of 109).

By email on 3/23/11, John Maxwell, PKS, requested comments from the Team regarding Draft Mod 5 to the OSM – PKS contract. Mod 5 would essentially terminate the contract. Paragraph 2 states, "OSM and PKS agree not to make any statements, written or verbal, or cause or encourage others, including subcontractors, to make any statements … that defame, disparage, ridicule or in any way criticize the personnel or business reputation, practices or conduct of the other party…."

OSM Mod 5 change
order.msg

Although the Team urged PKS to press for additional assurances from OSM that it would not issue an adverse contractor evaluation, PKS was apparently not successful in persuading OSM to include that assurance.

The Final Contract Modification to the PKS – Plexus subcontract contained the same language that OSM had insisted be included its Mod 5 terminating the OSM – PKS prime contract. That language is reflected in paragraph 5 of the Final Contract Modification, tailored to the PKS – Plexus subcontract. It states, in part, that "PKS and Plexus agree not to make any statements, written or verbal, or cause or encourage others … to make any statements … that defame, disparage, ridicule or in any way criticize the personnel or business reputation, practices or conduct of the other party…."

PKS-Plexus Final
Subcontract Mod - Sig

Also, apparently relaying direction from OSM, Randy Sosa, PKS, sent the Team an email on 4/5/2011, directing us not to respond to any reporter question, but to refer the reporter to OSM. This email was sent after OSM had terminated the prime contract and after PKS had terminated each of the subcontracts. This reminder was in response to my request for guidance on dealing with calls from two reporters, one from the NY Daily News and one from the Wall Street Journal (WSJ). The Daily News did not leave a message; the WSJ reporter did. Neither reporter called back. (See email, Randy Sosa, 4/5/11, subject: Re: Any Reporters Call You??)

RE Any Reporters
Call You .msg

I trust this information is responsive to your request. Please feel free to contact me should you have other questions or require additional clarification. I can be reached at (703) 845-5602 or at dbell@plexsci.com.

Sincerely,

David E. Bell, Esq.
Vice President and General Counsel

Enclosure
Notebook with documents and CD

United States Department of the Interior

OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
Washington, D.C. 20240

February 8, 2011

Mr. José J. Sosa
Executive Vice President
Polu Kai Services, LLC
6911 Pistol Range Road, Suite 101E
Tampa, Florida 33635

Subject: Cure Notice for Contract Number S10PC00060 with Polu Kai Services, LLC, Environmental Impact Statement and Regulatory Impact Analysis for Proposed Stream Protection Rule.

Dear Mr. Sosa:

This letter is notice that the Office of Surface Mining Reclamation and Enforcement (OSM or the Government) considers Polu Kai Services, LLC's (PKS) failure to deliver working draft chapters of the Environmental Impact Statement (EIS) and Regulatory Impact Analysis (RIA) that meet the requirements of the contract to endanger performance of the subject contract to such a degree that the entire EIS project is in jeopardy. Unless PKS submits a Preliminary Draft EIS and RIA that cures the deficiencies identified and meets the requirements of the SOW by February 23, 2011, the Government may elect to terminate for default under the terms and conditions of Section I, 52.249-8 of this contract.

Throughout this process, OSM provided voluminous comments to PKS that document many of the deficiencies in working draft chapters 1 through 4 of the EIS, and with the December 2010 draft RIA prepared by PKS. In addition to these prior written comments, attached is a list of examples that further illustrate the deficiencies identified by OSM staff. This list and the prior written comment provided to PKS, which are incorporated by reference here, is intended to be representative of deficiencies and is not all-inclusive. OSM will evaluate the February 23, 2011, deliverables against the requirements set forth in the contract.

In responding to this cure notice you are required to tell the Contracting Officer what actions you will take to remedy your performance - specifically, (1) how PKS will fully implement the requirements for the EIS which are set out in the contract; (2) how PKS plans to bring into conformance the preliminary Draft EIS and RIA in light of the failure of the working draft chapters and the draft RIA to meet contract performance standards; and (3) how PKS will prevent any similar reoccurrence of deficient performance. It is your responsibility to correct your performance to meet the requirements of the contract and cure these deficiencies no later

than February 23, 2011. Failure to correct performance may result in the termination of the contract.

Please acknowledge receipt of this notice in writing within 24 hours of receipt. If you have any questions or concerns regarding this cure notice letter, please do not hesitate to call me. I can be contacted at (202-208-2902) or via email at nsloanhoffer@osmre.gov.

Respectfully,

Nancy E. Sloanhoffer
Contracting Officer

Cc: US Small Business Administration
409 3rd Street, SW
Washington, DC 20416

Attachment

ATTACHMENT

I. Environmental Impact Statement (SOW 2.0 Background)

The SOW for the preparation of the EIS provides: "The EISs and the processes for their preparation must be consistent with and meet all requirements of NEPA and implementing CEQ regulations (hereafter referred to as the CEQ regulations) and guidance. These requirements are referred to collectively hereafter as the federal NEPA requirements, or simply NEPA. Contractor data collection, analysis, and documentation will identify and evaluate all relevant impacts, conditions, and issues associated with the proposed action, and the alternatives in accordance with NEPA."

According to page 7 of the PKS technical proposal submitted in response to the SOW under the heading *Expert Knowledge of Environmental Impact Statement Development Process and this Statement of Work* states, "This NEPA analysis and documentation applies to a proposed federal rule .... NEPA established a requirement for federal decision makers to fully understand the environmental ramifications of their decisions and include this knowledge, along with traditional economic and technical (and political) considerations, into the trade-off analysis and comparisons associated with sound decisions." The working draft EIS chapters fail to provide the information required by the SOW, do not comply with NEPA, and are not acceptable. In order to cure the deficiencies, PKS must submit a Preliminary Draft EIS which meets the requirements of the SOW. OSM provided detailed comments to PKS on each of the working draft EIS chapters, which identify deficiencies and inaccuracies in those chapters. The following are examples of some of the fundamental deficiencies that OSM's comments identified in the working draft Chapters 3 and 4 of the EIS:

- **Misrepresentation of regulations. (SOW A, 3.2 F and J (2)(e))**

Working draft chapters 3 and 4 fail to accurately characterize relevant provisions of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) and current regulations at 30 C.F.R. Chapter VII. We are particularly concerned about numerous errors regarding the 2008 Stream Buffer Zone Rule, 30 C.F.R. Parts 780, 784, 816, and 817; the Advance Notice of Proposed Rulemaking (ANPR) for the proposed Stream Protection Rule (SPR), 74 Fed. Reg. 62664 (November 20, 2009); and statutory requirements relating to "material damage," 30 U.S.C. § 1260(b)(3), which are found throughout draft EIS chapters. The draft EIS is fundamentally flawed because the draft impact assessment relies on these mischaracterizations and erroneous interpretations of SMCRA, 30 C.F.R. Chapter VII, and OSM's preferred alternative.

- **Baseline condition. (SOW A, 3.2 J (1))**

Working draft chapter 4 of the EIS fails to use 30 C.F.R. Chapter VII in its entirety as the baseline for all comparisons of the impacts of action alternatives. Further, draft chapter 4 inappropriately relies on 2008 coal production data, the highest coal production ever in the

history of the US, as the basis for drawing conclusions, thereby failing to account for the impact of supply and demand economics.

- **No description of current mining and reclamation regulations and practice. (SOW A, 3.2 C)**

The EIS fails to contain a description of the current regulatory structure and practice for each of the major elements in the EIS under all alternatives.

- **Inconsistent level of detail across regions. (SOW A, 3.2 D and J (2)(d))**

Working draft chapter 4 of the EIS fails to provide an appropriate level of detail in evaluating impacts for all coal regions and the analysis of impacts of the proposed action is skewed to focus disproportionately on one region (i.e., the Appalachian Basin).

- **Impact Analysis. (SOW A, 3.2 D and G)**

A crucial shortcoming of working draft chapter 4 is that the draft does not include an adequate analysis of the environmental impacts of key aspects of the action alternatives. Instead, it effectively focuses on the impacts of different levels of coal production, as a surrogate for analysis of environmental impacts of key aspects. As a result, the EIS fails to provide the most fundamental and important type of analysis required under NEPA. By the same token, while some discussion of costs and other impacts on mining operations may be appropriate, it belongs in a discussion of socio-economic impacts, and not in the primary discussion of environmental impacts.

Another critical shortcoming of working draft chapter 4 is that the draft does not provide a comparative discussion of the most important impacts of each key element of each alternative, so that a decision maker can decide whether to retain, reject, or modify particular elements when acting on the rulemaking. The most important impacts would include any important costs and benefits that should be considered. For example, draft chapter 4 does not provide sufficient information to enable a decision maker to determine the costs of the key elements of the preferred alternative or any other alternative. And the lack of this information renders the EIS useless for purposes of assessing and perhaps modifying the alternatives.

The draft EIS fails to include or reference a cost-benefit analysis of the probable costs of the proposed rulemaking, and a monetized benefit equivalent, to evaluate the overall net impact of the rulemaking. It is OSM's understanding that an underpinning of the impact analysis in the

draft EIS is the Appendix –L to the RIA which contained "placeholder" cost data intended to be illustrative of the methodology only and should not have formed the basis of all cost and impact assumptions in chapter 4.

The EIS working draft chapter 4 lacks an analysis of the increased compliance cost on the coal equilibrium supply and demand model and fails to explain the impacts of the price increase on important model outputs such as jobs, electricity supply and demand, and other important impacts.

- **Environmental Impact Assessment. (SOW A, 3.2 J)**

The EIS working draft chapter 4 fails to provide the underlying assumptions and calculations to support the 'Expert Elicitation' process used to arrive at the impact metric; it fails to provide the assumptions and thresholds used in the metrics that quantify the impact of the various alternatives in each of the coal regions; and it fails to thoroughly vet all variables and provide clear foundational support in the numerical analysis.

- **Cumulative impacts analysis. (SOW A, 3.2 J.(4)(r))**

The EIS fails to include a cumulative impact analysis for impacts on ground water or an explanation of why an analysis is not needed or provided; the cumulative impact tables fail to provide a more complete, summarized description of the cumulative impacts; and the cumulative impact tables fail to differentiate by regions. The lack of adequate cumulative impact analysis is one of the more frequently cited serious shortcomings for an EIS under NEPA, and it is crucial to provide sufficient analysis of such impacts.

- **Coal production shifts. (SOW A, 3.2 D and J)**

Working draft chapter 4 of the EIS fails to consider the fact that anthracite coal production in the Appalachian Region cannot be "offset" by bituminous coal production in the western US and that therefore offsets for metallurgical coal production impacts may not be achievable under the assumptions used for coal production shifts.

- **Production shift methodology. (SOW A, 3.2 D and J)**

The EIS fails to include an analysis using a numeric method to support the production shift model and associated conclusions drawn in chapter 4.7 and discussed throughout chapter 4.

II. Regulatory Impact Analysis (SOW Section A, 3.2 H and J)

The EIS shall contain a Regulatory Impact Analysis (RIA) with cost-benefit data that fulfills the requirements of sections 6(a)(3) (B) and (C) of Executive Order 12866, 40 CFR 1502.23, OMB Circular A-4 and the Regulatory Flexibility Act (5 U.S.C.601) and provides documentary support for the analysis. The document submitted by PKS in December 2010, fails to comply with the requirements referenced in the SOW.

In order to cure the deficiencies, PKS must submit a revised RIA which meets the requirements of the SOW, and at a minimum:

- Discusses in conceptual terms how the economic analysis is approached, how costs and benefits are estimated, and how they are evaluated for this analysis;

- Discusses the need for the regulation, specifically addressing the extent to which market failures or information asymmetries are present. Discusses the necessity for the rule with regard to the conditions that indicate that a regulatory approach is appropriate;

- Corrects the numbers in Appendix-L to the RIA that were only intended to serve as "placeholders" to illustrate the cost impacts of the Stream Protection Rule (SPR) and that PKS later erroneously retained in its cost/benefit analysis;

- Includes a side-by-side table to facilitate a comparison among costs and benefits of three alternatives compared to conditions under OSM's 1983 rules (attributed to be zero): costs and benefits of the baseline 2008 rule, the most environmentally protective alternative, and the proposed regulation;

- Includes a side-by-side table to facilitate a comparison between the status quo and the proposed regulation;

- Discusses the methods and models used in the analysis in addition to providing the data sources;

- Includes a section on distributional issues related to coal production ;

- Clearly distinguishes between economic benefits and costs, transfer payments, and economic impacts; PKS was repeatedly warned *that impact analysis should not be the primary tool used for the regulatory impact analysis* and that reliance on the IMPLAN economic model was inappropriate for a cost/benefit analysis;

- Clearly states that the goal of the analysis is to evaluate net economic benefits from a national perspective;

- Defines the regulatory base line against which the net benefits will be evaluated;

- Defines the period of analysis and justifies the selection of this period;

- Discusses the anticipated pattern of implementation over time and how this might impact the accrual of the benefits and costs over time;

- Defines cost categories and explains how all costs were derived (e.g., compliance costs, OSM administrative costs, foregone production, increased electricity costs to consumers);

- Defines the benefit categories (e.g., water quality improvements, recreation benefits, health/safety, and visibility/noise reductions);

- Explains specifically how the regulation would be anticipated to affect each type of benefit in physical/biological terms and discusses how these effects might be monetized;

- Includes avoided costs as a measure of benefits and a justification for this approach and discounts costs and monetized benefits to the present; and

- Focuses on the net economic benefits to the nation rather than by region.

Meeting Transcript, Part 3
Date: February 1, 2011
Location: Washington, D.C.

Files: Mtg, 02-01-11, Part 031.mp3

Participants:

Abbreviation	Name	Affiliation
BM	Brent Means	OSM
DB	Dave Bell	Plexus
DS	Dianne Shawley	OSM
EL	Edmundo LaPorte	ECSI
JB	Jeff Baird	ECSI
JC	John Craynon	OSM
JJ	Josh Jenkins	Mactec
JMa	John Maxwell	Polu Kai Services
JMo	John Morgan	Morgan Worldwide
JS	Jose Sosa	Polu Kai Services
JZ	Joe Zaluski	ECSI
NS	Nancy Sloanhoffer	OSM
RS	Randy Sosa	Polu Kai Services
SG	Steve Gardner	ECSI
SV	Stephanie Varvell	OSM

BM 4:57:31	Alleged mischaracterizations of the proposed rule. And, I can point out one you guys might already know about and I don't know how to work through this other than we need to work closer with you, but you guys might have already seen this in alternative 5, see what page it is. It's just that one where, let me see... and there's been a couple of those where there were questions whether that's what was really intended by the rule. The one in alternative 5, it was about long wall mining, it was on the second page of Alternative 5, and again, I don't know. Part of me wanted to bring the mischaracterization issue up because ultimately if you guys. I don't know if the folks who developed the numbers for the production shifts were the same ones writing some of this so that if something is stated here, that then carried through in the production numbers. Because if that's right then I'd say those production numbers are really going to change. But, on 4-1-96 it says, for example, line 24 so 4-1-96 line 24, 'If it is predicted that a long wall mine operation would, under a stream, would cause the stream to experience a decrease in elevation, so if a long wall mine would subside a stream it would be reasonable to assume that returning that stream to a pre-mining elevation would be difficult, if not impossible. Therefore the RA would not issue a permit for that long wall operation.' And, talking to Bill, and actually the Director, we even had him on the phone, that would not be the intent, we are not going to prohibit subsidence if subsidence propagated to the surface would changed the elevation of the stream. The only time that a long wall mine would basically be prohibited is if there is a prediction of material damage. And, obviously subsidence is one...
JC 2:18	Change in elevation is not that. The definition of material damage in the proposed rule focuses on loss of stream use, impairment of use.

Meeting Transcript, Part 3
Date: February 1, 2011
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BM	And the only way I could sort of try to twist the words around to say this might end up (unintelligible). If you had a coldwater fishery that was high gradient, you subsided it and made a huge pool, somehow it warmed the water up, water's not moving fast, that somehow you might change the use of the stream from cold water to warm water. But, that's a very unique scenario. There's been some allegations before where a change in stream elevation has resulted in a change of use. But I think most of us would agree that most changes in use are going to come through water quantity and quality impacts in general. And so, I'm just not sure, one question I had was, is this how you guys used this in developing the numbers?
JMa	(unintelligible)
BM 3:01	O.K. Well, then that clarifies for us at least the ...
JMo	The production shifts preceded this by months.
BM	So, the production shifts may not necessarily be in concert with some of the text then? O.K. Then we need to probably work to get those. Because, obviously, as soon as I read that, I'm looking at the production shifts, saying there's predicted increases in underground mining. Well, those predicted increases in terms of production are going to be off because this was misinterpreted so
JZ 3:36	I'm going to relay to you what my understanding was in a debate with Bill, not a debate, discussion. Tell me if my understanding is inconsistent with what you just said. I remember the scenario was if the depth to cover is less than 400 ft that, and there were streams were on the permit, there was a big discussion of what a permit is for a deep mine. All that aside, let's assume the shadow area is not on the permit. If the depth to cover was less than 400 ft, the question I asked Bill was, if there is a stream in that zone, you're telling me Bill, that you would not issue a long wall permit. His first answer was "That's correct." His second answer was "In Tennessee we can design ways to work around that." We can work the long wall panel around that stream." Whether that's operationally sound would depend, I guess, on (unintelligible) I don't see that happening.
SG	I don't think he said Tennessee. I think he just said he thought there was a way to redesign long walls regardless of where they were.
JZ	But the bottom line I heard was, we would not issue that permit if it was predicted. Is that inconsistent with your understanding now?
BM 5:00	Absolutely, basically Alternative 5 would be a prohibition on subsidence. And as long as subsidence doesn't reach the threshold of material damage, then the permit would be issued. I mean, you could subside a stream, change the elevation, you'd require repair, let's say, but....
JZ	I remember that discussion and he said the magic number, Brent, was 400 ft.
BM	Well that's a Pennsylvania rule-of-thumb. It works for Pennsylvania.
JZ	But the bottom of the discussion, or the end of the discussion was, the permit would not be issued.
JC	If material damage is predicted
JZ	Which does not necessarily, by definition, include sinking a stream.
JC	If you change the designated use of the stream, which is a possibility, like the scenario Brent was just talking about. You change it from a cold water fishery to a warm water fishery, because of the stream morphology changing as a result of subsidence
JZ 5:55	So I could sink it, but not change its use. I don't mean to be flip.

BM	Absolutely.
JC	Exactly right.
BM	Most designated uses are described based on water quantity and quality, not on stream morphology. Underneath state, so, I mean, if that was true, what you were saying, of what Bill said. I not sure who this Bill guy is (unintelligible). You guys have these conversations and I'm not really sure what Bill is telling you.
JZ	These were in fairly public rooms, where we had these discussions in. My question was, because of the production issue, the modeling, do we take that type of production out. That, we're going to lose that long wall and the further answer, I can tell you a couple of weeks later was, all we have to do is double room and pillar mining. That came from OSM. Again, I think that's operationally very difficult. But, that said, that was the backup to the position that we're not going to issue the permit. Rather than lose the reserve, we'll mine it conventionally and just increase, double the size of the mine, so, that's where we're coming from. That was the assumptions we were told to make.
BM	And, I understand what you're saying. Bill is like an X-file, I know he exists but I never see the guy.
JZ	I'm going to drag [him] up here next time.
JC	This is part of the reason the meeting was scheduled for 9:30 (unintelligible).
JZ	So, what I just told you is inconsistent with what you're understanding.
BM 7:29	Oh, absolutely. I personally think, if we had Bill here, it may result in Bill and I having an interesting conversation. But, that would end up being a prohibition against subsidence. No, if you think about it, the other thing is, could you actually rob water or cause water loss from a stream, would that automatically reach the threshold of material damage. Say it was flowing at 10,000 cfs and now it's flowing at 7,000 cfs, my answer would be, yes that's allowable. As long as that stream still meets it's designated use, that would be allowable. (unintelligible)
EL 8:06	We're all here debating between the hypothetical and the realistic scenarios. Because I can assure you, if I go with the permit application to OSM, I tell them that I'm going to sink the bottom of a river 20 ft, they're not going to give me a permit. Because, how can the regulator be assured that that will not impact the hydrologic conditions of the stream?
BM	The regulator knows that it's going to meet, permits. We don't have our blinders on. In southwestern Pennsylvania we don't have our blinders on saying permit application says no impact. Actually, there's descriptions of impacts it's just never going to meet the threshold of material damage. And the regulator has to meet a finding that's not going to reach that threshold. But, I mean, we're not morons out there in that long wall mining isn't subsiding streams. In fact, we're monitoring it, we're watching it happen.
EL	No, what I mean is how can the person who's supposed to issue the permit be assured that material damage will not occur? In my experience...
BM	No one has a crystal ball, but again it's through this increased baseline data collection as part of this proposed rule. More information you have, the theory is, the theory is the more information, the better the prediction and the better analysis. But, in the end the permit author, the regulatory authority has to make the permit finding that he believes that material damage is going to be prevented. Now, is he going to bet his house on it? I doubt it, but the theory is that no permit is being issued. So I just want to at least pick out one example where I was getting very confused. And, I'm glad to hear that this was not getting carried in the production analysis. That this was just, whoever wrote this might have been confused. And, I

	understand why you guys get confused. Oh, well, I understand why you get confused because I remember the first meeting in Atlanta or whenever we were at least talking about underground mining, that a lot of us were confused about underground mining. So, anyway...
SG 10:16	And I think we're still somewhat confused about the application of the rule to underground mining.
JC	The x-files Winters.
SG	I won't say that we totally did not consider some of those. I think that there's that uncertainty about what might be applied.
BM	I really think that if a lot of your predictions are either production shifting our west or shifting underground, let's say regional shifts underground like in Appalachia, we need to have a very serious conversation with Bill, the Director, and others who really envision how these are going to be applied to underground mining so that you guys can make the impacts reflective of the rule. Cause, my understanding of it might be different from Bill's. But...
JC	No, I think what you've described here is consistent with the way I understand the intent.
SG	And I agree, we should probably change this wording on the decrease in elevation by itself. But, I think we still think there will be situations where long wall mining will not be allowed, that's currently being allowed.
BM	Absolutely. Because right now, I guess allowing long wall mining is not premised on changing stream use under SMCRA. Now, clean water act people would have a heart attack if they saw that, but under us, we wouldn't be regulating it. So, absolutely.
JC	But, I think the clarification of what material damage means, that is creating a national definition that focuses on that change in stream use and in groundwater designated use may have the effect of, in some places, preventing long wall mining.
JZ	This was the whole basis for that disingenuous letter, which is, I've got out on the wall. Because, again, we mentioned Kentucky includes the shadow area as part of the permit. And the reason for the debate, John, was if our permit's going to be denied if we cause material damage off-permit we'll just permit the stream. And Bill went, the mysterious Bill went through the roof. And we got, I think Nancy signed the letter, I'm not sure who drafted it, but we got accused of being disingenuous. But, the reason for the argument was that, we were told, the law won't permit, would not be issued if it caused material damage off permit. So we said, easy, we'll keep the stream on the permit. And I'm telling you Brent, that was a debate, we thought that was put to bed . Now, what you're saying makes much more sense, I've got to tell you. But, you have to understand, OSM has to understand, we have done an analysis based on what we were instructed to do,
JC 13:03	Well, and I will tell you, and I'm sorry (unintelligible), I will tell you that the most common phrase I have uttered in the last month and a half is they did exactly what I told them to do.
Unknown	We did.
JC	And, you know, there, that is key. I have applied my professional judgment, which has been questioned, but that is the key. And, you know, I think as Dianne was saying now the idea is let's figure out how we get to where the powers that be want to go.
BM	But just to sort of sum up subsidence, you know there are two standards, right? You minimize impacts to the hydrologic balance in a permit area and if you're outside the permit area your regulatory standards prevent hydrologic impacts to the material, that cause material damage to the hydrologic balance. So, therefore, I think what you're saying is that someone would say, O.K. how much (unintelligible) the stream if there's a different standard. The inside the permit

	boundary is minimized, the outside (unintelligible). I'm just going to redraw that line. And then I'll have some regulatory relief.
JZ	We do that in Kentucky already. We consider the shadow area as the permit. I think there's only two places in the county, John, that do that.
JMo	Utah and Colorado.
JZ	Yeah, that do that. And, we thought, ah good, we're saved. And that's why we had, the reason I'm telling you that, that's why we had the debate. The merits of it aside, we had the debate because I asked Bill, so you would not issue that permit if there was predicted impact on the stream. The answer is yes, we would not issue the permit because that is material damage, sinking a stream. Now, there's ways to mine around it. Again, I find that very difficult to believe. But, we had a whole discussion. I like your interpretation much better.
BM	Well, my interpretation is strictly that of the definition, that what constitutes material damage is changing use, not subsidence. Now, subsidence can result in change of use but that's different. So, yeah, I just want to be clear. That was a biggy that I saw. There's other inconsistencies and you'll see some of the comments.
SG	I think we reword that. But, our understanding is still going to be the same. That there will be cases.
JC	There will be cases (unintelligible).
SG	But, that change of elevation could also result in, not every time.
JC	Yeah, not every time.
SG	There will be potential for that to be a material damage.
EL	And that's why there is a percentage of impact allocated to underground mining. It's because that small, if you wish, number of cases in which the subsidence will cause material damage.
BM	Absolutely. (unintelligible) any subsidence (unintelligible) The next thing is, we went though (unintelligible) coal, we went through mischaracterizations. The other thing, and I'll just get to the real big one that...
SG 15:58	Was there any other mischaracterizations that you thought?
BM	There are some in there but that was to me the real elephant. But then there's some slight (unintelligible).
JC	I think there's one that may show up as we talk about (unintelligible). As we get to the discussion of Alternative 5.
BM 16:17	The other thing, that is the methodology. Both in the comments and the call we had yesterday, the formal elicitation process. I think what people are struggling, first off, some folks; there's three issues that I see. Some folks think there's a mathematical model that's going to get presented as an appendix, or some sort of model. Those people that were on the call yesterday are the ones that are used to reviewing NEPA documents. That have a lot of models, you probably know what I'm talking about. And, so to them, for whatever reason, it wasn't conveyed, and I think you were very clear there wasn't going to be a mathematical function that you could provide different inputs into and get different outputs. But, that was one thing, that people were confused that there was going to be a model. But, that was lesser of an issue. The next was going to be the fact there was big confusion that in the writing it talked about a stochastic model that was being developed. O.K. It's in there, I could point to the page, not take the time. And what was very confusing was, how was this stochastic model different than the model that was used and are these numbers in the Table up on 4.14 and

	some of the other summary tables, are those, are those metric numbers going to then change? Or, are the stochastic results part of that, or confusion as to they say they're going to do a stochastic, they haven't provided us information about it yet and what are the results they're presenting really reflective of. So that was another people were really confused of. And, some were quite angry, o.k.? Cause they thought they were being forced to review a document that wasn't complete. And, therefore, they can't really comment on it because, we're not sure if these numbers are going to change or not. So that was another issue. And just real quick, can I get a response to this stochastic, is it implemented in here? The numbers on 4.14 with the stream impacts, are they going to change?
EL 18:23	Well, let's clarify the concepts first. The numbers you have there, I mean when the expert panel came up with the estimation of the impacts, we had one number for each impact. 10%, 20%, 30%, whatever it was. So, the stochastic model is just a way to reflect that even though, if our tables show one number, that number is the most likely value in our expert opinion within a range. So that range would define, you know, the probability of certain impacts to occur, but always the most likely impact is the one (unintelligible).
BM	But, I mean, would you be then, I guess the question would be, on these numbers on 4.14, which I'm just picking the stream impact one, but you could pick the production, are they going to then be, have limits placed on, or ranges then associated from the stochastic. Will there be another column or something that might say, the most common one is 110 stream-miles but, or 43 stream-miles, but really it could lie anywhere between 30 and 50 stream-miles.
EL	That's correct.
BM	I mean, is that what you're going to then, I mean, there is a piece of data that will come out of the (unintelligible). O.K.
SG	Yeah, that was the comment in the meeting in Lexington also on production impacts was to give a range (unintelligible) median number.
JC	And one of the reasons for that is, inside the beltway when a number stands alone it takes on a life of its own. If it's a range number, there is implicit that there is a, you know, it's the accuracy precision bar like you drew in the meeting in Lexington. That, if there's a single number people assign it a hundred percent precision and accuracy, which may or may not be there. They don't understand the error bar around it, etc... But, if you give a range, implicit in that is more uncertainty. And that, I think, is one of the key ways, key factors there is that the real desire, unless you can, you know, I mean there are those folks who want to know the alpha and all of the factors there but for the general population readers or for the multitude of reviewers internal to the government, by having a range implicit in that is an understanding that it's not as precise as a single number.
EL	And we noticed that during the last meeting in Lexington, just because Bill seems to be very happy with the idea of having a range, while Harry was kind of, (unintelligible) another character, but he thought that probably the ranges are too wide and he wanted them to be very, very narrow. So they were very close to the number we were reporting there.
JC	Well, he wanted the alpha to be...
JMo	But also there's probably some more data analysis we need to do on that table anyway based on life of permits because we know the acreages and I think the data we got back from the states (unintelligible)
BM	Then how are they reflected (unintelligible) mining permits, how are they reflected in those

22:03	tables?
JMo	I don't know. I'm saying that going back to the raw data we had certain mines, underground mines, and other facilities. But then then (unintelligible), which also affects the annual stream miles is something we need to look at. So I think that's, in my mind, still part of a work in progress. Because underground mines in Kentucky, showing 2008 is because, as Joe just said. Shadow area is part of the permitted in Kentucky.
BM	Yeah, Edmundo and I had that conversation on the phone about the permit acres. But, those aren't bonded acres. Then you guys' definition in here is bonded acres. So, Kentucky should be subtracted out and just... but anyway the last, and I think most important comment, that again, these are overarching that I just want to make sure you guys understand is for the methodology. You guys did a really nice job and when I speak here I'm just going to use terminology to convey my point. I have the utmost respect for the amount of effort you guys put forth. So don't take anything I say as not respecting the work you've done. But, in the methodology you guys did a really nice job on 4-2, 4-254 or somewhere in there, of walking the reader through an example of how a production shift would be calculated. How you convert to thermal units and then how you look at the percentage of mining that's in '08 and assume that would remain constant between underground and surface for certain things and just add, I mean you're shifting production and you walk the reader through with tables and illustrations and discussion that anyone then can say, although I'm not really sure why you chose Alternative 4 to walk the reader through, I wish it had been Alternative 5 but, I mean, it doesn't matter. But anyways, you walk the reader through that. Everyone can understand, you don't have to go through Alternative 1, Alternative 2, Alternative 3, and Alternative 5. That everyone knows how that is calculated. And then, but what happens is, is the story that's told is that this group of experts, who aren't defined, although one of the criteria in this expert elicitation process is identify who's on there and their qualifications. That was another big comment, that I thought that would be easily rectified and you guys would just put your names down and your qualifications. But that you basically say that a lot of professional opinions went into this process and you sort of start with this description of how it was done, with the assemblage of experts that would present different scenarios and they'd make judgment calls. And then you sort of go off and give the final results. Which are the final production numbers. And not walking through, the reader through a thought process like you did for the production shift, of an example. I have a guy here with more experience and looking at coal reserves and permitting than anyone at OSM and all of us combined. And what we did, is we asked him, if you were to have to stay off a hundred feet, or 300 feet off a stream, and your property on average in Appalachia is 100 acres, what would that do to the mine? I really think, because it is so black box, you guys really need to give some of these examples of types of questions and threshold numbers. There's still judgment and there're assumptions, but at least the reader knows what you're talking about. Because a lot of people are confused over what went in behind the closed doors. And so confused, that some people think the elicitation process was getting experts together that developed a mathematical model that's going to be presented here very shortly.
JC	And on the other side of that is five guys and a case of beer.
BM 25.51	Yeah. I mean, as far as (unintelligible). So providing an example, I would really, for the types of conversations. You know, did you use typical mines. I was still confused until I called Edmundo. We gather all these mines. Like, I gave a surface mine and long wall for

	Pennsylvania. I was unsure, and so were others, if that was actually used or not. And I'm o.k. if it wasn't. But, it wasn't real clear if that was part of your elicitation process. Certainly, you guys had the information.
SG	That was going to be part of the industry contribution. Was getting their input on typical mines of their own plus one's we had as a check. That's what we got pulled off of.
BM	Well , all I can say is that basically if you look...
JC	Because of concerns about leaks, we see how that worked out.
BM	(unintelligible) If you really look at it, the real important parts are that you understand the rule, and describe it correctly, and then a lot of the other filler material, I mean, I'm really o.k. with. A lot of the hydrology filler material. But, the other big unknown is this method, I mean really the crux of this is this methodology and those magic numbers (unintelligible) and it's a black box right now.
SG 27:06	I think Edmundo actually had in there names of us, I cut that back out thinking we might be better to include it later in an appendix. Do you think it would be better...
JS	There's a chapter that basically, what's the chapter Dave that requires the names of...
DB	Contributors.
SG	Yeah, I thought that would be in there. But you think we ought to...
JMa	Maybe it ought to be in the part with the methodology.
SG	Is that what you're saying, you'd like us to put that up front?
BM	Here's the big criticism, 4-252, there's five, there's seven points that have to be met in order to be a subject matter expertise. You guys go through this. It helps build your case that you're not just a bunch of baboons out there that, I mean, seriously. You're basically building your case that, to justify these numbers. The very first one, possesses necessary knowledge and expertise, the forth one, willing to be identified publically with their judgments. (unintelligible) We were getting comments, listen man, one of the requirements is to give your expertise and who are you and haven't met that. And so, I don't think it's a huge thing, but I think you should just (unintelligible)
DB	Well, do you think it should be here in this chapter or...
BM	At least referenced to.
DB	A cross reference to chapter...
JC	If it said the panel of expertise is identified in..
DB	See, this is one of the flaws and one of the dangers of reviewing drafts of drafts.
BM	I know. (unintelligible)
DB	And, it's too bad that folks seized on that point to go off the deep end when had they seen the entire document or a refined version of the document then that might have been...
JC	And that actually was part of the message we carried on the phone calls to the cooperating agencies was, listen folks, this is a draft of a chapter seen in isolation. And, I think Brent, you actually made this point on the call, when you see the whole thing and how it fits together, you know, it's like criticizing a piece of a puzzle, without seeing the whole puzzle.
JS	But, I think I also see what Brent is saying. That perhaps in Chapter 4, there should be in that section where the methodology's described a (unintelligible).
JZ	Maybe I dreamt this but we did have our names in there, who was on that group. And I swear a NEPA editor, I'm not sure if it was ours or yours, contacted us and said you can't put the names in text, you can put it in the chapter where you list everyone's qualifications and who the contractors are. But, not in the text of the EIS. Maybe I dreamt that.

BM	Yeah, you might be right. I personally, all I know is..
JZ	Because Steve took them out, I remember that. (unintelligible)
BM	4-252, and even if you would just have in there cross reference that, and it's a minor one, the more bigger one was just the black box.
SG	Actually, I think it was just my personal preference. I thought it would be better not to in the chapter but to have it referenced. But, we didn't actually reference it. But I thought that would come. So which way do you think would be best?
JC	Well, I tell you the comments was put it right there. That was the sense of the comments that if you have this professional expertise that's a part of this formal, or informal, elicitation process... (unintelligible) I think maybe a compromise way because the contributors section is going to have all the descriptions and all of that, is a panel which included this level of expertise. These mining engineers with this type of experience and these kind of, you know it's not...
JMa	It's just going to be something under list of preparers.
SG	I just thought it seemed a little egotistical to stick it there.
BM	Understand, but people right now, you know, basically, the crux of this is based on professional judgments and right now a lot of folks don't know your names. There are people that do, but there are a lot of them that don't. We've got to tell them that you guys have this expertise.
JC	And let me throw another point out here because we're talking very frankly today. The fact is, part of the real advantage of this team of expertise is the balance between Morgan Worldwide and ECSI in these matters is seen by a lot of folks as being a very good thing. And the fact that you all came together and worked on this and agreed to the methodology I think, for a lot of folks, will be seen as it's not industry bias, it's not anti-industry bias that there really is a professionalism in the way it was done.
JZ	I find it stunning myself. (unintelligible)
JC	A lot of people do, actually. But, in all seriousness without making too much light of the point, I think that is a real strength of this team and it's very important. And, the fact that this process worked through that kind of contribution is not something to gloss over. I think it will help people have a higher level of confidence in the way things were done.
SG	One last time you want us to go ahead and put the names in the chapter or maybe refer in back, have just a page that's (unintelligible)
JMa	It's probably best to come out of where we have the list of preparers because one of the comments was, we refer to the team and it shouldn't be the team we are referring to because it's an OSM document.
JJ	To Steve's point, I think you ought to have, I think that some of that methodology at least the detailed methodology, you ought to put it in an appendix. Then you can put names in . Then you are also on the list of preparers. So you can see that we had these engineers, these engineering groups. Here's who did it. It was not just ECSI, Morgan corroborated, collaborated, whatever. And, you know, so it shows, but at this point of the review is it relevant now, people want to know but is it necessary? (unintelligible)
NS	Do you care about the names of the companies or is it their professional (unintelligible).
JC	It's the professional qualifications.
BM	It was just part of the, the methodology section is that, people really wanted, how you walked people through, and it was done well. You know, coal production, you did graphs, figures, or

	tables of how you walked the reader through. Just there needs to be some, because I truthfully don't understand the key tables and, you know, and people are asking me that. Clarify to them of how these key tables in 4-14 were developed and I'm not even sure if refuse piles are in underground (continued in Part 4)

Meeting Transcript, Morning Part 1a

Date: February 10, 2011
Location: Lexington, Kentucky

File: 02-10-11, Part 01a.mp3
Participants:

Abbreviation	Name	Affiliation
BW	Bill Winters	OSM
DS	Dianne Shawley	OSM
SV	Stephanie Varvell	OSM
LU	Lois Uranowski	OSM
JC	Jeff Coker	OSM
HP	Harry Paine	OSM
PE	Paul Ehret	OSM
JS	Jose Sosa	Polu Kai Services
DB	Dave Bell	Plexus
JMa	John Maxwell	Polu Kai Services
SG	Steve Gardner	ECSI
EL	Edmundo LaPorte	ECSI
JB	Jeff Baird	ECSI
DB	Doug Mynear	ECSI
JJ	Josh Jenkins	Mactec
AS	Ann Shortelle	Mactec
JMo	John Morgan	Morgan Worldwide
LE	Liz Edmundson	Morgan Worldwide

Dave Bell notifies participants that the meeting is being recorded. Introductions.

BW	Couple of things, we're just going to throw on the table and talk about, the cure letter. We had some discussion; there was an agenda that was sent out last night. We are not at liberty or authority to talk about the contractual parts of the cure letter. So, we can't talk about it. We can't discuss it. And, frankly, we didn't develop it. So, (unintelligible) What we are going to talk about is the format, structure of the EIS. Kind of the attachment type things that were in the cure letter. So, what we're trying to do here, for the next two weeks, is we basically have two weeks, is to get some significant issues with the EIS and the RIA straightened out. So, what I thought we would do is come up with an agenda and a game plan to address the big issues moving forward. We got two weeks to do it. So, how do we best maximize, what we got, what time we got left? And you'll see that we put together some thoughts, o.k., the agenda. I think what you'll find is this agenda covers a lot of what is in the cure letter. The items at the end of it, and we think when you get done with this meeting you should have the information necessary to address things in that cure letter. We need to concentrate on getting this product to meet the CEQ regs and to do that what we did is outline some high-priority things. I put together a list last week, sent it to Jose. I'm sure he circulated it among the folks. It looks a lot like what's on this piece of paper. We thought we would start there. And, the reason to do that, quite frankly, is there were some things in the EIS and associated documents that we felt weren't accurate or that there was gaps. And, we thought, there's no

	sense spending time wordsmithing, clarifying things like that. We might as well address the big ticket items, get the framework of that straightened around, and then fill in the pieces with the subject matter experts and move forward that way. Pretty optimistic that if we address these things in the next couple of days on the agenda, that by the 23rd we'll have a product that meets all of our needs. So that's where I was glad to see you guys wanted to meet. I think the next two days we can address some of these deficiencies that we see. But, at the end of the day it's not going to do us any good to throw rocks, point fingers go down that road. It just doesn't. We got things we have to get done by the 23rd, let's concentrate the next two days on the 23rd, and get those things done.
JS	Bill, I agree with that. I think, you know, and I apologize for sending the email that we were going to address the cure notice in the framework of this meeting. The intent of meeting is exactly what you just said, the idea is to grab the attachment of the cure notice which addresses the deficiencies and work those. I think, consensus-wise, everybody wants to concentrate on Chapter 4. We still have the draft EIS, that we can capture a lot of the three, given, you know, any kind of change of direction, that you may want to adopt in Chapter 3. There's a lot of history, like Bill said, (unintelligible) phone calls, that we could spend the two days, you know, and what I have instructed everybody is, any history that is documented with directives and directions by OSM previous team members and things of that nature, just put it on the table and then we can come back to you and say by this date, by this individual, on this particular time, in this meeting, we were directed to do this. And, I think from our side, that's the overall, arching comment that we're being unfairly judged. And, I don't want to get into semantics, that poor us, no we're here to work. (unintelligible) Because at the end of the day, everybody here is a pretty stand up professional. Nobody wants to see us going down into a nasty divorce in open forum. Let's try to work together, reconcile our differences, and get this product out the door. Which is what we set out to do in the beginning. So, I think, with that said, if anybody else wants to add some to that. You guys are welcome to do so.
DB (6:12)	Actually, I have a couple of things I'd like to add to it. You all ought to recognize that even if you identify something as a deficiency doesn't necessarily mean we agree with it. We are under this legal cloud now of a cure notice and because some of the items are the subject of a legal dispute, o.k., we reserve our rights with each and every one of them and they'll be addressed formally in the response to the cure notice. Again, because the cure notice outlines officially, and very specifically, from the contracting officer, deficiencies have to be corrected by the 23rd our focus, the teams focus needs to be on addressing those specific items. And our conversations that deviate from those, while nice, I think don't help us address the very legal issue that we have to deal with.
DS	Dave, I think I'd like to go back to Nancy and ask her what the response to the cure letter needs to be. I thought from my reading that it was your plan to address it. And, I think that by delivering a product which deals with the deficiencies, such as the revised Chapters 3 and 4, and a complete PDEIS, that that is the right response to the cure notice. I don't see those as dueling requirements in other words. But, I will get clarification on that and let you know. Because I don't think that her intent at all was to take away the effort toward finishing the EIS.
DB	Well, as I read it, we're required to address each and every one of these items by the 23rd.
DS	In the draft.
DB	Right, in the PDEIS. We may or may not be able to accomplish that. It's kind of interesting and it's, I guess, your first topic but we've now talked twice about Chapter 3. Chapter 3 isn't mentioned in this document, in this PDEIS, except in one respect when it talks about the

	misrepresentation of regulations. O.K.? Bill's message from Monday at 12:29 gives us a page and a half of discussion on Chapter 3. I got to tell you, Chapter 3 is closed. The authors are done, I have final documents that are now in the process of being assembled and formatted and put into the PDEIS. I don't have time to go back. For me, that's redoing work that is done. The comment period for Chapter 3 closed in November. It was reopened in November to rewrite the water resources section. It closed again in December. It's done. It's been done for two months. So, a page and a half worth of comments. Wonderful. We all have an opinion of how we could write this document in a different way. But, time is time. And, right now, this focus is on Chapter 4. So, I'm really concerned that we start off at the very outset going back to October, and directions we were given then. So,
DS	We're going to defer to you on your interpretation and we've got an agenda, so let's try to work through the agenda. You're going to make your decisions as to how you want to proceed, we just want to use this as a working session and work off the agenda.
BW (10:15)	And I would add to that Dave, at the end of the day this is a contractual obligation and we paid you guys for your expertise. What I'm here to do, what I was tasked to do, was look through these documents and come up with something that meets CEQ regulations and the substantial issues raised by our cooperating agencies, one of which is EPA. So, at the end of the day, we're here to assist. And so, I get a little nervous because I've had my name brought up and say Bill Winters said yada yada yada. Our role here is to assist you guys. That's it. And what we did in those two documents that I sent you was lay out, here's some things that we see. You're under no obligation to do any of that, to be real frank with you about it. We're here to assist. However you want to use us in the next two days is fine. This is a rather a conceptual list of things that we see, most of those deal with Chapter 4, I would agree with you. Three sets the stage for four. So, with that being said there needs to be a significant nexus or symbiotic relationship between 3 and 4. And, what we have indicated is, there is some gaps in that. If you chose not to go back and address those, I mean, that's o.k. I mean honestly.
DB	Bill, you know, with all due respect, you know, you're the third program manager that's, project manager that's assigned to this. You know, we listened to Lai-Ti Bilboa for two months, John Craynon for the next, what, the next five months. And many of the directions that we acted upon were directions given by OSM's representative at that time. O.K.? We have documentation in writing. I don't know how many meetings were held, sidebar meetings were held. We put together additional teams to do exactly what we're doing right now. The reason why I raise this is, you've given us on Monday, a separate list that is not the same as the list subject to cure. O.K.? And yet, I sense that you want to use your list to guide these discussions. And frankly, you know, you're another project manager. And for all I know, you'll not be here in two months. We'll do this and you won't be here in two months. What assurance do we have that if we do what you ask us to do, that we won't be here with project manager number four? Because the agency is unhappy with what its project manager committed the agency and told us as contractors, because we do take our direction from you. We take our information from you. And, that's why we formed these, these teams. You know, Chapter 3 requires some revision now because the agency changed Chapter 4. We met in Lexington, here, in OSM's offices to go through an outline for Chapter 4. We presented that to the agency and a month later in November, in, what was it? Atlanta? Or, was it Lexington? I guess it was in Lexington again. John Craynon changed it. So that we reorganized all of Chapter 4 and you rewrote Chapter 3's water resources section to combine four or five sections. Right?
BW	O.K. Dave. At the end of the day here, my goal is to help you guys out.

Meeting Transcript, Morning Part 1a

Date: February 10, 2011
Location: Lexington, Kentucky

DB (13:52)	Thank you Bill. Our goal here is to help you write a defensible EIS. And we have been focused on that task from day one. Not a person in this room has expended one ounce of effort to do anything other than that. So, you know, from day one, remember, the very first thing that we had to address was whether or not this agency would engage in scoping. And your lawyer said, oh you know, those meetings you held with industry and invited guest were sufficient scoping and plus, the notice was sufficient. Well, the first thing we did and advise, and in the span of less than half a day, the Director saw that that was wrong, Was put together nine scoping meetings to be conducted within, what, less than two months. And, we managed to do all that. So, our focus has been to do exactly what you now say we want to produce by the end of this process. So, we agree 100%. There's not a person in here who will disagree with that statement, I'm sure. So, we're with you on that.
BW	At the end of the day Dave, we can have this discussion probably all day. What I want to concentrate on is how do we move forward. And what I hear you say is that you think going back and addressing Chapter 3 probably is not going to be the most efficient use of time. Is that what I hear you say?
DB	Yes.
BW	O.K. I think most of the items on here have to do with Chapter 4. The only reason that Chapter 3 shows up there is we want to be sure there's consistency to carry over into four. You guys think it does that?
DB	No, I don't think it does that.
BW	Wait a minute Dave. Wait a minute. We're paying you guys to help us out there.
DB	And we asked the question in November and December and were told, don't change Chapter 3, here's the structure, it's just fine.
BW	I just find it a little funny that I'm telling you the same thing you just agreed with me on. But, we're not going to address that so ...let's just move forward.
JS	I would agree with that, Bill, as I said. Dianne and I talked a little bit about that just a while ago. We can spend not two days, we can spend the next two months arguing back and forth and it's not going to solve anything.
DB	I will shut up on this point. The reason why we find ourselves sitting here in an emergency meeting, and I call this an emergency meeting because it's a come-to-Jesus meeting in light of this thing, o.k.? It's a come-to-Jesus meeting where we have certain things that we've got to accomplish. But the reason why we find ourselves with less than two weeks now, is that right? To accomplish all of these things in this attachment is because of the path we have been set on and has been agreed to by the agency. So, where there are changes from that path they are, in our view, my view, head nods or not, the result of the agency's specific direction. Not inadvertence on our part, or larks that we, tangents that we've gone on. Specific, conscious decisions. So, two weeks to undo and fix things that were set in motion back in October, we'll see.
BW	Let's do this, Dave. Let's walk through here and do it that way. Because, I think that, the goal of this meeting is to let's talk about the overarching things and then arrange the deck chairs to fit what we come up with here. I mean, I think that's what we need to do. That is a lot (unintelligible). Are we in agreement that the things on this list are mostly Chapter 4? And, the only reason Chapter 3 shows up on here is the nexus slash relationship (unintelligible). I mean, I wrote this, I'm telling you that's what it is.
DB	O.K. I accept your interpretation of your document.
BW	Thank-you. Sometimes I struggle with that. So, anybody else have anything to say before we

	move forward? I think we're going to move forward. O.K. Good.
SG	I'm biting my tongue so I'll just sit and listen from here on. I mean, the letter was professionally insulting and OSM's got to take some responsibility for it, where we are right now. That's all I'll say.
BW	From my perspective I think there's equal amounts of opportunity to point fingers all the way around the table. I think there's certainly equal amounts of, I'm not going down that road (unintelligible)
SG	That's all I'm going to say.
BW	That' not going to help us.
JS	We're going to get in the mud and we're not going to come out of it.
BW	Plus, it's too cold out to get in the mud. (unintelligible) O.K. One of the things that you had mentioned Jose is the first topic there. You had thought there were some conflicts between some of the things that I said and the gap analysis that you guys did. Is that the Chapter 3 thing that Dave just brought up? Is that where you think there's some conflicts with...
DB	That's, that's part of it, that's one of them. Let's set that page and a half aside for just a second because we, of course, didn't speak to Chapter 3 at all in our strategy. But, one of the things I think there was a disconnect on is we described to you a process for moving forward on baseline data. I'm just taking an example out of the ...
BW	Baseline data, that's the EIA
DB	Yeah, exactly. And, it seemed like our two documents passed in the night. Because, yours speaks to using 2008, the inappropriateness of the 2008 data, because it's the highest production year ever for coal and skews the numbers and instead suggests that there be a, perhaps, a better way to do it would be to average 2-3 years. Is that a fair characterization?
BW	Correct.
DB	And yet that morning, you responded to Jose's note, or John Morgan's note of Sunday saying, hmm, dynamic sounds a way of moving forward, or a way to address this problem. So, your note of 12:29 on Monday is inconsistent with you email, which is inconsistent with what Jose put in his strategy Monday evening, and, I will go back to the cure notice, inconsistent with the cure notice. So, we don't know which of the four alternatives...
BW (20:48)	Here's the perfect point right here. What I'm telling you Dave is the two documents I sent you are thoughts. O.K. So, they don't represent a position per se. What I'm trying to do, and I'm just going to be real flat honest with you, and so this is what concerns me when I hear my name brought up all the time. I'm about working with everybody else in this room. This is not a dictatorship and this is not us telling you what to do or you telling us what to do. I thought we were all on the same page and were going to problem solve together moving forward. I will tell you, that's my sole intent. Everything that I produce is with that in mind. So, at the end of the day, if you see conflict in documents that's why I said initially I'm not going to talk about the cure notice. That's a contractual thing, I don't know about that. I was put in charge here to try to work through this problem. As professionals and technical, we're all on the same page here folks. We're all in this together. I'm throwing out ideas to solve the problems as we see them. So, yes, I looked at the data, I have problems with the 2008 baseline. I always have and I've been bringing this up since September. Not a secret. I saw what John put together and thought through it a little bit and it addresses some of my concerns. I thought it was a good idea. I still think it's a good idea. It's probably a better idea than the one I put forth. That's o.k. If everybody agrees with me there's only one of us thinking, Dave. So, there is a couple of things on the table, yes. This meeting is designed to reconcile those and move forward as a

	group. They're not specific directions.
DB	I'm just telling you that that's the reason that we asked to reconcile the document. Because the guidance that we received, the discussion that's ensued since the face to face. Dianne, you were there. You weren't Bill, I'm not sure why, but you weren't there. Because it was a very important meeting in which many of the topics you raise in your paper were discussed specifically and explicitly at that meeting. They showed up in this, so, God help you, I have to believe that this was a document that was in some form of preparation on the first of February. And because many of the topics, the very words that appear on the cure notice are exactly what appear on your document, there is some relationship between the two. So, we're not totally out in left field by drawing the connection.
BW	I'm not saying I didn't send those documents entirely. I'm not saying that.
DB	Bill, just to, we had this discussion on which data to use. Way back in, what, September, October and it wasn't you told us to do this or we told, we, it was exactly as your describing the process we're using here. Collaborative. We didn't just blindly accept it, we had a back and forth discussion with the agencies representatives. And, at that time the decision was move forward with 2008 baseline. John Morgan, Steve, and I correct or not?
AS	July meeting in Lexington, that's where that decision was made. I'm sure that's well documented.
DB	So now, since the first of February, we have three proposals on the table. I'm assuming baseline data based on 2008 alone is off the table. Right? Everybody agree?
BW	Why are you assuming that?
DB	Well because on the 1st of February we were told that that was unacceptable. And, the cure notice says that it's unacceptable. You say in your note it's unacceptable. So, I'm not stupid. We take that guidance very seriously. It's unacceptable. Right?
BW	Because there are problems with using that approach that have been brought up and discussed.
SG	And that was the first time it's ever been mentioned in this cure notice.
BW	What?
SG	That it's inappropriate. First time. And, you cannot say otherwise.
BW	O.K. Let's do this folks. Can we move forward? Honestly, I mean, I hear what you're saying. I empathize with you on that. At the end of the day I'll go back to what I just told Dave. We can do this for the next two days or we could look at the solution, the ideas on the table, and pick a path forward. I'm suggesting that's what we do.
DB (25:16)	Nobody disagrees Bill. We're just trying to figure out what, how we do that. What's the process for doing it and will it stick. You know, will it mean something at the end of the day. Because, on the 1st of February we were told to do 2008 with SBZ enhancement. Right? Dianne, you were there. Was that not what we were told to do? 2008 with the SBZ overlay on top of it and folks there, Joe, I don't know how we're going to do that. I won't sign up to that. But, you can go forward with it. That was what we were told to do. There was no discussion about averaging years, there was John, it was pre-John Morgan Sunday evening not regarding a dynamic model using the EIA data. So, that wasn't discussed. We had, at that time, a path forward that everybody believed was problematic. So, is that off the table?
BW	Wait a minute. If everybody believed it was problematic, you guys were willing to move forward with things you don't agree with?
DB	We thought it. We said you told us to do it this way. You want us to do it that way. You know,

	we're looking, and John, and John came, to his credit, came up with another alternative and put that forward on Sunday. And, that's on the table. So, yes, you're right. We have to have a way to move forward because without that kind of information they have no baseline against which to compare.
DS	Can we talk about John's proposal?
DB	Absolutely.
DS	I think it has merit. One of the things we discussed was how to deal with the 2008 data, saying, and we were talking about writing paragraphs to try to explain that it was not a good fit. And, that there was going to be a range in there somehow. There's a new suggestion on the table that we think addresses those issues and, this is the first time the group's been together since John sent out his suggestion, so...
DB	Our solution at that time was to write around it. That basically was it. We were going to write around the problem, try to explain it, and as a result, we weren't tossing all of the work done until this point. But, this will, I think, Josh you tell me...
JJ	Yeah, I mean, it sounds like a great idea. But, I think you all need to understand, and it's unfortunate the contracting officer is not here, but this will take time, this will take rework on a lot of the analyses. And, I told our prime here that's how some of the analysis that we're doing, not only in the EIS but also in the RIA. And that's my biggest concern. It's like, we can do it, but it's just going to throw your schedule and budget.
AS	Dynamic modeling actually came up early on.
JJ	It did.
AS	And it was set aside, in group discussions, and it was set aside not because it doesn't have technical merit but, because it absolutely does, but because it was going to be a budget, and especially and schedule buster. You know, not going to disagree on the technical merit of it. The ramifications are, we have to rewrite 3 and 4. And including the run-up analyses after the modeling is done. That's the ramification. Technically, I think you'd get everybody in the room to jump on board. Readily. Readily.
BW	So, O.K. So, let's put that group of issues here. So, you are telling me, or you are, you guys are wanting to continue forward with 2008. How do you propose to do that?
DM	I think first thing about 2008 data, you say it was a record year. And, while it was a record year, it also falls on that upward trend that was happening at the time. I mean, the trend line was going up (unintelligible) the economy in 2009. 2009 is the anomaly here. Not 2008. 2008 fits with that upward trend.
BW	Well, let me throw out a concept here. This is where I would probably disagree with my friend Steve a little bit. (unintelligible) I can tell you the meetings I've been in, I've brought this up. One of the issues I think here is anytime you do a regulation, you have some cost. However you define that. And, this is market economics and as such it follows a supply and demand curve. And so conceptually, if we get down to the end of the cost analysis and the price of coal in the Appalachian Region goes up $7.82 a ton or whatever the number is. How does that effect the supply and demand economics? I saw no discussion about it at all. Nothing. It was just assumed it was a pass through cost. And so, if we start down that road, one of the reasons why I liked John's idea was it was an independent forecast using the coal market supply and demand economics and all the variables that go into it. And, I thought, that is a good idea because that addresses the supply and demand thing, number one. Number two; it's not anybody in this room coming up with forecast, production, anything else. It is an independent group that is well versed, well documented, the whole deal. That was the attraction that I saw

	to it. It addresses all of those things.

Meeting Transcript, Morning Part 1b

Date: February 10, 2011
Location: Lexington, Kentucky

File: 02-10-11, Part 01b.mp3
Participants:

Abbreviation	Name	Affiliation
BW	Bill Winters	OSM
DS	Dianne Shawley	OSM
SV	Stephanie Varvell	OSM
LU	Lois Uranowski	OSM
JC	Jeff Coker	OSM
HP	Harry Paine	OSM
PE	Paul Ehret	OSM
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JB	Jeff Baird	ECSI
DB	Doug Mynear	ECSI
JJ	Josh Jenkins	Mactec
AS	Ann Shortelle	Mactec
JMo	John Morgan	Morgan Worldwide
LE	Liz Edmundson	Morgan Worldwide

DM	I don't think any of us disagree with you. As a matter of fact, we met with John and discussed this before it was ever presented to OSM. So, we're not in disagreement with it but, there were several months of keeping the production levels at 1.1 billion tons per year was part of the assumptions we were working under.
BW	If you understand why I said the average of the last three years because obviously we had an issue with the supply and demand economics and all the variables that went into that that resulted in decreased production. That's the part I couldn't reconcile with the way that you guys were moving forward with 2008. How do we incorporate supply and demand economics and the whole deal? That's where I still say that John's idea is very good, because it addresses all that for us. If you guys in particular don't have to go on record as saying hey here's what our forecast in production, here's what our forecast, and consider all the 4,000 variables that go into supply and demand economics. That's why I like the idea. Fair enough? (unintelligible)
JJ	We like it, too. It's got to be, we can't just stick our heads in the sand and say two weeks. It just can't be done. It just can't be done with all these documents. And, I think there needs to be a little movement one way or the other. Please understand that concept.
BW	Another thing here Josh is, we move forward according to how you guys been going (unintelligible) 2008. How are we going to reconcile the whole supply demand cost increase? How are we going to reconcile that?
JJ	I'm not saying you can. I'm not saying you can where we are right now. What I'm understanding, what I understand that I hear is that you want a different approach on the

	production, which I don't think anyone here necessarily has an argument with from the technical approach. But, I think there is a lot of trepidation from the fact that you're still wanting this major shift and you want the whole thing delivered in two weeks. That is not doable. That's my biggest concern. And, you know, technically it sounds like it's a great way to go. It sounds like everyone around the table is thinking it's probably to your point. It take personal, it takes people off the hook as far as professional judgment. But my biggest concern is you've been saying February 23rd for the last two weeks now and...
DS	We have difficulty talking about; we can't talk about the time and the contractual requirements.
JJ	I understand.
DS (3:03)	I think we do need to focus on what's the best approach. And, if everyone here is in agreement that's the best approach then I think we need to go forward with that. I don't know how we deal with the other issue. My suggestion would be on the time, the cure notice asks for a response and a work plan; put it in the response and the work plan. I don't know where it will go from there but I think that the goal is to have a defensible EIS. And, that's a group of people you have here. On the contractual side of things, I think there is a way to present PKS' position. And, that's separate from the conversation here. So we, what we would like to do and that's a decision you need to make on how you want to use your time. Is we would like to go forward with [John Morgan's] proposal because we think it's the right way to go and you are all in agreement. And, see what we need to do to go down that path and come up with a better product. And, hopefully on the contractual side of things PKS will deal with it in the way they think they have to, our contract people will deal with it. That's all I can say. So I guess it's really up to you how you want to use the meeting, but I think we're not in disagreement over the way the document should go.
JS	And I think Dianne and Bill, I think that's, you framed it up the correct way. There is the overarching, you know, off the cliff deadline, 23rd, and I think, you know, at this stage, for both parties, if we don't produce a document that is defensible, everybody, everything is thrown out the window. So, you know, what you just said Dianne, I think, is the approach. Take the issues on the table, reconcile those issues, let us go back , and as she suggested, let's put in the plan what it would take, how long it's going to take, you know, to implement the dynamic model like John [Morgan] suggested and whatever financial, timeline, whatever implications. And, as she said, then contractually we can go back and either fight it out or do whatever it is. But, at the end of the day we got to produce a document that, you know, we're not going to be thrown, you know, under the bus by the cooperating agencies and everybody else that is writing, you know, nasty stuff, you know, out there in the press and the politicians and everybody else. To me, that's a fair approach.
DB	Jose, I think that's conceptually wonderful. I will tell you that the cure notice says fix the deficiencies, of which this is a major, major, major piece by the 23rd. It says, give us your plan, but the plan better fix the deficiencies so that we deliver a compliant PEIS and RIA by the 23rd. That's the, that's what this document says. Now, we can put together a plan that says we recommend that we change to this dynamic model that addresses concerns, legitimate concerns, that will all believe exist in the current approach. An approach that was agreed to and approved by the agency back in October, September, July, whatever, o.k. Put I got to tell you, when the contracting folks, they're not going to T for D us because, terminate for default; they're not going to terminate us for default because...
JS	T for C, T number 4 D, or D number 4 C.

Meeting Transcript, Morning Part 1b

Date: February 10, 2011
Location: Lexington, Kentucky

AS	I'm so glad I didn't know what that meant.
DB	It's a whole lot shorter than terminate for default. It doesn't sound quite as threatening.
JMa	It sounds like a pesticide.
DB	They're not going to terminate us for default if the agency believes that this is appropriate and for the reasons you just said, necessary to defend the document. They won't do it. But, we can't do it alone. That requires the project folks to be on board and supportive of it.
JJ	I think if we come out of this meeting with an approach that Bill and Dianne agree upon then it will make our case stronger to contracting that this is the correct way to deliver.
DB	Contracting has only enforced the words on the paper because the agency wants to enforce the words on the paper. They move the schedule at will based on the project's description of what is required.
JJ	We used to have a process that we need to follow at this point. And, I think our strength, our strength is the technical people to be working together. Otherwise we show fractured...
DB	I agree Josh.
JJ	And we don't need to do that.
DB	And were we not working with the technical folks to this point?
JJ	Yes, and we have new ones now.
DB	And so, I want to make sure that moving forward. When we work with the technical, the new technical folks today, and we come up with an answer that we all agree. That two months from now the next set of technical folks don't come in and say now that's wrong.
JJ	There's no guarantee. (unintelligible)
DB	I'm actually not digging your grave for you (unintelligible)
BW	One of our approaches could have been Dave, hand me the cure letter (unintelligible) have fun.
DB	Yeah, and we would have been in court and deal with that.
BW	I don't like that approach. I'm offering things to you guys. And so, please don't beat me up over things that I'm offering. I'm being serious Dave. All you're going to do is piss me off and I'm going to sit here and go, o.k. Dave, what do you want to do. Fix it.
DB	Our professional reputations, our professional lives are on the line here.
BW	I get it. I'm here to help you do that.
DW	Thank you very much. So were your predecessors.
BW	Please don't beat me up with ideas that I'm putting on the table to help us all get to the end of the day.
DW	So, if we decide that the dynamic model solves the problems, are we going to have your support within the agency that, yes, this is what we need to do. And, yes contracting, go mod the darn contract so that we can accomplish what we as professionals believe is technically necessary in order to move forward.
BW	Here's what I will tell you Dave, I will tell you...
DS (10:11)	Can I say one thing Bill? We will be asked, I'm sure, at the end of these two days, yeah, our opinion of how we thought things went and so I think the more progress we can make in the next two days and what we can go back and tell the Director is going to carry a lot of weight. I can't tell you that what either Bill or I say is the bottom line. But, I can tell you that we will be asked and, if we come away feeling like gee, we made great progress, we're on the right track, this is going to be a dam good EIS, OSM has a huge stake in it. I think that will go a very long way. And, you may have also noticed that a lot of the letters also, I mean the main thing

	they mention is OSM. And so, there's a lot at stake here. The other piece of it is, Dave, you know, we're going to put this out there and we're going to get tons of comments. And, everything that's in the document is going to be subject to attack. And, we may be persuaded that we need to make another change. So, I think, you know, we're going by consensus, it's not Bill dictating or whatever. But, I don't think any of us have a choice at this point. I think we may as well just, we agree that what John [Morgan] proposed is a good way to go. Then, I don't think everyone agrees to that, then let's go forward with it. And, we'll report back how things went.
JS	Are we then in agreement Dianne, two things, are we then in agreement that we're going to framework perhaps decisions and ideas here that we can then present in the cure, in the plan to cure the deficiencies of the EIS.
DS	I think that's a matter of judgment for you to make. But, I think that's the practical sense. I mean we're all here because we've got to fix the document.
JS	The other comment that I would make, is that getting a working draft, and unfortunately these documents have leaked out to everybody. O.K., but to get a first working draft, the interactive process of an EIS is exactly this. Under normal, 2 or 3 year process, you get a draft, no, I think we need to change, and the interaction and the change starts to take place. Here, from day one, and we've been making it known to the agency and the leadership. Unfortunately here I think we know that this has gone beyond you guys, gone beyond across the street, I think this is going way up to the administration. We all know that. But, we've made it known that, you know, the compressed nature of the schedule that you presented from the onset, and we took on. So, we've been trying to work together. So, the thing here is let's look at the ideas, lets present the plan, there's certain things that we can do humanly, you know, like we said some other time ago, it doesn't it doesn't matter if you put a million PhDs to work on something there's things that cannot be done in the period of time. And, we'll present the plan and say, this is what we think, you know, is doable. And then you guys, it's our judgment, your judgment and because at the end of the day it's both our exposures. As Dave said, we're all professionals, we all have certifications and licenses that we've worked 30, 40 years very hard to maintain and obtain. And, our respect from the peers. And, at the end of the day we want to come out of here with our dignity and respect of everybody. So, that's it.
BW	I want to address your comment specifically Dave. I mean, to be honest with you. We leave out, my goal is to leave here with a plan that we think is the best. If we do that, and come to consensus and it makes sense, I will support that. So, that's your answer, yes. As Dianne said, we are not the final say on that. So, as far as this baseline thing that [John Morgan's] talking about, you'll notice that it's not specifically on here, but it is a topic to discuss. And what I'd like to see come out of here is each one of these topics on these agenda, a plan. How are we going to address this folks? That's my goal, to leave here Friday and say, we talked about all these things, talked about the big major gaps, big major holes, here's the plan. I can support that. What I don't want to do is leave here and say, yeah we argued about it for two days. And Dave yelled at me for two days. I'll be honest with you, I will have failed.
DB	That will be failure. And, you know, you both said it. If you support it, I do believe that it will carry a great deal of weight within the agency. So, that, in and of itself, to me is worth its weight in gold. And, that is a basis to move forward and take each one of these items on the attachment and in the agenda and try to, as you say, get a plan. Have a plan moving forward. We got to write it down and at the end of the day, we'll send it back to you for concurrence

	that that's the plan for us to move forward, so we, so there's no misunderstanding as to what we have all said is the path forward.
BW	You're recording this?
DB	Yeah.
BW	Can you please say that you're done yelling at me?
DB	I'm done yelling at Bill.
BW	Thank-you. It's o.k. we're under a lot of stress here folks, it's o.k. This is not the first time anybody's been yelled at. It's o.k. What I would suggest, what I'd like to do anyway, is talk about our 9:30 agenda item. Because I think the reconcile chapter 3-4 high priority PKS analysis, my sense, and you can tell me if I'm wrong. My sense is we talk about the things on this agenda and work through issues that might come up. Which I'm sure there might be a thing or two that comes up. We will address the gaps, or at least reconcile what you guys put together with what we put together. That's my sense.
JMa	The next topic is the 30 CFR and SPR assumptions. Should those be made clear before we determine what are gaps?
BW	That's one of the reasons why we put together the document. We wanted to walk down this, walk through it. Here's what we did. As a matter of fact, let's pass those out. Put it up on the screen, however you guys want to deal with it. Here's what we did. What we did is, (unintelligible)
(15 minute break)	

Meeting Transcript, Morning Part 2a

Date: February 10, 2011
Location: Lexington, Kentucky

File: 02-10-11, Part 02a.mp3
Participants:

Abbreviation	Name	Affiliation
BW	Bill Winters	OSM
DS	Dianne Shawley	OSM
SV	Stephanie Varvell	OSM
LU	Lois Uranowski	OSM
JC	Jeff Coker	OSM
HP	Harry Paine	OSM
PE	Paul Ehret	OSM
JS	Jose Sosa	Polu Kai Services
DB	Dave Bell	Plexus
JMa	John Maxwell	Polu Kai Services
SG	Steve Gardner	ECSI
EL	Edmundo LaPorte	ECSI
JB	Jeff Baird	ECSI
DB	Doug Mynear	ECSI
JJ	Josh Jenkins	Mactec
AS	Ann Shortelle	Mactec
JMo	John Morgan	Morgan Worldwide
LE	Liz Edmundson	Morgan Worldwide

BW	Let me set up the format of what this is. This is what we did. We took each one of the elements. Now you know this is (unintelligible) EIS. Sometimes it says eleven elements, sometimes it says 13, I think there's one that even says 15. This is not according to any number. Because you'll see the last three pages say miscellaneous. O.K. So don't get caught up in the number. Because element number 5 is not going to match EIS element number 5 the way you guys put them together. So look at the headings. So number one is stream definition. You'll see the first two bullets of stream definition frankly are the content of the reg. And then you'll see parentheses, that's the exact reg cite. Hey John, you want sunglasses? Then you'll see under that we did something called purpose. Which, here's what we're trying to accomplish with that particular reg or element. O.K. We tried to keep those concise. And then you'll see what we think are the benefits. Now, let me make this clear. Let's be clear about this. We're not handing you this document and saying here's the answer. O.K. We did this internally for us to keep track of things. So, when we said benefit, those are our initial thoughts on what benefits are. We would really like to hear your thoughts as well. So, everybody's clear with that? We're not handing this to you and saying, here, this is the cost benefit. We're not doing that. This is our conceptual thoughts on paper to help clarify the rule.
JMo	Can I ask one question Bill which has been disturbing me for a while about this which is that I thought our mandate was to conduct an EIS, which is looking for alternatives. And a range of alternatives which we categorize Alternatives 2 through 5. I think, and Dave you're probably more of a NEPA expert than any of us, is that we in EIS production, our aim is to make sure

	that it's a balanced document that evaluates all the alternatives. And, I think that we've got to be very careful that we don't suddenly, because of your being on the rule team, have your focus, which is in far more detail than we have on the other elements which we looked at for alternatives 2, 3, and 4. So, overlying all this as I think this is very critical that whatever we do on 5 we also do on 2, 3, and 4. Because otherwise (unintelligible) open for challenge. And, if we have to simplify the elements to a certain extent, which is what happened in Chapter 2, in order to categorize the rule, or one of the alternative rules, I think we need to go that way. Because, otherwise we're never going to have a balanced EIS. And I know you've got a propensity because you've lived the rule for so long.
BW	Yeah, so help me understand. Let me try to parrot back to you what you just said. What you're saying is in order to make the alternatives analysis and comparison meaningful, it may need to pare back some of the elements.
	What I'm saying is that if you look at the normal process of an EIS, it's to look at the process to guide the rulemaking. The process is being accelerated so the rulemaking has been going on in parallel with the EIS. The rulemaking has reached a much higher degree of sophistication than the alternatives discussed in the EIS. Just because the natural timeframe, which you said yourself. So you have two parallel tracks. Normally, they should have been sequential that you'd have done the EIS, then you developed the rule based on public comments and you'd move forward there. You short-circuited it. So, now you have a rule out there and you have an EIS which is trying to play catch up. And I think it's very critical (unintelligible) not relevant in alternative three, which had merits and during the public comment to say, we really like that idea. Then you've got to develop enough clarity within the EIS to say that could be switched for a similar element in alternative 5.
BW	Yeah, I think we can do that.
JMo	But, the underlying point is that all the discussions I've seen recently from people who've been on the rule team is that you've been involved so intimately with that we've been discussing to a level of detail,. We've never had that detail for some of the different potential elements which would have been in that same alternative 3 or 4. And that's why I think we've got to get that balance.
	I hear what you're saying. I don't think what we're saying is the level of detail. What I am saying is that we see things in the rule that don't, aren't consistent even with 30CFR as it stands. Now, let alone the proposed rule. And the one that Steve and I love to discuss is material damage. And, if those assumptions or interpretations that you guys made underlie your analysis, what comes out of the end of that's going to be flawed. We think that's where we're at. And, so the goal of this is not to go through this in excruciating detail, even though there's more detail here to your point, there is more detail in hear than you'll need. But we thought that by walking through here, we could help, talking about the generic purposes of what we're trying to accomplish.
JMo	I just think in the comments I read, there was a danger that people were referring back to the proposed rule to say something's wrong in the EIS. Where, in reality, the proposed rule shouldn't even be out there to (unintelligible) the EIS. It should be the concept of a rule as if equally to the concept of the other alternatives.
LE	(unintelligible) in evaluating the proposed rule, we're using the text from Chapter 2, we're not looking at what the proposed rule says. So, if there's something that is more elaborative in chapter (unintelligible), during the proposed rule that is not in Chapter 2, that's not a consideration in our evaluation.

	Let's walk through that because I think...
LE	And I think that's where some commenters are getting confused, because they're like well this rule does this, this, and this Chapter 2 and it doesn't say that.
DB	This started out as a programmatic-level approach. And so, the alternatives were developed with concepts in these 11 principal elements. Alternative 5, which represented the conceptual elements, or the concepts that the rule would take into account, was written much more broadly until November or so.
DS	And I think, and I would agree with you from a legal standpoint. As long as the discussion of, that's in Chapter 2 is broad enough to, so that the rule as it's finally proposed, can be derived from that and shows a, the range of alternatives fully discussed. I think, Bill's point, is you need a really good understanding of the preferred alternative. That is where the rule is at this point although it may change. So, this will help. This discussion will help and it will also allow you to QA/QC what you've said and make sure, one of the comments were that there seemed to be some misunderstanding. So,
DB	I think you're talking two different, there are two different things going on.
DS	I think maybe if we start to work your points really good. If we start to work through Bill's, what Bill, Lois, Harry put together and maybe get into it a little bit that might help direct our discussion.
JMo (8:18)	I don't disagree with clarification of the details at all. I never did that. All I'm making sure is that where we come out of this is a balance in discussions in Chapter 4 between the alternatives. And, if you're given comments like this on alternative 5, to match the proposed rule. Then we need to have an equal clarification and expansion on alternatives 2, 3, and 4 to keep that balance.
LE	And it would probably be beneficial to clarify what those alternatives are since there might similar misunderstandings and differences in interpretation.
DB	And, the danger we've got to guard against, frankly from my perspective is that we not write alternative 5 so that it is precise rule provisions. Because if we do that, now we're going back and rewriting Chapter 2.
BW	We're not saying that.
DB	Yeah. We can talk about what the rule says, and then try to develop a little umbrella under which that concept can rest.
DS	We want it broad enough and general enough so that we can be reactive to public comment and not have to go back and change the, and do a supplemental EIS.
DB	Absolutely. That's the right way to do it. Can you just turn that, just ever so slightly? (unintelligible)
JMa	Is this what you're going to put up on the screen?
BW	Yes.
JMa	I think it would be more helpful for me to work from the paper and just write notes on the paper as we're talking about it. (unintelligible)
BW	I think your point John is consistency among the alternatives and then not get into the technical weeds on the rule.
JMo	Yeah.
BW	We agree. (unintelligible)
BW (11:07)	This is set up to say, here's what we're trying to do, here's the rule language, here's the purpose, what we think the benefit is, what we think the costs are. Because at the end of the

	day, that's kind of one of the things we got to get across in the EIS. So, why don't we just walk through this element by element. And if there's questions, thoughts, comments, concerns let's talk about them. Steam definitions. Frankly, all we're trying to do is put a biological component on stream definition to make the process easier. Because right now, everything is flow-based. And, I've been in enough arguments when I was doing permitting with folks to draw the intermittent/ephemeral point on a map. You go out there on Tuesday and it's here, you go out there Wednesday, and it's here. I've seen people get red faced, mad and leave. This is designed to get rid of some of that, nothing else. Clear? O.K. Costs, benefits, purpose, the whole deal. What I'll do is walk through here and kind of tell you what we were trying to get, our intent. I'll let you guys try to look at the cost benefits and if you see something that's way out in left field, let us know. If you see something you think needs to be added as far as cost/benefit, please make a note on your , on your outline here, and I'd like to see it. Fair enough? I think we've got like 13 of these to get through. But, we got an hour to do it so we have plenty of time. (unintelligible) O.K. Let's move to number 2, material damage, because this might start some discussion. Here's what we're trying to get at here. There's never been officially defined material damage in 30 CFR. With the exception of alluvial (unintelligible). O.K. And there is some discussion of material damage about subsidence but this is material damage to the hydrologic balance. Two points. There's two concepts in SMCRA that you need to be aware of, two global points. One is damage outside the permit and one is damage inside the permit. The generic standard outside the permit is prevent material damage. The generic standard inside the permit is minimize. O.K. So this is material damage to the hydrologic balance outside permit. This is focused on use. Whether it's groundwater use, stream sue. The most active context is normally stream use. That's one of the reasons why we tied it to the clean water act. Because the clean water act, every other year or every third year, some rotation. They have to go out, or They're supposed to go out, and do an analysis of their streams. That's where they generate the 303d list. They have a prescribed method, a prescribed protocol. It's quantitative, it's accepted. The whole deal. So, we decided, we're not going to reinvent the wheel here. If you're going to look at streams, here's the 305B method. Hell, it's already approved. We don't need to reinvent the wheel. So the whole deal is, prevent material damage. It Doesn't preclude use, that's stream use, groundwater use, whatever they have to (unintelligible) outside the permit. O.K. There's a clarification on the bottom there, down towards the bottom there of (unintelligible) about underground mining. It's the second bullet actually. (unintelligible) Steve and I've discussed once or twice.
SG	We thought we were on the same page. (unintelligible)
BW	We think we are now. But, the deal with underground mining is, you have two types. You got some that are planned subsidence. Some are unplanned subsidence. Planned subsidence says you're going to have subsidence. It's not the subsidence we're trying to prevent. Some people have erroneously picked that up and say well 'What do you mean you can't have subsidence?' Well, it doesn't say that. What it does say is if your subsidence causes material damage; if you go out and long wall panel, long wall mine, which is planned subsidence, high extraction, you're going to get subsidence. If you long wall underneath the stream with a hundred feet of cover, you're going to take the stream. If the stream has no water in it, how is it meeting its designated uses? And, the answer is - well, it's not. So that's material damage. So then there's another trick that some agencies have tried which is to put the whole underground mine plan inside permit boundaries. So then the standard becomes minimized. No. We put some language in there to clarify that because that's not the intent. If that was the case we'd

	just draw permit lines the size of Tennessee and say, hey we're inside the permit now all we got to do is minimize. No.Not going down that road either. So, it's not the subsidence. It's the effects of the subsidence.
LU	And, it's also not elevation change.
BW	Correct. It was stated in the EIS that way.
BW	Yes.
JMa	And this is something determined on a permit-specific basis, right?
JMa	And in that case how is it possible to quantify that (unintelligible).
BW (16:50)	Let's back that, I'll be with you in one second Steve. 20-second history lesson. When SMCRA first came out, this term material damage was talked about, There was proposed definitions thrown around. At that point in time we decided, SMCRA language says. The states shall develop their own definition of material damage. We thought, we're not going to weigh in, come up with this national thing. Each region's different, each state can pick whatever they want for material damage criteria. What happened is, there's about five states that did that out of 26. And so, the rest of it is this kind of this big, gray fuzzy mush ball. I'll know it when I see it. It's professional judgment, blah, blah, blah. No, that's not, that was not the intent of SMCRA. And, frankly, OSM has struggled with weighing in and telling states that doesn't cut it. That is, some of that's on us. This is an attempt to correct that. Mr. Gardner.
JMa	So in order to quantify that, do we look at past violations (unintelligible) percentage for each region.
BW	Steve, I know you're dying to address that. Go ahead.
SG	Well, I think the comment about what we've written so far in the chapter that was the only thing I should have caught. But, we need to clarify that it's not just the elevation change. But, I thought we did, we were on the same page in our discussions that material damage that material damage has changed. What Kentucky does, and I think Utah does, on their underground boundaries, was it in the famous letter that we received from OSM clarifying the underground issue. The disingenuous nature of using that as a permit criteria (unintelligible). That is a fact. That is the way it has been done in those two states. I thought we were on the same page, that we understood what your interpretation was is that material damage is impact on the hydrologic system. Just the elevation change is not that. But, if you do impact the hydrologic balance by an elevation change then that area probably would not be permitted.
BW	Well, that's going to be the assessment they make on the up front. But, I don't like to link the elevation change at all. Because, we see lots of long wall panels, Steve, underground, underground or under mine streams. The stream's still flowing. They might cut the gates (unintelligible)
LU	Or, the opposite. You have no elevation change but you still have material damage because you have these great big cracks in the sandstone (unintelligible)
SG	I can see that that needs to be clarified and changed. (unintelligible) We talked to Brent about that. But still, I think we're clear on the fact that this changes the standard to material damage. Or, I think, you say it's always been there but...
BW	It has.
	But it's just the way it's been enforced. And it's supposed to be more consistent now across the states. And, it will result in some mines not being permitted.
HP	You know, I wouldn't, I wouldn't be so broad in that area. I mean, if you take an example,

	there might be certain areas of a mine that are so shallow above the overburden that they cannot do either room and pillar mining. They're too shallow. Because you're going to dewater the above the mine streams. I remember that in Ohio we had people who wanted to room and pillar under perennial streams that were 80 feet of cover. And, that was all sandstone fracture. We said, you know, you're going to completely dewater the stream. We can't, we can't allow that. So I think, but if they move to higher cover, you know, these underground mines, the one's I'm familiar with sometimes are thousands of acres. So, to say entire permit would be denied, I think is too broad.
SG (20:31)	Well, I wouldn't say the entire permit. Let me go back and clarify that. Areas of, certain areas that have previously been permitted will not be permitted in the future under this standard.
BW	This is where we will conceptually disagree. Because I think that (unintelligible) I can't be subtle Steve. I'm not going to be subtle. You take the states of West Virginia and Kentucky, yeah, there might be some areas in there that they may have to reconsider. But, you take states like Pennsylvania, Ohio, everywhere else around them, we've been doing that. So, that's why I say we can't say there's a generic statement. That's the trouble I have with your statement is we can't generically say that, to Harry's point, that a) mines are going to be denied. Because, to me, we don't start with denial what we start with is 'How do we make this mine plan work?' I did permit review. I ran an office consulting. I did that. That's where we started. We didn't start with the negative. We didn't start with 'you're not going to get a permit.' So we started with 'How do we change the mine plan to make this happen?' And so there are areas, not permits, areas, that would be, would have an issue. We honestly think, and I will believe this to the day I die, that that is supposed to be going on right now. And, it is in most states. If it's not in West Virginia and Kentucky I don't say we that hold that as the standard and say this is how everybody else on the planet does it. We're going to have to do some averaging there and so, O.K. West Virginia and Kentucky, yeah they might be a little (unintelligible). But, they frankly should have been doing this all along. This analysis, it's a hydrologic analysis. The PHC is supposed to pick up on it from the consultant. The industry is, through the regulatory authority is supposed to do a CHIA. Between those two people, they are supposed to Identify the issue and then reconcile it. We can't, we know we're not kings of the world. We can't weigh in on every permit and say 'Dude, you're not doing that right.' We have done some of that in the past. We have done some modifications, but I tend to agree that there is some areas in some states may not be mined. We don't think we're talking, we're looking at wholesale permit denial. I just don't believe that.
SG	I'm not trying to say that. There will be areas that will not be permittable under this standard. How's that?
BW	Yeah, we agree.
SG	I think that maybe it will impact Illinois also because getting into that zone of long wall mines with less that 400 ft of cover, greater that 400 may also be impact. Those mines can still probably be permitted and mined under, say, room and pillar without retreat.
BW	I don't know, because see the hydrologic setting the whole hydrologic issue. And, Paul, help me out here cause you may know something about Indiana. (unintelligible) The hydrologic issue (unintelligible) is basically you're flat and you're cutting a hole in the groundwater table. So, to get groundwater levels to rebound, sometimes that's not a big stroke. So, I think the hydrologic issue's different. And, I would not make that blanket statement to say, in the east we talked about numbers. And, this is kind of the analysis I would like to see Based on stream density. Is, I thought, was a really good idea. (unintelligible) If we took some, The assumption

	is if you're long wall under 350 ft of cover, you're going to impact the streams. So, if you've got this stream density GIS, you come up with a script fill, you draw a 300 ft boundary around it on a potential long wall mine. Say, o.k., these reserves might not be mineable. Maybe room and pillar it's 150 feet. But, that gives you an analytical base on which to make that statement and It's not you and me arguing about what you think it is and what I think it is. It's an analytical base and then what we talk about is, O.K., Is the number 150 or is it 175? And we'll throw it out ther and everybody, everybody and their brother will have a comment on 175. But, at the end of the day, it's a common base for everybody to start with. So...
SG	Well, I don't think we disagree a whole lot on this. It's the fact that we're on a programmatic analysis of the potential impacts. And, we're trying to grasp some number of how far. If we got more time and budget we can do it on a very detailed basis And, come up with exact numbers of the impacts of those. But that's not what was possible under this contract.
BW	I think that the key thing here is that we don't disagree with your statement that some areas according to element (unintelligible) . I think the magnitude is probably where we might have exception. That's where we've put together the rationale thought behind the production shifts. (unintelligible) think, now remember, this was a big one. That's important to understand, how you guys arrived at that. Frankly, we got 50,000 questions about that (unintelligible). We got beat up pretty good on that. Anything that you can do to quantify the production shift thing in some method and anything that you can do to help us understand. Because, there was lots and lots and lots of comment and we had a hard time answering questions.
SG	And that's one of the things we were still working on, quantifying, after our last meeting here in Lexington.
DS (25:41)	On setting out the assumptions. Now in what you were saying, if you're talking about, if you're in agreement, that it's, what did he say, what were the states, Kentucky, West Virginia you mentioned. Yeah. You mentioned Illinois. The discussion should be that narrow. It should be, that may be an issue here and, you know, the assumption is this and this. That some parts of this, that some areas under a permit may not be able to be mined, and why. And, I don't know if you've already done that, but I would think that that would be setting out the assumptions and not using the meat clever, trying to use the scalpel as much as possible.
BW	I think fair Steve, to character- I mean, talking as a professional here. I think if I was going to describe it I would say, here's the conditions of what we think there might be a new type of production. How long wall mines come under blah, blah, blah. Room and pillar mines under stream valley, blah, blah, blah. I think it's fair to set those up and from there, go into your assumptions . Because you're framing your assumptions in some quantitative basis. And, I think that was one of the things missing in the past, (unintelligible) it appeared as though they were just a number. So, I think if we did that going forward, here's our assumptions. Long wall is under 350, room and pillar under blah, blah, blah. Whatever, number, whatever way you guys want to do it. Anything that you can do like that is greatly beneficial in this effort. And, in that way we focus this discussion on (unintelligible) 175. Rather than, how the hell did you come up with those numbers. I think we're on the same page. I think we are. I just caution against, I just caution again to say that the conditions that are on the ground, possibly, in West Virginia and Kentucky may not be the way it is across the remaining 22, 24 states. And, I'm sure Roger Calhoun and Joe Blackburn might (unintelligible)
SG	No, I agree with that.

BW	O.K. I think that's fair. (unintelligible) Any other thoughts, questions, comments on the material damage thing? Because, (unintelligible). This is one of the bigger ones.
DB (28:09)	You've identified in your paper, the, several specific sections. Are those the only places where you saw an issue?
BW	What are you talking about?
DB	I'm talking about your paper from Monday. Your, your list of items.
BW	Yeah, I put some examples. Just to give some meat to what we were drinking. That's where I was going when John said about consistency. That's what I was trying to clarify. Because I could point to specific examples where we make the, there's just a total either misprint or misunderstanding. And listening to Steve. I mean, I know Steve. I know Steve knows what the deal is. I think there was just, The whole evaluation change thing, was probably, he was thinking of it in one terms, we're thinking of it in another. That's where we got to reconcile. Because, a lot of the cooperating agencies. That's exactly (unintelligible) the elevation change. A lot of the cooperation (unintelligible). How is material damage related to elevation change? Not until you understand subsidence, and have the discussion we did today, well, yeah, that's what he meant.
DB	Brent brought that up in the face-to-face. So, we talked about that specific example and got clarification of that. On the other ones, do we need clarification? On the ones that Bill specifically mentions in the paper.
BW	The one's that I sent that you don't have?
DB	The prioritized list. I mean, I want to make sure we address , you know, obviously the things where you have honed in on something. And then, more globally the concepts that....
SG	I think we can go back and address those. I don't know if we need to discuss those in detail at this time.
DB	I'm just saying, you have the framework to do that so I'm going to check that off as a part of our plan moving forward.
BW	What I would suggest , to be honest with you. I'll just tell you what I'd like to see in that plan. What I'd like to see in that plan is the authors will go through and have a look at their sections of rule interpretations in light of our discussion here . And, that way we don't have to sit here and itemize every little thing that we think is, even though I think you'll find in the comments (end of recording).

David Bell

From: BilBao, Li-Tai S. <lbilbao@osmre.gov>
Sent: Monday, June 21, 2010 1:33 PM
To: BilBao, Li-Tai S.; dbell@plexsci.com
Cc: jose@polukaiservices.com; Craynon, John; Sloanhoffer, Nancy E.; Winters, William R. "Bill"; Uranowski, Lois J.
Subject: RE: Draft PIP

Importance: High

Sorry for sending this out without finalizaing comments...

From: BilBao, Li-Tai S.
Sent: Monday, June 21, 2010 1:23 PM
To: dbell@plexsci.com
Cc: jose@polukaiservices.com; Craynon, John; Sloanhoffer, Nancy E.; Winters, William R. "Bill"; Uranowski, Lois J.
Subject: Draft PIP

Hi Dave,

My comments are as follow:
> 2nd Paragraph, 1st sentence, page 1. I would suggest reqording to *"A critical first step in this process is the identification of those with an interest in teh project.*
> 3rd bullet page 1 - Public Meetings are not part of Part 1 - Scoping. I understand that it becomes part of the other phase. Since we are developing a future PIP for the other phase why don't we leave this out of this part. I'd like to standardize documents as you suggested with the appropriate language being used to convey the same message.
> My title throughout the document should be changed to COTR or COR (page 1 and 3). Add "EIS Proejct Manager" to John Craynon after all the other things in his title.
> Correct spelling Andy DeVito
> Both Andy and Dennis are Regulatory Analysts but I don't think they should be mentioned in this document.
> On page 2, I would include the comments of the 2008 SBZ rulle which is what has prompted this whole action but I would like your opinion on the matter.
> I didn't see any of the attachements. Am I missing something?
> In the last section project website, are you referring to the SharePoint site? If so, simply state that.
> Under Project Website last paragraph, I am hesitant to put that we will establish a link from our homepage. I'm not opposed to the idea, it's just that it has to go through clearance and I would rather it not be on paper.

Other than these comments, I think it is an excellent PIP!

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Phone: (202)208-2895

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From: Uranowski, Lois J.
To: David Bell
Subject: FW: DRAFT PIP
Date: Tuesday, June 22, 2010 1:45:19 PM

Here were my comments- I sent them to Li Tai as per her email.

Lois J. Uranowski P.E.
Chief, Ecological Services and Technology Transfer Branch
Technical Support Division
Office of Surface Mining
3 Parkway Center
Pittsburgh, PA 15220
412 937 2805
luranowski@osmre.gov

From: Uranowski, Lois J.
Sent: Monday, June 21, 2010 11:19 AM
To: BilBao, Li-Tai S.; Winters, William R. "Bill"; Craynon, John
Subject: RE: DRAFT PIP

1. Lois Uranowski, Chief, Branch of Ecological Services and Technology Transfer Branch
2. The OSM Team -are all these folks on that team? So there are 2 OSM EIS teams? What I call the OSM Core team (Li-Tai, John, Bill and me) and this other expanded team for the PIP only?
3. I assume that every comment will be recorded somewhere, even the hand written ones.
4. I really liked the idea of having an initial station describing the EIS process in general.

No other questions. Looks like all the things we discussed last week.

Lois J. Uranowski P.E.
Chief, Ecological Services and Technology Transfer Branch
Technical Support Division
Office of Surface Mining
3 Parkway Center
Pittsburgh, PA 15220
412 937 2805
luranowski@osmre.gov

From: BilBao, Li-Tai S.
Sent: Saturday, June 19, 2010 8:52 AM
To: Winters, William R. "Bill"; Uranowski, Lois J.; Craynon, John; Mali, Peter L.
Cc: Sloanhoffer, Nancy E.
Subject: FW: DRAFT PIP
Importance: High

Attached, please find the draft Public Involvement Plan (PIP) Phase I scoping. Please review and send me things by COB Monday - sooner if you can.

Li-Tai Sikiu Bilbao
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From: David Bell [dbell@plexscl.com]
Sent: Friday, June 18, 2010 7:03 PM
To: BilBao, Li-Tai S.
Cc: jose@polukaiservices.com; 'Randy Sosa'; 'John Maxwell'
Subject: DRAFT PIP

Li-Tai:

Attached is a **DRAFT PIP** for the Scoping portion of the public engagement, per our discussions earlier. I'm working on the attachments and will provide as they are completed. Please send me any comments as you think of them and I will address.

Also, I'd like to get a clean picture of the OSM logo (or whatever you would like to use to "brand" the public materials – DOI logo??). Should I talk to Peter directly about that?

Dave

<<...>>

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(703) 774-6578 (cell)

From: BilBao, Li-Tai S.
To: dbell@plexsci.com
Cc: Jose Sosa; Winters, William R. "Bill"
Subject: FW: DRAFT PIP
Date: Tuesday, June 22, 2010 4:49:51 PM
Importance: High

I am forwarding Bill's PIP comments. My bad, I thought you were on the to list.

Li-Tai Sikiu Bilbao
1951 Constitution Avenue, NW
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Phone: (202)208-2895

From: Winters, William R. "Bill"
Sent: Monday, June 21, 2010 7:28 AM
To: BilBao, Li-Tai S.; Uranowski, Lois J.; Craynon, John; Mali, Peter L.
Cc: Sloanhoffer, Nancy E.
Subject: RE: DRAFT PIP

Here are my comments:

1. My title (pg 1): chief, Technical Branch, Knoxville Field Office
2. Id Stakeholders: I think we should contact all those folks that commented on the ANPR and NOI, not the 2008 rule
3. Public scoping open houses: format of open houses – do we only accept comments or are we allowed to dialogue/answer questions? I would state overtly either way.
4. Public scoping open houses: PIP stations, Principal elements – I assume these descriptions of the elements are what we did last week?
5. Project website: PKS to set up website for project – is this a public facing website (i.e. public can view, comment, etc) or is this the Sharepoint site, used only by OSM/PKS?

Overall a very good job.

From: BilBao, Li-Tai S.
Sent: Saturday, June 19, 2010 8:52 AM
To: Winters, William R. "Bill"; Uranowski, Lois J.; Craynon, John; Mali, Peter L.
Cc: Sloanhoffer, Nancy E.
Subject: FW: DRAFT PIP
Importance: High

Attached, please find the draft Public Involvement Plan (PIP) Phase I scoping. Please review and send me things by COB Monday - sooner if you can.

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Phone: (202)208-2895

From: David Bell [dbell@plexsci.com]
Sent: Friday, June 18, 2010 7:03 PM
To: BilBao, Li-Tai S.
Cc: jose@polukaiservices.com; 'Randy Sosa'; 'John Maxwell'
Subject: DRAFT PIP

Li-Tai:

Attached is a **DRAFT PIP** for the Scoping portion of the public engagement, per our discussions earlier. I'm working on the attachments and will provide as they are completed. Please send me any comments as you think of them and I will address.

Also, I'd like to get a clean picture of the OSM logo (or whatever you would like to use to "brand" the public materials – DOI logo??). Should I talk to Peter directly about that?

Dave

<<...>>

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David Bell

From: BilBao, Li-Tai S.
Sent: Tuesday, June 22, 2010 5:18 PM
To: dbell@plexsci.com
Subject: FW: DRAFT PIP

Peter Mali's comments.

Li-Tai Siktu Bilbao
1951 Constitution Avenue, NW
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Washington, DC 20240
Phone: (202)208-2805

From: Mali, Peter L.
Sent: Tuesday, June 22, 2010 5:00 PM
To: BilBao, Li-Tai S.; Winters, William R. "Bill"; Uranowski, Lois J.; Craynon, John
Cc: Sloanhoffer, Nancy E.
Subject: Re: DRAFT PIP

Li-Tai et al.:

The PIP looks good, I think. It reads smoothly and covers the necessary bases.

Here are my comments:

1. Page 2: Under the heading, "Public Notices": it says the EIS "would revise several provisions of SMCRA...." Don't we mean several regulatory provisions of SMCRA? As is, it sounds as if we're usurping Congress' role as lawmakers.
2. I assume that the attachments are coming later? The PIP references several attachments, but I don't see any. Have I missed something, or are they still being drafted?

3. A handful of nitpicky copy edits which, since this is an internal document, aren't even worth making.

Thanks,

Peter

From: BilBao, Li-Tai S.
To: Winters, William R. "Bill"; Uranowski, Lois J.; Craynon, John; Mali, Peter L.
Cc: Sloanhoffer, Nancy E.
Sent: Sat Jun 19 06:51:49 2010
Subject: FW: DRAFT PIP

Attached, please find the draft Public Involvement Plan (PIP) Phase I scoping. Please review and send me things by COB Monday - sooner if you can.

Li-Tai Siktu Bilbao
1951 Constitution Avenue, NW
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Phone: (202)208-2805

From: David Bell [dbell@plexsci.com]
Sent: Friday, June 18, 2010 7:03 PM

To: BilBao, Li-Tai S.
Cc: jose@polukaiservices.com; 'Randy Sosa'; 'John Maxwell'
Subject: DRAFT PIP

Li-Tai:
Attached is a **DRAFT PIP** for the Scoping portion of the public engagement, per our discussions earlier. I'm working on the attachments and will provide as they are completed. Please send me any comments as you think of them and I will address.
Also, I'd like to get a clean picture of the OSM logo (or whatever you would like to use to "brand" the public materials – DOI logo??). Should I talk to Peter directly about that?
Dave
<<...>>
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From: BilBao, Li-Tai S.
To: David Bell
Cc: Jose Sosa; Randy Sosa; John Maxwell; "Jackie Cain"; Pizarchik, Joseph G; Owens, Glenda H.; Sloanhoffer, Nancy E.
Subject: RE: Carbondale Open House
Date: Tuesday, July 20, 2010 12:29:22 AM

Dave,

Thanks for the great work you are doing out there. Kindly send daily updates so that we can inform the Director and the Deputy Director.

Take it easy and be well.

L

From: David Bell [mailto:dbell@plexsci.com]
Sent: Monday, July 19, 2010 11:36 PM
To: BilBao, Li-Tai S.
Cc: jose@polukaiservices.com; 'Randy Sosa'; 'John Maxwell'; 'Jackie Cain'
Subject: Carbondale Open House
Importance: High

FYI. We had 34 attendees, most at the beginning. The last sign-in was around 4:30, and the last person left around 6:15. Lighter turnout than the 50-100 estimated. A handful of industry, a few "private citizens," and several from the Sierra Club. As far as we can tell at the moment, we didn't have anyone from the coal worker segment. At one point, I'd say we had around 20 people. All calm; no protests; no incidents.

Off to Evansville tomorrow.

Dave

David E. Bell

Vice President

Regulatory, Safety, and Strategic Consulting

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Suite 1200

From:	BilBao, Li-Tai S.
To:	David Bell
Cc:	Jose Sosa; John Maxwell; Randy Sosa; "Jackie Cain"; rfatz@plexsci.com
Subject:	RE: Recap of Birmingham Open House
Date:	Friday, July 23, 2010 6:56:11 AM

Thanks, Dave. Excellent Job!

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From: David Bell [dbell@plexsci.com]
Sent: Friday, July 23, 2010 2:00 AM
To: BilBao, Li-Tai S.
Cc: 'Jose Sosa'; 'John Maxwell'; 'Randy Sosa'; 'Jackie Cain'; rfatz@plexsci.com
Subject: Recap of Birmingham Open House

We had 20 attendees at the Birmingham Open House, short of the estimate of 100. It was uneventful. We had 5 private citizens, 5 people associated with a citizens' groups, 2 rep from EPA IV, and 1 state government. 1 OSM person also signed in. Three people provided oral comments. Most attendees came between 3 and 5, with some here as early as 2:30. No one showed up after 6:30.

Next is Hazard on 7/26. I anticipate the attendance pattern will change.

Dav

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From:	BilBao, Li-Tai S.
To:	David Bell
Cc:	Jose Sosa; Randy Sosa; John Maxwell; Rideout, Sterling
Subject:	RE: News Media Attends Birmingham Open House
Date:	Thursday, July 22, 2010 9:27:19 PM

Thank you for the great work you are doing.

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1951 Constitution Avenue, NW
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Phone: (202)208-2895

From: David Bell [dbell@plexsci.com]
Sent: Thursday, July 22, 2010 8:39 PM
To: BilBao, Li-Tai S.
Cc: 'Jose Sosa'; 'Randy Sosa'; 'John Maxwell'; Rideout, Sterling
Subject: News Media Attends Birmingham Open House

Li-Tai:

CBS Channel 42 News, WIAT, just left the Birmingham Open House. They shot a couple of minutes of video, including about 15 seconds of Sterling on camera, along with shots of various posters. Sterling spoke extemporaneously to the first 3 paragraphs of the Media Statement. We also gave them a copy of the Comment Form, pointing out the ways in which the public can comment. They also took a copy of the NEPA process handout, which summarizes what we're doing and where we are in the process. I think the latter will be used by the anchors to fill in info.

Unfortunately, we had no members of the public here at the time. Thus far, we've had 22 people – industry, private citizens, EPA Region IV person, environmental group members. The two CBS 42 News folks were Marlin Price, photographer, and Chris Womack, assistant. Marlin said the piece will air tonight on the 10pm news. It will be available on their website at cbs42.com, but I'm not sure how quickly they are posted. I had the impression it would be posted fairly quickly.

Dave

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From: BilBao, Li-Tai S.
To: David Bell
Subject: RE: Summary of Beckley Open House
Date: Wednesday, July 28, 2010 5:50:17 AM

Thanks, Dave. Excellent job.

Li-Tai Sikiu Bilbao
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Phone: (202)208-2895

From: David Bell [dbell@plexsci.com]
Sent: Tuesday, July 27, 2010 10:36 PM
To: BilBao, Li-Tai S.; Craynon, John
Cc: 'Jackie Cain'; 'Jose Sosa'; 'Randy Sosa'; 'John Maxwell'; 'David Bell'; Uranowski, Lois J.; Calhoun, Roger W.; rfatz@plexsci.com
Subject: RE: Summary of Beckley Open House

We had 46 attendees at an uneventful Beckley Open House in the following groups:

- Industry 18
- Environmental Grp 3
- Government (Natl Park Svc) 1
- Private Citizen 18
- Media (TV(2), NPR, AP, Nwspr) 5
- U.S. Senator Office (Rockefeller) 1

We had 5 reps from media – 2 local TV stations (WVBA (NBC) and WVNS); 1 radio (NPR); 1 newspaper (Beckley Register Herald); 1 wire (AP). Media showed up between 2:30 and 3:00. Both TV media were probably trying to make the 6pm news. AP stayed for a couple of hours, probably writing the story while there.

The turnout was light, fewer than the 500-1000 anticipated. Most attendees arrived between 3-5; no one came in after 7:30.

We had 4 local, off-duty police officers on site the whole evening. There were no incidents inside or in the parking lots. Next are Morgantown (28th) and Gillette (29th).

Dave

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From: Sloanhoffer, Nancy E.
To: David Bell
Subject: RE: Scoping Meetings
Date: Monday, August 09, 2010 3:35:08 PM

The CD was unfortunate. I could not open either, I tried prior to sending. Chris said it was due to the fact that I did not have that program. I told him that concerned me, but that the comments would also be up loaded on SharePoint by the end of the day. I never went into to SharePoint the next day to check. So in reality we/OSM/the Govt handed the information to you late..... by about a week, right?

From: David Bell [mailto:dbell@plexsci.com]
Sent: Monday, August 09, 2010 3:19 PM
To: Sloanhoffer, Nancy E.
Cc: 'Jose Sosa'; 'Randy Sosa'; 'John Maxwell'; 'Mike Stanwood'; Craynon, John
Subject: RE: Scoping Meetings

"For Official Use Only – Deliberative Process Material"

Hi, Nancy.
I think it's unlikely it will be delivered early. On Friday, 7/30, Chris Holmes informed me that the agency had received 23,000 email comments. Up to that point, I had been told that none had been received. While I thought that highly unusual, I took the response at face value. In contrast, we received 453 comments at the 9 nine scoping open houses. As I think I mentioned to you in Morgantown, at that time, I thought I would be able to accelerate the report based on the relatively small number, but now with 23,000+ comments to review, that's no longer likely.

Chris FedEx'd a CD with the comments, and it was waiting for me on 8/5 when I returned from the Purpose & Need/Alternatives discussion in Lexington. Unfortunately, the file could not be accessed, and the CD had to be re-burned. I drove down to OSM and did a curbside hand-off with Chris Thursday afternoon. While most comments appear to be sign-ons to form letters, each email must be opened and assessed to ensure it doesn't raise new issues or offer new information. That process is simply time consuming. John Craynon also mentioned then that the agency was copying the comments received via surface mail and courier, and would be sending those along too. I have not seen those yet, and intend to follow up with John on the status.

In response to your subsequent email regarding obtaining a draft report for advance review, I will do my best. I should have a better feel over the next week or so, as I am able to compile and organize the comments according to subject area. I suggest I update you and the team on progress/prognosis at the 8/17 meeting. How does that sound?
Dave

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From: Sloanhoffer, Nancy E. [mailto:nsloanhoffer@osmre.gov]
Sent: Monday, August 09, 2010 2:59 PM
To: dbell@plexscl.com
Subject: Scoping Meetings

Do you think we will be getting the final report on time, or perhaps a little early.

From: Sloanhoffer, Nancy E.
To: David Bell
Subject: RE: Status of Mailed-in Comments
Date: Sunday, August 15, 2010 8:48:51 PM

Thank you and sorry for the delays. Nancy

From: David Bell [mailto:dbell@plexscl.com]
Sent: Friday, August 13, 2010 9:30 PM
To: Sloanhoffer, Nancy E.
Subject: RE: Status of Mailed-in Comments

Hi, Nancy.
I met John at Pentagon City at 6pm tonight and picked up a packet with a CD and what appears to be one comment with enclosures (it was submitted on the form we distributed at the Open Houses). I will open the CD tonight/this weekend and print the contents at the office on Monday (we need to do that to sort amongst the various issues). There are no envelopes or other indication of when the comments were received, so I cannot comment on whether they were received within or after the comment period officially ended. John did mention that some comments were postmarked by the deadline, but delayed in delivery by the government irradiation process. We'll continue to work toward our schedule deadlines, and will raise our concerns through PKS at the appropriate time, if necessary. We appreciate your understanding of the challenges for everyone, given this very aggressive schedule.
Have a nice weekend!
Dave

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From: Sloanhoffer, Nancy E. [mailto:nsloanhoffer@osmre.gov]
Sent: Friday, August 13, 2010 8:14 PM
To: David Bell
Subject: RE: Status of Mailed-in Comments

Did you receive the written comments today? Please document the dates of the receipt of the comments. I want to make sure OSM does not pressure you to meet a date that is unrealistic given OSM's delay on turning over the comments. Nancy

---

From: David Bell [dbell@plexscl.com]
Sent: Friday, August 13, 2010 10:14 AM
To: Craynon, John
Cc: 'Jose Sosa'; 'Randy Sosa'; 'Mike Stanwood'; 'John Maxwell'; Varvell, Stephanie L.; Sloanhoffer, Nancy E.
Subject: Status of Mailed-in Comments

John:
Just checking on the status of the comments OSM received by mail/courier. Will they be available today? Do we need to arrange a curbside hand-off? Thanks.
Dave

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David Bell

From: David Bell <dbell@plexsci.com>
Sent: Tuesday, August 31, 2010 12:02 AM
To: 'Craynon, John'
Cc: 'John Maxwell'; 'Jose Sosa'; 'Randy Sosa'; 'Mike Stanwood'
Subject: DRAFT Scoping Report
Attachments: Scoping Report Draft 8-30-10.doc

Importance: High

John:

Attached is our draft Scoping Report. While I might tweak the text a bit, the main things that need to be added are the Appendixes, which contain some of the administrative backup. I believe this contains the statistical and substantive elements that are most relevant in the short term. I will finalize and plan to deliver both hard and electronic versions (on CD) of the final Report. The CD will also consolidate the electronic media that we have to date.

Dave

<<...>>

David E. Bell

Vice President

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From: Uranowski, Lois J.
To: David Bell
Subject: DRAFT Scoping Report
Date: Tuesday, August 31, 2010 2:01:11 PM
Importance: High

You have done a great job on this, keeping to task and dates. I do appreciate your efforts and hard work.

Lois J. Uranowski P.E.
Chief, Ecological Services and Technology Transfer Branch
Technical Support Division
Office of Surface Mining
3 Parkway Center
Pittsburgh, PA 15220
412 937 2805
luranowski@osmre.gov

From: Craynon, John
Sent: Tuesday, August 31, 2010 7:55 AM
To: Winters, William R. "Bill"; Uranowski, Lois J.; Rice, Dennis; Varvell, Stephanie L.; Sloanhoffer, Nancy E.
Subject: Fw: DRAFT Scoping Report
Importance: High

Fyi

From: David Bell <dbell@plexsci.com>
To: Craynon, John
Cc: 'John Maxwell' <JMaxwell@polukaiservices.com>; 'Jose Sosa' <jose@polukaiservices.com>; 'Randy Sosa' <Randy@polukaiservices.com>; 'Mike Stanwood' <r.m.stanwood@gmail.com>
Sent: Mon Aug 30 22:12:32 2010
Subject: DRAFT Scoping Report

John:

Attached is our draft Scoping Report. While I might tweak the text a bit, the main things that need to be added are the Appendixes, which contain some of the administrative backup. I believe this contains the statistical and substantive elements that are most relevant in the short term. I will finalize and plan to deliver both hard and electronic versions (on CD) of the final Report. The CD will also consolidate the electronic media that we have to date.

Dave

<<...>>

David E. Bell

David Bell

From:	Randy Sosa
Sent:	Thursday, February 03, 2011 1:02 PM
To:	Caroline Bari
Cc:	Jose Sosa; John Maxwell; dbell@plexsci.com; Josh Jenkins
Subject:	Voice Notes from RIA Meeting with Ben Simon
Attachments:	VN00004-20110202-1038.amr; VN00003-20110202-0951.amr

Caroline, here are our recordings from yesterday related to the RIA for you to transcribe. Please let me know if you can open it using your Final Media Player, because that was how I was able to open it.

All, let me know.

POLU KAI SERVICES

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Southeast and Caribbean
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"For Official Use Only – Deliberative Process Material"

David Bell

From: John Maxwell
Sent: Tuesday, April 12, 2011 11:36 AM
To: Jose Sosa
Cc: Laura Johnson; David Bell
Subject: transcribed meeting minutes
Attachments: image001.jpg; Transcript, 02-01-11, Part 3.pdf; Transcript 02-10-11 Morning, Part 1a.pdf; Transcript 02-10-11 Morning, Part 1b.pdf; Transcript 02-10-11 Morning, Part 2a.pdf

TRANSCRIPTIONS are at TAB-1 - Q1-

The attached files may be of use in the congressional review. Please review before we include.

[cid:image001.jpg@01CBF905.C6EFFB40]

John R. Maxwell
Senior Environmental Scientist
Polu Kai Services
352.258.1045

"For Official Use Only - Deliberative Process Material"

David Bell

rom:	John Maxwell
Sent:	Wednesday, December 22, 2010 3:48 PM
To:	spr@engrservices.com; Caroline Bari; David Bell; Doug Mynear; Edmundo Laporte; J Steven Gardner; Jaque Mitchell; Jeff Baird; Jenkins, Josh; jmahan@plexsci.com; jmorgan@morganworldwide.com; Joe Zaluski; John Maxwell; Jose Sosa; Kathy Kelly; Liz Edmondson; Mike Stanwood; Randy Sosa; Shortelle, Ann; Singer, Robert
Subject:	RIA Summary submitted to OSM on 12/13 FYI
Attachments:	Conceptual Regulatory Impact Analysis Overall Summary 12-13-10.pdf

RE: response to Monday's email.
I forwarded the above file on Monday with reference to the OSM questions on the RIA and production shift assumptions listed below so that the questions can be resolved. For those who have received and reviewed the RIA summary and the questions below, what further response can we provide to OSM?

Thanks.
John

The questions from OSM on the production shift methods are below:
A few questions:

1. IMPLAN model: What is this? I would dream up a couple paragraph explanation of what this model is, what elements are considered, and how data populates the model.
2. Table 2: Is this related to the 2008 SBZ rule? The costs laid out in the preceding paragraphs imply the 2008 SBZ. I would overtly state what Table 2 represents.
3. Table 3: Was this produced by the coal industry? We need to offer some reconciliation of the differences in economic output (81.5B vs 48.7B) although the language states "impact occurs in non-coal producing states". What does that mean?
4. Table 4: If I read this correct – the AR has the lion's share of economic output but lags behind the west in coal production. Is there some type of efficiency gained by mining coal in the west that the east doesn't incur?
5. Figure 1: The graph shows the impact of the economic decline in the US over the past 18-24 months. Should the analysis use the average trend in coal production vs the recent downturn-induced data (2005-2009 data)?
6. Table/Graph showing the trends in coal production over the past 20-30 years. This graph/table would set the baseline from which SRP impact prediction would stand out. The question remains – if production is shifting anyway, what is the impact of the SPR?
7. Analysis equations: We still need to understand how the numbers in Tables 8 – 15, especially all costs shown in Table 9, employment in table 11, cost/ton in table 12, etc
8. Table 14: An incredibly stupid question – but are we sure every ounce of coal will be sterilized under alternative 2 – even if we made all streams off limits? Operators are not allowed in streams in TN and they still mine coal; simply skip streams.

Table 15: Stream Mile Protection – is that all streams (Peren, Int, Ephem)? How was ft/ac derived?

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"For Official Use Only – Deliberative Process Material"

David Bell

From: John Maxwell
Sent: Monday, December 20, 2010 5:04 PM
To: spr@engrservices.com; Caroline Bari; David Bell; Doug Mynear; Edmundo Laporte; J Steven Gardner; Jaque Mitchell; Jeff Baird; Jenkins, Josh; jmahan@plexsci.com; jmorgan@morganworldwide.com; Joe Zaluski; John Maxwell; Jose Sosa; Kathy Kelly; Liz Edmondson; Mike Stanwood; Randy Sosa; Shortelle, Ann; Singer, Robert
Subject: RIA Summary submitted to OSM on 12/13 FYI
Attachments: Conceptual Regulatory Impact Analysis Overall Summary 12-13-10.pdf

The Conceptual RIA submitted to OSM on 12/13/10 is attached FYI and review as needed.

POLU KAI SERVICES

John R. Maxwell
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"For Official Use Only – Deliberative Process Material"

Conceptual Regulatory Impact Analysis Summary

Office of Surface Mining
Proposed Stream Protection Rule

For the Office of Management and Budget Submission

By the United States Department of Interior's Office of Surface Mining

December 13, 2010

-DRAFT: FOR REVIEW PURPOSES ONLY-

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I. Purpose and Background

Purpose

This report identifies the economic benefits, costs and other effects of the Office of Surface Mining's (OSM's) proposed Stream Protection Rule (SPR) on the U.S. coal mining industry and coal mining areas across the United States.

This summary contains the most salient information from the Conceptual Regulatory Impact Analysis (RIA) prepared on the rule, providing the information required to support the review of the SPR by the U.S. Office of Management and Budget (OMB).

Background

Work commenced on the SPR "Conceptual" RIA in July 2010. Because of the proposed nature of the SPR, this RIA is considered to be conceptual in nature. A Final RIA will be prepared on the Final Rule once it exists in 2011.

The first full draft of the Conceptual RIA was delivered for review in mid-October 2010. Since then, the document has been under review. Based upon this review, significant revisions have been made to the Conceptual RIA document.

The full SPR RIA document is comprised of a detailed main report, and twelve supporting appendices providing additional information about the RIA study methodology and data.

Study Approach

The Conceptual RIA utilized best available data and information to assess the economic impacts (costs and benefits) of the SPR. Ideally, an RIA monetizes, or defines in monetary terms, the impacts of a proposed draft or final rule. Monetization of economic costs and benefits was accomplished where possible in this RIA, but in some cases this was not possible given data, time, and other limitations.

Where monetization of impacts was not possible, economic impacts were otherwise quantified to the extent possible. Where quantification was not possible, qualitative information about the economic impacts was included in the RIA.

The RIA analyzes three SPR alternatives:

- EIS Alternative 1 (Baseline): Pre-Rule Situation (Least Stringent and Least Costly)
- EIS Alternative 5: Proposed Preferred Rule
- EIS Alternative 2: Most Stringent and Most Costly Version of the Rule

The Baseline Situation includes the 2008 Excess Spoil Minimization/Stream Buffer Zone Rule, which was not implemented by OSM. An analysis of the baseline economic impact of the coal

mining industry was conducted in the RIA. A distillation of the baseline analysis findings is include in Section III below.

Methodology and Data

The core method used in this study was Economic Impact Analysis, using the IMPLAN input/output model. IMPLAN is a credible, very well known and frequently used economic analysis model, which has been used to analyze the economic impacts of many proposed local, state and national projects and policies. Several federal government agencies, including the U.S. Departments of Interior and Energy and the Environmental Protection Agency, have used the IMPLAN model to assess the economic impacts of their proposed policies. A more detailed description of the IMPLAN model is provided below.

Nine sequential steps were followed in the methodology:

1. **Data Acquisition.** Identify and acquire study data for all RIA scope elements.
2. **Interviews and Background Material Review.** Conduct industry and other stakeholder interviews to gain inputs of the study and identify resource materials that should be reviewed in preparation for the study.
3. **SPR Analysis and Cost Element Identification.** Based upon industry, government, and academic interviews; a review of earlier coal-mining studies and reports; and a review of the academic literature on mining reclamation and transportation, develop a strategy for making assumptions and input data to undertake the impact modeling runs.
4. **Economic Model Preparation.** Acquire the input/output tables for the nation and all coal-producing states, and build the national, state, and county models to be run with the IMPLAN Economic Impact Analysis software.
5. **Economic Overview.** Prepare a summary of overall national economic trends relevant to the study.
6. **Industry Analysis.** Analyze all published and collected data regarding the coal-mining industry from various state and national sources.
7. **Coal-mining State and County Analysis.** Analyze key economic trends in the coal-mining states and the seven case study counties included in the study.
8. **Economic Modeling.** Using the input data and scenarios created for the analysis, run the national, state, and county models to identify baseline and scenario impacts of the proposed SPR.
9. **Small Mine/Business Impact Analysis.** Examine the potential impacts of the SPR on small coal mines/businesses in accordance with the RFA guidelines.

This study employed the IMPLAN Model to make the primary economic forecasts. Input/output methodology allows the examination of forward (market) and backward (supplier) linkages that

are present in an industry or local, state and national economy. The model measures the total annual economic activity that results from inter- and intra-industry transactions. The model breaks the economy into 440 sectors, with each sector representing an individual industry. It then uses a sectoring scheme developed by the IMPLAN Group (Minneapolis, Minnesota), which is closely related to the U.S. Bureau of Economic Analysis (BEA) Regional Economic Information System (REIS) model.

The IMPLAN model is a matrix that shows all the economic activity between the 440 sectors. The entries in the matrix are based on the dollar amount that each industry sells to (and purchases from) other industries in the economy. It measures the amount of final consumption by the residents of the identified geographic area, as well as how much each industry exports out of the area. The model uses data collected at the county level, which are obtained from the IMPLAN Group and BEA. County data are in turn aggregated, or "rolled up", to form service areas such as local areas, states, or larger geographic regions, such as the Midwest.

Input/output models estimate economic impacts by taking advantage of the relatively stable patterns in the flow of goods and services within the economy. Predictions of an industry's total economic impact can be made by examining the purchasing patterns of the individual sectors. BEA collects extensive data regarding these regional trade flows and reports its findings annually.

Primary Data Sources

Data used in this study are from a variety of sources. The research team attempted to use the most recent reliable data sources. They include:

- Dun and Bradstreet firm data from the Selectory business database (2010)
- U.S. Bureau of Economic Analysis (BEA) (2008)
- U.S. Bureau of Labor Statistics (BLS), Census of Employment and Wages (2008)
- IMPLAN Structural Matrices and Data Files (2008)
- U.S. Energy Information Administration (EIA) Coal Sector Data (Various years)

Once the primary (direct) impact is identified, it is necessary to estimate the ultimate impact on the economy. This RIA's forecasting model used variables from various national datasets. To reduce potential confusion, definitions of the major variables are presented below.

Industry Output

Industry output represents the value of the industry's total production. Industry output can be thought of as the value of industry sales plus or minus inventory changes. Industry output is not a measure of an industry's income, and therefore cannot be directly compared to the Gross State Product (GSP) numbers reported by BEA. The value of industry output is typically higher than GSP. It is a more comprehensive measure, and therefore is a better measure of true economic impacts. The IMPLAN model estimates the industry output data, which are derived from the U.S. Census Bureau's Economic Census. The structural matrices are used to determine the industrial supply chains.

Employment

Employment is the total number of full-time wage and salary employees, plus the number of self-employed workers within a particular industry. Part-time workers' hours are aggregated into full-time equivalents (based upon a 2,080-hour work year), and reported with the full-time workers. Each year's activity is computed separately so that the employment effects are computed each year.

No single source of employment data is adequate for accurately estimating employment impacts. Because of nondisclosure rules, the employment figure reported by government agencies often underestimates true employment in a given county. In accordance with U.S. Code, Title 13, Section 9, no datum that would disclose the operations of an individual employer or put an individual employer at an unfair disadvantage is published.

As focus is narrowed to the county level, the number of firms representing an industry decreases. It is common for a single business establishment to be the sole operator in that industry in a particular county. If this is the case, the employment numbers are not disclosed and the employment in that region is understated. A region's employment can be reconstructed by combining data from various sources.

Nondisclosure rules require that the individual reporting agency not reveal confidential information. However, other government agencies may report the missing data in another form. For example, the U.S. Department of Labor (DOL) collects labor data as part of the Unemployment Insurance ES-202 program. These data are for "covered employees" of the Unemployment Insurance Program. Workers not "covered," such as self-employed workers, would not be included in the data. However, "not covered" workers would be included in the employment figures captured by the U.S. Census Bureau's County Business Patterns.

By carefully combining the employment figures reported in the ES-202 dataset, County Business Patterns, the REIS data, and the IRS Quarterly Payroll File (Federal Insurance Contributions Act), a fairly comprehensive employment figure can be reconstructed. The raw data are then "sectored" into the appropriate North American Classification Codes (NAICSs) and, in turn, combined into the necessary industry sectors and IMPLAN matrices.

All impact numbers generated by the IMPLAN model are one-point-in-time in nature and not cumulative. For this RIA, these numbers were spread over an assumed 12-year implementation period for the SPR.

II. Necessity of the Stream Protection Rule and the RIA

Rule Necessity

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) aims to balance the need to protect the environment from the adverse effects of surface coal mining with the nation's need for coal as an essential energy source. The law ensures that coal mining activities are conducted in an environmentally responsible manner, and that mined land is adequately reclaimed during and following the mining process.

Most coal mining states now have the primary responsibility to regulate surface coal mining on lands within their jurisdiction, with OSM performing an oversight role. OSM also partners with states and Indian tribes to regulate mining on federal lands, and to support states' regulatory programs with grants and technical assistance.

Because of significant damage by coal mining activities to streams and other environmental resources, the SPR is needed to reduce and prevent future environmental damage and degradation.

In April 2010, OSM published in the Federal Register a Notice of Intent to produce an Environmental Impact Statement (EIS) for the SPR, which will replace the 2008 Stream Buffer Zone Rule. The notice includes a list of concepts that are under consideration for the proposed SPR. Those concepts include provisions for coal mining companies that elect to mine through or bury streams to gather more specific baseline data regarding a proposed mine site's hydrology, geology, and aquatic biology; establishing a definition of the term "material damage to the hydrologic balance" of watersheds outside the permit area; and developing more effective requirements for mine operators seeking a variance from the requirement that mined areas be reclaimed to their approximate original contour.

The concepts in the proposed SPR aim to offer a more systematic and comprehensive approach to protecting streams and the surrounding environment from the adverse effects of coal mining. The proposed SPR contains 13 elements. The general intent of each of these elements is briefly described below:

- **Baseline Data and Analysis.** Proposes adding more extensive and specific permit application requirements concerning baseline data on hydrology, geology, and aquatic biology.

- **Material Damage Definition.** Proposes possible definitions to the term "material damage to the hydrologic balance outside the permit area." Under the Surface Mining Control and Reclamation Act (SMCRA), the regulatory authority may not approve a permit unless the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area; however, this term is not defined in OSM regulations.

- **Activities in or Near Streams.** Addresses the circumstances under which an applicant could engage in coal-mining or mining-related activities in or near a stream.

- **Mining Through Streams.** Addresses the conditions under which mining through a streambed could be allowed.

- **Monitoring During Mining and Reclamation.** Describes the types of water sampling, locations of water sampling, and duration of monitoring after issuance of the mining permit.

- **Surface Configuration and Fills.** Addresses how the SPR could mandate the final configuration of fills, and the generation and disposal of excess spoil material.

- **Approximate Original Contour (AOC) Exceptions.** The SMCRA describes the process by which the topography is to be restored to the AOC. However, in some cases, exceptions to the AOC may be permitted. Possible limits to these existing exceptions could be defined and described as part of this element of the SPR.

- **Revegetation and Topsoil Management.** Addresses the restoration of the vegetation and soils following mining.

- **Permit Coordination.** Coordination among regulatory authorities at the state and federal level is addressed in this element.

- **Financial Assurance for Long-term Discharges of Pollutants.** Addresses how the mining company could be financially responsible for long-term damages associated with its mining activities.

- **Stream Definition.** Contemplates the updating of the current definitions of perennial, intermittent, and ephemeral streams, and/or defining streams using a newly created definition.

- **Performance Bonds and Release.** Considers the current regulations relating to bonding requirements and release of those bonds. These types of required bonds make funds available to the states so that they can reclaim and restore mined lands that are not reclaimed by the mining company. Normally, if a mining company fails to reclaim lands, it is prohibited from mining coal elsewhere in the United States.

- **Fish and Wildlife Protection and Enhancement.** Addresses ways that these resources could be protected and improved.

Need for the RIA

OMB requires that an RIA be prepared and submitted by all federal agencies proposing new regulations that are expected to have a significant economic impact. An annual economic impact of at least $100 million is the threshold for defining a significant economic impact.[1] The SPR is expected to have an annual economic impact of more than $100 million per year, and therefore it is required.

As a requirement of OSM's rule-making process, the RIA is intended to improve understanding of the potential economic impacts (costs and benefits) of the proposed SPR on the coal mining industry and coal-producing geographic areas across the United States. Both are major stakeholders that would be affected by the content of the SPR.

[1] U.S Office of Management and Budget, Circular A-94.

OSM requested this stakeholder focus in recognition of the potentially significant economic impacts of the SPR on these two stakeholders. Study interviews and the study's analysis indicate that some of the provisions of the proposed SPR could have significant cost implications for coal mining companies. To the extent possible, these impacts are estimated in quantitative terms. Other impacts are described in qualitative terms only because they cannot be measured in a quantitative way at this time.

An April 1, 2010, U.S. Environmental Protection Agency (USEPA) Guidance Memorandum on improving U.S. EPA's review of Appalachian surface-mining operations lends support to OSM's new SPR nationwide. The memorandum states:

> *"The environmental legacy of mining operations in the Appalachian region is far-reaching. Recent studies, as well as the experiences of Appalachian coalfield communities, point to new environmental and health challenges from surface coal mining that we were largely unaware of even ten years ago. Since 1992, nearly 2,000 miles of Appalachian streams have been filled at a rate of 120 miles per year by surface mining practices. A recent EPA study found that nine out of every 10 streams downstream of surface mining operations exhibit significant impacts to aquatic life. Another federal study found elevated levels of highly toxic and bioaccumulative selenium in streams downstream of valley fills. These impairments are linked to contamination of surface water supplies and resulting health concerns, as well as widespread impacts to stream life in downstream rivers and streams."*

In summary, this RIA is needed for three reasons:

- Provide an improved overall economic basis for the regulatory policy decisions made during this rule-making process.
- Identify any major economic issues raised by the proposed SPR that may have significant consequences for the coal mining industry and coal-producing areas.
- Explore and discuss the significance of these major economic issues in a way that helps policy decision-makers address them and resolve them where possible.

III. Baseline Conditions (Least Stringent Alternative/Minimal Economic Impact)

According to Regulatory Impact Analysis (RIA) guidance from the U.S. Office of Management and Budget (OMB), the starting point for an RIA is a characterization of the baseline conditions relative to the rulemaking process. This is the economic baseline against which the other rule alternatives are compared. It is also considered to be the Least Stringent Alternative, which also is expected to have the least economic impact on the coal mining industry and coal-producing areas.

Key Baseline Assumptions

The following assumptions were employed in analyzing the baseline situation:

1. The baseline uses 2008 data for analysis purposes to reflect the current regulatory environment, including the 2008 Stream Buffer Zone (SBZ) rule and other existing regulations applied to the coal mining industry.

2. The 2008 rule is assumed to have no significant impact on the coal mining industry because it was not implemented, and because the economic analysis in the 2008 rule's EIS showed no major economic impacts.

3. 2008 is an economic recession year, and therefore the economy was amidst a major downturn. This economic downturn is assumed to have reduced the demand for coal, which was evidenced in 2009 with lower overall coal demand numbers.[2]

4. No major changes are foreseen in regional coal production and mining methods (surface versus underground) under EIS Alternative 1 over the next 12 years.

A coal mining engineering task force, comprised of Morgan Worldwide, ECSI Engineering Services, MACTEC, and OSM was assembled to develop a "consensus" forecast on potential regional coal production and mining method shifts over the next 12 years. Table 1 identifies the baseline (existing) production levels in the 7 coal-producing regions in the future for the Baseline Situation (EIS Alternative 1).

Table 1: Current Coal Mining Levels Related to Baseline Situation (EIS Alternative 1)

	Production (Million Short Tons)		
Region	**Underground**	**Surface**	**Total**
Northern Rocky Mountains and Great Plains	3.67	538.39	542.06
Appalachian Basin	220.23	149.38	369.61
Illinois Basin	64.61	34.27	98.88
Colorado Plateau	55.78	34.28	90.06
Gulf Region	12.28	54.10	66.38
Other Western Interior	0.44	1.50	1.94
Northwest	-	1.48	1.48
Total	357.01	813.39	1,170.40

Source: Mining Engineering Coal Production Forecast Task Force, October-November 2010 Analysis

Analysis

As stated earlier, the baseline includes the 2008 Excess Spoil Minimization/Stream Buffer Zone Rule, which was not implemented by OSM. The EIS and RIA for the 2008 rule concluded the rule would have no significant economic impact. Since the rule was never implemented, it has no economic impact on the coal mining industry, coal mining areas, and other stakeholders. Table 2 below depicts the baseline economic impact of the coal mining industry on the U.S. economy as a whole. It shows a $32.1 billion direct impact on the national economy.

[2] U.S. Energy Information Administration (EIA), 2010 Energy Outlook Report.

Coal mining is responsible for another $23.2 billion impact in indirect impacts (business-to-business supply chain impacts), and another $26.3 billion in employee spending (induced impacts), bringing the total impact of coal mining on the national economy to more than $81.5 billion.

Table 2 also shows the economic sectors that are most closely linked to coal mining, and the impacts in terms of business-to-business and employee spending. The top four sectors are: 1) support activities for mining; 2) wholesale trade businesses; 3) management of companies and enterprises; and 4) transport by rail. These sectors constitute nearly one-fourth of the supply chain expenditures.

Table 2: 2008 Baseline National Economic Output Impact of the Coal Mining Industry

Sector	Description	Direct ($)	Indirect ($)	Induced ($)	Total ($)
	Totals	**32,084,721,664**	**23,162,847,232**	**26,336,821,248**	**81,584,193,536**
21	Mining coal	32,084,721,664	2,029,731,840	29,863,232	34,144,256,000
30	Support activities for other mining	0.0	2,195,267,584	3,189,744	2,198,454,272
319	Wholesale trade businesses	0.0	1,000,024,064	1,148,633,088	2,148,655,104
360	Real estate establishments	0.0	383,846,400	1,427,955,712	1,811,800,064
356	Securities, commodity contracts, investments, and related activities	0.0	763,830,272	634,296,320	1,398,128,640
381	Management of companies and enterprises	0.0	1,002,776,576	356,299,776	1,359,077,376
115	Petroleum refineries	0.0	757,313,536	532,632,576	1,289,945,088
31	Electric power generation, transmission, and distribution	0.0	677,767,168	422,944,768	1,100,709,888
354	Monetary authorities and depository credit intermediation activities	0.0	483,776,512	610,693,120	1,094,467,584
333	Transport by rail	0.0	1,032,026,112	52,721,152	1,084,743,680
413	Food services and drinking places	0.0	105,977,856	854,038,528	960,016,384
369	Architectural, engineering, and related services	0.0	831,934,464	96,962,560	928,897,024
351	Telecommunications	0.0	298,811,392	610,592,768	909,404,160
357	Insurance carriers	0.0	121,138,432	764,225,536	885,364,736
394	Offices of physicians, dentists, and other health practitioners	0.0	2,562	863,358,976	863,361,024
335	Transport by truck	0.0	592,918,528	240,849,920	833,767,424
397	Private hospitals	0.0	3,330	827,920,384	827,922,432
205	Construction machinery manufacturing	0.0	817,332,224	1,279,540	818,612,224
20	Extraction of oil and natural gas	0.0	463,098,880	292,632,576	755,732,480

Source: IMPLAN model run, August 2010

Table 3 below shows the results of the baseline analysis of the economic output impact of the coal mining industry in each of the coal-producing states.

Across the coal-producing states, the coal-mining industry has a total economic output value of $48.7 billion, with the largest economic output occurring in West Virginia ($9.7 billion), Kentucky ($8.4 billion), Pennsylvania ($6.1 billion), Virginia ($3.8 billion), and Wyoming ($3.6 billion).

The totals shown reflect the sum of impacts across the coal-producing states, and are not the same as the national impacts shown in Table 2 above. The coal-mining industry's total baseline economic output impact on the national economy is estimated at $81.5 billion, and the total economic output impact across the coal-producing states is $48.7 billion, which is approximately 60 percent of the national impact. The other 40 percent of this economic output impact occurs in the non-coal-producing states.

Table 3: Baseline State Economic Output Impact Analysis (Based on 2008 Data)

States	Direct	Indirect	Induced	Total
Alabama	$2,179,324,160	$501,268,437	$554,047,439	$3,234,640,101
Alaska	$10,734,416	$2,529,933	$2,525,246	$15,789,595
Arizona	$76,019,976	$19,338,410	$25,462,825	$120,821,210
Arkansas	$18,565,028	$3,598,628	$3,966,141	$26,129,796
Colorado	$1,136,597,632	$292,372,699	$403,660,565	$1,832,630,893
Illinois	$1,164,327,552	$417,383,281	$441,648,921	$2,023,359,694
Indiana	$1,639,472,768	$298,353,406	$439,638,097	$2,377,464,227
Kansas	$41,053,352	$7,577,350	$10,352,527	$58,983,225
Kentucky	$5,546,564,096	$1,554,182,780	$1,309,399,370	$8,410,146,403
Louisiana	$88,399,088	$21,541,460	$23,834,350	$133,774,902
Maryland	$54,881,188	$14,517,917	$15,018,628	$84,417,733
Mississippi	$36,412,316	$6,204,251	$8,276,416	$50,892,984
Missouri	$263,985,776	$64,553,798	$81,072,616	$409,612,186
Montana	$302,833,216	$67,314,615	$72,445,454	$442,593,266
New Mexico	$416,587,264	$69,543,821	$88,032,081	$574,163,188
North Dakota	$393,881,472	$70,897,559	$74,066,922	$538,845,950
Ohio	$813,621,248	$251,214,848	$258,988,544	$1,323,823,104
Oklahoma	$66,184,240	$15,324,907	$16,740,062	$98,249,207
Pennsylvania	$3,492,621,056	$1,250,007,809	$1,315,121,124	$6,057,750,026
Tennessee	$69,778,640	$22,318,727	$20,746,490	$112,843,855
Texas	$1,362,782,336	$402,430,822	$492,708,229	$2,257,921,328
Utah	$741,357,120	$210,667,504	$235,922,348	$1,187,946,971
Virginia	$2,452,940,288	$627,762,584	$736,282,657	$3,816,985,705
Washington	$23,676,292	$7,402,652	$8,313,728	$39,392,671
West Virginia	$7,060,627,968	$1,471,882,625	$1,259,405,361	$9,791,916,251
Wyoming	$2,756,616,192	$455,333,145	$434,596,660	$3,646,546,111
Totals	$32,209,844,680	$8,125,523,968	$8,332,272,801	$48,667,640,582

Source: IMPLAN model run, August 2010

Table 4 below shows the amount and distribution of the baseline economic output by coal-producing region. The Appalachian Basin has a current 68 percent share of the total. Each of the other coal-producing regions has less than a 10 percent share of the coal mining industry's current economic output impact.

Table 4: Baseline Economic Output by Coal-Producing Region

Region	Baseline Economic Output	% Total
Appalachian Basin	$32,832,523,177	67.77
Colorado Plateau	$3,715,562,262	7.67
Gulf Region	$2,442,589,213	5.04
Illinois Basin	$4,400,823,921	9.08
Northern Rocky Mountains and Great Plains	$4,627,985,327	9.55
Northwest	$15,789,595	0.03
Other Western Interior	$409,612,186	0.85
Total-All Regions	$48,444,885,682	100.00

Source: IMPLAN model run, September 2010

As shown in Table 5 below, across the coal-producing states, the coal mining industry had a total baseline employment impact of 182,785 jobs, with the largest employment impact occurring in West Virginia (37,014), Kentucky (34,185), Pennsylvania (23,238), Virginia (12,384), and Wyoming (12,056).

Table 5: Baseline State Employment Impact Analysis (Based on 2008 Data)

State	Direct	Indirect	Induced	Total
Alabama	4,154	2,449	4,903	11,506
Alaska	24	10	19	54
Arizona	182	103	203	488
Arkansas	51	21	37	109
Colorado	2,304	1,397	3,001	6,702
Illinois	3,124	1,695	3,082	7,900
Indiana	2,795	1,567	3,888	8,250
Kansas	84	40	93	216
Kentucky	15,015	7,464	11,706	34,185
Louisiana	144	99	204	448
Maryland	153	65	111	329
Mississippi	80	36	80	196
Missouri	437	320	680	1,437
Montana	838	390	684	1,912
New Mexico	1,092	409	818	2,319
North Dakota	903	374	703	1,981
Ohio	2,253	1,226	2,184	5,663
Oklahoma	145	76	148	369
Pennsylvania	8,317	5,144	9,777	23,238
Tennessee	273	110	165	549
Texas	2,681	1,709	3,578	7,968
Utah	2,077	1,179	2,110	5,366
Virginia	3,961	2,719	5,703	12,384
Washington	55	33	58	146
West Virginia	17,915	6,972	12,126	37,014
Wyoming	6,074	2,161	3,821	12,056
Totals	75,131	37,768	69,882	182,785

Source: IMPLAN model run, August 2010

Conclusion

The Baseline Situation, or Least Stringent and Least Costly Alternative is found to have little to no impact on the coal mining industry's current $81.6 billion economic output impact and its 182,785 employment impact nationally.

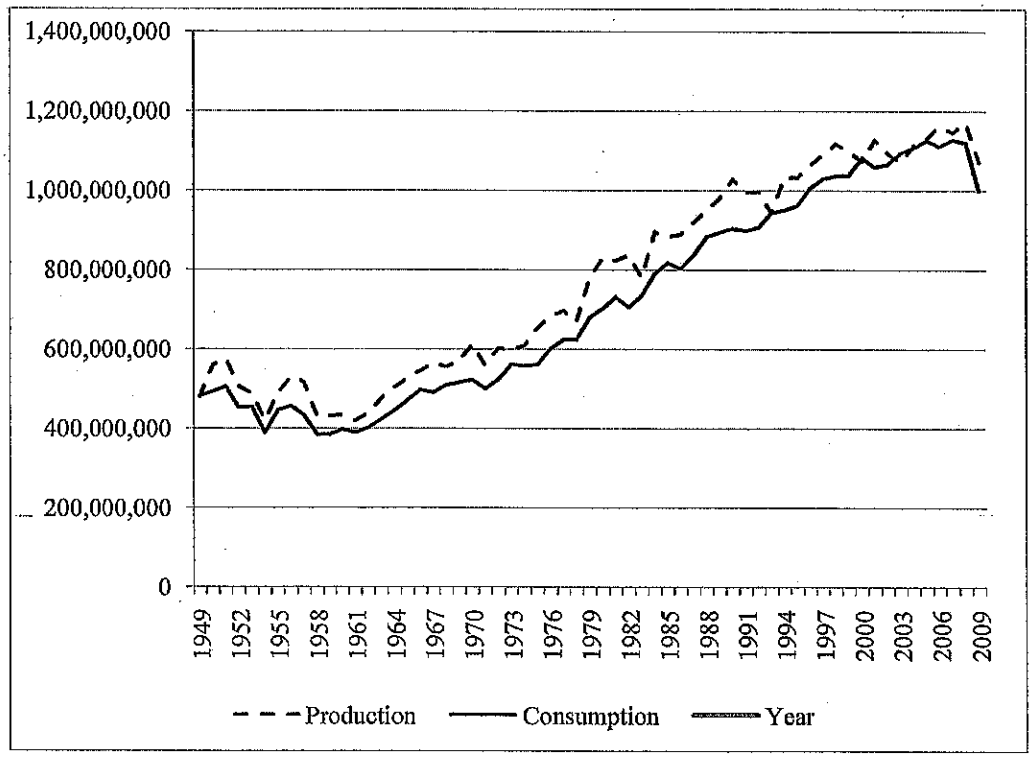
IV. Analysis of the Proposed Preferred and Most Stringent Rule Alternatives

The Proposed Preferred Rule (EIS Alternative 5) and the Most Stringent Rule Alternative (EIS Alternative 2) were analyzed. First, it is important to consider the overall coal production and consumption trends forming the foundation for the RIA scenario analysis.

Long Term Historic National Coal Production and Consumption Trends

An important trend to bear in mind related to the two analyzed scenarios is how the proposed SPR could impact coal mining production and consumption levels. Figure 1 below shows these trends since 1949, or over the past 60 years.

Figure 1: Long-Term Production and Consumption Trends in U.S. Coal Industry



Source: US Energy Information Administration (EIA), Annual Coal Outlook Report, 2010.

The overall picture is one of a fairly consistent relationship between coal production and consumption. From a macro analysis standpoint, SMCRA, which was adopted in 1977, has had no observable negative impact on the overall national coal supply and demand numbers. There have been significant regional shifts in coal production, which are discussed below.

If this relationship continues in the future, coupled with a flat/slow-growth outlook for coal in the future, it is possible that the proposed SPR may have little impact on the coal mining industry itself, especially if the industry is capable of passing along the additional costs created by the SPR to its customers. Historically, this has been the case, and major coal users (electric power generators and steel producers) have been able to pass these costs on to their customers.

The scope of the Conceptual RIA did not include an analysis of the economic impact of SPR compliance costs on the electric power sector and other major coal using industries and final business and household consumers. Once a final rule exists, the final RIA should include this

analysis to understand the overall effects of the rule on these economic sectors. Table 6 below identifies major trends in coal demand over the past five years (2005-2009).

Total coal consumption dropped by more than 11 percent during the 2005-2009 period, with the largest decline occurring in 2009, which was triggered by the economic recession that depressed demand by electric power generators and other markets, as shown in Table 6.

Table 6: U.S. Coal Consumption by Major Sector

Market	2005	2006	2007	2008	2009	2005-2009 % Change
Consumption by Sector						
Electric Power	1,037.50	1,026.60	1,045.10	1,040.60	936.5	-9.73
Coke Plants	23.4	23	22.7	22.1	15.3	-34.62
Other Industrial Plants	60.3	59.5	56.6	54.4	45.4	-24.71
Residential/Commercial Users	4.7	3.2	3.5	3.5	3.2	-31.91
Total	1,126.00	1,112.30	1,128.00	1,120.50	1,000.40	-11.15

Source: USEIA. 2009. U.S. coal supply and demand review, 2009.

The most significant observation regarding the coal market is its continued dominance by electric power generation, which has historically accounted for 90 to 94 percent of total coal demand.

Regional Coal Production Shifts, 2005-2009

U.S. Energy Information Administration (EIA) data in Table 7 below indicate a steady shift away from Eastern coal supplies and growing reliance on Western supply sources. This shift has been under way for some time, and is motivated by many factors, including the cleaner quality of Western coal and the faster growth of Western coal markets than those in the East.

U.S. coal production decreased considerably in 2009, dropping by 8.5 percent to 1,072.8 million short tons, 99.1 million short tons less than the 2008 production total. The decline in coal production in 2009 was the largest percent decline since 1958 (when production declined by 16.7 percent) and the largest tonnage decline since 1949 (when production declined by 176.1 million short tons).

Although total U.S. coal production was lower in 2009, one (Interior Region) of the three coal-producing regions had a slight increase in coal production, while the other two had large declines. Aside from refuse production, the Appalachian and Western Regions had decreases in their respective 2009 production levels of 13.0 percent and 7.7 percent, while the Interior Region remained essentially unchanged. The decrease in the Appalachian Region production was 50.9 million short tons, while the decrease in Western Region production in 2009 was 49.1 million short tons. Coal production in the Interior Region increased, but by only 216 thousand short tons.

Table 7: Coal Production in the United States

Area	2005	2006	2007	2008	2009	2005-2009 % Change
Production by Region						
Appalachia	396.7	391.2	377.8	390.2	339.3	-14.47
Northern Appalachia	140	136.2	132.1	135.6	126.5	-9.64
Central Appalachia	235.3	236.1	226.2	234	194	-17.55
Southern Appalachia	21.3	18.8	19.3	20.6	18.7	-12.21
Interior	149.2	151.4	146.7	146.6	146.8	-1.61
Western	585	619.4	621	633.6	584.5	-0.09
Refuse Recovery	0.7	0.8	1.2	1.4	2.1	200.00
Total	1,131.50	1,162.80	1,146.60	1,171.80	1,072.80	-5.19

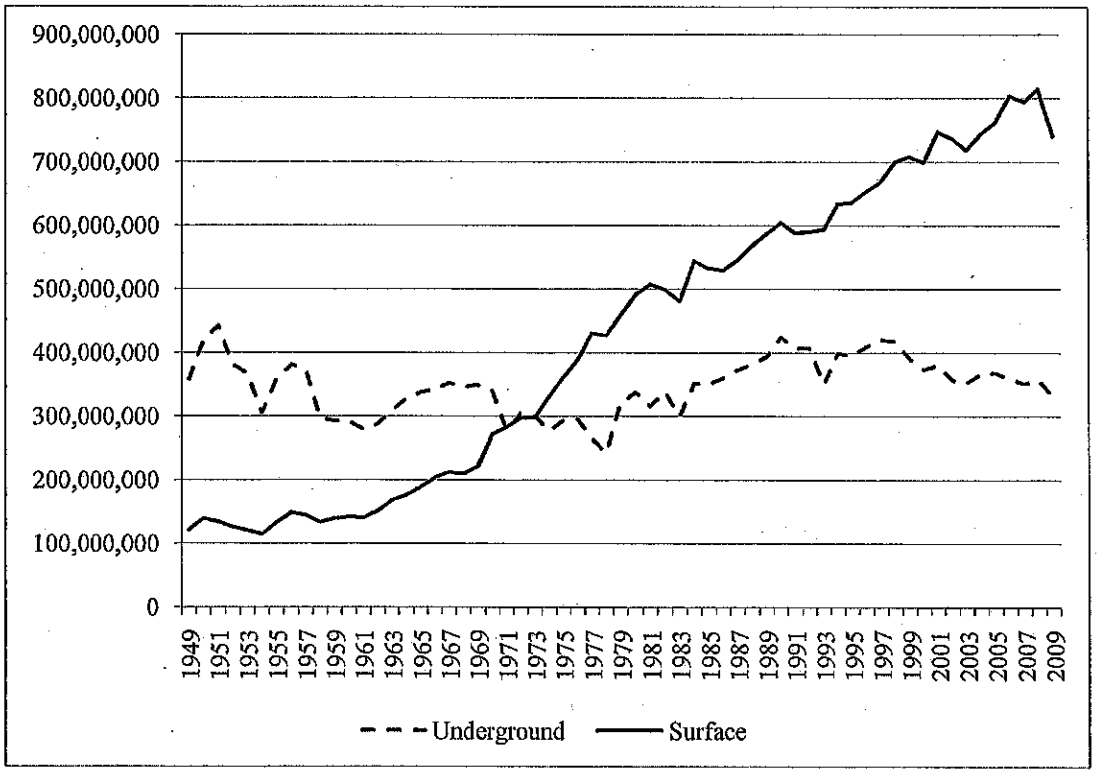
Source: USEIA, U.S. coal supply and demand review, 2009.

The mining engineering production task force prepared forecasts for each of the EIS Alternatives. The task force's forecasts for EIS Alternative 5 (Proposed Preferred Rule) and EIS Alternative 2 (Most Stringent and Costly Rule) are discussed below in conjunction with the RIA's analysis of each of these rule alternatives.

Surface and Underground Mining Trends

Figure 2 below shows coal production trends by major mining method since 1949. Since the early 1970s, surface mining has grown in importance as the economics of the coal mining industry shifted, and more labor-intensive underground mining took a lesser priority to more productive surface mining methods. The enactment of the SMCRA and creation of OSM in 1977 appears to have no negative impact on surface mining production levels. To the contrary, surface mining has steadily grown over the past 33 years.

Figure 2: Long-Term U.S. Trend in Surface and Underground Mining



EIS Alternative 5 (Proposed Preferred Rule Alternative Analysis)

EIS Alternative 5 is the proposed preferred alternative because it offers the most balanced approach to protecting the environment and ensuring the nation's demands for coal as a fuel source are effectively met.

A major underlying assumption giving shape to the RIA analysis of Alternative 5 is that the SPR will cause some reductions in coal production and consumption and some shifts in regional mining locations and mining methods. These shifts are described below in Table 8.

In Alternative 5, SPR-related compliance cost estimates were calculated on a per-coal-ton basis for each of the seven coal-producing regions. These estimates considered all 13 elements of the proposed SPR. The per-ton cost estimates were created with a cost estimation methodology developed by Morgan Worldwide Consultants, Inc.

The compliance cost estimates for each region were applied to the annual coal production data for each of the seven coal-producing regions. The resulting regional data were then entered into the IMPLAN model as reductions in coal-mining industry output. The model then calculated the estimated reductions in coal industry economic output and employment at the national level and for each region based upon the cost estimates.

The mining engineering task force forecasted production and mining method shifts under EIS Alternative 5 are described in Table 8 below. The central concern in these shifts is the loss of production to the coal regions impacted by the proposed preferred rule.

Table 8: Forecasted Lost Coal Production Under EIS Alternative 5, 2010-2022

	Lost Production (Million Short Tons)			Lost Production (%)		
Region	**Underground**	**Surface**	**Total**	**Underground**	**Surface**	**Total**
No Rocky Mtns/Great Plains	-	-	-	0.00%	0.00%	0.00%
Appalachian Basin	-0.37	-47.88	-48.25	-0.17%	-32.05%	-13.05%
Illinois Basin	-	-7.27	-7.27	0.00%	-21.20%	-7.35%
Colorado Plateau	-0.41	-1.28	-1.69	-0.74%	-3.74%	-1.88%
Gulf Region	0.00	-12.10	-12.10	-0.02%	-22.36%	-18.23%
Other Western Interior	- 0.44	-1.50	-1.94	100.00%	100.00%	100.00%
Northwest	-	- 0.48	-0.48	0.00%	-32.30%	-32.30%
Total	- 1.22	-70.50	-71.72	-0.34%	-8.67%	-6.13%

Source: Mining Engineering Coal Production Forecast Task Force, October-November 2010 Analysis

The forecast in Table 8 above points to an overall (across all regions) production loss of 71.7 million tons, with the lion's share of that loss occurring in surface mining (70.5 million tons). This is a 6.13% over loss of production due to rule's requirements under Alternative 5.

The cost of these losses was calculated in two ways. In the first, the compliance cost estimates were modeled in IMPLAN using early cost estimates produced by Morgan Worldwide. The results were than compared to the Baseline IMPLAN modeling results. These results are summarized in Table 10 below. The cost data for Alternative 5 is contained in Table 9 below. Based upon an analysis of the cost components of Alternative 5, these estimates were prepared for both underground and surface mining in each of the 7 regions. A weighted cost was calculated for these costs for use in the IMPLAN model. Both economic output and employment impact were estimated using the IMPLAN model.

Table 9: Per Ton Compliance Cost Estimates for EIS Alternative 5

Coal-Producing Region	Underground Cost per Ton	Surface Cost per Ton	% Underground Mining	Weighted Cost
Northern Rocky Mountains/Great Plains	$0.253	$0.194	0.68%	$0.195
Appalachian Basin	$0.758	$7.359	59.59%	$3.426
Illinois Basin	$0.494	$2.934	65.34%	$1.340
Colorado Plateau	$0.186	$1.049	61.93%	$0.515
Gulf Region	$0.122	$2.813	18.50%	$2.315
Other Western Interior	$0.218	$7.480	22.73%	$5.829
Northwest	$0.000	$2.407	0.00%	$2.407

Source: Morgan Worldwide, October 2010

The numbers in Table 9 indicate that the greatest cost burden on a per ton basis for complying with the rule under Alternative 5 are likely to fall in Other Western Interior and Appalachian regions.

Table 10: Coal Mining Economic Output Modeling of Compliance Costs Associated with EIS Alternative 5, 2010-2022

Region	Baseline Economic Output	Overall Change Caused by EIS Alternative 5	% Decrease Under EIS Alternative 5	Average Annual Reduction in Economic Output
Appalachian Basin	$32,832,523,177	-$1,114,815,653	-3.40	-$92,901,304
Colorado Plateau	$3,715,562,262	-$31,900,996	-0.86	-$2,658,416
Gulf	$2,442,589,213	-$72,496,342	-2.97	-$6,041,362
Illinois Basin	$4,400,823,921	-$65,892,542	-1.50	-$5,491,045
N Rocky Mtn & Great Plains	$4,627,985,327	-$62,161,400	-1.34	-$5,180,117
Northwest	$15,789,595	-$2,195,474	-13.90	-$182,956
Other Western Interior	$409,612,186	-$7,666,546	-1.87	-$638,879
Total - All Regions	$48,444,885,682	-$1,357,128,953	-2.80	-$113,094,079

Source: IMPLAN model run, October 2010

Across all 7 coal-producing regions, the total loss of economic output impact is estimated at $1.357 billion over the 12 years, with an average annual loss of $113 million. The Appalachian Basin is expected to see the biggest part of this loss ($1.114 billion over 12 years), with an average annual loss of almost $93 million. The smallest losses are expected in the Northwest and Other Western Interior regions.

Table 11: Coal Mining Employment Modeling of Compliance Costs Associated with EIS Alternative 5, 2010-2022

Region	Baseline Employment	Employment Reduction Caused by EIS Alternative 5	% Employment Change Caused by EIS Alternative 5	Average Annual Employment Reduction
Appalachian Basin	124,867	-4,679	-3.7	-390
Colorado Plateau	14,874	-136	-0.9	-11
Northern Rocky Mountains and Great Plains	15,949	-246	-1.5	-21
Illinois Basin	16,150	-256	-1.6	-21
Northwest	54	-8	-14.8	-1
Other Western Interior	2,130	30	1.4	3
Gulf Region	8,612	-272	-3.2	-23
Total-All Regions	182,638	-5,567	-3.0	-464

Across all coal-producing regions, the estimated employment loss related to EIS Alternative 5 is 5,567 jobs over the 12-year period, and 464 jobs on an annual basis. The Appalachian Basin is projected to loss the greatest number of jobs: 4,679 over the 12 years and 390 jobs per year. Employment losses in the other coal regions are expected to be much smaller. These data are described in Table 11 above.

The second approach to estimating the cost impacts of EIS Alternative 5 used a standard mining engineering economic approach developed by Morgan Worldwide, which did not involve the use of IMPLAN modeling. This second approach made full use of the coal production shift results from the mining engineering coal production forecast task force.

The per ton compliance cost estimates found in Table 9 above were used in this second cost analysis approach.

Table 12: Mining Engineering Cost Estimates to Comply with EIS Alternative 5, 2010-2022

Region	Underground			Surface			Total		Total Cost
	Tons (x ,000)	%	Cost/ Ton	Tons (x ,000)	%	Cost/Ton	Tons (x ,000)	Weighted Cost	
No. Rocky Mtns/Great Plains	4,213.80	0.70%	$0.25	618,499	99.30%	$0.19	622,713	$0.20	$121,331,210
Appalachian Basin	219,862.00	68.40%	$0.76	101,500	31.60%	$7.36	321,362	$2.84	$913,723,080
Illinois Basin	74,222.80	73.30%	$0.49	27,000	26.70%	$2.93	101,223	$1.15	$115,920,773
Colorado Plateau	55,370.00	62.70%	$0.19	33,000	37.30%	$1.05	88,370	$0.51	$44,932,193
Gulf Region	12,281.00	22.60%	$0.12	42,000	77.40%	$2.81	54,281	$2.20	$119,623,175
Other Western Interior									$0
Northwest	0	0.00%	0	1,000	100%	$2.41	1,000	$2.41	$2,407,211
Total	365,949.60			822,999			1,188,949	$1.11	$1,317,937,641

According to the analysis in Table 12, the total direct cost of complying with the SPR under EIS Alternative 5 would be $1.317 billion over the 12-year period, with the lion's share ($914 million) of this cost total occurring in the Appalachian Basin.

The Northern Rocky Mountain and Great Plains, Illinois Basin, and Gulf Basin regions would incur significant (in excess of $100 million over the 12 years) costs in complying with the rule.

Table 13 below provides annualized cost estimates for each of the 7 coal-producing regions. The average annual cost of complying with the rule would be $109.8 million across the 7 regions, with the largest share ($76,143,590) of this cost falling in Appalachia.

Table 13: Coal Regions' Annual Cost of Complying with SPR Under Alternative 5

Region	Annual Cost to Comply with EIS Alternative 5
No. Rocky Mtns/Great Plains	$10,110,934
Appalachian Basin	$76,143,590
Illinois Basin	$9,660,064
Colorado Plateau	$3,744,349
Gulf Region	$9,968,598
Other Western Interior	$0
Northwest	$200,601
Total	$109,828,137

The two cost estimating approaches ended up producing relatively simple overall cost numbers. The IMPLAN modeling approach showed a total cost over the 12 years of $1.357 billion (or $113 million per year) and the mining engineering costing approach produced a total cost over the 12 years of $1.317 billion (or $110 million per year).

EIS Alternative 2 (Most Stringent/Most Costly Alternative)

Alternative 2 assumes the SPR would be adopted and enforced in the most stringent way possible. In general, the alternative could hypothetically eliminate all surface mining across the United States due to its strict definition of a stream and the severe restrictions it would impose on mining activities. Table 14 below presents the mining engineering task force's estimates on production losses due to Alternative 2.

Table 14: Forecasted Lost Coal Production Under EIS Alternative 2, 2010-2022

	Lost Production (Million Short Tons)			Lost Production (%)		
Region	Underground	Surface	Total	Underground	Surface	Total
Northern Rocky Mountains and Great Plains	-	538.39	538.39	0.00%	100.00%	99.32%
Appalachian Basin	-	149.38	149.38	0.00%	100.00%	40.41%
Illinois Basin	-	34.27	34.27	0.00%	100.00%	34.66%
Colorado Plateau	-	34.28	34.28	0.00%	100.00%	38.07%
Gulf Region	0.00	54.10	54.10	0.02%	100.00%	81.50%
Other Western Interior	0.44	1.50	1.94	100.00%	100.00%	100.00%
Northwest	-	1.48	1.48	0.00%	100.00%	100.00%
Total	0.44	813.39	813.83	0.12%	100.00%	69.53%

The estimates in Table 14 indicate that 100% of surface mining and nearly 70% of all mining (surface and underground combined) nationwide would be lost due Alternative 2. These outcomes are catastrophic in nature. They would pose a dire threat to electric power generation across much of the nation and would injure steel and other metals production. These impacts,

while not measurable in economic terms, are believable to be very significant. One simple way to think about these impacts is to use the Baseline economic impact numbers from Tables 2 and 3 earlier in this report to create a quick estimate of the amount of this impact. First of all, almost 70% of current total coal production is from surface mining. The total economic impact of the coal mining industry on all U.S. states (coal-producing and non-coal-producing) is $82 billion. Over $57 billion (70%) of the total $82 billion economic impact could be roughly attributed surface mining. This amounts to an annualized loss of $4.75 billion. This would be potentially eliminated by the strict adoption of Alternative 2.

Within the 25 coal-producing states themselves, coal mining creates an economic impact of $48 billion. Almost $34 billion (70%) of this $48 billion in economic impact is tied to the surface mining of coal. This economic impact would be potentially eliminated by Alternative 2.

V. Economic Benefits

The SPR is expected to create significant environmental benefits, which will produce economic benefits nationally and in coal-producing areas. None of these benefits can be monetized at this time, and only some of them can be quantified because of the proposed nature of the rule and very limited quantitative data on these beneficial impacts. Once the EIS for the SPR has been completed and a final rule exists, an improved foundation for quantifying and monetizing these benefits will be possible. The chief economic benefits of the rule, stemming from its environmental benefits include:

1. Fewer miles of stream destroyed.
2. Conserved land acreage.
3. Improved protection of the biological condition of streams.
4. Added fish and wildlife habitat protection and enhancement.
5. Increased reforestation of lands used in mining.
6. Lessen adverse impacts on downstream water quality and groundwater during and after mining and reclamation.
7. Improved aesthetics of reclaimed lands.

Where available, quantitative data are offered to measure these benefits. In most cases however, quantifiable data are not available. A diligent effort was made to secure these data from OSM, the state regulatory agencies, EPA, the Energy Information Administration, and the Army Corps of Engineers. Some of this data will be available once the EIS is further along. This will be added in the final RIA.

Stream Mile Protection

A preliminary analysis of stream mile protection under EIS Alternative 5 was completed by Morgan Worldwide. The results are summarized in Table 15 below. This is best available information for use at this time. Once more precise stream mile protection data are available, these will be included in the final RIA. Attempts were made to secure data from OSM, EPA, and the Army Corps of Engineers. No data was available for use in the Conceptual RIA.

Using an assumption on the stream density (ft per permit acre), a calculation of the current stream impact per annum was undertaken, and then that calculation was used to develop a stream impact per ton for each of the coal-producing regions. Using the redistribution of coal production under EIS Alternative 5, a new stream impact was prepared. As shown in Table 15, the baseline case has an annual impact of 3,657,700 ft, and Alternative 5 would have an impact of 2,731,254 ft, which is a reduction of about 25%.

Table 15: (Preliminary) Stream Mile Protection Under EIS Alternative 5

Baseline Case	Surface Permitted Acres	Ft / Acre	Total Stream Length	Annual Stream Impact		Annual Surface Tonnage	Stream Impact per Surface Ton
	Acres		Ft	Ft	Miles	(,000 tons)	ft/Ton
N Rocky Mountain / Great Plains	562,200	5	2,811,000	281,100	53.2	538,387	0.52
Appalachian Basin	1,107,160	20	22,143,200	2,214,320	419.4	149,376	14.82
Illinois Basin	254,880	15	3,823,200	382,320	72.4	34,266	11.16
Colorado Plateau	119,690	10	1,196,900	119,690	22.7	34,283	3.49
Gulf Region	409,920	15	6,148,800	614,880	116.5	54,099	11.37
Other Western Interior	30,790	10	307,900	30,790	5.8	1,499	20.54
Northwest	7,300	20	146,000	14,600	2.8	1,477	9.88
Total				**3,657,700**		813,387	
EIS Alternative 5	**Annual Stream Impact**	**Annual Surface Tonnage**	**Stream Impact per Ton**				
	Ft		ft/Ton				
N Rocky Mountain / Great Plains	322,928	618,499	0.52				
Appalachian Basin	1,504,616	101,500	14.82				
Illinois Basin	301,250	27,000	11.16				
Colorado Plateau	115,211	33,000	3.49				
Gulf Region	477,365	42,000	11.37				
Other Western Interior	0	0	20.54				
Northwest	9,885	1,000	9.88				
Total	**2,731,254**	822,999					
Baseline Case	**3,657,700**						
Alternative 5 Miles	**2,731,254**						
Stream Mile Savings	**926,446**						
Percentage Reduction	**25.3**						

Conserved Land Area

A second economic benefit of the SPR is conserved land that is protected during mining and can be made available as future open space/green space, or can be used for recreation, residential, agricultural and business uses. Table 16 below provides very basic baseline data on permitted acreage for coal mining in each of the regions. These data were collected by Morgan Worldwide.

Table 16: Baseline Permitted Acreage for Coal Mining by Coal Region

		Permitted Acreage		Subtotal	
Region	**State**	**Surface**	**Underground**	**Surface**	**Underground**
N Rocky/Great Plains	Wyoming	395,840	5,270		
	Montana	59,900	6,400		
	N. Dakota	106,460	0	562,200	11,670
App. Basin	West Virginia	269,950	31,160		
	Ky - East	436,230	933,450		
	Pennsylvania	295,800	47,700		
	Ohio	9,120	590		
	Virginia	64,560	7,440		
	Maryland	4,150	940		
	Tennessee	27,350	1,270	1,107,160	1,022,550
Illinois Basin	Indiana	194,710	7,480		
	Illinois	11,700	22,600		
	Ky-West	48,470	400,050	254,880	430,130
Col. Plateau	Colorado	45,100	118,800		
	New Mexico	74,150	13,220		
	Arizona				
	Utah	440	1,790	119,690	133,810
Gulf Region	Texas	285,600	0		
	Alabama	75,370	11,460		
	Louisiana	41,930	0		
	Mississippi	5,800	0		
	Arkansas	1,220	120	409,920	11,580
Other West	Oklahoma	21,600	300		
	Missouri	6,050	0		
	Kansas	3,140	0	30,790	300
Northwest	Alaska	7,300	1,250		
	Washington		0	7,300	1,250

Qualitative Insights about Other Economic Benefits of the Stream Protection Rule

A variety of environmental articles and reports discuss strategies to enhance the economic value of mined land. While these sources do not provide monetary or other quantitative information

that can be readily used in the Conceptual RIA, a summary of some of these documents provides qualitative insights into the economic benefits of the SPR. These summaries are provided below.

1. Reforestation of land that has been surface mined for coal can produce high-value commercial forests while providing watershed protection and wildlife habitat. Forests growing on good quality mine sites can sequester 3 to 5 times more 4 carbon than the grasslands that were established through the original reclamation. Source: Burger, J.A., and C.E. Zipper. 2009. *Restoring the Value of Forests on Reclaimed Mined Land.* Virginia Cooperative Extension Publication 460-138.

2. Targeted reforestation on surface mines can reduce forest fragmentation that has been caused by mining, as needed to restore habitat for wildlife species that depend on large expanses of unbroken forest, including rapidly declining bird species such as the Cerulean Warbler and for species that depend on successional forest habitat. Source: Wickham, J.D., K. H. Riitters, T. G. Wade, M. Coan, and C. Homer. 2007. *The effect of Appalachian mountaintop mining on interior forest.* Landscape Ecology 22:179-187.

3. When conducted on favorable mines sites, establishment of bioenergy plantations approach profitability using conventional economic measures. Sources: Sullivan, J., J. Aggett, G. Amacher, and J. Burger. 2005. *Financial viability of reforesting reclaimed surface mined lands, the burden of site conversion costs, and carbon payments as reforestation incentives.* Resources Policy 30: 247-258. Susmita Sen, *Geospatial Environmental Analysis*, Virginia Tech. Ph.D. research and dissertation in preparation, planned for completion in 2010. Major advisors are R.H. Wynne and C.E. Zipper.

4. Forests have been the traditional land use and support an established industry throughout the eastern coalfields. Forests provide many benefits such as wildlife habitat, watershed control, carbon sequestration, and recreation. Source: Angel, P, V. Davis, J. Burger, D. Graves, and C. Zipper. 2005. *The Appalachian Regional Reforestation Initiative*, Forest Reclamation Advisory Number 1.

5. Re-establishing productive forests on otherwise unused and non-productive mined lands will generate economic value for landowners and communities, and will enhance environmental quality by accelerating restoration of ecosystem services – such as watershed protection, water quality enhancement, carbon storage and wildlife habitat – that are typically provided by native forests on non-mined landscapes. Source: Burger, J.A., and C.E. Zipper. 2010. *Reforestation Guidelines for Unused Surface Mined Lands in the Eastern United States.* Publication 460-144.

VI. Transfers

Because of the proposed nature of the rule, it is not possible to quantify or monetize any transfers of either costs or benefits that may be associated with the rule. Moreover, the requested scope of the RIA analysis was restricted primarily to the impact of the rule on the coal mining industry. These issues will be analyzed more thoroughly in the final RIA once a final rule exists. Three potential transfers should be considered for evaluation in the final RIA:

1. **Coal Production Shifts:** Considerable attention has been given to regional shifts in coal production and mining method shifts. These could be seen as a form of "transfer" of rule-related benefits and costs. Available data on these shifts was discussed earlier in this report. A few important summary points should be considered in the context of transfers:

    a. Regional Production Shifts: Analysis for both the EIS and RIA point to a potential loss of coal production from Eastern coal locations (principally the Appalachian Basin) to Western and Illinois Basin sources. It is important to note that these shifts have been underway for several years. It is likely that the SPR could add to these regional shifts. These future shifts could carry the economic benefits (production, sales, employment, payroll, and taxes) associated with coal mining in Eastern states to Illinois Basin and Western states. One potential impact of these regional shifts could also be increases and decreases in the coal revenues and profits of coal mining companies. Those companies with Western mining operations would appear to stand to gain, and those with their primary operations in the East could be placed at a disadvantage.

    b. Mining method shifts, especially those from surface mining to underground mining could have similar effects in benefitting coal companies in a position to capture the new underground mining business created by the shift from surface mining to underground mining.

2. **Costs Passed Along to Customers:** A second type of transfer could be represented by the actions by coal producers to pass along any increased cost of production related to the SPR to their customers, namely electric power companies and heavy metals (steel and other primary metals) manufacturing industries. Historically, coal producers have been able to pass along their increased costs to customers. Given the slowly recovering nature of the general economy, it may be more difficult for coal companies to pass along SPR costs to their customers.

3. **Intergovernmental and Private to Public Sector Cost Shifts:** A third potential type of transfer could relate to the transfer of any increased cost of production, mine site protection and reclamation, or other SPR-related cost from one level of government to another (for example an unfunded mandate created by the rule that creates added regulatory or environmental cleanup costs to state and local governments.) A second type of transfer in this category could be a transfer of rule compliance costs from a private entity (coal mining company) to the public sector (federal, tribal, state or local government).

VII. Other Effects of the Stream Protection Rule

1. Regulatory Flexibility Act (Small Business Impact) Analysis

Purpose

This section presents and analyzes best available information on the economic impact of the Office of Surface Mining's (OSM's) proposed Stream Protection Rule (SPR) on small coal mining business entities. Available data from various sources have been examined and analyzed. This analysis is a part of the rule's Conceptual Regulatory Impact Analysis (RIA). A more complete analysis of these impacts will be conducted within the Final RIA on the Final Stream Protection Rule (SPR) when it exists.

Background and Definitions

An analysis of the economic impact of proposed federal regulations on small business entities (also known as firms, companies or enterprises) is a required component of a Regulatory Impact Analysis (RIA). Executive Order 13272, signed August 13, 2002, gave federal agencies new direction in their efforts to assess the impact of their proposed rulemakings on small businesses and other small organizations under the Regulatory Flexibility Act (RFA). It also directed the U.S. Small Business Administration's Office of Advocacy to provide agencies with information on how to comply with the President's directive.

By definition, the Regulatory Flexibility Act (RFA) is an effort by the federal government to balance the social goals of federal regulations with the needs and capabilities of small businesses and other small entities in American society.

Research indicates that smaller businesses bear a greater proportionate share of the burden of regulatory compliance costs. For firms employing fewer than 20 employees, the annual regulatory burden averaged $6,975 per employee during the 1995-2000 time period—almost 60 percent more than that of firms with more than 500 employees.[3] Small businesses, defined as firms employing fewer than 20 employees, bear the largest burden of federal regulations, according to available research.

As of 2008, small businesses (firms with less than 500 employees) faced an annual regulatory cost of $10,585 per employee, which was 36 percent higher than the regulatory cost facing large firms (defined as firms with 500 or more employees).[4]

Since the federal government began calculating the economic impact of the RFA in 1998, the law is estimated to have saved small entities (and the U.S. economy as a whole) more than $200 billion without undermining the broad purposes of the regulations it affects.[5]

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[3] See W. Mark Crain and Thomas D. Hopkins, The Impact of Regulatory Costs on Small Firms, report no. PB2001-107067, prepared by Hopkins and Crain for the U.S. Small Business Administration, Office of Advocacy (Springfield, Va.: National Technical Information Service, 2001).

[4] See Nicole Crain and W. Mark Crain, The Impact of Regulatory Costs on Small Firms, for the U.S. Small Business Administration, Office of Advocacy under contract number SBAHQ-08-M-0466, September 2010.

Definition of a Small Coal Mining Business

The U.S. Small Business Administration (SBA) defines a small business in the coal mining industry (NAICS 2121) for RFA purposes as an entity employing fewer than 500 people.[6] While this definition is used in assessing the economic impact of the SPR on smaller coal mining entities, a more complete analysis of the coal mining industry by various employment size groups is provided.[7]

U.S. Coal Mining Industry Enterprise (Corporate) Profile

For RFA purposes, the coal mining industry is analyzed from two perspectives: 1) enterprise (corporate) basis; and 2) establishment (operating facility) basis. Because of differences in how the data are organized and reported, the two sets of numbers do not align completely, but they are close. *The most important data in fulfilling the RFA requirements is the corporate or enterprise data.*

Table 17 below analyzes the U.S. coal mining industry on an enterprise basis, identifying the number of firms, establishments and employment for coal mining, or NAICS 2121. An **establishment** is defined as a single physical location at which business is conducted or where services or industrial operations are performed. An **enterprise** is defined as a business organization consisting of one or more domestic establishments under common ownership or control. For companies with only one establishment, the enterprise and the establishment are often the same. The employment of a multi-establishment enterprise is determined by summing the employment of all associated establishments.

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[5] Source: Analysis of Regulatory Flexibility Act (RFA) annual reports by the United States Small Business Administration on November 30, 2010 at: http://www.sba.gov/advo/laws/flex/

[6] U. S. Small Business Administration, Table of Small Business Size Standards Matched to North American Industry Classification System Codes, Update, November 5, 2010.

[7] NAICS stands for the North American Industry Classification System, which standardizes how operating businesses are classified for operating and government reporting purposes.

Table 17: U.S. Coal Mining Industry Enterprise Profile in 2007[8]

Enterprise Employment Size	Number Firms	Number Establishments	Employment	% Total Firms	% Total Establishments	% Total Employment
0-4	197	199	332	29.0	18.7	0.4
5-9	80	80	527	11.8	7.5	0.7
10-19	103	105	1,433	15.2	9.8	1.8
<20	380	384	2,292	56.0	36.0	2.9
20-99	194	215	8,284	28.6	20.2	10.4
100-499	64	142	12,392	9.4	13.3	15.5
<500	638	741	22,968	94.0	69.5	28.8
500+	41	325	56,880	6.0	30.5	71.2
Total	679	1,066	79,848	100.0	100.0	100.0

The U.S. coal mining industry in 2007, analyzed on an enterprise (firms) basis, consisted of 679 total firms, or corporate entities, which operated 1,066 mining operations employing 79,848 people. 56% of the industry's total firms had 20 or fewer employees and 94% had less than 500 employees.

On an employment basis, only 2.9% (2,292 jobs) of coal mining enterprise employment was accounted for by coal enterprises with less than 20 employees. Coal enterprises with employment less than 500 people accounted for 29% of total employment, while coal enterprises with more than 500 employees represented 71% of total employment.

U.S. Coal Mining Industry Revenues by Small and Large Businesses

Table 18 below analyzes coal revenues produced by small and large coal mining businesses.

[8] Source: U.S Census, Statistics of U.S. Business Enterprises, 2007.

Table 18: Coal Mining Receipts (Revenues) by Small and Large Businesses in 2007[9]

Industry Receipts Size Group (Dollars)	Firms	Employ.	Estimated Receipts ($000)	Avg. Firm Employ. Size	Avg. Firm Receipts ($000)	No. Firms with Avg. Employ <500	% Industry Total Receipts
Total	679	79,848	33,550,214	118	49,411	620	100.0%
<100,000	24	0	0	0	0	24	0.0%
100,000-499,999	278	2,092	105,063	8	378	278	0.3%
500,000-999,999	25	80	16,473	3	659	25	0.0%
1,000,000-2,499,999	40	518	71,559	13	1,789	40	0.2%
2,500,000-4,999,999	50	1,294	184,756	26	3,695	50	0.6%
5,000,000-7,499,999	44	1,422	275,296	32	6,257	44	0.8%
7,500,000-9,999,999	27	1,146	236,338	42	8,753	27	0.7%
10,000,000-14,999,999	47	2,336	590,449	50	12,563	47	1.8%
15,000,000-19,999,999	18	1,107	323,721	62	17,985	18	1.0%
20,000,000-24,999,999	11	819	254,100	74	23,100	11	0.8%
25,000,000-29,999,999	9	935	225,935	104	25,104	9	0.7%
30,000,000-34,999,999	5	462	142,363	92	28,473	5	0.4%
35,000,000-39,999,999	7	548	250,861	78	35,837	7	0.7%
40,000,000-44,999,999	2	0	0	0	0	2	0.0%
45,000,000-49,999,999	3	0	0	0	0	3	0.0%
50,000,000-74,999,999	24	3,512	1,444,888	146	60,204	24	4.3%
75,000,000-99,999,999	6	NA	NA	NA	NA	6	NA
100,000,000+	59	61,596	28,810,646	1,044	488,316	0	85.9%
% Defined as Small Business (<500 Employees)	91.3%						
% Industry Receipts by Small Businesses	14.1%						

The data in Table 18 indicates that 14.1% of the coal mining industry's total receipts (revenues) in 2007 was produced by coal firms employing less than 500 people, or small businesses. The remaining 85.6% of industry receipts come from coal firms that employ 500 or more employees, or large businesses.

[9] Source: U.S Census, Statistics of U.S. Business Enterprises, 2007.

U.S. Coal Mining Industry Business Legal Form Profile

The analysis in Table 19 below indicates that on an establishment basis over 48% of total coal mining business establishments (operations) employed less than 20 people and almost 98% employed less than 500 people. Only 2.3% of all coal mining establishments employed over 500 people in 2008 according to the data in Table 3.

Almost 78% of all coal mining establishments are associated with corporations or S-corporations, and the other 22% are associated with sole proprietorships and partnerships, which tend to be smaller in employment size than corporate entities.

Table 19: U.S. Coal Mining Industry Business Legal Form Profile, 2008[10]

Business Legal Type	Total Establish	<20 Employ	20-499 Employ	>500 Employ	% <20 Employ	% 20-499 Employ	% >500 Employ	Totals
All Establishments	1108	536	547	25	48.4%	49.4%	2.3%	100.0%
Corporations	546	214	221	240	39.2%	57.3%	3.5%	100.0%
S-Corporations	318	172	164	169	54.1%	45.6%	0.3%	100.0%
Sole Proprietorships	44	33	19	11	75.0%	22.7%	2.3%	100.0%
Partnerships	198	117	86	79	59.1%	38.9%	2.0%	100.0%
Other	2	0	1	1	0.0%	100.0%	0.0%	100.0%

Coal Production and Revenues by Mine Type and Employment Size

The Mine Safety and Heath Administration (MSHA) within the U.S. Department of Labor classifies establishments (mines) in the U.S. coal mining industry into three major coal commodity groups: bituminous, lignite, and anthracite.[11] Bituminous operations represent approximately 97% of coal mining operations and approximately 99% of coal miners and total coal production. Anthracite operations represent approximately 2% of coal mining operations and less than 1% of coal miners and total coal production. Lignite operations represent less than 1% of coal mining operations, coal miners, and total coal production.

The U.S. surface coal mining industry produced an estimated 742.5 million short tons in 2009. The average price of coal in surface mines in 2009 was $22.35 per short ton. The U.S. underground coal sector produced an estimated 332 million short tons in 2009. The average price of coal in underground

[10] U.S. Census, County Business Patterns 2008

[11] This categorization is based on MSHA-collected data grouped by Standard Industrial Classification (SIC) code description. Some publications of the U.S. Department of Energy further divide the bituminous group into bituminous coal and sub-bituminous coal.

mines in 2009 was $51.35 short per ton. Table 4 below presents the coal production and revenues for 2009.

A diligent effort was made to acquire firm or corporate level data on coal production and revenues from MSHA, but it is not available since employment data are not included in the agency's corporate data files. Employment data at the mine (establishment) level are available in the MSHA database, which were used in Table 20 to analyze coal production and revenues by the employment size of mines. Because of data reporting problems, mine (establishment) production and revenue data could not be aggregated at the firm or corporate level in a valid way.

Table 20: Coal Production by Mines in Short Tons and Coal Revenues in 2009

Coal Production by Mines in Short Tons			
Mine Size	Coal-Surface	Coal-UG	Total
1-19 Employees	19,713,676	5,036,046	24,749,722
20-499 Employees	475,066,642	236,566,737	711,633,379
500+ Employees	247,760,869	90,256,010	338,016,879
Grand Total	742,541,187	331,858,793	1,074,399,980
Total Coal Revenues, Apportioned by Coal Tonnage Produced			
Mine Size	Coal-Surface	Coal-UG	Total
1-19 Employees	$440,600,659	$258,600,962	$699,201,621
20-499 Employees	$10,617,739,449	$12,147,701,945	$22,765,441,394
500+ Employees	$5,537,455,422	$4,634,646,114	$10,172,101,536
Grand Total	$16,595,795,530	$17,040,949,021	$33,636,744,551

Source: Mine Safety and Health Administration (MSHA) Employment and Production Database

Over 66% of total coal production (including both surface and underground mined) in 2009 was produced by mines with employment in the 20-499 range, which are considered to be small businesses. Almost 69% of total coal production occurred in mining operations with less than 500 employees. About 2% of total coal revenues was produced by mines with less than 20 employees.

Coal Production Concentration

According to U.S. Energy Information Administration (EIA) industry survey data, U.S. coal production is highly concentrated. The five largest corporate producers represent over 53% of total coal production in 2009, according to the data presented in Table 5 below. The 29 coal producers listed in Table 21 account for over 87% of total U.S. coal production.

Table 21: Largest U.S. Coal Producers in 2009

Rank	Controlling Company Name	Production (Thou. Short Tons)	Percent of Total Production
1	Peabody Energy Corporation	189,232	17.6
2	Arch Coal Inc.	148,061	13.8
3	Cloud Peak Energy	90,965	8.5
4	Alpha Natural Resources LLC	83,523	7.8
5	CONSOL Energy Inc.	58,145	5.4
6	Massey Energy Co.	37,161	3.5
7	NACCO Industries Inc.	31,085	2.9
8	Patriot Coal Corp.	29,268	2.7
9	Peter Kiewit Sons Inc.	27,136	2.5
10	Alliance Resource Operating Partners LP	25,874	2.4
11	Murray Energy Corp.	25,837	2.4
12	Westmoreland Coal Co.	24,266	2.3
13	Energy Future Holdings Corp.	21,272	2.0
14	Drummond Co. Inc.	19,964	1.9
15	Intl Coal Group Inc. (ICG)	17,414	1.6
16	BHP Billiton Ltd.	14,917	1.4
17	James River Coal Co.	9,855	0.9
18	Chevron Corp.	9,841	0.9
19	PacifiCorp	9,447	0.9
20	Level 3 Communications	8,392	0.8
21	Walter Industries Inc.	7,571	0.7
22	Trinity Coal Corp.	6,805	0.6
23	Booth Energy Group	6,506	0.6
24	Cline Group	6,497	0.6
25	TECO Energy Inc.	6,205	0.6
26	Rosebud Mining Co.	6,084	0.6
27	Black Hills Corp.	6,016	0.6
28	Oxbow Carbon & Minerals Holding Inc.	5,703	0.5
29	Western Fuels Association Inc.	5,234	0.5
	Subtotal	**938,276**	**87.3**
	All Other Coal Producers	**136,647**	**12.7**
	U.S. Total	**1,074,923**	**100.0**

Source: Energy Information Administration, U.S. Department of Energy, 2010 Annual Coal Outlook Report, May 2010

Earlier Relevant RFA Analyses

A preliminary RFA analysis was conducted for OSM's Excess Spoil; Stream Buffer Zones; Diversions Rule in 2008. The analysis did not find any major economic impacts of that rule on small mining operations and companies. The cost impact of the rule was estimated at $240,000, which was related to increased monitoring and reporting requirements created by the rule.

Major Observations and Summary

1. Research suggests that small businesses are generally impacted in a significant economic way by federal regulations. For this reason, it is important to carefully consider the economic impacts of the SPR on smaller coal mining companies.

2. The U.S. coal mining industry is represented by a large and significant number of small businesses, defined as those employing less than 500 people. The U.S. coal mining industry in 2007, analyzed on an enterprise (company) basis, consisted of 679 total firms, or corporate entities, which operated 1,066 mining operations employing 79,848 people. Almost 56% of the industry's total firms had 20 or fewer employees and 94% had less than 500 employees. See Table 1.

3. 14.1% of the coal mining industry's total receipts (revenues) in 2007 was produced by coal firms employing less than 500 people, or by small businesses. This amounts to revenues of $4.73 billion. The remaining 85.9% ($28.8 billion) of industry receipts come from coal firms that employ 500 or more employees, or large businesses. See Table 2.

4. Analyzed on an establishment (mine operations) basis, over 48% of total coal mining business establishments employed less than 20 people and almost 98% employed less than 500 people. See Table 3.

5. On an employment basis, only 2.9% (2,292 jobs) of coal mining enterprise employment is accounted for by coal enterprises with less than 20 employees. Coal enterprises with employment less than 500 people accounted for 28.8% of the industry's total employment, while coal enterprises with more than 500 employees represented 71.2% of the industry's total employment. This indicates that coal employment is heavily concentrated in larger coal mining enterprises or companies and not smaller ones. See Table 1.

6. According to the economic analysis for the RIA, the baseline (pre-SPR) national economic impact (industry output) of the coal mining industry is presently $48.7 billion. This economic impact generates a total national employment impact of 182,785 jobs. If coal mining enterprises employing less than 500 people account for 28% (22,968) of the coal industry's direct employment (79,848 jobs), then it is fair to assume that coal mining enterprises with less than 500 employees also account for 28% of the industry total economic and employment impacts. This means that currently (in the pre-SPR environment) smaller coal enterprises account for an estimated $13.6 billion of the

industry's total national economic impact and an estimated 51,180 of the industry's total employment impact.

7. The economic analysis for the RIA shows that under Economic Impact Analysis Scenario One (which corresponds to the EIS Alternative 5 or the proposed preferred alternative) the national economic impact of the coal industry would be reduced by $1.36 billion over a 12-year period, which represents a 2.8% overall reduction in the industry's economic impact. On an annual basis over the 12 years, this represents a $113.3 million reduction in coal mining industry economic output. It is also estimated that 5,567 jobs would be lost nationally over the 12 years under RIA Scenario One (EIS Alternative 5) as a result of this $1.36 billion economic output reduction. On an annual basis, this represents a 464-job loss per year over the 12 years. If we assume that smaller coal mining enterprises would experience equal reductions in their economic impact (-2.8%) and employment impact (-3.0%), then the economic contribution of smaller mining enterprises would be reduced by $380 million ($13.6 billion x .028) over the 12 years ($31.7 million per year), and the employment contribution of these operations would be reduced by 1,530 jobs (51,000 jobs x .030) over the 12 years, or by 128 jobs per year.

8. We are unable to estimate the economic impact of the Most Stringent Alternative (EIS Alternative 5) because of insufficient data to conduct this analysis. It is known from a recent mining engineering forecast for the EIS that Alternative 5, if adopted, could trigger a 100% loss (814 million tons) of surface mining production across the United States. Using MSHA data, we estimate that surface mining operations account for 69% (743 million tons) of total coal production. Moreover, 67% of all surface mining production is accomplished by small coal mining operations (with less than 500 employees). From this standpoint, the economic impact of Alternative 2 on small mines and small mine enterprises would be catastrophic in nature. It could eliminate all of them.

9. Using the 2008 Excess Spoils and Stream Buffer Rule as the Least Stringent Alternative, we know the economic impact of the 2008 rule was expected to be very minimal or insignificant from an economic impact standpoint. The economic impact of the 2008 rule was assessed to be minimal in its RFA analysis.

10. The overall conclusion of this analysis is that: a) smaller coal mining companies could be economically impacted in a catastrophic way by the EIS Alternative 5 (Most Stringent Version), if it is adopted; b) they would impacted in an economically significant way by EIS Alternative 2 (Proposed Preferred Rule Version); and c) smaller coal mining businesses would not be impacted in any economically significant way by the baseline situation, which is represented by the 2008 Rule, which was not implemented upon its adoption.

Table 22: Small Business Profile Summary [12]

Coal Companies	Business Size Definition[13]	Number Firms	% Total Firms	% Total Industry Employment Total: 79,848	%Total Industry Revenues Total: $33.6 Billion	%Total Industry Production Total: 1.074 billion tons
Small Businesses	<500 Employees	638	93.9%	28.8%	14.1%	68.5%
Large Businesses	>500 Employees	41	6.1%	71.2%	85.9%	31.5%
Totals		679	100%	79,848	100%	100%

Table 23: Small Business Impact Summary

Impact	EIS Alternative 5 (Proposed Preferred Rule)	EIS Alternative 2 (Most Stringent Rule)	Least Stringent Rule (2008 Excess Spoils & Stream Buffer Rule)
Reduced Total Economic Output Impact (Over 12 years)	-$380 Million	Devastating impact on small mining companies. 100% elimination of surface mining across the U.S.	No significant economic impact on small mining companies
Reduced Annual Economic Output Impact $380 million/12 years)	-$31.7 Million		
Reduced Total Employment Impact (Over 12 years)	-1,530 Jobs		
Reduced Annual Employment Impact (1,530/12 years)	-128 Jobs		

2. Effects on State, Local, and Tribal Governments

Possible effects were described briefly under the Transfers Section of this document. Possible effects were identified, but quantification and monetization of these effects is not possible at this time given the proposed nature of the rule and the lack of data to measure these effects.

The public comments offered during the Scoping Phase of the EIS included some mention of these issues as concerns, but no quantitative was included with these comments.

Earlier EIS and RIA reports related to the coal mining industry were reviewed, including the final EIS for the 2008 Stream Buffer Zone rule.

[12] All data are for firms or companies except the production data, which relates to mines or business establishments.
[13] Reflects the U.S. SBA size standards for the coal mining industry, which must be used in the Regulatory Flexibility Act (RFA) analysis for the SPR.

3. Effects on Wages and Growth

Possible effects on the growth of the coal mining industry and the general economy should be considered. With respect to the coal mining industry, the SPR could result in reduced coal production and revenues to coal companies. These potential impacts have been accounted in the analysis conducted on the three alternatives examined in the Conceptual RIA.

Effects on wages in the coal mining industry are not clear at this point. In general, the economic downturn has worked against wage increases. Wage decreases are not likely related to the rule, but they may be sparked by labor-management negotiations in efforts to maintain employment levels during the slow economy.

The negative effects of coal companies passing future production cost increases due to the SPR on to customers was discussed above in the Transfers Section. This is a possible concern that should be examined in the final RIA.

VIII. Summary

Table 23, which is required for OSM's submission to OMB serves as an overall summary of the economic costs, benefits, and other effects of the proposed Stream Protection Rule.

Table 23: Required OMB Regulatory Impact Analysis Table for Conceptual RIA, for the Period 2010-2022

Category	Primary Estimate: EIS Alternative 5 (Proposed Preferred Rule)	Minimum Estimate: EIS Alternative 1: Baseline Situation (Least Stringent and Least Costly)	Maximum Estimate: EIS Alternative 2: (Most Stringent and Most Costly)	Source Citation
Benefits:				
Annualized Monetized Benefits	They exist but cannot be monetized at this stage.	None known[14]	They exist but cannot be monetized at this stage.	This summary document pages 22-25.
Annualized Quantified, but Non-Monetized Benefits	Stream miles protected and land acreage conservation.	None known	Stream miles protected and land acreage conservation	This summary document pages 22-25.
Non-Quantified Benefits/Qualitative Benefits	Future land and water uses enabled by the rule.	None known	Future land and water uses enabled by the rule.	This summary document pages 22-25.
Costs:				
Annualized Monetized Costs	$109-113 million in production and sales	None known	$4.75 billion in production and	This summary document pages 11-

[14] "None known" refers to the fact that it is not believed there is an impact or effect.

Category	Primary Estimate: EIS Alternative 5 (Proposed Preferred Rule)	Minimum Estimate: EIS Alternative 1: Baseline Situation (Least Stringent and Least Costly)	Maximum Estimate: EIS Alternative 2: (Most Stringent and Most Costly)	Source Citation
	and 464 jobs per year.		revenues across all 50 states and $2.74 billion in production and revenues to the 25 coal producing states.	21. " "
Annualized Quantified, but Non-Monetized Costs	None available (should be examined in the final RIA)[15]	None known	None available (should be examined in final RIA)	" "
Non-Quantified Costs/Qualitative Costs	None known	None known	Extensive damage to the economic health of the coal mining industry and the ripple effects of this damage to the general economy.	This summary document pages 11-21.
Transfers:				
Annualized Monetized Transfers	None available (should be examined in final RIA)	None known	None available (should be examined in final RIA)	This summary document pages 25-26.
From Whom to Whom	None available (should be examined in final RIA)	None known	None available (should be examined in final RIA)	" "
Annualized Monetized Transfers (Off Budget)	None available (should be examined in final RIA	None known	None available (should be examined in final RIA	" "
Effects:				This summary document pages 26-36.
Effects on State, Local, and Tribal Governments	None available (should be examined in final RIA	None known	None available (should be examined in final RIA	
Effects on Small Businesses	-$31.7 million per year in reduced business. -128 jobs per year.	Insignificant ($240,000 for monitoring over time for 2008 rule	None available (should be examined in final RIA	" "

[15] "None available (should be examined in the final RIA)" refers to the fact that is believed there is an impact, but no definitive data or information about the impact is available at this time.

Category	Primary Estimate: EIS Alternative 5 (Proposed Preferred Rule)	Minimum Estimate: EIS Alternative 1: Baseline Situation (Least Stringent and Least Costly)	Maximum Estimate: EIS Alternative 2: (Most Stringent and Most Costly)	Source Citation
Effects on Wages		None known	None available (should be examined in final RIA	" "
Effects on Growth		None known	None available (should be examined in final RIA	" "

Discount Rates

A net present value (NPV) analysis was conducted on the proposed preferred rule (Alternative 5). The results are provided in Table 24 below. Because of the more generalized nature of the economic impact of EIS Alternative 1 (Least Stringent and Costly/Baseline/2008 Rule) and the EIS Alternative 2 (Most Stringent and Costly Rule), no discounting of presented numbers was done.

Table 24: 3% and 7% Discount Analysis of EIS Alternative 5 (Proposed Preferred Rule)

3% Discount Rate				7% Discount Rate		
Year	Amount	Present Value		Year	Amount	Present Value
0	0	0		0	0	0
1	0	0		1	0	0
2	0	0		2	0	0
3	$135,712,895	$135,712,895		3	$135,712,895	$135,712,895
4	$135,712,895	$135,712,895		4	$135,712,895	$135,712,895
5	$135,712,895	$135,712,895		5	$135,712,895	$135,712,895
6	$135,712,895	$135,712,895		6	$135,712,895	$135,712,895
7	$135,712,895	$135,712,895		7	$135,712,895	$135,712,895
8	$135,712,895	$135,712,895		8	$135,712,895	$135,712,895
9	$135,712,895	$135,712,895		9	$135,712,895	$135,712,895
10	$135,712,895	$135,712,895		10	$135,712,895	$135,712,895
11	$135,712,895	$135,712,895		11	$135,712,895	$135,712,895
12	$135,712,895	$135,712,895		12	$135,712,895	$135,712,895
Totals	$1,357,128,953	$1,357,128,953		Totals	$1,357,128,953	$1,357,128,953

David Bell

From: Jenkins, Josh
Sent: Thursday, July 01, 2010 10:39 AM
To: John Maxwell; Joe Zaluski; 'John Morgan'; dbell@plexsci.com; dmynear@engrservices.com; jsgardner@engrservices.com; Jaque Mitchell; 'Jack Burchett'; Jose Sosa; Randy Sosa; Shortelle, Ann
Subject: RE: Study Area for RIA

consolidated email string.

John et.al - Our discussions yesterday regarding the RIA was to address economic impacts on a state level, recognizing that some states encompass one or more mining regions.

Josh Jenkins
770.421.3412

-----Original Message-----
From: John Maxwell [mailto:JMaxwell@polukaiservices.com]
Sent: Thursday, July 01, 2010 10:23 AM
To: Joe Zaluski; 'John Morgan'; Jenkins, Josh; 'dbell@plexsci.com'; 'dmynear@engrservices.com'; 'jsgardner@engrservices.com'; Jaque Mitchell; 'Jack Burchett'; Jose Sosa; Randy Sosa; Shortelle, Ann
Subject: RE: Study Area for RIA

The geographic regions that were addressed in the 2008 EIS provided a good deal of information on mining resources and included western regions as well. In order to not reinvent the wheel, I would suggest that we address the resources n similar geographic divisions unless the SMEs on the team suggest more appropriate divisions. If a different mix is warranted, we should discuss so that resources are addressed similarly throughout the EIS document. A different division, may be warranted for the eco discipline, although I would expect it to be fairly similar to mining regions. Comments please?

John R. Maxwell
Senior Environmental Scientist
Polu Kai Services
352.258.1045

"For Official Use Only - Deliberative Process Material"

From: Joe Zaluski [jzaluski@engrservices.com]
Sent: Thursday, July 01, 2010 8:26 AM
To: 'John Morgan'; 'jijenkins@mactec.com'; 'dbell@plexsci.com'; 'dmynear@engrservices.com'; 'jsgardner@engrservices.com'; Jaque Mitchell; 'Jack Burchett'; John Maxwell; Jose Sosa; Randy Sosa; 'abshortelle@mactec.com'
Subject: RE: Study Area for RIA

I agree. I took Josh's email to mean that they would leave underground mining out of the RIA analysis, not the substance of their analysis. Do you disagree?

Joe Zaluski
Executive Vice-President

ENGINEERING CONSULTING SERVICES, INC.
Civil - Environmental - Mining - Safety
340 South Broadway, Suite 200
Lexington, KY 40508

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859-312-4209 (mobile)
859-223-5061 (home)
jzaluski@engrservices.com
www.engrservices.com<http://www.engrservices.com>

From: John Morgan [mailto:jmorgan@morganworldwide.com]
Sent: Thursday, July 01, 2010 8:25 AM
To: jzaluski@engrservices.com; jljenkins@mactec.com; dbell@plexsci.com; dmynear@engrservices.com; jsgardner@engrservices.com; jaque@polukaiservices.com; Jack Burchett; JMaxwell@polukaiservices.com; jose@polukaiservices.com; randy@polukaiservices.com; abshortelle@mactec.com
Subject: Re: Study Area for RIA

Joe
I think we need a broader discussion of this as the effects of the propose rule are very different on surface versus ug.
John

From: Joe Zaluski
To: 'Jenkins, Josh' ; 'David Bell' ; 'Doug Mynear' ; 'J. Steven Gardner' ; 'Jaque Mitchell' ; Jack Burchett; 'John Maxwell' ; John Morgan; 'Jose Sosa' ; 'Randy Sosa' ; 'Shortelle, Ann'
Sent: Thu Jul 01 08:19:00 2010
Subject: RE: Study Area for RIA
Josh - the surface effects of underground mining are regulated by SMCRA and will be impacted by the new rule. For example, disposal areas, preparation plants, refuse and gob areas, ponds, etc. In addition, the new rule could well change bonding and hydrologic requirements for the surface impacts of underground operations. I think underground mines and preparation plants (not loadouts) should be included in the analysis.

John Morgan, Steve G. and John Craynon could expand.

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jzaluski@engrservices.com
www.engrservices.com<http://www.engrservices.com>

From: Jenkins, Josh [mailto:JLJENKINS@mactec.com]

1st Email in string

Sent: Thursday, July 01, 2010 8:16 AM
To: 'David Bell'; 'Doug Mynear'; 'J. Steven Gardner'; 'Jaque Mitchell'; 'jburchett@morganworldwide.com'; Joe Zaluski; 'John Maxwell'; 'John Morgan'; Jose Sosa; 'Randy Sosa'; Shortelle, Ann
Subject: Study Area for RIA
Importance: High

All- attached is spreadsheet with the summary of coal production from 2008 (most recent available data). As we are developing the RIA, the counties listed with only surface production will be evaluated.

Please comment or concur with this approach.

thanks
Joshua L. Jenkins | Project Manager/Senior Geologist MACTEC Engineering and Consulting, Inc. | Atlanta, Georgia Phone 770.421.3412 | Mobile 770.833.6429 | Fax 770.421.3486 Email jljenkins@mactec.com<mailto:jljenkins@mactec.com> | Web www.mactec.com<http://www.mactec.com/>
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STATE	COUNTY	SQUARE_MIL	UG_No_Mine	UG_Product	Surf_No_Mi	Surf_Produ	Total_No_M	Total_Prod
AK	Yukon-Koyukuk Division	146099.233000	0	0	1	1477	1	1477
AL	Walker	804.782000	1	141	19	3190	20	3331
AL	Tuscaloosa	1352.189000	2	6039	7	1826	9	7865
AL	Jefferson	1124.565000	2	3091	8	1311	10	4402
AL	Winston	632.043000	0	0	3	616	3	616
AL	Shelby	805.681000	2	87	4	452	6	539
AL	Jackson	1129.432000	0	0	4	331	4	331
AL	Franklin	646.521000	0	0	2	297	2	297
AL	Cullman	752.288000	0	0	2	154	2	154
AL	Bibb	625.999000	0	0	1	105	1	105
AL	Marion	742.423000	0	0	1	50	1	50
AR	Sebastian	544.861000	1	67	1	2	2	69
AZ	Navajo	9983.686000	0	0	1	8025	1	8025
CO	Moffat	4755.951000	0	0	2	7235	2	7235
CO	Montrose	2244.119000	0	0	1	403	1	403
CO	Adams	1191.919000	0	0	1	21	1	21
IL	Gallatin	331.771000	0	0	2	2322	2	2322
IL	Jackson	602.455000	1	196	2	1387	3	1582
IL	Perry	444.818000	1	1112	3	1118	4	2230
IL	Wabash	227.372000	0	0	1	1037	1	1037
IN	Gibson	497.713000	2	5340	4	9398	6	14738
IN	Vigo	411.671000	0	0	2	3805	2	3805
IN	Daviess	438.018000	0	0	3	3566	3	3566
IN	Knox	528.977000	2	2548	4	3190	6	5738
IN	Pike	340.807000	1	2365	6	1894	7	4259
IN	Warrick	393.188000	0	0	3	865	3	865
IN	Dubois	431.321000	0	0	1	846	1	846
IN	Sullivan	453.258000	1	1970	1	107	2	2077
KS	Bourbon	637.917000	0	0	1	181	1	181
KS	Linn	604.516000	0	0	1	48	1	48
KY	Perry	341.846000	8	4132	32	13040	40	17172
KY	Pike	791.541000	56	12355	41	8659	97	21014
KY	Floyd	396.242000	26	2058	16	3818	42	5876
KY	Magoffin	309.758000	1	16	12	3412	13	3427
KY	Harlan	467.165000	34	7793	25	3128	59	10920
KY	Knott	353.579000	26	4938	14	2598	40	7536
KY	Leslie	405.382000	7	2215	9	2405	16	4620
KY	Bell	359.886000	5	957	19	2403	24	3360
KY	Martin	231.410000	8	3480	7	2212	15	5693
KY	Muhlenberg	479.984000	1	2235	6	2142	7	4377
KY	Henderson	464.398000	1	1462	2	1358	3	2820
KY	Breathitt	495.122000	2	1052	6	969	8	2021
KY	Letcher	339.302000	24	4645	15	886	39	5531
KY	Ohio	596.898000	1	584	1	807	2	1391
KY	Johnson	263.083000	2	281	8	748	10	1028
KY	Lawrence	421.570000	0	0	10	622	10	622
KY	Knox	387.631000	3	80	6	363	9	443
KY	Daviess	473.498000	0	0	1	342	1	342
KY	Clay	469.109000	1	4	7	242	8	246
KY	Whitley	442.925000	2	137	2	234	4	371
KY	Morgan	383.958000	0	0	2	205	2	205
KY	Hopkins	553.807000	4	14175	1	80	5	14255
KY	Owsley	198.099000	0	0	3	57	3	57
KY	Jackson	347.290000	0	0	2	45	2	45
KY	Elliott	233.727000	0	0	1	38	1	38
KY	Laurel	444.902000	0	0	4	35	4	35
KY	Christian	723.727000	0	0	1	4	1	4

LA	De Soto	895.307000	0	0	1	3285	1	3285
LA	Red River	403.168000	0	0	1	559	1	559
MD	Allegany	419.595000	1	431	13	1490	14	1920
MD	Garrett	664.748000	1	322	6	617	7	940
MO	Bates	851.564000	0	0	2	247	2	247
MS	Choctaw	417.774000	0	0	1	2842	1	2842
MT	Big Horn	5002.551000	0	0	3	31210	3	31210
MT	Rosebud	5004.012000	0	0	1	13053	1	13053
MT	Richland	2096.181000	0	0	1	355	1	355
ND	Mercer	1106.389000	0	0	2	17589	2	17589
ND	McLean	2321.263000	0	0	1	7533	1	7533
ND	Oliver	727.704000	0	0	1	4505	1	4505
NM	McKinley	5480.599000	0	0	3	9693	3	9693
NM	San Juan	5534.946000	1	7046	1	8906	2	15952
OH	Harrison	410.358000	1	1536	7	1726	8	3262
OH	Jefferson	411.802000	4	923	2	1512	6	2435
OH	Tuscarawas	570.435000	1	425	3	1211	4	1636
OH	Belmont	542.877000	1	5798	5	1076	6	6873
OH	Noble	404.003000	0	0	2	791	2	791
OH	Vinton	414.406000	0	0	1	677	1	677
OH	Perry	412.374000	2	1418	2	648	4	2066
OH	Jackson	421.286000	0	0	1	374	1	374
OH	Stark	579.580000	0	0	2	368	2	368
OH	Columbiana	534.680000	0	0	4	351	4	351
OH	Coshocton	566.628000	0	0	2	249	2	249
OH	Muskingum	672.197000	0	0	1	165	1	165
OH	Carroll	398.944000	1	110	2	39	3	149
OH	Mahoning	425.485000	0	0	2	8	2	8
OH	Lawrence	457.468000	0	0	1	3	1	3
OK	Le Flore	1611.164000	1	441	2	423	3	864
OK	Craig	756.626000	0	0	1	261	1	261
OK	Haskell	623.661000	0	0	1	169	1	169
OK	Rogers	713.606000	0	0	1	168	1	168
OK	Okmulgee	706.905000	0	0	1	1	1	1
PA	Clearfield	1154.535000	2	1341	46	2914	48	4255
PA	Somerset	1078.261000	7	1843	18	2694	25	4537
PA	Schuylkill	782.382000	8	59	35	995	43	1054
PA	Armstrong	663.663000	8	2873	10	831	18	3704
PA	Butler	790.425000	0	0	6	599	6	599
PA	Indiana	836.580000	8	2165	18	537	26	2702
PA	Fayette	796.801000	0	0	12	489	12	489
PA	Washington	862.464000	1	1838	3	471	4	2309
PA	Jefferson	655.263000	1	157	11	452	12	609
PA	Clarion	603.323000	0	0	5	448	5	448
PA	Cambria	691.650000	2	872	9	408	11	1281
PA	Elk	833.507000	1	220	6	307	7	527
PA	Lycoming	1242.009000	0	0	1	257	1	257
PA	Luzerne	910.027000	0	0	7	211	7	211
PA	Columbia	491.143000	0	0	4	149	4	149
PA	Allegheny	742.198000	0	0	4	121	4	121
PA	Northumberland	471.335000	3	148	5	82	8	231
PA	Westmoreland	1035.405000	0	0	5	34	5	34
PA	Cameron	399.809000	0	0	1	31	1	31
PA	Lackawanna	462.507000	0	0	2	22	2	22
PA	Venango	685.069000	0	0	1	13	1	13
PA	Centre	1111.474000	0	0	1	12	1	12
PA	Huntingdon	892.454000	0	0	1	6	1	6
PA	Greene	578.190000	7	41388	1	5	8	41393

PA	Bedford	1012.337000	0	0	2	4	2	4
PA	Tioga	1136.671000	0	0	1	2	1	2
TN	Claiborne	444.969000	1	364	8	966	9	1330
TN	Campbell	497.853000	3	387	7	409	10	796
TN	Anderson	345.086000	1	37	2	148	3	185
TN	Fentress	498.562000	0	0	1	22	1	22
TX	Panola	819.791000	0	0	2	6886	2	6886
TX	Leon	1082.624000	0	0	1	6454	1	6454
TX	Rusk	937.395000	0	0	1	4655	1	4655
TX	Harrison	916.421000	0	0	1	4055	1	4055
TX	Lee	637.289000	0	0	1	3754	1	3754
TX	Freestone	894.365000	0	0	1	3339	1	3339
TX	Atascosa	1229.671000	0	0	1	3079	1	3079
TX	Titus	417.292000	0	0	1	2730	1	2730
TX	Robertson	866.787000	0	0	1	2122	1	2122
TX	Hopkins	786.932000	0	0	1	1943	1	1943
VA	Wise	404.029000	21	6477	19	4691	40	11169
VA	Buchanan	501.230000	23	5596	18	2843	41	8439
VA	Lee	437.912000	1	326	3	830	4	1156
VA	Dickenson	334.849000	10	1804	5	266	15	2070
VA	Russell	476.411000	6	952	3	181	9	1134
VA	Tazewell	520.340000	4	650	1	95	5	745
WV	Boone	507.403000	27	12660	14	17918	41	30578
WV	Logan	453.693000	12	7205	14	11336	26	18541
WV	Mingo	419.523000	19	4593	12	8589	31	13182
WV	Kanawha	906.100000	15	6850	11	5021	26	11870
WV	Fayette	668.318000	9	2578	13	4468	22	7046
WV	Webster	558.352000	3	1452	2	4441	5	5893
WV	Clay	344.801000	1	291	1	3310	2	3600
WV	Raleigh	610.276000	16	5533	3	3098	19	8631
WV	Nicholas	651.117000	5	1310	6	3087	11	4397
WV	McDowell	538.747000	32	3001	14	2517	46	5519
WV	Wyoming	505.509000	15	3741	3	1576	18	5316
WV	Monongalia	369.713000	3	4192	5	1141	8	5333
WV	Wayne	510.720000	3	4063	1	1041	4	5104
WV	Barbour	344.982000	4	1466	4	634	8	2100
WV	Brooke	91.069000	0	0	2	524	2	524
WV	Greenbrier	1019.936000	6	626	2	434	8	1059
WV	Harrison	417.158000	3	5932	3	115	6	6047
WV	Mineral	327.370000	0	0	2	86	2	86
WV	Upshur	353.045000	2	858	1	42	3	899
WV	Marion	311.240000	1	5193	1	26	2	5218
WV	Randolph	1041.442000	1	392	1	4	2	396
WY	Campbell	4789.951000	0	0	12	415924	12	415924
WY	Converse	4247.642000	0	0	1	35777	1	35777
WY	Sweetwater	10474.795000	1	3501	3	7191	4	10692
WY	Lincoln	4084.471000	0	0	1	4989	1	4989
WY	Carbon	7932.418000	0	0	1	261	1	261
AL	Fayette	629.796000	1	2923	0	0	1	2923
CO	Routt	2365.965000	1	8004	0	0	1	8004
CO	Rio Blanco	3206.293000	1	2067	0	0	1	2067
CO	Garfield	2964.234000	1	283	0	0	1	283
CO	Gunnison	3274.627000	2	10761	0	0	2	10761
CO	Delta	1145.161000	1	2862	0	0	1	2862
CO	La Plata	1702.532000	2	392	0	0	2	392
IL	Vermillion	903.835000	1	1130	0	0	1	1130
IL	Sangamon	874.275000	1	2261	0	0	1	2261
IL	Macoupin	869.214000	1	1408	0	0	1	1408

IL	White	499.941000	1	2653	0	0	1	2653
IL	Randolph	596.427000	1	3198	0	0	1	3198
IL	Saline	385.874000	3	9594	0	0	3	9594
IL	Williamson	445.380000	1	5504	0	0	1	5504
KY	Union	359.820000	2	4884	0	0	2	4884
KY	Webster	335.293000	2	1990	0	0	2	1990
MT	Musselshell	1869.800000	1	168	0	0	1	168
OH	Monroe	458.260000	1	6844	0	0	1	6844
PA	Beaver	442.040000	1	380	0	0	1	380
PA	Dauphin	554.307000	2	34	0	0	2	34
UT	Carbon	1482.986000	5	11545	0	0	5	11545
UT	Emery	4455.380000	3	5874	0	0	3	5874
UT	Sevier	1926.098000	1	6946	0	0	1	6946
WV	Marshall	313.393000	2	10775	0	0	2	10775
WV	Preston	649.031000	2	1291	0	0	2	1291
WV	Tucker	422.364000	1	2561	0	0	1	2561
WV	Mason	440.002000	1	584	0	0	1	584
WV	Lincoln	436.176000	3	1226	0	0	3	1226

David Bell *additional email on topic*

From: J Steven Gardner
Sent: Thursday, July 01, 2010 2:25 PM
To: 'John Morgan'; jzaluski@engrservices.com; jljenkins@mactec.com; dbell@plexsci.com; dmynear@engrservices.com; jaque@polukaiservices.com; 'Jack Burchett'; JMaxwell@polukaiservices.com; jose@polukaiservices.com; randy@polukaiservices.com; abshortelle@mactec.com
Subject: RE: Study Area for RIA

I concur that we need a discussion on the impacts on surface vs. underground. They are different indeed, but the fact is the proposed rule change affects both underground and surface mining.

Our field trip on the 13th will point out the differences.

Steve

J. Steven Gardner, P.E.
President/CEO
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Joe
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From: Joe Zaluski
To: 'Jenkins, Josh' ; 'David Bell' ; 'Doug Mynear' ; 'J. Steven Gardner' ; 'Jaque Mitchell' ; Jack Burchett; 'John Maxwell' ; John Morgan; 'Jose Sosa' ; 'Randy Sosa' ; 'Shortelle, Ann'
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change bonding and hydrologic requirements for the surface impacts of underground operations. I think underground mines and preparation plants (not loadouts) should be included in the analysis.

John Morgan, Steve G. and John Craynon could expand.

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To: 'David Bell'; 'Doug Mynear'; 'J. Steven Gardner'; 'Jaque Mitchell'; 'jburchett@morganworldwide.com'; Joe Zaluski; 'John Maxwell'; 'John Morgan'; Jose Sosa; 'Randy Sosa'; Shortelle, Ann
Subject: Study Area for RIA
Importance: High

All- attached is spreadsheet with the summary of coal production from 2008 (most recent available data). As we are developing the RIA, the counties listed with only surface production will be evaluated.

Please comment or concur with this approach.

thanks

Joshua L. Jenkins | Project Manager/Senior Geologist
MACTEC Engineering and Consulting, Inc. | Atlanta, Georgia
Phone 770.421.3412 | **Mobile** 770.833.6429 | **Fax** 770.421.3486
Email jljenkins@mactec.com | **Web** www.mactec.com

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David Bell

From:	Jenkins, Josh
Sent:	Tuesday, July 06, 2010 7:56 AM
To:	BilBao, Li-Tai S.
Cc:	Jose Sosa; 'David Bell'; 'Doug Mynear'; 'J. Steven Gardner'; 'Jaque Mitchell'; jburchett@morganworldwide.com; Joe Zaluski; 'John Maxwell'; 'John Morgan'; 'Randy Sosa'; Shortelle, Ann
Subject:	Draft RIA Outline - Proposed Stream Protection Rules
Attachments:	762010Surface Coal Stream Rules RIA Report Outline (2).docx

Li-Tai- Attached is a draft outline of the RIA that we propose to follow.

We are proposing to use IMPLAN at this time to model the economic conditions of select counties – approximately 63 total, or roughly 1/3 of the coal producing counties, to provide a broad overview of the potential economic impacts.

Please let me know if you concur with this outline and modeling approach or if there is an alternative approach you would prefer.

Thank you.

Joshua L. Jenkins | Project Manager/Senior Geologist
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Surface Coal Mining Stream Protection Rule-Making Regulatory Impact Analysis
Proposed Report Outline

Purpose

This document presents our initial ideas on an outline for the Stream Protection Rule-Making RIA. We welcome your comments and questions to strengthen the final outline.

Outline

I. **Cover Page**

II. **Abstract**

III. **Executive Summary**
- A. Major Findings
- B. Conclusions

IV. **Table of Contents**

V. **List of Figures, Tables and Charts**

VI. **Introduction**
- A. Federal Action (Describes the essence of the new stream protection rules)
- B. Purpose and Need (Describes the purpose of this RIA and why it is needed in understanding the major economic costs and benefits of the proposed rules on key stakeholders.)
- C. Organization of this Document (Describes the major elements of the report and its intended flow.)
- D. Economic Issues Raised during Scoping (Summarizes the major economic issues passed along to us from the July public meetings.)
- E. Review of Earlier Studies
- F. Scope of Analysis and Methodology
  - Scope of the Analysis (Describes the main components of the analysis in terms of issues and impacts.)
  - Methodology (Describes the methodology (analytic tools, data, research techniques used) to complete the analysis.

VII. **Overview of the U.S. Coal Mining Industry**
- Definition of the Industry
- Key Industry Trends and Issues (This would include regulations affecting the industry.)
- Coal Production Segment (Supply-Side)
- Coal Markets Segment (Demand-Side)

VIII. **Economic Geography Overview** (Identifies the major coal regions analyzed in the study, with states in each area identified)

A. General Study Area and Major Coal Regions (Includes a national map showing the major coal regions and the states and counties that relate to them. For each region, a brief profile of the coal-mining industry found there and key economic trends will be identified.)
B. Northern Rocky Mountains and Great Plains
C. The Appalachian Basin
D. The Colorado Plateau
E. The Illinois Basin
F. The Gulf Coast
G. Alaska

IX. Economic Cost and Benefit Analysis

A. (For each region, the impacts (costs and benefits) of the proposed rules would be analyzed and discussed, emphasis on states. Key impact issues would be discussed in detail.)
A. Northern Rocky Mountains and Great Plains
C. The Appalachian Basin
D. The Colorado Plateau
E. The Illinois Basin
F. The Gulf Coast
G. Alaska

X. Overall Findings and Conclusions

XI. References

XII. Glossary

XIII. Appendices (Supporting data and analyses, model documentation)

Modeling strategy -

Top 5 coal-producing counties (based upon total annual production volume) in each of the 5 major coal-producing regions: **25 counties.**

• 3 medium-sized coal-producing counties in each of the 5 major coal-producing regions: **15 counties.** The selected counties would be those with a high economic dependence upon coal industry activities as measured by coal mining's location quotient (LQ) value and its percent of total employment. The LQ is a measure of an area's share of an industry – or the concentration – of an industry as compared to the industry's US share. An LQ of one indicates that an area (a county for example) has its share of activity and will likely be importing or paying lower-than-average wages. An LQ of greater than one shows that an area has more than its share of activity, is highly competitive, and is likely to be exporting more than it imports, and may have higher than average wages.

• 3 small-sized coal-producing counties that depend to a high degree economically on the coal industry: **15 counties.** Again, this dependence would be defined by the location quotient value and percent of total employment.

- **1 county** in Alaska to ensure its coverage in the study.
- **7 counties** with major coal reserves that are not being currently mined.

David Bell

From: Jenkins, Josh
Sent: Tuesday, September 14, 2010 4:45 PM
To: John Morgan
Cc: Jose Sosa; 'John Maxwell'; Shortelle, Ann; 'David Bell'
Subject: RE: Conceptual RIA schedule

Thanks John – Ann is attempting ftp access..my firewall may be causing issues - see you Monday.

From: John Morgan [mailto:jmorgan@morganworldwide.com]
Sent: Tuesday, September 14, 2010 4:35 PM
To: Jenkins, Josh
Subject: RE: Conceptual RIA schedule

Josh,
We have no problem in conducting the review during that allocated time period.
Liz should have sent you the access to our ftp site for the historical data contained in the mine permit applications.
I look forward to seeing you on Monday
John

From: Jenkins, Josh [mailto:JLJENKINS@mactec.com]
Sent: Monday, September 13, 2010 2:35 PM
To: Jose Sosa; John Morgan
Cc: 'John Maxwell'; David Bell; Shortelle, Ann
Subject: FW: Conceptual RIA schedule

All- this is resend from last week. Do you concur with this schedule?

Thanks

Josh

From: Jenkins, Josh
Sent: Wednesday, September 08, 2010 11:27 AM
To: 'John Maxwell'; 'John Morgan'
Subject: Conceptual RIA schedule

Gentlemen – the Conceptual RIA is due to OSM on the 18th.

I propose to send the draft to John Morgan for his review on September 27th.

I'd like John Morgan to review and provide comments to MACTEC by COB October 5.

MACTEC and Morgan have a telecon on October 7 to go over comments.

MACTEC affects changes and provides to OSM on October 18.

Please let me know your thoughts.

thanks

Joshua L. Jenkins | Project Manager/Senior Geologist
MACTEC Engineering and Consulting, Inc. | Atlanta, Georgia
Phone 770.421.3412 | **Mobile** 770.833.6429 | **Fax** 770.421.3486
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David Bell

From: Varvell, Stephanie L.
Sent: Wednesday, February 16, 2011 9:59 AM
To: David Bell
Cc: 'John Maxwell'; 'Josh Jenkins'; 'Jose Sosa'; Winters, William R. "Bill"
Subject: RE: Clarification on the Cure Notice

Thanks. I'll get on it.

From: David Bell [mailto:dbell@plexsci.com]
Sent: Wednesday, February 16, 2011 9:51 AM
To: Varvell, Stephanie L.
Cc: 'John Maxwell'; 'Josh Jenkins'; 'Jose Sosa'; Winters, William R. "Bill"
Subject: RE: Clarification on the Cure Notice
Importance: High

Resending without Simon email – for some reason the DOI firewall kicked it back. Stephanie, you forwarded DiVito/Simon emails to Jose on 2/3/11 at 11:03am, so you should be able to pull it up and see the language to which I refer below. attached to this string for continuity

Stephanie:
I talked to Josh and John. The question regarding Cure Notice Bullet #5 comes up because it's not specific as to what aspects of the status quo and rulemaking are being compared. It sounds like a repeat of Bullet #4, and we think it might be, but want to be sure.

Josh indicates that Cure Notice Bullet #4 reflects his discussions with Ben Simon and Andy DiVito – do a comparison of cost-benefits among the status quo (30 CFR), Alternative 2, and Alternative 5 (Proposed Rule). We're doing that, expanding it to include more discussion of environmental-type cost/benefits.

Bullet #5 appears to come from Ben Simon's list as reflected in his email to Andy dated 2/2/11 at 5:47pm (attached – his 3rd bullet). Ben makes no mention of a cost-benefit comparison as stated in Bullet #4, at least not in similar words.

So, we are asking if Cure Notice Bullets #4 and #5 actually are talking about/requesting the same information – reflective of the Jenkins-Simon-DiVito conversation/agreement ***and*** the Simon-DiVito email exchange. If they are different, we'd like to know what is required in Bullet #5 that is different than the requirements of Bullet #4.

On a related note, Bill indicated he would check with OSM folks regarding the timeframe that should be addressed. We will need an answer to that question in order to proceed with the analysis.

Hope this helps. Please give us a call if you have questions or want to discuss further. Thanks for your help.
Dave

David E. Bell
Vice President and General Counsel
Plexus Scientific Corporation
(703) 845-5602 (direct)
(703) 820-3339 (office)
(703) 845-8568 (fax)
(703) 774-6578 (cell)

From: Varvell, Stephanie L. [mailto:svarvell@osmre.gov]
Sent: Wednesday, February 16, 2011 8:50 AM
To: David Bell
Cc: John Maxwell
Subject: RE: Clarification on the Cure Notice

It would be really helpful if you would send me something written out. I don't have the authority to advise but can ask those who do. What is throwing me is the question about #5. What is unclear about comparing the status quo to the proposed reg?

From: David Bell [mailto:dbell@plexsci.com]
Sent: Wednesday, February 16, 2011 8:45 AM
To: Varvell, Stephanie L.
Cc: 'John Maxwell'; 'Josh Jenkins'; 'Jose Sosa'
Subject: RE: Clarification on the Cure Notice
Importance: High

Hi, Stephanie. John Maxwell and Josh Jenkins should also be on the call. Are you available at 9am (15 minutes from now) to call in to the PKS conference number? It's 1-800-786-1922, participant code 73822535#. If another time is more convenient, let us know.
Dave

David E. Bell
Vice President and General Counsel
Plexus Scientific Corporation
(703) 845-5602 (direct)
(703) 820-3339 (office)
(703) 845-8568 (fax)
(703) 774-6578 (cell)

From: Varvell, Stephanie L. [mailto:svarvell@osmre.gov]
Sent: Wednesday, February 16, 2011 8:15 AM
To: David Bell
Subject: Clarification on the Cure Notice

Hi Dave,
Give me a call when you get in. I want to make sure I understand the questions. I get the first one about the 1983 rule but don't understand the second question about bullet #5.

Stephanie Varvell
Project Manager/
Contracting Officer's Representative
Contract # S10PC00060
859-260-3925

David Bell

From: John Maxwell <JMaxwell@polukaiservices.com>
Sent: Tuesday, February 15, 2011 3:24 PM
To: dbell@plexsci.com; Mike Stanwood
Subject: FW: ria

From: Varvell, Stephanie L. [mailto:svarvell@osmre.gov]
Sent: Thursday, February 03, 2011 11:05 AM
To: Jose Sosa
Cc: John Maxwell
Subject: FW: ria

Jose,
Here is some additional information from Ben Simon based on the TOC you gave him yesterday.

From: DeVito, Andy
Sent: Thursday, February 03, 2011 10:55 AM
To: Winters, William R. "Bill"; Uranowski, Lois J.; Broderick, Nancy R.
Cc: Varvell, Stephanie L.; Shawley, Dianne M
Subject: FW: ria

FYI

From: Simon, Benjamin M
Sent: Wednesday, February 02, 2011 5:47 PM
To: DeVito, Andy
Cc: Cline, Sarah A
Subject: ria

Hi Andy,

Here are a few comments on the Table of Contents for the RIA.

- I would suggest not characterizing the RIA as a "Conceptual RIA." The document is either a RIA or it is not. This does not mean the document cannot contain a conceptual-level discussion of some of the issues.

- Consider addressing the issue of the necessity for the rule in the context of the set of conditions that could imply a regulatory approach is appropriate. These conditions include things like market failures, information asymmetries, etc.

- Consider including some sort of side-by-side table to facilitate a comparison between the status quo and the proposed regulation.

- The discussion of the baseline should probably be a separate section, not a component of section III.

- I would suggest separating the "Data Sources" and "Methods of Analysis" (currently section IV(e)) into individual sections. Methods should precede data sources.

- Including a discussion that provides an overview of the coal mining industry is appropriate (section V in the table of contents), however, I would shift all of the impact analysis (i.e., the analysis done using IMPLAN) to a new section that could be inserted before the existing section VII (Summary).

- Including a section on distributional issues would be appropriate.

Ben

==========

Benjamin Simon
Director, Economics Staff, Office of Policy Analysis
U.S. Department of the Interior
Mail Stop 3530
1849 C St. NW
Washington DC 20240
202 208 4916
benjamin_simon@ios.doi.gov

David Bell

From: Jenkins, Josh
Sent: Wednesday, October 13, 2010 11:52 AM
To: Donald Iannone; Michael C.Carroll; 'David Bell'; 'Doug Mynear'; 'J. Steven Gardner'; 'Jaque Mitchell'; jburchett@morganworldwide.com; Joe Zaluski; 'John Maxwell'; 'John Morgan'; Jose Sosa; McWilliams, Alycia; Mike Stanwood; 'Randy Sosa'; Shortelle, Ann
Subject: OSM - October 19 F2F for RIARIA

All- I received a call from John C. of OSM today. He will have four folks here for the RIA F2F plus others on the phone.

Our head count for attendance is as follows:

ECSI- 3
Morgan – 1
PKS – 3
MACTEC/D. Iannone - 4
OSM – 4

We should have plenty of room in the same venue as last month, so our plan is to meet here in Kennesaw starting @ 0830.

If I missed someone, please let me know.

:hanks

Joshua L. Jenkins | Project Manager/Senior Geologist
MACTEC Engineering and Consulting, Inc. | Atlanta, Georgia
Phone 770.421.3412 | **Mobile** 770.833.6429 | **Fax** 770.421.3486
Email jljenkins@mactec.com | **Web** www.mactec.com

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David Bell

From: John Maxwell
Sent: Tuesday, February 15, 2011 3:24 PM
To: dbell@plexsci.com; Mike Stanwood
Subject: FW: ria

From: Varvell, Stephanie L. [mailto:svarvell@osmre.gov]
Sent: Thursday, February 03, 2011 11:05 AM
To: Jose Sosa
Cc: John Maxwell
Subject: FW: ria

Jose,
Here is some additional information from Ben Simon based on the TOC you gave him yesterday.

From: DeVito, Andy
Sent: Thursday, February 03, 2011 10:55 AM
To: Winters, William R. "Bill"; Uranowski, Lois J.; Broderick, Nancy R.
Cc: Varvell, Stephanie L.; Shawley, Dianne M
Subject: FW: ria

FYI

From: Simon, Benjamin M
Sent: Wednesday, February 02, 2011 5:47 PM
To: DeVito, Andy
Cc: Cline, Sarah A
Subject: ria

Hi Andy,

Here are a few comments on the Table of Contents for the RIA.

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- I would suggest separating the "Data Sources" and "Methods of Analysis" (currently section IV(e)) into individual sections. Methods should precede data sources.

- Including a discussion that provides an overview of the coal mining industry is appropriate (section V in the table of contents), however, I would shift all of the impact analysis (i.e., the analysis done using IMPLAN) to a new section that could be inserted before the existing section VII (Summary).

- Including a section on distributional issues would be appropriate.

Ben

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Benjamin Simon
Director, Economics Staff, Office of Policy Analysis
U.S. Department of the Interior
Mail Stop 3530
1849 C St. NW
Washington DC 20240
202 208 4916
benjamin_simon@ios.doi.gov

David Bell

From: Jenkins, Josh
Sent: Tuesday, September 14, 2010 5:06 PM
To: 'David Bell'; 'Doug Mynear'; 'J. Steven Gardner'; 'Jaque Mitchell'; jburchett@morganworldwide.com; Joe Zaluski; 'John Maxwell'; 'John Morgan'; Jose Sosa; McWilliams, Alycia; Mike Stanwood; 'Randy Sosa'; Shortelle, Ann; Parks, Theodore
Subject: FW: Montana Counties - Follow up

All - We have a plan – looks like OSM wants to focus on the central part of the state for areas currently not producing but would likely produce in the future. Judith Basin and Cascade Co.s MT

Thanks Steve for tracking this down.

From: Craynon, John [mailto:jcraynon@osmre.gov]
Sent: Tuesday, September 14, 2010 5:01 PM
To: Jenkins, Josh
Subject: RE: Montana Counties - Follow up

I'd go with the area Steve's folks came up with.....

From: Jenkins, Josh [mailto:JLJENKINS@mactec.com]
Sent: Tuesday, September 14, 2010 4:19 PM
To: 'David Bell'; 'Doug Mynear'; 'J. Steven Gardner'; 'Jaque Mitchell'; 'jburchett@morganworldwide.com'; Joe Zaluski; 'John Maxwell'; 'John Morgan'; Jose Sosa; McWilliams, Alycia; Mike Stanwood; 'Randy Sosa'; Shortelle, Ann; Craynon, John; Winters, William R. "Bill"; Uranowski, Lois J.
Subject: FW: Montana Counties - Follow up

John Craynon et. al. –

Steve's folks @ ECSI researched near future mining activities in MT. Based on this research, it appears that near future mining projections could be in the central part of the state (Judith Basin Co.) instead of the SE part of the state (Powder River Co.). Based on this, should we focus on this area (Steve suggested adjacent Cascade Co. too) instead of the SE as was suggested in August? .....Or include it with Powder River Basin Co.?

Please advise.

Thanks

From: Jenkins, Josh
Sent: Friday, August 27, 2010 12:23 PM
To: 'David Bell'; 'Doug Mynear'; 'J. Steven Gardner'; 'Jaque Mitchell'; 'jburchett@morganworldwide.com'; Joe Zaluski; 'John Maxwell'; 'John Morgan'; Jose Sosa; McWilliams, Alycia; Mike Stanwood; 'Randy Sosa'; Shortelle, Ann; 'Craynon, John'; 'Winters, William R. "Bill"'; Uranowski, Lois J.
Subject: Montana Counties

All- per our discussion in DC, attached is a map showing counties in Montana. If you recall we said we would include a few counties in SE MT outside of the producing counties. It looks like Powder River County is located in an area to be exploited per our discussion...should we include any more?

Thanks

From: Parks, Theodore
Sent: Friday, August 27, 2010 12:06 PM
To: Jenkins, Josh
Subject: montana

Theodore H. Parks | Project GIS Specialist / Resource Manager
MACTEC Engineering and Consulting, Inc.
3200 Town Point Drive, Kennesaw, GA 30144
Office (770) 421-3443 | **Fax** (770) 421-3486
Email thparks@mactec.com | **Web** www.mactec.com

Jay Gunderson, Research Geologist, Montana Bureau of Mining and Geology, Billings office, 406-657-2702

- Approximately 40 million tons of coal mined annually; about 36 million tons are from the Powder River Basin.
- Future trends for mining are in the Powder River. There is some interest in the eastern part of the state (Williston basin) in lignite and coal gasification. There is currently one lignite mine in the Williston Basin in Richland County
- A company is looking at opening a mine in the Judith Basin County. He doesn't think anything will come of it.

Billings Gazette, March 1, 2010

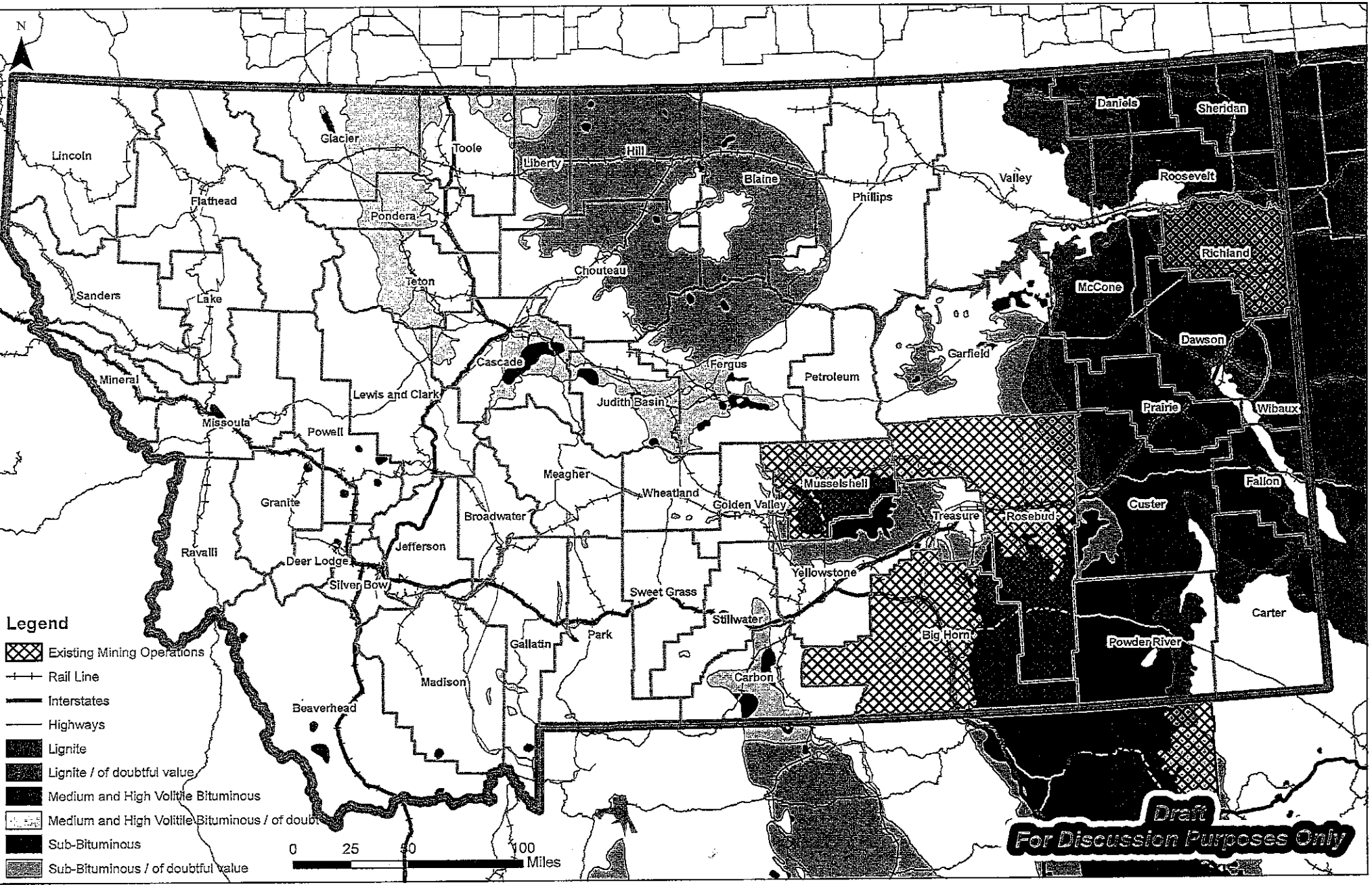
- Coal company Maple Carpenter Creek is proposing to open a mine northeast of Billings (Judith Basin County) that could be running by 2014. The company is also considering a second mine farther west.
- Other Montana coal projects include coal-to-liquids plant and accompanying mine on the Crow Indian Reservation, the recent leasing of 731 million tons of coal near Ashland (Rosebud County) by Arch Coal Inc., and the state's pending sale of 532 million tons also near Ashland.

Rapid City Journal, February 28, 2010

- Coal developers are maneuvering to build new mines in south-central Montana near Red Lodge (Carbon County). Management Energy, Inc. has amassed leases on more than 10 square miles of land northeast of Red Lodge (Powder River basin) near Bridger.
- Last year's opening of the Signal Peak mine (Musselshell County) north of Billings was the first in 30 years. It is the only underground mine operating in Montana.

Six mines currently operating in Montana

Mine	2009 Tonnage (million tons)	Through July 2010 Tonnage (million tons)	County	Total 2009 (million tons)	Total through July 2010 million tons
East/West Decker Mine	4.6	1.6	Big Horn		
Absaloka Mine	5.9	3.2	Big Horn		
Spring Creek Mine	17.6	10.8	Big Horn	28.1	15.5
Bull Mountain Mine	0.87	2.0	Musselshell	0.87	2.0
Savage Strip Mine	0.34	0.18	Richland	0.34	0.18
Rosebud Mine	10.1	6.7	Rosebud		
Colp Plant (waste coal)	0.23	0.16	Rosebud	10.33	6.86
			Total	39.64	24.54


N
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Granite
Ravalli
Deer Lodge
Silver Bow
Jefferson
Broadwater
Meagher
Wheatland
Golden Valley
Musselshell
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Sub-Bituminous / of doubtful value
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For Discussion Purposes Only

CONSULTING AGREEMENT
FOR FEDERAL GOVERNMENT PROJECTS

CONSULTANT:	**Plexus Scientific**	CONSULTING AGREEMENT NO.:	**10-092-004**
ADDRESS:	**4501 Ford Ave. Suite 1200**	PKS PROJECT NO.:	**10-092**
CITY AND STATE:	**Alexandria, VA 22302**	COST CODE:	
TELEPHONE:	**(703) 845-5602**	CONTACT NAME:	**David E. Bell, Vice-President**

SUBCONTRACT AMOUNT:	**Eight Hundred and Ten Thousand. ($810,000)**
OWNER:	**Department of the Interior, Office of Surface Mining Reclamation & Enforcement**
PROJECT:	**Environmental Impact Statement for Proposed Stream Protection Rule**

THIS AGREEMENT, made this 14th day of June, 2010, by and between **Polu Kai Services, LLC**, 137 N. Washington Street, Suite 301, Falls Church, Virginia 22046 **("Contractor")** and **Plexus Scientific. ("Consultant").**

For the consideration hereinafter named the Consultant covenants and agrees with the Contractor as follows:

1. **DEFINITIONS**

   a. "Prime Contract" means the prime contract between Polu Kai Services, LLC and the Department of Interior, Office of Surface Mining Reclamation and Enforcement, under Solicitation Number S10PS00236, including all applicable regulations incorporated by reference therein.

   b. The term "Owner" or "Owner and its representatives" shall mean the federal government agency that awarded the Prime Contract to the Contractor, including the agency's representatives such as the Contracting Officer, Contracting Officer's Technical Representative, engineer, architect or other person whose supervision or inspection of the WORK is required to be done by the terms of the Prime Contract.

   c. "Contract Documents" for this Consulting Agreement consist of this Agreement and any Attachments, the Prime Contract between the Owner and Contractor (General, Supplementary and other Conditions), the Drawings, the Specifications, all Addenda issued prior to and all Modifications issued after execution of the Agreement between the Owner and Contractor and agreed upon by the parties to this Consulting Agreement. These form the Consulting Agreement, and are as fully a part of the Consulting Agreement as if attached to this Agreement or repeated herein.

   d. In this contract the word "work" shall mean the work, labor, services, materials, and things required to be done and furnished by the Consultant under the Contract Documents.

2. **THE WORK**

   a. The Consultant's Work includes all that Work listed in Attachment A and those Contract Documents applicable to this Consulting Agreement. A copy of the Prime Contract is included in Attachment B. Upon the Consultant's request, the Contractor shall provide the Consultant copies of any other Contract Documents that are not in the Consultant's possession.

3. **SUBCONTRACT PRICE**

   a. The Consulting Agreement price is fixed at **$810,000.**

4. AVAILABILITY OF FUNDS UNDER PRIME CONTRACT

a. FAR 52.232-19 AVAILABILITY OF FUNDS FOR THE NEXT FISCAL YEAR (Apr 1984) applies to the Prime Contract and is hereby specifically incorporated herein. This provision provides:

Funds are not presently available for performance under this contract beyond September 30, 2010. The Government's obligation for performance of this contract beyond that date is contingent upon the availability of appropriated funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment may arise for performance under this contract beyond September 30, until funds are made available to the Contracting Officer for performance and until the Contractor receives notice of availability, to be confirmed in writing by the Contracting Officer.

b. In the event that the Prime Contract is not funded beyond September 30, 2010, the Prime Contractor shall not be liable to the Consultant for work performed beyond that date to the extent that the Owner is not liable to the Prime Contractor for the same.

5. DELIVERABLES

a. The Prime Contract calls for, among other things, the preparation of a draft and final Environmental Impact Statement (EIS) to include the completion of all necessary environmental impact analyses and their appropriate documentation and review under the requirements of the National Environmental Policy Act (NEPA).

b. The Consultant shall diligently perform its services to ensure scheduled delivery of the draft and/or final EIS and any other deliverables required under this Consulting Agreement. Adequate copies of such data shall be submitted, plus the number of copies desired by the Consultant for his use. Consultant agrees to keep Contractor fully informed regarding his delivery schedule and will immediately advise the Contractor in writing should delay be anticipated.

c. Approval of a deliverable shall not relieve the Consultant of any duty and responsibility to perform the WORK in the manner necessary to produce the results required by the Contract Documents.

6. ASSIGNMENT

a. This Consulting Agreement is not assignable and shall not be assigned by Consultant without the prior written consent of Contractor.

7. OWNER APPROVAL OF WORK

a. The WORK shall be performed, subject to the final approval of the Owner, using that degree of skill and care ordinarily exercised under similar conditions by reputable members of Consultant's profession. The Owner's decision as to the performance of the WORK in accordance with the plans and specifications shall be final unless the Consultant elects to dispute the Owner's determination pursuant to Paragraph 17 herein.

b. Should the Owner fail to approve any WORK furnished under this Agreement, the Consultant shall within 24 hours after receiving written notice from the Contractor of such determination, proceed promptly to make revisions to the WORK to the extent necessary to obtain Owner approval.

8. PROGRESS AND COMPLETION

a. The Contractor shall coordinate all WORK, and unless otherwise expressed or provided, the Consultant shall begin WORK covered by this Agreement as soon as the project is ready for such WORK, or promptly upon verbal or written notice by the Contractor, and shall carry on said WORK efficiently and at a speed that will not cause delay in the progress of the Contractor's Work or other branches of the Work carried on by other Subcontractors.

b. If, in the opinion of the Contractor, the Consultant falls behind in the progress of the WORK to be done under this Agreement the Contractor may, upon forty-eight (48) hours written notice, direct the Consultant to take such steps as the Contractor deems necessary to improve the rate of progress, including requiring the

Consultant to increase the labor force, number of shifts and/or overtime operations, and to submit for approval an outlined schedule demonstrating the method under which the required rate of progress will be regained, without additional cost to the Contractor.

9. CHANGES

a. In the event the Contractor requests the Consultant to review a proposed modification to the project which may affect the Consultant's WORK, the Consultant shall respond in writing seven (7) days after receipt of such request, stating the effect of the proposed modification upon his performance including details of cost and time thereof, otherwise the Consultant shall accept the determination of the Contractor as to the effect of the proposed modification or change.

   Additions to or changes in this Agreement shall be made only upon written order, approved in writing by the Contractor and Consultant. Should the parties hereto be unable to agree as to the value of such WORK to be added or omitted, the Consultant shall proceed under the written order of the Contractor from which order the stated value of the WORK shall be omitted.

b. In the event the Consultant is required by the Contractor to perform additional Work for which the amount of compensation is not previously agreed upon, the Consultant shall prepare and submit to the Contractor a proposal describing the estimated quantities and cost involved. The Consultant shall keep accurate, detailed and itemized records of the costs of any such change and shall report such costs to the Contractor in the form and manner prescribed by the Contractor. The Consultant shall, if requested, furnish each day to the Contractor certified copies of all timesheets, receiving and inspection reports and all other basic documents required by the Contractor to evidence the expenditures of the Consultant as a result of such change. The Consultant's application to the Contractor for the payment shall be accompanied by certified copies of all pertinent payrolls, invoices and vouchers relating to the additional WORK. The Contractor's receipt of acknowledgement of the Consultant's change order claims, shall not be construed as the Contractor's acknowledgement or acceptance of the accuracy and validity of any portion thereof until such time as final change order amounts are determined to be equitable adjustments and the signature of the Contractor is attached thereto. Should a change result from an act or omission of the Owner, the Consultant shall be bound by the resolution procedures specified in Paragraph 17, claims involving Owner.

10. DELAYS

a. Except to the extent the Owner is liable to the Contractor under the Prime Contract, the Contractor shall not be held liable to the Consultant should an earlier or later completion date be required, or acceleration of performance is required, due to the acts or omissions of the Owner, Owner's representatives, Contractor, fire or other casualty, riots and strikes or other combined action of the workmen or others, on account of any acts of God, or other causes beyond the Contractor's control, or on account of any circumstances to the extent caused or contributed to by the Consultant.

b. Should the Consultant be delayed in the prosecution of the WORK by the act, neglect or default in the Contractor, Owner or its representatives, or by any damage caused by fire, lighting, earthquake, cyclone, or any casualty for which the Consultant is not responsible, then the time fixed for the completion of the WORK pursuant to the terms of this Agreement shall be extended for a period equivalent to the time lost by reason of the cause aforesaid. However, no time extension shall become operative unless a notice of claim therefore is presented in writing to the Contractor within forty-eight (48) hours of the Consultant's knowledge of the delay and such claim approved in writing by the Contractor, which said approval will not be unreasonably withheld, delayed or conditioned.

c. The Consultant shall be liable to the Contractor for any and all loss or damage to the Contractor, or to the Owner for which Contractor may be liable, as a result of any delay on the part of the Consultant in the prosecution or completion of the WORK by the date agreed upon between the Owner and the Contractor, with due allowances being made for contingencies herein provided for.

11. NOTICE OF CURE OF CONSULTANT'S DEFAULT

a. If the Consultant refuses or fails to supply enough properly qualified persons to maintain the schedule, or fails to promptly pay its workers, subcontractors or suppliers, or disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a material breach of a provision of this Agreement, the Consultant shall be deemed in default of this Agreement. If the Consultant fails within three (3) business Days after written notification to commence and continue satisfactory correction of the default with

diligence and promptness, then the Contractor without prejudice to any other rights or remedies, shall have the right to any or all of the following remedies:

(i) Supply the necessary labor and materials to complete the Consultant's Work and charge the reasonable and necessary cost, including reasonable overhead, profit, attorneys' fees, costs and expenses to the Consultant; or

(ii) Contract with one or more additional Consultants to perform such part of the Work as the Contractor determines will provide the most expeditious completion of the Work, and charge the reasonable and necessary cost to the Consultant.; or

(iii) Withhold any payments due or to become due the.Consultant pending corrective action in amounts reasonably sufficient to cover losses and compel performance to the extent required by and to the reasonable satisfaction of the Contractor. In the event of an emergency affecting the safety of persons or property, the Contractor may proceed as above without notice, but the Contractor shall give the Consultant notice promptly after the fact as a precondition of cost recovery.

12. TERMINATION FOR DEFAULT BY CONTRACTOR

a. If the Consultant fails to commence and satisfactorily continue correction of a default within three (3) business Days after written notification issued under Paragraph 11 then the Contractor may, in lieu of or in addition to the remedies provided for in Paragraph 11 issue a second written notification, to the Consultant and its surety, if any. Such notice shall state that if the Consultant fails to commence and continue correction of a default within seven (7) Days of the written notification, the Agreement will be deemed terminated. A written notice of termination shall be issued by the Contractor to the Consultant at the time the Consultant is terminated. The Contractor may furnish those materials, equipment or employ such workers or subcontractors as the Contractor deems necessary to maintain the orderly progress of the Work. All reasonable and necessary costs incurred by the Contractor in performing the Work, including reasonable overhead, profit and attorneys' fees, costs and expenses, shall be deducted from any moneys due or to become due the Consultant. The Consultant shall be liable for the payment of any amount by which such expense may exceed the unpaid balance of the Consulting Agreement Amount. At the Consultant's request, the Contractor shall provide a detailed accounting of the costs to finish the Work.

b. If the Consulting Agreement is terminated for default, the Contractor or its other Consultants or subcontractors shall have the right to take and use any of the Work belonging to the Consultant for the purpose of completing any remaining Work.

13. TERMINATION FOR CONVENIENCE BY THE OWNER

a. Should the Owner terminate, in whole or in part, the Prime Contract for convenience, the Contractor shall notify the Consultant of this in writing. The Contractor's liability to the Consultant shall be limited to the extent of the Contractor's recovery on the Consultant's behalf under the Prime Contract.

b. Upon receipt of a notification of a termination for convenience, the Consultant shall immediately cease all Work and provide all information necessary to submit a termination for convenience claim against the Owner. To the extent provided for under the Prime Contract and to the extent the Contractor recovers such on the Consultant's behalf, the Consulting Agreement price and time shall be equitably adjusted by change order for the value of the Work performed prior to the termination for convenience. Both parties agree to cooperate with the each other in the prosecution of any Consultant claim arising out of an Owner's termination for convenience. The Contractor, in it sole discretion, may request that the Consultant prosecute a termination for convenience claim, at its own cost, in the name of the Contractor for the use and benefit of the Consultant.

14. TERMINATION FOR DEFAULT BY OWNER

The Contractor shall notify the Consultant in writing should the Owner terminate the Prime Contract for default. Upon receipt of this notification, the Consultant shall immediately stop the Work, follow Contractor's instructions and mitigate all costs. Both parties agree to cooperate with each other in the prosecution or

defense of any federal government claim associated with a default termination, including excess reprocurement costs. In the event of wrongful termination o f the Prime contract by the Owner, the Contractor's liability to the Consultant shall be limited to the extent of the Contractor's recovery on the Consultant's behalf under the Prime Contract. In the event Owner terminates Contractor for cause due to the default of the Consultant, Contractor shall be entitled to recover from Consultant its reasonable costs arising from the termination of the Prime Contract, including any liabilities to the Owner. In the event Owner terminates Contractor for cause due to the default of Contractor, Consultant shall be entitled to recover from Contractor its reasonable costs arising from the termination of this Consulting Agreement, including any liabilities to the Owner. If the Contractor appeals the Owner's default determination, the Consultant ability to recover said costs shall not ripen until the Contractor exhausts his rights under the Contract Disputes Act.

15. OWNER'S SUSPENSION OF WORK

Should the Owner suspend the Work or any part which includes the Work for the convenience of the Owner and such suspension is not due to any act or omission of the Contractor, or any other person or entity for whose acts or omissions the Contractor may be liable, the Contractor shall notify the Consultant in writing and upon receiving notification the Consultant shall immediately suspend the Work. To the extent provided for under the Prime Contract, and only to the extent the Contractor recovers such on the Consultant's behalf, the Contract price and/or time shall be equitably adjusted by Change Order for the cost and delay resulting from any such suspension.

16. CONTRACTOR'S SUSPENSION OF WORK

a. The Contractor may order the Consultant in writing to suspend all or any part of the Work for such period of time as may be determined to be appropriate for the convenience of the Contractor. Phased Work or interruptions of the Work for reasonable periods of time shall not be considered a suspension. The Consultant, after receipt of the Contractor's order, shall notify the Contractor in writing in sufficient time to permit the Contractor to provide timely notice to the Owner in accordance with the Prime Contract of the effect of such order upon the Work. The Consulting Agreement Amount or Consulting Agreement Time shall be adjusted by Consulting Agreement Change Order for any increase in the time and/or cost of performance of this Agreement caused by such suspension.

b. Neither the Consulting Agreement Amount nor the Progress Schedule shall be adjusted for any suspension, to the extent that performance was suspended, due in whole or in part to the fault or negligence of the Consultant or by a cause for which Consultant was responsible. The Consulting Agreement Amount shall not be adjusted for any suspension to the extent that performance was suspended by a cause for which the Consultant was entitled only to a time extension under this Agreement.

17. CLAIMS INVOLVING THE OWNER - FEDERAL GOVERNMENT CONTRACT DISPUTES

a. Consultant shall make all claims for extras, differing site conditions, defective specifications, delays and other grounds for which the Owner may be responsible in sufficient time for the Contractor to comply with the requirements of the Prime Contract for making such requests for equitable adjustment and/or claims to the Owner.

b. If a Consultant's claim relates to an act or omission of the Owner, the Consultant agrees to be bound to the Contractor to the same extent that the Contractor is bound to the Owner under the Prime Contract and by any and all decisions or determinations made by the Owner, Owner's representative, Contracting Officer, board, court, arbitration panel, or other tribunal to the extent that the Work of the Consultant is involved.

c. If a Consultant's dispute is prosecuted or defended by Contractor against Owner under the terms of the Prime Contract, Consultant agrees to furnish all documents, statements, witnesses and other information required by Contractor for such purpose and to pay or reimburse Contractor for all expenses and costs incurred in connection therewith.

d. The Contractor, in its sole discretion, may elect not to directly prosecute claims against the Owner involving the Consultant's Work; provided, however, that the Contractor shall authorize the Consultant, at its own expense, to appeal in the name of Polu Kai Services, LLC. Any decision upon such appeal, when final, shall be binding upon the Consultant. The Consultant shall keep Polu Kai Services, LLC informed of any appeal it makes by providing copies of all pertinent documents to Polu Kai Services, LLC. The Consultant shall indemnify and save harmless from any and all liability of any kind incurred by or imputed to Polu Kai Services, LLC for the submission of any fraudulent or frivolous claims against the Owner under the Contract Disputes Act of 1978, as amended.

e. It is expressly understood that as to any and all materials, equipment or services furnished or agreed to be furnished by Consultant, and as to any and all damages, if any, incurred by Consultant in connection with the project for which the Owner may be responsible, Contractor and its surety shall never be liable to Consultant to any greater extent than the Owner is liable to Contractor, less Contractor's normal overhead and profit.

f. Nothing in this clause nor any authorization or offer that may be made shall be deemed to constitute acceptance or acknowledgment by Polu Kai Services, LLC of the validity of the Consultant's claim or any part thereof, nor be deemed to limit or in any way restrict Polu Kai Services, LLC from taking any actions, including available remedies, it deems appropriate to protect its own interests.

g. The Consultant shall continue performance in a diligent manner pending any dispute resolution proceedings.

18. CLAIMS NOT INVOLVING THE OWNER

a. As to disputes not involving an act or omission of the Owner, the Consultant shall submit its claim to the Contractor for a determination. The Contractor shall provide a written decision to the Consultant. The decision of the Contractor shall be final and Conclusive unless within twenty (20) days from the date of receipt of such copy, the Consultant makes written demand to the Contractor for relief as required by Sub-paragraph "b" below. The Consultant shall diligently perform the Work, including any disputed Work, pending resolution of a dispute or legal proceedings.

b. If the Consultant makes a timely demand for relief as provided in subparagraph "a" above, the Parties shall submit the matter to litigation before a court of competent jurisdiction in Virginia.

c. The Prevailing Party in any arbitration or litigation shall be entitled to attorney fees and costs associated therewith, as determined by the adjudicator of the dispute.

19. COMPLIANCE WITH LAWS

a. The Consultant agrees to be bound by, and at its own costs comply with, all federal, state and local laws, ordinances and regulations (the Laws) applicable to the Work, including but not limited to, equal employment opportunity, minority business enterprise, women's business enterprise, disadvantaged business enterprise, safety and all other Laws with which the Consultant must comply. The Consultant shall be liable to the Contractor and the Owner for all loss, cost and expense attributable to any acts of commission or omission by the Consultant, its employees and agents resulting from the failure to comply with Laws, including, but not limited to, any fines, attorney's fees, penalties or corrective measures.

20. INSURANCE

a. Without prejudice to Consultant's liability to indemnify Contractor as stated in the INDEMNIFICATION provision of this Agreement, Consultant shall procure, at its expense, and maintain for the duration of the Agreement, the following insurance policies, with a financially responsible insurance companies, reasonably acceptable to Contractor, with policy limits indicated below. Notwithstanding any provision contained herein, the Consultant, and its employees, agents, representatives, consultants and lower-tier subcontractors and suppliers, are not insured by Contractor, and are not covered under any policy of insurance that Contractor has obtained or has in place.

- General liability insurance covering claims for injuries to members of the public or damage to property of others arising out of any negligent act or omission of Consultant or any of its employees, agents, or

subcontractors in the following amounts: personal injury: $1,000,000 per occurrence, $2,000,000 aggregate; and property damage $1,000,000 per occurrence, $2,000,000 aggregate.

- Professional liability insurance with a $1,000,000 per occurrence and $2,000,000 aggregate. If the insurance is a "claims made" policy, it shall be maintained in effect for two (2) years after completion of all Work under the Consultant Agreement.

- Workers' compensation insurance in the statutory amount or $500,000 whichever is greater. Consultant agrees to maintain this insurance throughout the life of the Consulting Agreement.

- Automobile liability insurance in the following amounts: bodily injury: $1,000,000 per occurrence, $1,000,000 each person; and $1,000,000 each occurrence.

- Umbrella liability insurance with a $4,000,000 each occurrence and $4,000,000 aggregate.

- The Contractor will be named as an additional insured with respect to the Consultant's insurance coverage's identified herein (except for Professional Liability and Workmen's Compensation) , and Consultant waives subrogation against the OWNER and Contractor as to said policies.

21. INDEMNIFICATION

a. The Consultant shall indemnify, defend, and hold harmless Contractor, its employees, agents, consultants, subcontractors, officers, and directors from and against any and all lawsuits, actions, legal or administrative proceedings, claims, demands, damages, costs, expenses and liabilities of whatsoever nature, whether direct, indirect, or consequential, contingent or actual, which arise out of or are in any way related to an act or omission in the performance of the Work provided to the Contractor under this Consulting Agreement for which Consultant is legally liable. Such damages include but are not limited to injury to or death of persons, loss of or damage to property (including loss of use thereof), and economic loss, including lost profit or opportunity, pollution, and environmental impairment, and natural resource damages.

22. PROGRESS PAYMENTS

a. Consultant may submit invoices to Contractor for progress payments, not more than once each month and to be received by Contractor by the 14th calendar day of each month. Such invoices will represent the value of the completed services and will be prepared in a form and supported by documentation reasonably required by Contractor and the Owner. Invoices will be reviewed and approved by Contractor before submittal to the Owner.

b. With each progress payment, the Consultant shall certify that all of its sub-consultants, suppliers and/or subcontractors have been paid in connection with the services invoiced.

c. Contractor shall make payment to Consultant within seven (7) days after Contractor's receipt of payment from the Owner for work satisfactorily performed by Consultant and approved for payment by Contractor; or Contractor shall notify Consultant in writing of its intention to withhold all or any part of the amount of payment along with the reason for any nonpayment.

23. FINAL PAYMENT

a. Application. Upon acceptance of the Work by the Owner and the Contractor and receipt from the Consultant of evidence of fulfillment of the Consultant's obligations, the Contractor shall incorporate the Consultant's application for final payment into the Contractor's next application for payment to the Owner without delay, or notify the Consultant if there is a delay and the reasons therefore.

b. Requirements. Before the Contractor shall be required to incorporate the Consultant's application for final payment into the Contractor's next application for payment, the Consultant shall submit to the Contractor all documentation reasonably necessary to obtain Owner approval of final contract closeout.

c. Time of Final Payment. Final payment of the balance due of the Consulting Agreement Amount shall be made to the Sub-contractor within seven (7) days after receipt by the Contractor of final payment from the Owner for such Work.

d. Waiver of Claims. Final payment shall constitute a waiver of all claims by the Consultant relating to the Work, but shall in no way relieve the Consultant of liability for faulty or defective Work or services discovered after final payment, nor relieve the Contractor for claims identified by the parties as unsettled at the time of such payment. .

e. Payment non Acceptance. Payment to the Consultant does not constitute or imply acceptance of any portion of the Work.

f. Overpayments. If the Consultant becomes aware of a duplicate subcontract payment or that the Contractor has otherwise overpaid on a subcontract payment, the Consultant shall immediately notify the Contractor and request instructions for disposition of the overpayment.

24. SUBCONTRACTING

a. Consultant shall obtain written consent from the Contractor prior to subcontracting out any portion of the Work.

25. APPLICABLE LAWS.

a. Regardless of the place of performance, this Consulting Agreement shall be governed by the federal law of government contracts. This includes the Federal Acquisition Regulations (FAR) or any other regulation that implements or supplements the FAR. This Subcontract shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia without regard or application of its conflict of laws provisions. The Consultant also agrees to comply with any applicable federal, state, and local laws, rules, regulations and ordinances.

26. SEVERABILITY

a. The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision.

27. NO WAIVER OF PERFORMANCE

a. The failure of either Party to insist, in any one or more instances, upon the performance of any of the terms, covenants or conditions of this Agreement, or to exercise any of its rights, shall not be construed as a waiver or relinquishment of any term, covenant, condition or right with respect to further performance.

28. TITLES

a. The titles given to the Articles and Paragraphs of this Agreement are for ease of reference only and shall not be relied upon or cited for any other purpose.

29. PROHIBITION AGAINST CONTINGENCY FEES OR GRATUITIES

a. The Contractor and the Consultant shall perform their obligations with integrity, ensuring at a minimum that (a) conflicts of interest shall be avoided or disclosed promptly to the other Party and (b) Contractor and the Consultant warrant that they have not and shall not pay nor receive any contingent fees or gratuities to or from the other Party, including their agents, officers and employees, Subcontractors or others for whom they may be liable, to secure preferential treatment.

30. IMMIGRATION

a. Consultant by signing below represents and warrants that it is, and will remain, in compliance with any and all provisions of the Immigration Reform and Control Act of 1986 (IRCA), as amended, the Immigration and Nationality Act, as amended, the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, and all other applicable immigration laws, rules, and regulations (Immigration Laws) including all form I-9 verification, E-Verify, and record keeping requirements. Consultant shall indemnify and hold Contractor and its Surety harmless from any claims or liabilities, including any damages resulting from Work stoppages or delays occasioned by or arising from any subcontractor noncompliance with IRCA or any such immigration laws, ordinances, rules, regulations, orders or decisions, as relates to the Work of this Consulting

Agreement. The Consultant agrees to submit a certification, acceptable to contractor that its employees have presented the correct documents to legally work in the United States. Consultant also agrees to insert the substance of this clause, including this paragraph, in all Subcontracts or Purchase Orders hereunder.

31. BUSINESS ETHICS & COMPLIANCE

a. The Consultant, by signing this Agreement, hereby certifies that it has reviewed the requirements of FAR 52.203-13 and 52.203-14, that it (1) already has or will adopt a written code of business ethics and conduct within 30 days of the award of this Consulting Agreement, (2) will otherwise comply with the applicable requirements of the above referenced FAR provisions, which are incorporated by reference in this Consulting Agreement, and (3) will include the substance of those FAR provisions in lower tier subcontracts or purchase orders in excess of $5,000,000 and which anticipate a performance period in excess of 120 days. Upon Contractor's request for verification, the Consultant shall furnish to it a copy of its written code business ethics and conduct and satisfactory evidence of an on-going business ethics awareness and compliance program as required by FAR 52.203-13. This clause is not applicable if the subcontract or purchase order is for $5,000,000 or less unless a different dollar limit is required by the terms of the Prime Contract.

32. FEDERAL ACQUISITION REGULATIONS

a. Consultant agrees to be bound to the Federal Acquisition Regulations applicable to the Prime Contract as if fully stated herein.

33. CONTRACT DISPUTES ACT AND TRUTH IN NEGOTIATIONS ACT CERTIFICATIONS

a. With respect to any Consultant claims submitted by Contractor to Owner, Consultant agrees to provide at the time of the submission of the claim to Contractor or at the time of agreement to the Change Order a certification signed by a senior company official in charge of the Work involved, that the claim is made in good faith, that the supporting data are accurate and complete and that the amount requested accurately reflects the contract adjustment for which Consultant believes the Owner is liable. Consultant agrees Contractor may rely exclusively on this certification in providing any certification Contractor may be required to submit to the Owner insofar as the claim includes a claim for or on behalf of Consultant. Consultant further agrees to recertify its claim in the above form at any time requested by Contractor.

34. CERTIFICATION AND DISCLOSURE REGARDING PAYMENT TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS

a. The Consultant, by signing this Agreement, hereby certifies that to the best of his or her knowledge it complies with the requirements set forth in FAR 52.203-11 - Certification and Disclosure Regarding Payment to Influence Certain Federal Transactions (Sept 2007), that to the best of its knowledge and belief no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on its behalf in connection with the awarding of this contract, and that the Consultant will include the language of this certification in all subcontracts, purchase orders, purchase agreements, etc., awards in excess of $100,000 and require that all recipients of such a subcontract, purchase order, purchase agreement, etc., to certify and disclose accordingly and to obtain the equivalent certification from lower tier subcontractors or suppliers with contracts or purchase orders in excess of $100,000.

35. ENVIRONMENTAL COMPLIANCE

a. CLEAN AIR AND WATER The Consultant, by signing this Agreement, hereby certifies that (a) Any facility to be used in the performance of this proposed contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities; (b) The Consultant will immediately notify the Contractor, before award, of the receipt of any communication from the Administrator, or a designee, of the EPA, indicating that any facility that the Consultant proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and (c) The Consultant will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt Consulting Agreement.

b. Consultant agrees to comply with all environmental laws, ordinances, rules, regulations, orders and decisions issued by any federal, state or local body or agency relating to Consultant providing product(s) and/or service(s) pursuant to this Consulting Agreement. Consultant also agrees to comply with all Owner's rules, regulations, orders, decisions, security requirements, etc. Consultant shall indemnify and hold Contractor harmless from any claims or liabilities arising from any of its noncompliance with any such laws, ordinances, rules, regulations, orders or decisions, as relates to the Work of this Consulting Agreement.

36. JOINT DRAFTING

a. The Parties expressly agree that this Agreement was jointly drafted, and that they both had opportunity to negotiate its terms and to obtain the assistance of counsel in reviewing its terms prior to execution. Therefore, this Agreement shall be construed neither against nor in favor of either Party, but shall be construed in a neutral manner.

37. INDEPENDENT CONTRACTOR

a. Consultant is an independent contractor and will maintain complete control of and responsibility for its employees, agents, methods, and operations. Nothing contained in this Consulting Agreement will create any contractual relationship between the Consultant and the Owner.

38. ENTIRE AGREEMENT

a. This Agreement and all Attachments described herein contain all the terms and conditions agreed on by the Parties hereto, and no other term or agreement, oral or otherwise, respecting the subject matter of this Agreement shall be deemed to exist or to bind any of the Parties hereto.

The Contractor and the Consultant for themselves, their successors, executors, administrators and assigns, hereby agree to the full performance of the covenants of this Agreement. This agreement becomes binding only after both parties have signed the agreement. The Contractor reserves the right to retract this agreement before it becomes binding.

IN WITNESS WHEREOF, they have executed this Agreement the day and year first written above

WITNESS:

Darlene Combs

BY: CONTRACTOR
POLU KAI SERVICES, LLC

WITNESS:

DAVID E. BELL

BY: CONSULTANT
Plexus Scientific

Raymond J. Fatz
President and CEO

ATTACHMENT A
SCOPE OF WORK

	Task Assignments MTM-VF EIS							
Discipline	Task			ECSI	MACTEC	MORGAN	Plexus	PKS
Management, Administrative, Document Production, General (Multi-Disciplinary)	Project Management	PKS, PLEXUS					x	x
	Kick-Off Meeting	all		x	x	x	x	x
	Progress Meetings	all		x	x	x	x	x
	Interagency Coordination	all		x	x		x	x
	QA Reviews	all		x	x	x	x	x
	Reconciliation of Comments	all		x	x	x	x	x
	Preparation of PMP	PKS, PLEXUS						x
	DEIS & FEIS Production	PKS, PLEXUS					x	x
	GIS	ECSI, MACTEC		x	x			
Biological Ecological	Terrestrial & Aquatic Ecology	MACTEC	ECSI - QA	x	x			x
	Endangered Species (inc. Sec 7 consultation)	MACTEC	ECSI - QA	x	x			x
	Wetland Management	ECSI	MACTEC - QA	x	x			x
Social, Cultural, Regulatory	Paleontology, Archaeology & Cultural (inc. Sec.106 consult.)	MACTEC	ECSI - QA	x	x			
	Occupational & Public Health & Safety	MACTEC	MORGAN - QA		x	x		
	Modeling, Statistical Analysis & Risk	ECSI		x				
	Utility & Infrastructure	MACTEC			x			
	Socioeconomics & Env. Justice	MACTEC	MORGAN - QA		x	x		
	Visual Resources	ECSI		x				
	Recreational Landscape Architecture	ECSI		x				
	Adaptive Management	ECSI		x				
	RIA	MACTEC	MORGAN - QA		x	x		
	Public Involvement (Scoping, Hearings, Comments)	PLEXUS	PKS - QA	x			$810,000	
	Land Use Management:	ECSI	MACTEC - QA	x	x			
	Water Resource Planning	ECSI	MACTEC - QA	x	x			
Physical, Chemical	Surface and Groundwater Hydrology	ECSI	MORGAN - QA	x		x		
	Geomorphology & Fluvial Processes	ECSI	MORGAN - QA	x		x		
	Topography	MORGAN	ECSI - QA	x		x		
	Soil Science	ECSI		x				
	Mining	ECSI	MORGAN - QA	x		x		
	Mineral Resources	MORGAN	ECSI - QA			x		
	Geology & Seismicity	ECSI		x		x		
	Radioactive & Chemical Contaminant Transport	ECSI	MACTEC - QA	x	x			
	Air Quality, Meterology & Noise	MACTEC	ECSI - QA	x	x			

$810,000

	Task Assignments MTM-VF EIS							
Discipline	Task			ECSI	MACTEC	MORGAN	Plexus	PKS
Management, Administrative, Document Production, General (Multi-Disciplinary)	Project Management	PKS, PLEXUS					x	x
	Kick-Off Meeting	all		x	x	x	x	x
	Progress Meetings	all		x	x	x	x	x
	Interagency Coordination	all		x	x		x	x
	QA Reviews	all		x	x	x	x	x
	Reconciliation of Comments	all		x	x	x	x	x
	Preparation of PMP	PKS, PLEXUS						x
	DEIS & FEIS Production	PKS, PLEXUS					x	x
	GIS	ECSI, MACTEC		x	x			
Biological Ecological	Terrestrial & Aquatic Ecology	MACTEC	ECSI - QA	x	x			x
	Endangered Species (Inc. Sec 7 consultation)	MACTEC	ECSI - QA	x	x			x
	Wetland Management	ECSI	MACTEC - QA	x	x			x
Social, Cultural, Regulatory	Paleontology, Archaeology & Cultural (Inc. Sec.106 consult.)	MACTEC	ECSI - QA	x	x			
	Occupational & Public Health & Safety	MACTEC	MORGAN - QA		x	x		
	Modeling, Statistical Analysis & Risk	ECSI		x				
	Utility & Infrastructure	MACTEC			x			
	Socioeconomics & Env. Justice	MACTEC	MORGAN - QA		x	x		
	Visual Resources	ECSI		x				
	Recreational Landscape Architecture	ECSI		x				
	Adaptive Management	ECSI		x				
	RIA	MACTEC	MORGAN - QA		x	x		
	Public Involvement (Scoping, Hearings, Comments)	PLEXUS	PKS - QA	x			$810,000	
	Land Use Management:	ECSI	MACTEC - QA	x	x			
	Water Resource Planning	ECSI	MACTEC - QA	x	x			
Physical, Chemical	Surface and Groundwater Hydrology	ECSI	MORGAN - QA	x		x		
	Geomorphology & Fluvial Processes	ECSI	MORGAN - QA	x		x		
	Topography	MORGAN	ECSI - QA	x		x		
	Soil Science	ECSI		x				
	Mining	ECSI	MORGAN - QA	x		x		
	Mineral Resources	MORGAN	ECSI - QA			x		
	Geology & Seismicity	ECSI		x		x		
	Radioactive & Chemical Contaminant Transport	ECSI	MACTEC - QA	x	x			
	Air Quality, Meterology & Noise	MACTEC	ECSI - QA	x	x			

$810,000

	Task Assignments MTM-VF EIS							
Discipline	Task			ECSI	MACTEC	MORGAN	Plexus	PKS
Management, Administrative, Document Production, General (Multi-Disciplinary)	Project Management	PKS, PLEXUS					x	x
	Kick-Off Meeting	all		x	x	x	x	x
	Progress Meetings	all		x	x	x	x	x
	Interagency Coordination	all		x	x		x	x
	QA Reviews	all		x	x	x	x	x
	Reconciliation of Comments	all		x	x	x	x	x
	Preparation of PMP	PKS, PLEXUS						x
	DEIS & FEIS Production	PKS, PLEXUS					x	x
	GIS	ECSI, MACTEC		x	x			
Biological Ecological	Terrestrial & Aquatic Ecology	MACTEC	ECSI - QA	x	$200,000			x
	Endangered Species (Inc. Sec 7 consultation)	MACTEC	ECSI - QA	x	$40,000			x
	Wetland Management	ECSI	MACTEC - QA	x	$5,000			x
Social, Cultural, Regulatory	Paleontology, Archaeology & Cultural (Inc. Sec.106 consult.)	MACTEC	ECSI - QA	x	$68,700			
	Occupational & Public Health & Safety	MACTEC	MORGAN - QA		$71,300	x		
	Modeling, Statistical Analysis & Risk	ECSI		x				
	Utility & Infrastructure	MACTEC			$62,600			
	Socioeconomics & Env. Justice	MACTEC	MORGAN - QA		$219,900	x		
	Visual Resources	ECSI		x				
	Recreational Landscape Architecture	ECSI		x				
	Adaptive Management	ECSI		x				
	RIA	MACTEC	MORGAN - QA		$219,000	x		
	Public Involvement (Scoping, Hearings, Comments)	PLEXUS	PKS - QA	x			x	
	Land Use Management:	ECSI	MACTEC - QA	x	$5,000			
	Water Resource Planning	ECSI	MACTEC - QA	x	$20,000			
Physical, Chemical	Surface and Groundwater Hydrology	ECSI	MORGAN - QA	x		x		
	Geomorphology & Fluvial Processes	ECSI	MORGAN - QA	x		x		
	Topography	MORGAN	ECSI - QA	x		x		
	Soil Science	ECSI		x				
	Mining	ECSI	MORGAN - QA	x		x		
	Mineral Resources	MORGAN				x		
	Geology & Seismicity	ECSI	MORGAN - QA	x		x		
	Radioactive & Chemical Contaminant Transport	ECSI	MACTEC - QA	x	$5,000			
	Air Quality, Meterology & Noise	MACTEC	ECSI - QA	x	$58,000			
				x	$974,500	x	x	x

ATTACHMENT B
CONTRACT DOCUMENTS

Office of Surface Mining, Reclamation & Enforcement (OSM)

Statement of Work
For the
Preparation of an
Environmental Impact Statement

STATEMENT OF WORK

1.0 INTRODUCTION

The OSM will require Contractor support services for the preparation of a draft and final environmental impact statements (EIS) prepared under the National Environmental Policy Act (NEPA). Contractor support services will be required also for: preparing floodplain and wetlands assessments, complying with related Executive Orders, statutes such as the National Historic Preservation Act and the Endangered Species Act and their implementing regulations, policies, guidance and procedures; incorporating NEPA values (such as analysis of cumulative, offsite, ecological, and socioeconomic impacts); preparing supplemental analyses, compiling environmental information to support the NEPA process, and evaluating environmental information used in EISs. This Scope of Work (SOW) describes in a general manner the range of services that are anticipated over the duration of this contract.

This SOW provides for the analysis of the potential environmental impacts resulting from the proposed rulemaking action as well as its alternatives, to include the no action alternative. The federal action, together with the alternatives related to it, is hereafter referred to in this SOW as the proposed action and its alternatives.

2.0 BACKGROUND

2.1 NEPA is our basic national charter for the protection of the environment. It establishes policy, sets goals, and specifies the process for carrying out the policy. In part, NEPA states that all federal agencies shall "utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision-making which may have an impact on man's environment. " NEPA, at Section 102(2)(C), requires federal agencies to include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment, a detailed statement known as an EIS on: "(i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-turn productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented."

2.2 The Council on Environmental Quality's (CEQ's) NEPA implementing regulations, at 40 CFR §1500-1508, are binding on all federal agencies, and establish the minimum general requirements that assure NEPA compliance. These CEQ regulations establish a multistage process that describes how the agency is to analyze and describe to the public and the decision maker any significant environmental impacts that could result from carrying out a proposed action.

STATEMENT OF WORK – CONTINUED

2.3 The CEQ regulations at 40 CFR § 1502.10 establish requirements for an EIS. The recommended format is described at 40 CFR 1502.10: (a) cover sheet, (b) summary, (c) table of contents, (d) purpose of and need for action, (e) alternatives, including the proposed action (sections 102(2)(C)(iii) and 102(2)(E) of NEPA), (f) affected environment, (g) environmental consequences (especially sections102(2)(C) (i), (ii) (iv), and (v) of NEPA), (h) list of preparers, (i) list of agencies, organizations, and persons to whom copies of the EIS are sent, (j) index, (k) appendices (if any).

2.4 The Department of the Interior regulations contains its procedures for implementing NEPA and is located at 43 CFR Part 46. These regulations also contain the Departmental policies and procedures for compliance with NEPA, Executive Order (E.O.) 11514, E.O. 13352, and the Council of Environmental Quality's (CEQ's) regulations (40 CFR Parts 1500-1508). Department officials will use these regulatory requirements in conjunction with and supplementary to these authorities.

2.5 OSM has provided as attachment #1 draft language to be inserted in the portions of the EIS that describe the "purpose and need for agency action". The list of "alternatives including the preferred alternative" is provided as attachment #2. All other portions of the EIS, which are prepared by a Contractor, are subject to review and approval of data and analyses by OSM and cooperating agencies.

2.6 Proposed actions, alternatives, and issues to be addressed in the OSM's NEPA documents may be highly complex, and the subject areas may be technologically and scientifically precedent-setting. The proposed actions and range of alternatives to the proposed actions that may need to be analyzed are often unpredictable and may change during document preparation of the Draft EIS (DEIS) and the Final EIS (FEIS) as a result of factors such as agency evaluation and negotiation, public comment, or external developments. The Contractor will be expected to make corresponding changes in research, data collection, analysis and related documentation and services.

2.7 The EIS preparation requires an integrated interdisciplinary approach. The preparers' disciplines must be appropriate to the identified scope and issues. The NEPA document preparation team shall include but is not limited to: various fields of engineering, surface and groundwater hydrology and water quality, geomorphology and fluvial processes, geology and seismicity, air quality and meteorology, radioactive and chemical contaminant transport, traffic and transportation safety, terrestrial and aquatic ecology, land use management, endangered species biology, soil science, wetland management, water resource planning, paleontology, archaeology and cultural resources, utility and infrastructure design, occupational and public

health and safety, noise, socioeconomics, visual resources, recreation, landscape architecture, environmental justice, adaptive management, modeling, statistical analysis, and risk assessment.

STATEMENT OF WORK – CONTINUED

2.8 These NEPA documents will address highly controversial issues and will be subject to rigorous review by experts in scientific and legal fields, federal and state agencies, tribes, interest groups, the general public, and the courts.

A. SCOPE

3.1 This SOW is for the preparation of a draft and final EIS to include the completion of the necessary environmental impact analyses and their appropriate documentation and review under the requirements of the National Environmental Policy Act (NEPA). The EISs and the processes for their preparation must be consistent with and meet all requirements of NEPA and implementing CEQ regulations (hereafter referred to as the CEQ regulations) and guidance. These requirements are referred to collectively hereafter as the federal NEPA requirements, or simply NEPA. Contractor data collection, analysis, and documentation will identify and evaluate all relevant impacts, conditions, and issues associated with the proposed action, and the alternatives in accordance with NEPA.

3.2 The EIS shall:

A. Include a cover sheet, table of contents, summary, introduction, including a description of the proposed federal action (the rulemaking), the purpose of the proposed action, and the need for the action, and a description of the organization of the document, a discussion of background information including issues raised in the comments on the ANPR, and a description of the scope of the EIS analysis;
B. Describe the alternatives of the proposed action;
C. Describe existing conditions and environmental impacts resulting from the proposed action and related to the physical environment, including topography, geology, soils, mineral resources, hydrology, ecology, meteorological conditions, air and noise quality, environmental justice, economics, cultural environment (including but not limited to: population, employment, housing, land use, zoning, transportation, utilities and community);
D. Describe unavoidable adverse impacts, and any mitigation;
E. Describe the relationship between the local short-term uses of the human environment and the maintenance and enhancement of the long-term productivity;
F. Describe the potential alternative courses of action (including no action) and their impacts;
G. Analyze the unavoidable commitment of resources required to complete the proposed action;

H. Contain a Regulatory Impact Analysis with cost-benefit data that fulfills the requirements of sections 6(a)(3) (B) and (C) of Executive Order 12866, 40 CFR 1502.23, OMB Circular A-4 and the Regulatory Flexibility Act (5 U.S.C.601).

I. Discuss the public awareness of the proposal; list the agencies, groups, and individuals consulted during the environmental review process and public comments;

J. Provide documentary support for all of the above;

1) Set the analysis of alternatives against the base alternative of "no action".

2) Documents prepared shall include, but not be limited to:

a. Collection and analysis of all available pertinent data;

b. Identification of short and long-term impacts;

c. Definition and discussion of potential primary impacts;

d. Categorization of potential impacts by geographic area (i.e., on-site, immediate vicinity, watershed, regional, national, etc);

e. Comparative analysis of the alternative courses of action.

The final product of the Contract will be a detailed analysis of all potential impacts that reasonably can be expected to occur as a result of the proposed action. Measures to neutralize or eliminate adverse impacts of the proposed action shall be discussed in detail. Potential adverse impacts which cannot be reasonably avoided shall be discussed in detail, along with measures to mitigate these impacts.

3) Use of existing information

Existing information shall be fully utilized in order to avoid duplication of previous research that may be pertinent to the proposed action. On the date of the award of the contract, the OSM will furnish the Contractor with all known pertinent data and documents; however, such data is limited. The Contractor shall be solely responsible for accessing and utilizing all non-OSM sources which are relevant to the proposed federal action.

4) Collection of Empirical Data
The use of various analytical models by the Contractor in assessing the environmental impacts arising from the proposed action will necessitate the establishment of a data baseline.

Existing data available from Federal, state, and local government agencies and tribes shall be used whenever possible, assuming that the data is widely considered as accurate and extant (i.e. Standard Methods). It shall be the sole responsibility of the Contractor to obtain all information necessary for the full, accurate, and timely completion of the contract. The Contractor shall also be responsible for thoroughly reviewing and assessing the validity of previously generated data and shall provide a complete detailed description of the methodology used in this regard. The Contractor shall institute a professionally acceptable program of empirical research and data collection in those areas where data does not exist, is insufficient for thorough analysis, or is deemed as obsolete.

It is important that the data assembled from all sources is as comprehensive as possible, based on professionally accepted standards. The data should include, but not be limited to:

a. Pertinent demographic and socioeconomic data;
b. Employment and commercial activity data;
c. Data on the physical environment (including but not limited to: ecology, geology, hydrology, seismology);
d. Data relating to local land use regulations and local land use plans;
e. Data relating to historic preservation and the potential impacts of the proposed rulemaking;
f. Data relating to potential archaeological impacts;
g. Water management plans and flood plain studies;
h. Data relating to National Ambient Air Quality Standards (NAAQS) and the impact of the proposed rulemaking.

i. A summary of NPDES, 404, and 402 stream related permits associated with coal mining for the last five (5) years (source EPA and COE). A narrative describing the Corps of Engineers' (COEs) 2008 compensatory mitigation rule influence on stream restoration projects completed under SMCRA permits.
j. A Comparison and contrast of SMCRA material damage definition and existing degradation policies associated with the Clean Water Act (CWA) (303d).
k. Provide narrative describing variations in the 404 and 402 permitting process across EPA regions and Corps Districts to acknowledge regional differences in how coal mining activities are regulated under the CWA. Recent EPA letters have addressed the in parts of the Appalachian Region. OSM will provide data for the Contractor to review and provide analyses summary.
l. Provide a narrative of the programmatic overview of current state program requirements to include but not limited to: buffer zone variances, monitoring, and reclamation techniques and standards.
m. Provide an overview of how recent implementation of SMCRA relates to the conditions of the 1996 Biological Opinion (as covered in previous in the attached EISs). OSM will provide to the Contractor species specific protection and enhancement plans and any other applicable materials attained from FWS.
n. An assessment of the location of each coal mining region with regards to climate and geology (The attached 2008 EIS provides background information).
o. A comparison and contrast of federal agency (COE, EPA, USGS, OSM) definitions of intermittent and ephemeral streams.

p. An assessment of the extent of threatened and endangered (T&E) species in coal fields potentially impacted by mining related stream

impacts (Source state heritage program databases).

q. The contractor shall perform all NEPA consultation associated with this project. This is to include but is not limited to Section 7 consultation.

r. The Contractor shall identify cumulative effects, to include but not limited to:

   i. Review the three (3) most recent reports of the biennial state water quality (305b) reports to identify trends of non-coal mining related impairments within the coal field basins.

   ii. Provide a narrative of the water quality monitoring requirements, at the program level, from the completion of mining to phase III bond release. OSM will provide the data to the Contractor for comparison and analyses.

   iii. An assessment of future mining activity using the coal industry's projection.

   iv. A summary of 303d related watershed scale analyses conducted within the last 10 years that are related to coal mine impacts. Provide a comprehensive list of all303d listed streams within the coal fields along with the causes of impairment for each stream. Identify any observed patterns within the list.

   v. GIS products should be used to support topics in a spatially distributed pattern. Examples include but are not limited to: 303s listed streams, density of

coal related valley fills per 10 digit coalfield watershed, location of each coal mining region with regards to climate and geology, T7E per 10 digit coalfield

watershed recently observed ranges in total dissolved solids (TDS), sulfate, pH, and selenium per watershed.

vi. Determine specific state program requirements for mining in a stream buffer zone (variances to fill, mine through, or any activity within one hundred (100) foot buffer zone), this shall include but not limited to: the process for granting variances (i.e. conditions for granting), state restoration standards for mining through a stream, including monitoring provisions, assessment standards for restored streams – standards for bond release, process by which the Regulatory Agency determines the recovery of restored streams (i.e. habitat, chemistry, flow, macroinvertebrates, fish, mussels, etc.).

vii. A narrative summarizing peer reviewed publications resulting from long term studies on water quality impacts from surface and underground mines. A compilation of some of the studies is provided in attachment #2.

s. Narrative describing trends in permitted activities involving Approximate Original Contour (AOC) variances by operation type and with topographic, geologic, and hydrologic considerations.

STATEMENT OF WORK – CONTINUED

t. A narrative of fill minimization/optimization procedures associated with excess fill operations, including specific review of water quality, excess spoil fill operations, including specific review of water quality, excess spoil fills, under drains, sloped, stability, stream mitigation, and surface drainage control.

u. A watershed scale review of geomorphic reclamation: land forming, stream

reconstruction, and stream restoration techniques designed to approximate the natural system.

v. Topics to be included for Material Damage to Hydrologic Balance – Cumulative Hydrologic Impact Assessment (CHIA) topics include but are not limited to:

   i. A narrative summary of existing water quality and quantity (surface and ground water) downstream of coal mine sites at a CWA 305(b) scale with emphasis on regional analysis. Including but not limited to: active and reclaimed mines (water quality, flow, loadings), land use categories (identified as a percentage) within a CWA 305(b) scale, percent of disturbed relative to bond release status, percent of valley fills, percent of remined areas, and identification of mining impacts (surface and underground) to existing groundwater conditions. Source material shall include most recent coal field watershed and hydrology reports (USGS).

   ii. A compilation of the scores of biological indices as related to water quality and stream classifications from characterizations or ratings produced through aquatic life monitoring or bioassessment protocols.

   iii. A narrative describing the state and federal standards applied to stream restoration and mitigation projects for mine activities associated with mine-throughs, fills, and undermining.

   iv. Provide a narrative of the regulatory program criteria/standard used for determining material damage. This includes the quantitative and/or qualitative methods used. Identify state methodology/standard/process for conducting CHIAs, including the steps taken to develop the CHIA and

any post mining CHIA evaluations. Determine how data are collected, stored, and managed in the CHIA evaluation. Identify the extent that data are stored electronically, regularly maintained in databases, and used in hydrologic evaluations. Assess the compatibility of electronic databases relative to the national mapping initiative. OSM will provide the data for the Contractor's evaluation and analyses.

w. Compile a list professionally recognized bioassessment protocols currently in use by state or federal agencies to assess the biological condition of streams. For each protocol identified, provide a narrative describing the taxa utilized and the agencies using each specific protocol.

For purposes of evaluating reasonably foreseeable significant adverse effects pursuant to 40 CFR 1502.22, if there is incomplete or unavailable information, the Contractor shall make clear that the information is lacking and shall provide a statement of the relevance of the incomplete or unavailable information, a summary of existing credible scientific information relevant to

evaluating those effects, and the Contractor's evaluation of these impacts, consistent with section 1502.22.

The recommended outline shall be in accordance with CEQ regulations.

B. TECHNICAL REQUIREMENTS

4.1 Technical direction for preparation of the EIS will be provided by the Contracting Office Representative (COR) who will be designated by the Contracting Officer.

A. The Contractor shall use Microsoft Word '07, for the preparation of all deliverable documents. All documentation must use Times New Roman 12 font. Software used for analyses and modeling may be proprietary but calculations obtained from applying such software must be provided to COR.

B. All deliverables must be submitted in digital format that is searchable.

C. The Contractor shall prepare a project management plan based on the scope of work description. The project management plan shall identify how each task element is addressed in the document.

D. Contractor shall implement a formal change control process and prepare a cost report that identifies the cost of a draft EIS and the basis of the cost estimates. Each revision of the cost report will be submitted to OSM for review so that the incremental costs of changes and corrections may be tracked. The basis of the cost estimates should include such categories as approach, cost assumptions, cost elements, direct labor, fringe benefits, direct costs, overhead, travel, general and administration, purchased equipment, purchased material, subcontracts, cost of facilities capital, inflation factors, etc.

E. The Contractor shall coordinate with OSM on acceptable levels of data analysis and on assumptions, analytical methods and models.

F. The Contractor shall identify and analyze the onsite and offsite environmental impacts of the proposed action and each of the alternatives evaluated in detail in the EIS. This may include, but not be limited to: conducting literature searches; modeling; preparing graphs, maps, charts and tables; calculating; interpreting samples; interviewing experts; and documenting such research, analyses, or use of professional judgment in the absence of preexisting information.

STATEMENT OF WORK – CONTINUED

G. The Contractor shall identify and describe mitigation measures. During the course of the analysis for the DEIS, it may become apparent that mitigation could reduce, avoid, eliminate, or compensate for the environmental impacts of a proposed action or alternative. If the analyses indicate the potential for such mitigation, the Contractor shall identify the mitigation measures to the OSM to consider incorporating into the proposed action, an alternative, or a mitigation action plan.

SERVICES

5.1 If any of the services do not conform to contract requirements, the Government may require the Contractor to perform the services again in conformity with contract requirements, at no increase in contract amount. When the defects in services cannot be corrected by re-performance, the Government will reduce the contract price to reflect the reduced value of services performed.

5.2 If the Contractor fails to perform the services or to take necessary action to ensure performance in conformity with contract requirements, the Government may (1) by contract or otherwise, perform the services and charge the Contractor any cost incurred by the Government that is directly related to the performance of such service or (2) terminate the contract for default.

C. DELIVERABLES

6. The Contractor shall submit all material in electronic format required hereunder to the COR in accordance with the following schedule.

6.1 The Contractor shall submit a work plan within 30 days of Notice to Proceed. The work plan shall include a milestone schedule, technical approach, staffing plan, work breakdown structure, and management controls to complete the Regulatory Impact Analysis with cost-benefit data by September 24th, 2010; DEIS by February 4th, 2011; and FEIS by October 7th, 2011The Contractor will be required to participate in scoping process. The Contractor will send consultation letters to Government Agencies and all other interested parties within 30 days of Notice to Proceed.

6.2 The Contractor shall hold meetings twice a month with COR and other designated persons to report progress. All documentation shall be provided electronically. One meeting shall be via teleconference (TELCON) and the other shall be in South Interior Building 1951 Constitution Avenue, NW, Washington, DC 20240 (Room to be determined (TBD) at a later date).

6.3 At monthly meetings, the Contractor shall provide completed segments of the DEIS. The purpose is to ensure that segment progress is in accordance to scope.

STATEMENT OF WORK – CONTINUED

6.4 The Contractor shall submit a Preliminary Draft EIS (DEIS) by November 19th, 2010. The Contractor shall provide 3 hard copies and 50 digital copies. The Government and other cooperating agencies will have 7 business days to review and submit comments. The Contractor will then have 15 calendar days to compile comments and make corrections.

6.5 Review of Preliminary DEIS by the OSM and Cooperating Agency will be seven business days. Comments will be submitted at the end of this period. [Isn't this the same statement as above in 6.4?]

6.6 Participation in Public Hearing: The Contractor shall incorporate comments into FEIS within 45 days following publication in the Federal Register.

6.7 The Contractor shall prepare and submit to OSM the public comments on the DEIS that were submitted to the Federal rulemaking comment website. The Contractor shall organize substantive comments by topic for the inclusion in the FEIS within 30 days of the close of the DEIS comment period.

6.8 Final Environmental Impact Statement (FEIS)

A. The Contractor shall complete the Proposed FEIS within 50 days after close of DEIS comment period.
B. OSM and cooperating Agencies will have 14 business days to review and provide comments.
C. The Contractor shall submit the FEIS within 14 days of agency comment receipt.
D. Provide 3 hard copies and 50 digital copies of the FEIS.

Prompt delivery of the items listed above is essential to the performance of this contract.

In accordance with the schedule provided, the time period for completion of a submission shall begin on the date that the Contractor receives approval of the previous submission.

Some submissions may be approved with the reservation that OSM and Cooperating Agency comments regarding that submission shall be incorporated into the subsequent submission. If these comments are not incorporated, the document submitted will be returned without further review. Each submission after the first shall be accompanied by a letter noting OSM and cooperating agency comments and explaining how each was resolved. In the event that a submission is not acceptable and is sent back to the Contractor for revision, OSM will have additional time to review the subsequent revised submission.

In order to expedite the review process, the Contractor shall notify the COR at the time of completion of significant subsections of each document. OSM will then request that 3 hard copies and 15 digital copies be submitted for review and comment.

At the request of the Contractor, the schedule of submissions may be extended in the event that performance is delayed by circumstances beyond the control of, and without fault or negligence on the part of, the Contractor, as determined by the Contracting Officer.

D. RELEASE OF INFORMATION

The Contractor may not disseminate any information concerning the specific project without special written approval of the Contracting Officer.

E. TRAVEL

Travel required in connection with this work order is to be included in the detailed cost breakdown, when the Contractor submits a proposal for the order. Travel costs shall not exceed the FAR 31.205-46, Travel Costs, and Federal Travel Regulations.

F. PAYMENT SCHEDULE

9.1 Monthly progress of segments of the DEIS with approved comments - May (meetings including DEIS segment reviews)

9.2 Monthly progress of segments of the DEIS with approved comments - June (5%) (meetings including DEIS segment reviews)

9.3 Monthly progress of segments of the DEIS with approved comments - July (meetings including DEIS segment reviews)

9.4 Monthly progress of segments of the DEIS with approved comments - August (5%) (meetings including DEIS segment reviews)

9.5 Monthly progress of segments of the DEIS with approved comments - September (5%) (meetings including DEIS segment reviews). Complete Regulatory Impact Analysis with cost-benefit data.

9.6 Monthly progress of segments of the DEIS with approved comments - October (5%) (meetings including DEIS segment reviews)

9.7 Monthly progress of segments of the DEIS with approved comments - November (meetings including DEIS segment reviews)

STATEMENT OF WORK – CONTINUED

9.8 Monthly progress of segments of the DEIS with approved comments-December (5%) (meetings including DEIS segment reviews)

9.9 Monthly progress of segments of the DEIS with approved comments- January (meetings including DEIS segment reviews)

9.10 Approval of Preliminary DEIS and complete mailing – February 14th, 2011 (30%)

9.11 Collection and organization of comments received – May 13th, 2011 (5%)

9.12 Monthly progress of Draft FEIS – June (Meetings including FEIS segment reviews)

9.13 Monthly progress of Draft FEIS – July 29th, 2011 (5%) (Meetings including FEIS segment reviews)

9.14 Monthly progress of Draft FEIS – August (Meetings including FEIS segment reviews)

9.15 Monthly progress of Draft FEIS – September (5%) (Meetings including FEIS segment reviews)

9.16 Approval of Proposed FEIS and complete mailing – October 7th, 2011 (30%)

9.17 Execution of Release of Claims and receipt of all originals and record in required format– October 31st, 2011 (5%)

OPTION	SECTIONS	FUNDS
OPTION #1	9.1 THROUGH 9.8	**Subject to the Availability of funds**
OPTION #2	9.9 THROUGH 9.10	**Subject to the Availability of funds**
OPTION #3	9.11 THROUGH 9.15	**Subject to the Availability of funds**
OPTION #4	9.16 THROUGH 9.17	**Subject to the Availability of funds**

ATTACHMENT #1 - PURPOSE AND NEED STATEMENT

NEED AND PURPOSE FOR THE FEDERAL ACTION

NEED

On January 2010 the GAO issued a report entitled: Surface Coal Mining - Financial Assurances for, and Long-Term Oversight of, Mines with Valley Fills in Four Appalachian States. The report was an evaluation of the long term monitoring of surface coal mines with valley fills and the assurance that the mines will be properly reclaimed. The GAO examined surface coal mines in Kentucky, Tennessee, Virginia, and West Virginia. The GAO report made the following findings, among others, in the report:

> Studies have found environmental impacts resulting from reclaimed mines with valley fills including: subpar reforestation efforts; contaminated streams that have impacted aquatic organisms; water flows that may have been affected by the fills; and cases where mines have not been restored to approximate original contour.

In addition, recent studies suggest that surface mining activities that affect streams may have impacts on stream and riparian biota that are not explicitly addressed under existing regulatory requirements implementing SMCRA. [*Cite to, very briefly summarize a couple of the more significant studies.*]

Downstream effects of mountaintop coal mining: comparing biological conditions using family- and genus-level macroinvertebrate bioassessment tools, Gregory J. Pond, et. al. July 8, 2008

This study found that surface coal mining with valley fills has impaired the aquatic life in numerous streams in the Central Appalachian Mountains; such mining activity has had subtle to severe impacts on benthic macroinvertebrate communities. Sites downstream of reclaimed MTM and VFs revealed little sign of biological recovery after 6 to 7 years; Impacts to ecosystem

structure and function (i.e., soil and water biogeochemistry, leaf decomposition, macroinvertebrates) remained after 15 years of recovery of a coal-mined watershed in Maryland, and the oldest VF site in the data still had downstream specific conductance values >1200 lS/cm and no mayflies after 15 years.

Mountaintop Mining Valley Fills and Aquatic Ecosystems: A Scientific Primer on Impacts and Mitigation Approaches, Margaret A. Palmer and Emily S. Bernhardt

This executive summary of this paper stated: "...The more surface mining and valley fill activity within a large watershed, the greater the cumulative transport of alkaline mine drainage pollutants to major rivers will be. The streams and rivers below valley fills receive alkaline mine drainage that include highly elevated concentrations of sulfate, bicarbonate, calcium and magnesium ions and which often include elevated concentrations of multiple trace metals. The combined toxicity of multiple constituents results in significant increases in conductivity and total suspended solids below valley fills. This decline in water quality leads to a loss of sensitive aquatic organisms even when downstream habitats are intact. The resulting high conductivity and high sulfates can persist long after mining activities cease and scientists have found no empirical evidence documenting recovery of macroinvertebrate communities in the streams impacted by alkaline mine drainage. The water quality impacts of MTMVF activities are more severe and more persistent than other land use changes within the southern Appalachians."

In consideration of the concerns raised by this information, as well as OSM's experience in evaluating the impacts of surface coal mining operations on mountainous areas and surface and ground waters, OSM believes there is a need to improve the effectiveness of the regulations implementing SMCRA in reducing the harmful impacts of surface coal mining operations that affect mountaintops and streams, including but not limited to operations that engage in mountaintop mining, steep slope mining, and contour mining. Any Federal Action by OSM to achieve a reduction in the adverse impacts of surface coal mining operations must be authorized by and consistent with SMCRA.

PURPOSE

The Surface Mining Control and Reclamation Act of 1977 provide that:

> "It is the purpose of this Act to –
>
> (a) establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations;
>
> (c) assure that surface mining operations are not conducted where reclamation as required by this Act is not feasible;
>
> (d) assure that surface coal mining operations are so conducted as to protect the environment."

On June 11, 2009, the Secretary of the Department of the Interior, the Administrator of the U.S. Environmental Protection Agency (EPA), and the Acting Assistant Secretary of the Army (Civil Works) entered into a memorandum of understanding (MOU)[1] implementing an interagency action plan designed to significantly reduce the harmful environmental consequences of surface coal mining operations in six Appalachian states, while ensuring that future mining remains consistent with federal law. The MOU also calls for us to consider whether revisions to other OSM regulations (including, at a minimum, approximate original contour requirements) are needed to better protect the environment and the public from the impacts of Appalachian surface coal mining.

However, OSM's experience is that adverse impacts of surface coal mining operations on mountainous areas and surface and ground waters occur nationwide, and are not limited to Appalachia. Therefore, the purpose of this Federal Action is to improve the effectiveness of regulation under SMCRA, in reducing the harmful environmental consequences of surface coal mining operations that affect mountainous areas and surface and ground waters throughout the nation. Specifically, the purpose of this Federal Action is to amend OSM's rules implementing SMCRA, to require that mining operations are permitted, operated, and reclaimed in a manner that prevents or minimizes significant long-term adverse environmental effects on mountains, streams, and related environmental values. More particularly, the purpose of this action is to amend OSM's stream buffer zone (SBZ) rule published on December 12, 2008, as well as certain other existing OSM regulations, in order to significantly reduce the adverse impacts from surface coal mining operations on mountainous areas and surface and ground waters and related environmental values nationwide, and to maximize the use of the best science and technology available in regulating those operations and in conducting the operations.

Many of the adverse environmental impacts that have been identified in recent studies are related to instances where mining operations have not effectively restored approximate original contour, or have not prevented or minimized projected adverse hydrologic consequences of coal mining operations or the cumulative adverse hydrologic impacts of all mining within a watershed. Therefore this Federal action will take a comprehensive approach to evaluating the relationships among mining impacts such as these, and the permitting requirements, performance standards, and reclamation requirements that address the impacts.

[1] The MOU can be viewed online at http://www.osmre.gov/resources/ref/mou/ASCM061109.pdf.

ATTACHMENT #2 - NARRATIVE SUMMARIZING PEER REVIEWED PUBLICATIONS

Effects of Valley Fills on Benthic Macroinvertebrates

Literature Review

"As can be concluded based on results from the primary literature and from studies performed for this EIS, filling or mining stream areas even in very small watersheds has the potential to impact aquatic communities some of which may be of high quality or potentially support unique aquatic species. It has not been determined if drainage structures associated with mining can provide some benefits (i.e.; increased flows at toe of fills, retaining drainage structures) that could offset aquatic impacts."

Mountaintop Mining/Valley Fills in Appalachia: Draft 2003. Programmatic Environmental Impact Statement US Environmental Protection Agency, Washington, DC.
Pg. III D-4

Mountaintop mining and valley fill operations have been determined to have adverse and detrimental effects on the integrity of all surrounding ecosystems including both aquatic and terrestrial. The following summary will encompass several parameters associated with the degradation of the benthic macroinvertebrate community below valley fills in conjunction with mountaintop mining operations. The material referenced will discuss the influence of geology, hydrology, water chemistry, site location, bioassessment protocol and methodology using qualitative and quantitative measures, insight on reclamation strategies, and elaborate on conflicting opinions on overall conclusions pertaining to mining/valley fill impacts.

The consensus stated within this literature review has been derived from studies, opinions and most importantly the results of various researchers including the USEPA, USGS, USFWS, several state agencies, academia, consulting firms and the coal industry. A collection of 71 articles/studies/opinions have been assembled complete with individual bibliographies and citations included. Additionally, several studies discovered are unpublished and are not peer reviewed with questionable research tactics so the stature of their conclusions is subject to debate. A few comprehensive studies conducted by various private agencies were discovered but found to be unobtainable so for reference and for the potential of obtaining these studies in the future, they will be included as an attachment but not cited in the completed literature review. Relative studies correlating most to the objectives of this comprehensive literature review found that the majority of influential studies noted locations ranging from eastern Kentucky to southern West Virginia.

Valley Fills

When the topography of the mountain is altered via mountaintop removal, radical changes ensue including the flattening of contours, exposure of unsettled spoil, reduced vegetative cover, and elimination of all natural mountainside and valley stream channels. In 2004, mountaintop mining was determined to be dominant land cover use in central Appalachia with an estimated 1.1 million acres being impacted by active mining operations (Townsend et al. 2009 and Loveland et al. 2003).

In order to accurately assess the influence of valley fills on the benthic macroinvertebrate community, a review of several important topographical and geological components must be discussed. To begin with, when a mountain top is mined all vegetation, topsoil, and overlying rock strata are removed down to the coal seam and redeposit as overburden. As the rock and soil layers are being removed, a volumetric expansion of the blasted material occurs resulting in swell. The excess spoil (swell) is redeposited in an adjacent valley to try and eliminate the cost of rehandling the material. The importance of less handling stems from the push for economic profit for the mining

industry because the less the mining company has to handle the spoil the lower production costs are resulting in the evolution of valley filling.

Geology and Overburden Composition

One of the most important factors in understanding the influence of valley fills on the aquatic benthic macroinvertebrate community is to understand the composition of the overburden that is deposited in the valley fills within the Appalachian coal bearing region. This is significant because the constituents that comprise the overburden will eventually contaminate the streams adjacent to the valley fills through precipitation and other natural and mechanical earth moving events. Beginning with the geology of the region, according to the USGS the bedrock within the central Appalachian region is comprised of Pennsylvanian aged strata with interwoven beds of shales, siltstones, mudstones, mudrock, limestones, carboliths and sandstones overlapping the older Mississippian aged strata (USGS 2000b and Sobek et al 2000). Understanding the geology of this region is imperative to understanding certain chemical and physical parameters such as acid forming potential and metal contaminant loads which vary based on which rock strata overlies the coal seam.

Through modern mining techniques, blasting the bedrock to expose the coal seams generates spoil, once the spoil has been removed and deposited into a valley fill, it is exposed to the atmosphere and with the addition of precipitation and oxygen immediately a variety of chemical reactions begins to transpire. Certain chemical components found embedded within certain rock strata throughout the Appalachian coal region have the potential to generate detrimental effects on the aquatic community by degrading the water quality. For example; the oxidation of pyrite and sulfide S generate AMD when exposed to water and oxygen decreasing the pH and increasing Fe, Mn, Al, temperature and TSS to harmful levels (Sobek 2000). The noted harmful constituents of overburden found generally within the central Appalachians includes; varying pH, alkaline reactions within soils, salinity potentials, electrical conductivity and toxic metals including; boron, mercury, and selenium. Physical properties that can influence the hydrology of the overburden and ultimately impact the aquatic community via runoff and other nature water moving parameters include; rock type and stability, hardness, slaking, weathering rate, sedimentation, infiltration and porosity (Sobek 2000). Understanding the physical and chemical parameters of the spoil found within the valley fills will help determine what contaminants will impact the adjoining stream and how they will adversely degrade the benthic macroinvertebrate community downstream.

Hydrologic Regime

When assessing the biological integrity of streams below valley fills, the hydrology has been determined to be an additional key component. Understanding how water moves through the fills and streams will help illuminate the importance of the hydrologic regime because without an adequate supply of water the habitat for the benthic community cannot exist.

The ephemeral, intermittent or perennial streams that are buried as a result of valley fills represent a significant loss of natural habitat (Palmer et al. 2009). Studies have determined that headwater streams emerging from the toes valley fills are the crucial link to the integrity and health of ecosystems downstream and to adjacent river networks. Headwater streams are the beginnings of the river systems and are critical sites for nutrient cycling and organic matter processing while offering a refuge from temperature fluctuations, spawning and rearing areas, food and creating migration corridors (Clark et al. 2008, Lowe et al. 2005, Meyer et al. 2003, and USGS 2000a).

Another major determination concludes that the percentage of watershed influenced by the addition of valley fills to ephemeral, intermittent or perennial streams varies based on the number of fills. Additionally, watershed size may actually buffer the effects of fills and mines (Fulk and Hutchens, 2002). Lastly, in order to perform bioassessment of the benthic macroinvertebrate community it has been determined that drought and stream channel morphology are both directly correlated to the integrity of aquatic ecosystems (Clinton et al. 1996, Feminella 1996, and Powell 1999).

When mining occurs within the steep terrain of the Appalachian region, the hydrology of the entire ecosystem is drastically altered. Water flow pathways throughout the geological strata are radically changed and can in turn severely reduce or completely eliminate the hydrological recharge to streams whether buried by a valley fill or deep mining (Ferguson 1967, Ferguson et al. 1981 and USGS 1991). Additionally, due to the exposure of loose

sediment and no vegetative cover there has been a noted decrease in water infiltration and an increase in runoff contributing to increased base flow from the toe of the valley fills raising the potential for flooding and sedimentation to the downstream ecosystems (Messinger 2003, Phillips 2004 and USGS 2001).

"Streams in watersheds where MTM/VFs exist are characterized by an increase of minerals in the water as well as less diverse and more pollutant-tolerant macroinvertebrates and fish species. Questions still remain regarding the correlation of impacts to the age, size, and number of valley fills in a watershed, and effects on genetic diversity. Some streams below fills showed biological assemblages and water quality of good quality comparable to reference streams.

Streams in watersheds below valley fills tend to have greater base flow. These flows are more persistent than comparable unmined watersheds. Streams with fills generally have lower peak discharges than unmined watersheds during most low intensity storm events; however, this phenomenon appears to reverse itself during higher-intensity events."

> ***Mountaintop Mining/Valley Fills in Appalachia: Final Draft 2005. Programmatic Environmental Impact Statement. US Environmental Protection Agency, Washington, DC***

Water Quality Impacts as a result of Valley Fills/Mining

Studies have concluded that a variety of factors are attributed to the decline and eradication of benthic macroinvertebrates in areas with active or inactive mining (e.g. Bradfield 1986, Chambers and Messinger 2001, Eberle and Razem 1985, Freund and Petty 2007, Fulk and Autrey 2003, Green and et al 2000, Hoke et al 2001, Kennedy et al 2003, Maggard and Kirk a, b, c, 1999, Maggard 2006, Minear 1976, Merricks et al 2007, Palmer 2009, Pen Coal Corp 2000, Phillips 2004, Pond et al. a, b, c, d, Powell 1999, Stout and Wallace 2003, and USGS, 2000) In addition to mining, Fulk 2003 and Pond a, c and e also determined the same conclusions concerning the integrity of the benthic macroinvertebrate community when assessing the influence of residential and agricultural impacts on the adjacent habitat.

Studies have proven that not one specific stressor is to blame for the poor water chemistry parameters which is responsible for the poor water quality (Freund and Petty 2007 and Lester and Norton 2003). The literature search concluded that the degradation of the benthic community can be attributed to a combination of the chemical parameters (Bryant and McPhilliamy 2002). Below is a table listing the chemical parameters assessed.

Chemical Parameters Assessed	
Calcium	Temperature
Sulfate	Magnesium Hardness Solids
Dissolved Manganese	Total Conductivity, Field (uS/cm)
Selenium	Alkalinity
Potassium	Sodium
Manganese	Dissolved Chloride
Acidity	Nitrate/Nitrite
Acidity	Hot Aluminum
Dissolved Antimony	Arsenic
Beryllium	Cadmium
Chromium	Cobalt
Copper	Mercury
Nickel	Organic Carbon
Total Phosphorous	Silver
Thallium	Vanadium
Barium	Dissolved Oxygen
Organic Carbon	Dissolved Solids
Suspended Iron	Total Iron
Dissolved Zinc	Aluminum, Total

Studies that assessed valley fills associated with mining determined the following targeted parameters in combination and with elevated concentrations are attributed to the degradation of water quality correlated with the reduction and/or eradication of certain orders of aquatic benthic macroinvertebrates.

Chemical Parameters Determined to be Impacted by Valley Fills	
Sulfate	Hardness
Total Magnesium	Total Calcium
Total Dissolved Solids (TSS)	Total Manganese
Dissolved Manganese	Specific Conductance
Total Selenium	Alkalinity
Total Potassium	Acidity
Nitrate	Nitrite

Table from Byrant and McPhilliamy 2002

AMD, Specific Conductance and Total Dissolved Solids have been the notated culprits of water quality degradation in several peer-reviewed studies and have demonstrated adverse impacts on the benthic macroinvertebrate community when elevated levels are detected below valley fills and in active/inactive mining watersheds (Bradfield 1986, Bryant and Mcpilliamy 2002, Chambers and Messinger 2001, Eberle and Razem 1985, Feldman and Connor 1992, Freund and Petty 2007, Green et al 2000, Hartman et al 2005, Hoke et al 2000, Pond a, c, and Schoenholtz 2008 USGS 1990, and USGS 2000).

As stated before, there is no one singular culprit to the degradation of water quality in mined/valley filled watersheds but the literature cited has determined the most influenced chemical parameter is specific conductance. Specific conductance is merely a cumulative measure of ionic strength and when conductivity is high, the disruption of osmoregulation takes place which is essential for aquatic insects to regulate their ion intake and release (Pond et al 2008). Both ionic strength and effluent toxicity can be defined as constituents containing but not limited to a combination of the following water quality parameters including conductivity, TDS, salinity, alkalinity and hardness (Chadwick Ecological Consultants 2000 and Goodfellow et al 1996)

Additionally, Dow 2000 determined specific conductance and pH were not only found to be detrimental to benthic communities in watersheds with active mining but also in residential neighborhoods such as a recent study conducted in New Jersey. On the contrary, Maggard 2006, refutes the findings of Pond and Dow and states specific conductivity is unrelated to the benthic macroinvertebrate communities present downstream of varying types of mine water discharge but note this study was not peer reviewed and only presented at a symposium so the validity may be skewed or bias.

In addition to specific conductance, bioaccumulated metals have also been attributed to the benthic macroinvertebrate community decline in locations with and without mining influences (e.g. Ankley 1996, Cain et al 2006, Clements a, b, Clements et al 1988, Hickey et al 1998, Soucek et al 2001, and Vogel 2000).

Benthic Macroinvertebrates

There are several metrics, indices and statistical interfaces used in assessing the degree of impairment mining and valley fills have had on the habitat for benthic macroinvertebrates and the overall importance of aquatic insects in the surrounding ecosystem. Preference of methodology and assessment was based on age of study and locality with studies using different metrics and methods based on if the study sites were in Kentucky or West Virginia (e.g. Burton and Gerritsen 2003, Green and Swietlik 2000, Merritt and Cummins 1996, Merritt et al 1984, Morse et al a, b, O'Bara et al 1993, Rosenberg and Resh 1996 and Virginia DEQ 2006b)

The majority of studies reviewed utilized similar multi-metric indices to assess the macroinvertebrate communities. In West Virginia the West Virginia Stream Condition Index (WVSCI) has been used and in Kentucky the Kentucky Macroinvertebrate Bioassessment Index (KMBI) has been used. Both methods for bioassessment use Total Taxa, EPT (Ephemeroptera Plecoptera Trichoptera) Taxa%, % Chironomidae (midges, a family of insects that is generally tolerant to pollution), % Two dominant Taxa, and a family-level Hilsenhoff Biotic Index (HBI) to develop a numeric score that usually ranges from 0-100. This score is then compared against a reference to determine if a stream is impaired or failing to meet aquatic life use criteria.

All studies of benthic macroinvertebrates below fills found changes in the community composition. Mayflies (Ephemeroptera) were either completely eliminated or severely reduced. Additionally, Stoneflies (Plecoptera) and caddisflies (Trichoptera) also showed declines in both species richness and diversity. The percentage of species sensitive to pollution decreased and the number of pollution tolerant species increased. Several studies found significant differences in aquatic insect composition between mined and unmined watersheds with and without valley fills (e.g. Bradfield 1986, Chambers and Messinger 2001, Freund and Petty 2007, Fulk and Autrey 2003, Green and et al 2000, Hartman et al 2005, Hoke et al 2000, Maggard and Kirk 1999b, Merricks et al 2007, Palmer and Bernhart 2009, Pen Coal 2000, Pond and Mcmurray 2002, Pond 2004, and Pond et al 2008).

Age of Fills

Studies have been conducted on a range of valley fills in both eastern Kentucky and southern West Virginia but there is little information given in most studies on the exact age of fills. The date of permit issuance is given in a few studies but not the completion date of the fills. One study, Merricks et al (2007) does give specific ages of fills, which ranged from 3 to 15 years. Their results were similar to the other studies reviewed. It doesn't appear anyone has focused on older fills exclusively. One question that has been raised is; do TDS and conductivity in these streams attenuate over time? Problems to be addressed in the design of a study of older fills would be accurately determining the age of fills and whether we have pre-mining data to do a before/after comparison or if a reference stream approach should be used.

Noted Remediation

A recent testimonial given by Margret Palmer to the United States Senate Committee on Environmental and Public Works states; "*The impacts of mountaintop removal with valley fills are immense and irreversible, and there are no scientifically credible plans for mitigating these impacts.*" Additionally, studies have concluded that several mitigation techniques fail due to a variety of issues including chemical and physical barriers ranging from poor water quality to unstable stream channel design (Palmer and Bernhart 2009, Palmer and et al 2005) Despite the previous statements, there has been noted remediation attempts with marginal success on several parameters associated with mining but most notably the reduction of AMD and recreation of stream channels but the science of valley stream remediation is relatively new (Denicolla and Stapleton 2002, Hawkins 1994).

Consensus and Conclusion

With the evidence presented in this literature review, valley fills do have an adverse affect on the benthic macroinvertebrate community via degradation of the aquatic environment. The only question still lacking a definitive answer is; do these streams and watersheds attenuate over time and if so how long does it take to reverse the change and shift the community back from a pollution tolerant community to a community dominated by sensitive species? Assessment of adjacent reference streams in conjunction with the bioassessment protocols used by the majority of the studies compiled has determined the benthic macroinvertebrate community was thriving with a pollution comprised of sensitive species Ephemeroptera, Plecoptera and Trichoptera prior to any mining and a noted depletion or eradication of the community has occurred post mining. This literature review concludes that yes valley fills have been assessed and yes they do have detrimental effects but the question about attenuation over time has not been exclusively researched. Without a direct answer to this question, the true effect of valley fills on the surrounding environment cannot be completely and definitively answered.

Despite the varying opinions on the degree of degradation of the benthic community below valley fills, one conclusion is evident; there is an obvious shift from a sensitive to a pollution tolerant community and this is attributed to the poor water quality flowing from the toe of the valley fills. The poor water quality is credited to a variety of chemical parameters but the most evident and conclusive is found to be specific conductance, variable pH, unpredictable stream flow and elevated levels of TSS and TDS. In conclusion, the proportional abundance of tolerant taxa was the most sensitive indicator of nutrient enrichment and habitat, degradation, whereas Ephemeroptera richness was the most sensitive indicator of elevated metals or ion concentrations (Lester 2003).

ATTACHMENT #3 - 2009 ANPR COMMENTS

General Comments on ANPR

Appalachian Center for the Economy and the Environment (Joe Lovett and Derek Teaney)

- Stream buffer zone rule

    1. Under section 201(c)(2) of SMCRA, OSM has broad rulemaking authority to carry out both the purposes and provisions of the Act. Because most of the purposes of SMCRA focus on environmental protection, OSM can adopt any rule that protects the environment from the adverse effects of mining, irrespective of the more specific environmental performance standards enumerated later in the section 515 or other provisions of the Act.

The performance standards in SMCRA establish a floor, not a ceiling, with respect to the adoption of regulations to protect the environment. The buffer zone rule could prohibit all mining in streams and be fully consistent with the purposes of the Act. Indeed, it must do so, given the adverse environmental consequences of fills and other mining activities in streams. OSM should not—and must not—limit the scope of the stream buffer zone to the provisions of sections 515(b)(10) and (24). OSM has the statutory authority to require environmental protection standards more strict than the minimization standards established in those two provisions. It can prohibit mining where reclamation is not feasible or where OSM cannot assure that the environment will be protected from the adverse effects of mining.

2. The 2008 rule erroneously relied upon section 515(b)(22)(D) of SMCRA as evidence that Congress did not intend to prohibit the construction of excess spoil fills in streams. At most, this provision "recognizes the possibility of placing excess spoil material in waters of the United States." *Kentuckians for the Commonwealth v. Rivenburgh*, 317 F.3d 425, 443 (4th Cir. 2003) (emphasis added). However, that possibility is only a minimum standard for fill placement. It does not preclude more stringent prohibitions on fill placement that may be necessary to carry out the purposes of SMCRA.

3. There is no evidence that current reclamation practices in the coal industry can feasibly alter or reduce the conductivity levels in streams below fills to comply with water quality standards that prohibit biological impairment. Scientific studies show that ion concentrations have either remained constant or increased over time. These effects have been measured from three to fifteen years after reclamation was completed, and therefore can be expected to persist over time. In these circumstances, OSM should adopt the same policy that it adopted in 1997 for mines that are expected to discharge acid mine drainage; i.e., prohibit the approval of permit applications that would have these impacts on water quality.

   OSM is duty-bound by the purposes in paragraphs (a), (c) and (d) of section 102 of SMCRA, and by the duty in 510(b)(3) to prevent material damage to the hydrologic balance, to use its rulemaking authority under section 201(c)(3) to issue a stream buffer zone rule that prohibits the construction of fills that cause or contribute to violations of narrative or numeric water quality standards. Because those violations are so widespread throughout Appalachia, a complete ban on the placement of valley fills in streams, and on allowing "mining through" streams by operations that will generate significant spoil that will contribute to such violations, is required.

4. In the ANPR, OSM wrongly suggests that the "water courses" mentioned in section 515(b)(22)(D) of SMCRA, which establishes requirements for the construction of excess spoil fills, must include ephemeral, intermittent, and perennial streams. This approach is inconsistent with the brief that the Government filed in the *Bragg* litigation, which states that "The Secretary of the Interior has reasonably concluded

that 'springs, natural water courses or wet weather seeps' do not include intermittent or perennial streams."

5. The supplemental environmental impact statement (SEIS) should analyze an alternative to the 2008 rule that would prohibit all placement of mining spoil or waste in all types of streams (ephemeral, intermittent, and perennial) because such activities are known to cause or contribute to significant degradation and violations of water quality standards in downstream waters. This alternative would be more restrictive than the 1983 rule. The percentage of fills and mining disturbances causing those violations is so high (80-90%) that OSM must impose a blanket prohibition on their use in order to comply with the Clean Water Act. The SEIS for this alternative should investigate and document the scope and extent of stream degradation downstream from mined areas in Appalachia, with a special focus on conductivity and selenium.

6. The preferred alternative in the SEIS and proposed rule should not be based on the type of stream, because scientific studies show that ephemeral streams can be as important ecologically as intermittent or perennial streams. Ephemeral and intermittent streams are habitat or feeding-ground for a unique and diverse assemblage of organisms including salamanders, insects, fish and larger wildlife. They are also the conduits that transport water, sediments and dissolved materials from mountaintops to large river ecosystems. While stream functions take place in perennial streams, they do so at different rates and in different ways than those occurring in ephemeral and intermittent streams, and the smallest streams harbor some species that are not found in perennial reaches.

7. If OSM decides not to prohibit the placement of valley fills in all streams, it must at the very least prohibit their placement in intermittent and perennial streams and must interpret the 1983 rule to have that effect because that was the position taken by the Clinton Administration in an appeal brief filed in *Bragg v. Robertson*. Brief for the Federal Appellants at 2, *Bragg v. W. Va. Coal Ass'n*, 248 F.3d 275 (4th Cir. 2001) (No. 99-2683). The brief further stated that "fills that disturb intermittent or perennial streams may be approved only if there is a finding that activity will not adversely affect the environmental resources of the filled stream segment." *Id.* at 41.

8. The 2008 rule does not carry out the primary purpose of SMCRA because it does not prevent environmental harm. Under the existing rule, every permit approving disturbance of a perennial or intermittent stream must include a permit condition requiring that the permittee demonstrate compliance with the Clean Water Act before conducting any activities that require authorization or certification under that Act.

   However, this demonstration requirement is merely a generalized and theoretical requirement that the project applicant comply with the law. It does nothing to monitor, assess, measure or determine whether significant degradation is occurring or will occur. The rule does not contain any practical requirements (1) to monitor

and measure for the type of biological impairment and elevated pollution levels that are occurring downstream from valley fills; (2) to treat conductivity or selenium discharged from valley fills or spoil on the mined area to prevent impairment of downstream reaches; or (3) to otherwise prevent discharges that cause or contribute to violations of water quality standards. Without an actual on-the-ground assessment of the effectiveness of permits and certifications to prevent stream impairment, the demonstration requirement in the existing rule is merely a paper exercise.

- Impacts of mountaintop mining

9. Mountaintop mining and construction of fills in streams result in a decline in water quality, which leads to a loss of sensitive aquatic organisms even when downstream habitats are intact. High levels of conductivity and sulfates can persist long after mining activities cease. Scientists have found no empirical evidence documenting recovery of macroinvertebrate communities in the streams impacted. The water quality impacts of mountaintop mining activities are more severe and more persistent than other land use changes within the southern Appalachians.

10. A complete prohibition on mountaintop mining and construction of fills in streams would not be inconsistent with section 102(f) of SMCRA, which provides that one of the purposes of SMCRA is to "strike a balance between protection of the environment and agricultural productivity and the Nation's need for coal as an essential source of energy." Recent economic studies demonstrate that even a complete ban on mountaintop mining would have a relatively minor impact on the cost of electricity. The insignificance of this impact can be traced to two factors: a predicted decrease in the overall demand for coal and a predicted increase in the availability of alternative sources of energy.

11. The supplemental environmental impact statement must take into account not only the potential of the alternatives to impact the price of energy, but also the broader economic impacts on the Appalachian region, including the increase in healthcare costs, water treatment costs, and lost potential for jobs that are borne by communities close to mountaintop mining.

National Mining Association

- NMA strongly opposes eliminating the current (2008) stream buffer zone rule. Any changes could jeopardize a fragile regulatory compromise that has taken more than a decade to establish. In addition, pursuing some extreme alternatives to the current rule would open a Pandora's box of regulatory uncertainty that could unnecessarily impede, or perhaps even eliminate, significant segments of the coal mining industry.

- The extensive changes made in the excess spoil and coal mine waste rules, as well as the stream buffer zone rule and related permitting rules, in December 2008 need to be given a chance to work. They are clearly more restrictive than the prior rules and may well "significantly reduce the harmful environmental consequences of Appalachian surface coal

mining operations" in a manner consistent with federal law as sought by the June 11, 2009, memorandum of understanding implementing the interagency action plan.

- OSM offers nothing to support its implications that there are problems with the 2008 SBZ regulation. To our knowledge, there have been no state regulatory authorities clamoring for OSM to repeal or revisit the SBZ rule. The only basis cited for this complete reversal of policy is the politically and ideologically-driven MOU announced on June 11, 2009.

- In proposing changes to the SBZ rule and related rules, OSM must remain cognizant of unintended regulatory consequences of its actions. Actions aimed at surface mining in Appalachia may have a significant impact on mining in other areas, or even on underground operations in the same region. For example, virtually all coal produced by underground mines in central Appalachia must be washed through a preparation plant to remove rock and other impurities. The resulting coal mine waste lacks the stability of excess spoil and must be placed in disposal areas that extend farther down into valleys than excess spoil fills in order to meet the stability requirements of SMCRA. To preclude the placement of coal mine waste disposal sites in areas that extend into perennial streams in central Appalachia is to eliminate the underground coal mine industry throughout central Appalachia, which is one of the nation's richest and highest quality underground reserves. SMCRA simply does not contemplate or authorize any such restrictions on coal mine waste placement. To the contrary, such restrictions would be inconsistent with section 102(k) of SMCRA, which states that one of the purposes of the Act is to "encourage the full utilization of coal resources through the development and application of underground extraction technologies." See also the finding in section 101(b), in which Congress states that it is "essential to the national interest to ensure the existence of an expanding and economically healthy underground coal mining industry."

- Although NMA at one time advocated more coordination between the various regulatory agencies, we now have serious concerns about the agency's establishment of such practices. Judging by our experience with the EPA's interference with the Corps' permitting process under § 404 of the Clean Water Act and the effective creation of a permit moratorium under that program, we believe that introducing personnel from EPA and the Corps into SMCRA permitting decisions of the regulatory authority is inappropriate. Each agency has its clearly defined jurisdiction with regard to issuing permits under SMCRA and the Clean Water Act, respectively. To allow state-issued SMCRA permits to be held up in indefinite review periods by agencies that have no jurisdiction over the majority of the mine project is inappropriate. Moreover, one of the biggest problems with the 404 permit moratorium has been a complete lack of transparency by the EPA and the Corps with respect to what companies need to do in order to obtain a permit. This process has been abusive and unfair to our members, and we strongly object to any plans by the administration to institute a similar practice on the SMCRA permitting side.

<u>Colorado Mining Association</u>

- The impetus for the proposed rule is attributed to the need to significantly reduce harmful environmental consequences of surface coal mining in Appalachia. However, the impact of the proposed changes would extend nationwide since it virtually impossible to conduct surface mining without encountering a stream, whether perennial, intermittent, or ephemeral.

- The outcome of the proposed rulemaking appears to have been predetermined, based on the statement that the 2008 rule will be either revised or repealed. This statement indicates a predetermined course of conduct in advance of, and separate from, the rulemaking record yet to be developed and to that extent is inconsistent with the Administrative Procedure Act.

Virginia Mining Association

- The proposal to change the recently adopted SBZ rule is unnecessary and without a rational basis. The attempt to change a rule within months of its adoption demonstrates that the proposal is politically rather than scientifically driven. The existing regulation was adopted after years of careful consideration and deliberation, including an environmental impact statement.

- Some degree of regulatory certainty is necessary for rational business decisions and for obtaining financing for mining operations. It is not uncommon for mining operations in Virginia to be planned for an operational life of a decade or two. Such operations require multiple permit renewals. Without some degree of regulatory certainty companies cannot obtain or commit the financial resources to begin or continue such operations.

- Some of the alternatives in the ANPR would have effects far beyond elimination of mountaintop removal mining or even surface mining in general. Approximately two-thirds of the coal mined in Virginia is produced by underground mines. The topography of the Virginia coalfields is characterized by steep mountainsides separated by narrow creek and river bottoms. It is almost never possible to create a coal mine, even an underground mine, in Virginia without placing excavation spoil or mine refuse in or near a stream. Underground mines require flat surfaces for preparation plants, equipment yards, offices and bath houses. Also, the mine refuse from underground mines must be put somewhere. This material is composed almost entirely of small pieces of rock. The only place to dispose of mine refuse in Virginia is in the "hollows" formed by intermittent or ephemeral streams near the mines.

Texas Mining & Reclamation Association

- The SBZ rule has far-reaching implications, applying to all intermittent and perennial streams at coal mines anywhere in the United States. New or revised rules that would prevent operations from rerouting waterways may render substantial coal reserves in Texas economically unrecoverable without any corresponding environmental benefit, given Texas operators' exemplary record with respect to restoration of water features.

Interstate Mining Compact Commission

- To be consistent with decisions of the Fourth Circuit Court of Appeals, OSM's rule should define how excess spoil can and must be placed in streams to comport with the law. It should not ban the practice. And while OSM can prescribe a national standard for accomplishing this task, it remains the responsibility of the states, as exclusive regulatory authorities where primacy

programs have been approved, to apply the standard through the permitting process, in which OSM plays no role other than through appropriate federal oversight.

- The real dilemma lies not with OSM's rule, but with the practice of excess spoil disposal itself, which the courts have authorized and found to be consistent with the way SMCRA is currently written. Any significant change in direction would therefore require an amendment to SMCRA.

- As OSM continues to search for new alternatives to address this matter, two things must be kept in mind: 1) the states' implementation of this rule and its many iterations over the years has not been the stumbling block, and 2) as OSM attempts to move forward once again with a new variation on a common theme, it is critical to bring the states into the final solution given their role as sole issuers of permits that incorporate and implement the standards.

- OSM must consider how any rule will impact each state's SMCRA regulatory program in terms of both implementation and resources. The incorporation of approaches such as the "alternatives analysis" contained in the 2008 final rule will require the investment of considerable time and effort by state permitting personnel that could prove to be overwhelming. Given the current fiscal constraints under which the states are operating, attempting to accommodate these types of permitting analyses could seriously jeopardize primacy programs.

- Reading between the lines of the ANPR, what we sense is an attempt by OSM to reconcile not just its own regulatory requirements under SMCRA, but a larger, undefined set of standards for water quality protection being advocated by EPA and the Corps. This rulemaking simply cannot be taken out of context from all the other activity that has attended the development and implementation of the June 11, 2009, interagency MOU. While much of that activity has been focused in central Appalachia, the overarching concerns regarding conductivity, total dissolved solids, and numerical and narrative biologic water quality standards have implications nationwide. And even if it is agreed that this activity resides only in Appalachia for now, there is simply no agreement among the affected federal agencies on what those standards should be.

- OSM should convene a summit of all affected state and federal agencies before proceeding with further rulemaking. The summit's purpose would be to sort out and hopefully agree upon several key issues: 1) who is taking the lead on the issues; 2) what specific regulatory standards are in play under both SMCRA and the CWA; 3) how and where these standards should be incorporated into existing regulatory programs, especially at the state level; and 4) what the expectations are for both implementation of and compliance with those standards. These types of discussions are long overdue and without some resolution with all parties at the table, rulemakings such as that regarding the SBZ rule and related issues are likely to fail.

<u>Alaska Coal Association</u>

- OSM should adopt the team approach in which regulators and operators from the various approved State programs are included in discussions of developing new rules or modifying existing regulations.

Ohio Coal Association

- OSM should bring stakeholders, including the coal mining industry, to the table to discuss these issues before moving forward with this rulemaking.

- Given the ramifications to the coal industry, OSM should err on the side of contemplation and pragmatism and allow time for the 2008 SBZ rule to work and be evaluated before undertaking any additional rulemaking.

Center for Biological Diversity

- Headwater streams are of tremendous importance from a hydrological and biological perspective. Small headwater streams greatly influence downstream chemical and physical properties (Rabeni 1992), and "should not be considered unimportant or ignored" (Shute et al. 1997). Appalachian headwater streams contain one of the most diverse assemblages of aquatic insects in North America, and also support diverse assemblages of fishes and salamanders (Wallace et al. 1992). Intermittent streams are of biological importance because they support many rare species, particularly crustaceans (Herrig and Shute 2002, p. 543). Many species of amphibians are most abundant in intermittent streams (Reid and Ziemer 1994). Headwater seeps and small streams in forested habitats are required to maintain population viability in many stream salamander species (Petranka 1998).

- Studies should be undertaken to determine the cumulative extent of mining impacts on streams in Appalachia.

- An easy-to-use website database should be created so that the public can readily access information on permits.

- Surface mining in Appalachia has been especially harmful for amphibians and mussels. Amphibian diversity and abundance is lower on lands that have been mined (EPA 2005). Wood (2009) reports that salamanders in headwater stream ecosystems have been significantly negatively impacted by mountaintop coal mining. Mountaintop mining negatively impacts many salamander species, including high-elevation endemics, low-elevation cosmopolitan species, low-elevation specialist species, stream salamanders, and cave-dwelling salamanders (Gatwicke 2008). As mountain topography is altered, high-elevation habitat is lost. The flattened topography alters the soil structure and hydrology. Filling valleys with mining waste causes sedimentation downstream that may negatively affect stream salamanders (Starnes & Gasper 1995). Valley-filling activities also result in flooding, sedimentation, and aquatic pollution and alter essential ecological elements for salamanders including organic matter, cover, and the prey base (Gatwicke 2008). Gatwicke (2008) states: "Of all the mining practices in the Appalachians, mountaintop removal is the most visible and destructive for salamanders." Salamander populations may take more than 70 years to recover from disturbance from clearcutting and mining, if they recover at all (Ford et al. 2002, Williams 2003).

- Locke et al. (2006) suggest that mining-influenced tributaries are negatively affecting downstream mussels. Field and laboratory studies implicate sedimentation from mining in the decline of mussels and snails (Aldridge et al. 1987, Neves et al. 1997). Neves et al. (1997) observes that "[m]any species of mollusks have been extirpated from headwater streams where mining has been most intense" (p. 69). Numerous studies have attributed the decline in diversity and abundance of mussels to habitat loss and degradation resulting from coal mining (Neel and Allen 1964, Stansberry 1969, Ahlstedt and Brown 1979, Neves et al. 1980, Branson et al. 1984, Anderson 1989, Houp 1993, McCann and Neves 1992, Wolcott and Neves 1994, Naimo 1995, Ahlstedt and Tuberville 1997, Neves et al. 1997, Cherry et al. 2001, Ahlstedt et al. 2005, Warren and Haag 2005, Locke et al. 2006).

Trout Unlimited

- Research on brook trout in Maryland suggests that "brook trout are very sensitive to landscape alterations in Maryland and disappear at low levels of impervious land cover regardless of the specific mechanism involved." The Maryland study did not examine mountaintop removal mining areas, but the findings regarding deforestation and altered hydrology can help inform mountaintop mining decisions.

  a) Brook trout were almost never found in watersheds where impervious land cover exceeded 4%.

  b) Brook trout appear to only occupy streams with summer temperatures that remain less than 24°C and they prefer much cooler streams (MacCrimmon and Campbell 1969).

  c) Forest cover loss was the most important factor degrading streams and that low levels of development and forest clearing are sufficient to substantially alter hydrological and biological stream conditions (Booth et al. (2002).

  d) Recent brook trout declines and extirpations from many central Maryland streams appear to be correlated with relatively minor amounts (<2%) of total impervious land cover (Boward et al. 1999; Morgan et al. 2004) within a watershed (1224).

  e) For every 1% increase in impervious land cover within a catchment, the odds of brook trout presence decreased by 0.599; brook trout were predicted to be absent from watersheds where impervious cover exceeded 3.3% (1227).[2]

  The impervious surfaces studied in Maryland were comprised of roads, parking lots, rooftops, and other forms of development. Because of the removal of forests and topsoil and the compaction of land in previously mined areas, there are similarities in the hydrologic impacts of mountaintop removal mining. The science on brook trout indicates that impervious surfaces

[2] Stranko, Scott A., Robert H. Hilderbrand, Raymond P. Morgan II, Mark W. Staley, Andrew J. Becker, Ann Roseberry-Lincoln, Elgin S. Perry. *Brook Trout Declines with Land Cover and Temperature Changes in Maryland.* North American Journal of Fisheries Management 28:1223–1232, 2008. DOI: 10.1577/M07-032.1

must be kept to no greater than two percent of a catchment area, and that forested areas should make up at least 70 percent of a subwatershed.

George McClung (WV)

- The majority of "streams" affected are little more than small ditches or drainage ways. A hard look needs to be taken in regard to what actually defines a "stream".

- Water quality standards are unjustly slanted against the coal industry, while other industries (logging, commercial development, sewage treatment, farming, and the list goes on) get very little scrutiny. I personally would much rather drink raw water from the bottom of a mountaintop removal valley fill than from the discharges associated with any of the other industries listed above.

- Selenium is little more than a tool created by coal opponents for the purpose of fighting the mining industry. Compare the limits of 4 ppb for mining with the 50 ppb allowed in drinking water.

- New more stringent regulations affect not only surface mines, but also underground mines and coal refuse facilities. The Appalachian Region is known for its lack of flat ground away from streams and drainage ways.

International Coal Group

- Application of the SBZ rule to fills simply doesn't work and would actually block a primary accomplishment of SMCRA, which was stopping the environmentally-destructive practice of "shoot and shove" mining. Instead of simply pushing material over the hill to form a "spoil bank," SMCRA required that highwalls be backfilled and all excess earthen material be placed in fills. Surely a person can't honestly believe that Congress intended for OSM to adopt a stream buffer zone rule that would ban valley fills in favor of spoil banks, which would be a major step backward for everyone.

- Punitive regulation intended to strangle Appalachian surface mining will have severe and unacceptable economic impacts on West Virginia and Kentucky. Do not change the 2008 stream buffer zone rule, but apply it based on historic precedent.

Kentucky Waterways Alliance

- The original intent of the SBZ rule, which was to prohibit all disturbances within 100 feet of a stream, must be restored and fully enforced.

- To comply with section 702(a) of SMCRA, any SBZ rule or other rules that OSM proposes must be consistent with the Clean Water Act's primary goal, which is "to restore and maintain the chemical, physical and biological integrity of the nation's waters."

Mark Morris (WV)

- The existing SBZ rule is consistent with SMCRA and court decisions and should not be revised. Over-regulating the coal mining industry will ultimately hurt each and every American, compromise our national defense, and deprive us of coal as a bridge to energy independence. More Americans will be hurt by higher energy bills, in a time which most Americans are struggling to make ends meet. With unemployment currently higher than 10 percent, how could the Federal Government force more Americans out of work with this regulation? These actions will devastate the local Appalachian economy and hurt more than just coal miners. This one rule will halt coal mining as we understand it. Our national defense will be compromised because the United States will increasingly purchase its energy from foreign countries with citizens who are intent on doing harm to the country.

The Navajo Nation

- OSM needs to convene regional meetings to explain the analysis that OSM completed before determining that the existing rules need to be changed. The meetings should include representatives of the business community and state and local governments.

North Dakota Public Service Commission

- Some of the alternatives being considered will create a great amount of confusion and unnecessary burdens for the regulatory authorities and mining companies in states like North Dakota in which there have been no concerns or issues with the current stream protections that have been in place for many years. The ANPR indicates that the rulemaking process is being initiated to better protect the environment and the public from the impacts of Appalachian surface coal mining. Rather than initiating a nationwide rulemaking to address concerns in one region of the country, it would be better to identify the key issues and address them on a case-by-case basis in the states where the concerns exist.

Southern Environmental Law Center

- OSM must revoke the 1996 programmatic biological opinion concerning the conduct of surface coal mining and reclamation operations with respect to threatened and endangered species. In addition, the bureau must conduct permit-specific consultations under the Endangered Species Act to avoid jeopardizing any listed species or the destruction or adverse modification of designated critical habitat.

West Virginia Department of Environmental Protection

- This rulemaking provides an opportunity for OSM and other federal agencies to clarify the relationship between SMCRA and the Clean Water Act.

- There is a need to clarify that the SBZ rule applies to activities in streams throughout the country and that the rule does not preclude disposal of excess spoil in areas in which SMCRA expressly allows such disposal.

Pennsylvania Department of Environmental Protection

- OSM should not proceed with a rulemaking that would require all states to amend their programs to resolve a problem that only appears in a few states with mountaintop mining. Should OSM proceed with overly broad rulemaking, Pennsylvania would be forced to amend three statutes and four chapters of mining regulations to conform to new federal regulations, the genesis of which is a form of mining that does not occur in the state. This effort would require a significant investment of time and resources when the state budget and OSM grant are insufficient to fund even the core functions of the state SMCRA regulatory program.
- Because of the complexity of the subject, the process of developing a new SBZ rule should be accompanied by extensive interactive outreach to the states, citizen groups, and the coal mining industry.

- One matter that requires attention is striking a proper balance between maintaining appropriate boundaries among OSM, state regulatory authorities, EPA, and the Corps of Engineers and the need to coordinate permitting reviews and authorizations. Any OSM rulemaking should maintain a focus on SMCRA requirements. Clean Water Act requirements will work themselves out in the context of permitting actions by the states, EPA, and the Corps of Engineers.

United Mine Workers of America

- OSM should encourage public participation in the rulemaking process by holding hearings at times and places that are convenient to stakeholders and do not require blue-collar workers to forfeit pay and incur travel expenses. Hearings are important because blue-collar workers tend to be less comfortable with the written word.

- There should be no permitting moratorium while the rulemaking process is underway.

- The UMWA vigorously opposes any unnecessary regulation that would result in a loss of employment for union members.

- Any SBZ rule must clearly allow surface mining activities to take place within the buffer zone.

Approximately 18,000 commenters

- OSM should rely upon sound science to prohibit both valley fills and mining through streams.

Detailed Summary of Comments on Alternatives Listed in the ANPR

Note: Specific suggestions for rule revisions other than those listed in the description of the alternative itself are highlighted in yellow.

***Alternative 1*: Replace the 2008 stream buffer zone (SBZ) rules at 30 CFR 780.28, 784.28, 816.57, and 817.57 with the 1983 version of the SBZ rule at 30 CFR 816.57 and 817.57.**

- OSM should quickly and fully restore the protections present under the 1983 SBZ rule. (approx. 31,000 commenters)

- The previous SBZ rules (1977, 1979, 1983, and 2008) have not adequately ensured the protection of streams. Accordingly, stronger regulations than the 1983 rules are now necessary to protect aquatic values, and stronger enforcement is required. SMCRA requires that natural watercourses be protected during coal mining activities, but to date it is apparent that the health of waterways has been sacrificed for coal production. (Center for Biological Diversity)

- Instead of reinstating the 1983 SBZ rule, OSM should adopt as its preferred alternative a rule that would strictly prohibit the filling or mining through of any stream segment. (SELC)

- Failing that, OSM should reinstate the 1983 SBZ rule, but expand its applicability to include ephemeral streams and make strict enforcement of this rule a condition of all state regulatory programs. In addition, OSM should apply and require that states interpret the 1983 rule in the manner set forth in the appellate brief that the Government filed in the *Bragg* litigation. Finally, OSM should reaffirm that the prohibitions and restrictions in the rule apply to the stream segment in the footprint of any proposed fill as well as to downstream reaches of the stream. (SELC)

- Replacing the 2008 SBZ rule with the 1983 version of the rule would be consistent with the intent of the MOU and should promote stream protection because the 2008 rule exempts certain activities from the buffer zone protections and does not require protection of a buffer zone for a stream segment that ceases to exist in its original location as a result of mining activities. (Corps of Engineers)

- This alternative would, in effect, maintain the status quo for all primacy states that have not amended their programs in response to the 2008 SBZ rule. (VA DMME)

- Repeal of the 2008 SBZ rule and reinstatement of the 1983 rule would be the preferred option for Pennsylvania. However, the general concept of exempting certain activities (e.g., the construction of coal mine waste disposal facilities in perennial or intermittent streams) from the prohibitions and restrictions of the SBZ rule and instead crafting specific requirements for that class of activities is also reasonable. (PADEP)

- The current North Dakota stream protection rule, which is based on the 1983 version of the SBZ rule, has been in place for nearly 25 years and is working without concerns or issues. Therefore, reinstatement of the 1983 rule should be considered. (ND PSC)

- The best course of action would be to retain the 2008 rule. Nevertheless, if OSM moves forward with a proposal to return to some version of the 1983 rule, it is imperative that the agency provide clear guidance that conducting surface coal mining activities in the stream buffer zone is not prohibited. No rational interpretation of a stream buffer zone rule could survive judicial challenge if it provided for either a *per* se or a *de facto* prohibition on filling some stream segments. (NMA)

- OSM should implement the 2008 rules and give them a chance to further improve environmental performance before even considering, let alone initiating, major regulatory changes in an area that is in dire need of regulatory stability. (NMA, assorted mining companies, approx. 1,500 other commenters)

- The Alaska coal program has run under the 1983 version quite successfully. A return to this version would be acceptable to the Alaska Coal Association membership. (Alaska Coal Ass'n)

- OSM should not revert to the 1983 SBZ rule. The existing (2008) rule finally clarified what industry needed to do to protect streams. It would be a mistake to throw out that rule and return to the confusion and uncertainty associated with the 1983 rule. (Wyoming Mining Ass'n)

- OSM should retain the 2008 SBZ rule, which was the result of a 5-year public process and which ended years of ambiguity and uncertainty. If changes are needed to address certain mining operations in Appalachia, OSM should develop a separate SBZ rule for that region of the country. (Illinois Coal Ass'n, Indiana Coal Council)

- Reinstatement of the 1983 SBZ rule would do nothing to address the concerns raised in the MOU and would return the industry to the same uncertain interpretive quagmire that existed prior to adoption of the 2008 rule. The 1983 rule is unworkable. (Ohio Coal Ass'n)

- If the 1983 version of the SBZ rule is reinstated and its interpretation remains faithful to SMCRA, it will result in a decrease in the amount of environmental analysis and review of mining permits that are situated in or near streams. Considering the stated goals of the MOU upon which the ANPR was based, repealing a more stringent regulation in favor of a less stringent one is, at worst bizarre, and, at best, confusing. (West Virginia Coal Ass'n)

- The 1983 language is legally vague, which is one major reason why the 2008 change was made. Returning to the 1983 language would likely result in increased litigation. (Peabody)

- Legal challenges to the 1983 rule as well as difficulties in practical application of the 1983 rule are discussed in detail in the preamble to the final 2008 rule. We have experienced these difficulties first-hand and recognize that application of the rule requires greater detail than is provided in the 1983 rule. For these reasons, we object to this alternative. (D.R. Allen & Associates)

- North Dakota lignite producers worked effectively with the North Dakota regulatory authority under the 1983 SBZ rule. However, the producers have reviewed the 2008 rule and determined that they can also work well under that rule. Therefore, no change in the national 2008 rule is recommended, although states should have the discretion to revise their rules to address problems of a state or regional nature. (Lignite Energy Council)

Alternative 2: **Apply the prohibitions and restrictions of the stream buffer zone rule to all segments of all perennial and intermittent streams and to the surface of all lands within 100 feet of those streams, with the possibility of adding restrictions on disturbance of ephemeral streams.**

- Prohibiting the placement of excess spoil or coal mine waste in all segments of intermittent or perennial streams, or even imposing a rebuttable presumption that such placement is unacceptable, exceeds restrictions authorized or contemplated by SMCRA, and would be contrary to it. (NMA)

- Prohibiting placement of excess spoil in perennial and intermittent streams would destroy the surface coal mining industry, while prohibiting placement of coal mine waste in perennial and intermittent streams would destroy the underground coal mining industry in central Appalachia. (NMA)

- Close coordination on federal and state stream jurisdictional determinations will be needed to implement this alternative. (Corps of Engineers)

- Please provide clarification to distinguish between prohibition of spoil placement in perennial and intermittent streams and their buffer zones and restrictions on spoil placement in ephemeral streams and their buffer zones. (Corps of Engineers)

- This alternative would expand the prohibitions established under section 522 of SMCRA and would necessitate statutory and regulatory amendments. (VA DMME)

- This option should not be considered because it appears to conflict with section 515(b)(22)(D) of SMCRA, which allows the disposal of excess spoil in natural water courses if lateral drains are constructed to prevent the infiltration of water into the spoil. (ND PSC, others)

- The focus of protection should remain on perennial and intermittent streams because those terms are well-understood and relatively straightforward to implement. Any other alternative would be unnecessarily disruptive to state regulatory programs and would inject litigation and its associated costs and delays into the permitting process. (PADEP)

- To prohibit mountaintop mining or valley fills by regulation would be directly and clearly contrary to SMCRA and how it has been interpreted by the courts. As the 4th Circuit explained:

> SMCRA does not prohibit the discharge of surface coal mining excess spoil in waters of the United States.... It is beyond dispute that that SMCRA recognizes the possibility of placing excess spoil material in waters of the United States even though those materials do not have a beneficial purpose.

Kentuckians for the Commonwealth v. Rivenburgh, 317 F. 3d 425, 442-443 (4th Cir. 2003). (NMA)

- This alternative would result in sterilizing certain coal reserves. Valuation of federal coal for bidding purposes would become uncertain and the federal government may need to compensate operators mining existing leases where restrictions are placed on the reserve that could not be foreseen during the bidding process. (Colorado Mining Ass'n, Peabody)

- The possibility of prohibiting surface coal mining activities in ephemeral streams is particularly troubling because it would severely restrict coal production nationwide. (BHP Billiton)

- Such a blanket prohibition would be overly restrictive, is an over-reaction, removes any ability to evaluate a plan at the state level, and is counter to the preamble of SMCRA in which a balance between protection of the environment and the nation's need for coal as an energy source is required. Streams can have vastly different value, function and density in various areas of the nation. A blanket prohibition does not allow for a fair and valid case-by-case review. In areas with an extremely high drainage density, such as exists in portions of Alaska, this single alternative could prohibit coal mining in the region, even though plans and operations could readily be designed with no material damage to the regional hydrologic balance. The same could be said for coal mines in arid regions. Please drop this alternative from consideration. (Alaska Coal Ass'n)

- OSM previously considered and rejected application of the SBZ rule to ephemeral streams during both the 1983 and 2008 rulemaking processes. The arguments in Part VII of the preamble to the 2008 rule remain sufficient to justify excluding ephemeral streams from application of the rule. (D.R. Allen & Associates)

- Many intermittent streams can be of low value because of land uses such as agricultural drainage systems. Mitigation as part of the mining and reclamation operation can enhance the stream's environment, in which case it makes no sense to prohibit mining activities in those streams and their buffers. (Peabody, Colorado Mining Ass'n)

- This alternative likely would eliminate most surface mining because streams are ubiquitous and it is not reasonable economically or environmentally to mine in between them. (Peabody)

- SMCRA has never included a prohibition on mining in stream buffer zones. Therefore, OSM has no authority to adopt such a prohibition. The courts have struck down a previous attempt by OSM to extend a prohibition expressed in SMCRA beyond the distance specified in the Act. See *In re: Surface Mining Regulation Litigation,* 627 F.2d 1346, 1358-1359 (D.C. Cir. 1980). (Mettiki)

- OSM should prohibit all surface mining activities, including the placement of spoil, mine waste, and/or fill, along the entire length of perennial, intermittent, and ephemeral

streams and to the surface of all lands within at least 200 feet of those streams, without exception. It has been demonstrated that 100-foot buffers are not large enough to protect aquatic values during activities that produce severe sedimentation, such as surface coal mining, and in areas with steep terrain (Wenger 1999). (Center for Biological Diversity)

- OSM should not propose or adopt the variation of this alternative that would establish a rebuttable presumption that placement of excess spoil or coal mine waste in a perennial or intermittent stream is prohibited because it would result in an unacceptable level of environmental damage. Adoption of this presumption would simply preserve the status quo and allow unwarranted and routine exceptions to the prohibitions in the SBZ rule. (SELC)

- We support this alternative to the extent that it is intended to ordinarily disallow spoil and waste disposal in streams as well as on the lands surrounding those streams. We also support extending this protection to ephemeral streams, especially since there is uncertainty as whether and to what extent those streams will receive protection under the Clean Water Act. (NRDC)

Alternative 3: **Revise 30 CFR 816.57 and 817.57 to provide that the SMCRA regulatory authority may authorize mining activities in a perennial or intermittent stream, or on the surface of land within 100 feet of such a stream, only if those activities (1) would not violate sections 401 and 402 of the Clean Water Act; (2) would not violate section 404 of the Clean Water Act; (3) would not significantly degrade the water quantity or quality or other environmental resources of the stream; and (4) would minimize disturbances and adverse impacts on fish, wildlife, and other related environmental values of the stream to the extent possible using the best technology currently available.**

- Any changes should consider and clearly explain how they will relate to TMDL reports and requirements. (VA DMME)

- This rather vague option should not be considered because it is likely to create situations in which OSM inspectors and technical reviewers will second-guess findings made by the state regulatory authority. (ND PSC)

- The federal agencies should take this opportunity to clarify the relationship between the SMCRA permit and the section 404 authorization. How can the SMCRA regulatory authority impose requirements that are in conflict with a Clean Water Act authorization? (WVDEP)

- For this alternative to be successful, concurrent evaluation of all permit applications by all regulatory authorities would be necessary. The rule should require that the SMCRA regulatory authority communicate with the Corps of Engineers with respect to compliance with section 404 of the Clean Water Act and communicate with the applicable state NPDES permitting authority and/or EPA to determine compliance with sections 401 and 402 of the Clean Water Act. (Corps of Engineers)

- The first two criteria under this alternative are superfluous and unnecessary because, with or without such a SMCRA rule, mining operations must still comply with applicable provisions of the Clean Water Act. Including the provisions suggested in this alternative in SMCRA rules would be inappropriate because it would place the SMCRA regulatory authority in the position of making determinations on whether or not the Clean Water Act would be complied with or is even applicable. SMCRA regulatory authorities have absolutely no authority to make such determinations, nor can OSM give them such authority by regulation. Section 702(a)(3) of SMCRA states that nothing in SMCRA shall be construed as superseding, amending, modifying or repealing the Clean Water Act or its implementing regulations. Neither the Clean Water Act nor its implementing regulations provide for authorizing SMCRA regulatory authorities to make applicability or compliance determinations for sections 401, 402 or 404 of the Clean Water Act unless the delegation occurs under the Clean Water Act, not SMCRA. (NMA)

- The third criterion would need some spatial clarification such as outside the permit area or within 100 feet of the surface mining activities. Without such clarification, there will be controversy over whether this language does or does not preclude constructing an excess spoil fill in an intermittent or perennial stream, just as there was with the 1983 SBZ rule. (NMA)

- The wording of the fourth criterion is essentially identical to existing 30 CFR 816.71(a)(4) and 816.57(c)(3) as finalized in the 2008 rulemaking. Therefore, existing OSM rules already require that the regulatory authority must find that an operation will comply with these requirements before a permit can be issued. There is nothing new in this criterion that is not contained in existing rules. (NMA)

- The ambiguous language of the fourth criterion of this alternative is worrisome. How will OSM determine if disturbances or adverse impacts have been properly "minimized"? What do you consider an adverse impact? What exactly are "other related environmental values"? (D.R. Allen & Associates)

- How will minimization "to the extent possible" be interpreted? Will the need for a company to have a financial incentive to mine coal be considered? The balance between environmental protection and allowing for such a financial incentive is critical to ensuring the continued production of coal at levels necessary for sustainability of both our nation's energy supply and economy. (D.R. Allen & Associates)

- This alternative is fraught with ambiguity. Its adoption would result in a return to the very same interpretive ambiguity from which OSM emerged with the promulgation of the 2008 rule. (Ohio Coal Ass'n)

- OSM should revise 30 CFR 816.57 and 817.57 to provide that the SMCRA regulatory authority may not authorize mining activities in perennial, intermittent, or ephemeral streams under any circumstances. The best technology currently available to ensure that

streams meet Clean Water Act standards is to prohibit all mining activity near streams. Given the history of lax Clean Water Act enforcement, the addition of caveats requiring Clean Water Act compliance is inadequate to protect waterways from continuing to be filled or polluted by surface mining activities. Moreover, it is known that in mining areas, current water quality criteria are not adequate to protect sensitive species or sensitive life stages of species (Neves et al. 1997, FWS 1994, 1997, 2009). (Center for Biological Diversity)

- The National Park Service supports the third criterion of this alternative, which would prohibit significant degradation of the water quantity or quality or other environmental resources of the stream outside the permit area. While section 522(e)(3) of SMCRA prohibits surface coal mining activities outside park boundaries that would adversely affect any publicly owned parks, the Service has been reluctant to raise this prohibition even though numerous units of the National Park System are downstream recipients of runoff originating on or near surface coal mining operations and therefore could be adversely affected by this nonpoint discharge. We believe that a more effective way to protect park resources from upstream discharges is by preventing significant degradation of the water quantity or quality or other environmental resources of the stream outside the surface mining permit area altogether. (NPS GRD)

***Alternative 4*: Establish numerical limits on fill size, the percentage of a watershed disturbed by mining operations at any one time, or total stream miles covered by fills in each watershed.**

- There is no new information that would justify limits of this nature. OSM should avoid a "one size fits all" approach. Determinations should be site-specific and take into consideration past mining impacts and opportunities to improve sites left unreclaimed by prior mining. (VA DMME)

- This option should not be considered because it would be very difficult to establish thresholds of this nature to cover the variety of conditions that exist in different areas. (ND PSC)

- Proposing one-size-fits-all numerical limits is impracticable and inappropriate because of differences in site-specific characteristics. (WVDEP)

- This alternative would effectively prevent Alaska from developing its coal resources in a way that maximizes resource recovery while still protecting the environment. (Alaska DNR)

- Establishing numerical limits would be very difficult. The rule should instead require an analysis of the structure and function of premining stream channels to allow regulatory authorities to evaluate whether reclamation or mitigation is adequate to offset stream losses as a result of the mining activity. (Corps of Engineers)

- A 30-day comment period is insufficient for industry to provide the requested information concerning bright-line thresholds. (Ohio Coal Ass'n)

- Imposing numerical limits on fill size is unsound from an environmental standpoint. The laws of geometry dictate that placing 30 million cubic yards of excess spoil in 30 separate one-million-cubic-yard fills would affect substantially more total area with much greater risk of fill failure than placing that same material in six separate five-million cubic yard fills, which would, in turn, cover more total area with greater risk of failure than placing the entire 30 million cubic yards in one fill. (The surface area-to-volume ratio decreases as volume increases, which means that 30 separate one-million cubic yard fills would cover approximately 10 times the surface area that would be covered by one 30-million cubic yard fill.) (NMA)

- Imposing numerical limits on fill size is unsound from the standpoint of safety and stability. Gravity comes into play because the smaller the fill, the higher the toe of the fill would be--and the higher the toe of the fill, the steeper the slope where that toe is placed. A fill that toes out where the slope of the natural ground is less than 10 percent is orders of magnitude easier to hold in place than one where the slope of the natural ground is over 15 percent at the toe (and there would be 30 fill toes on those steeper slopes rather than six toes on a gentler slope, or one toe on a still gentler slope). (NMA)

- The courts have held that an agency seeking to change its previous holdings must provide a thorough and comprehensive statement of reasons for the decision and, in cases where the agency's rule departs from prior policy, such analysis must go beyond that which is required when the agency has not taken a position in the first instance. In this case, OSM has previously taken the position that there is neither statutory authority nor a scientific basis for establishing bright-line numerical thresholds for fills. Thus far, OSM has identified no change in its SMCRA authority nor has it produced any new scientific data to support a change in its prior findings on these issues. (NMA)

- This alternative would be inconsistent with the maximum economic recovery requirements of the Mineral Leasing Act for leased federal coal as set forth in 43 CFR 3484.1. (BHP Billiton)

- A numerical limit on the size of fills, percentage of watershed disturbed, or total miles covered by fills could never be developed for Alaska, much less nationally. Even with exhaustive scientific information gathered at the cost of tens of millions of dollars, there are no one-size-fits-all limits that could be appropriately applied. We suggest this alternative be dropped from further consideration. (Alaska Coal Ass'n)

- Limits on fill size or stream miles do not make sense in this context. Mitigation should be considered in determining what impacts are significant. Otherwise, substantial coal reserves will be sterilized. (Peabody)

- Considering the large variations in project-specific site conditions throughout the Appalachian surface coal mining states, application of even a regional limit (whether numerical, qualitative, or quantitative) to all operations is nonsensical. (D.R. Allen & Associates)

- The new rule should establish numerical limits on the percentage of a watershed or county that can be cumulatively permitted for mining activities, past or present. Whether the numerical limit is determined by watershed boundary or county boundary should be based on which delineation will result in the least amount of area that is permitted for mining. We support using county delineations because that data is already available for eastern Kentucky and West Virginia in the December 2009 Governmental Accountability Office report on surface mining in the Appalachian portions of those states. Numerous scientific studies have shown that biodiversity and water quality are negatively affected when greater than 10 percent of the surface area of a watershed has been altered (e.g., Yaun and Norton 2003, Allan 2004, Morgan and Cushman 2005).

  Based on this standard, we suggest as the most lenient standard, denial of the further issuance of surface mining permits in counties or watersheds where 10 percent of the land area has already been permitted for surface coal mining, whether the permits are active or reclaimed. With regard to a numerical limit on fill size or total stream miles covered by fills within a watershed, the limit should be set at the present amount of devastation, and no further filling of streams should be permitted, without exception. (Center for Biological Diversity)

- Numerical limits are vital to addressing cumulative impacts from surface mining and to give effect to the requirement in section 515(b)(24) of SMCRA that adverse impacts on fish, wildlife, and related environmental values be minimized to the extent possible, using the best technology currently available. There is scientific support for prohibiting all fills in streams, but, failing that, the rule should prohibit the issuance of new permits for mining through or filling a stream in any watershed in which surface coal mining operations have affected 10 percent of the watershed. (SELC)

- If a permit is issued and subsequent monitoring shows significant degradation or violation of water quality standards, the rule should require that the regulatory authority order a cessation of operations. (SELC)

Alternative 5: **Establish a quantitative or qualitative threshold beyond which further damage to water quality or aquatic life in a particular watershed would be prohibited.**

- Virginia already implements this approach through its TMDL program, which establishes protective thresholds for aquatic life on a watershed basis. Only permit applications that propose to offset their pollution loads with watershed improvements are eligible for approval. Other states should emulate Virginia's example. (VA DMME)

- Any threshold involving benthic life impairments should state specifically what species of macroinvertebrate or other biological marker organism(s) indicates impairment. For instance, does the presence or absence of a particular mayfly species when other mayfly species are present indicate impairment? Additionally, the assessment protocol, scoring method and specific score should be specified. Any in-stream water quality criteria based on benthic life impairment should not be mandated on a regional basis because Virginia's experience with TMDLs indicates that some of the most detrimental impacts on benthic life result from development and straight-pipe discharges, not coal mining. (VA DMME)

- This option should not be considered because it would be very difficult to establish this type of threshold due to the variety of conditions that exist. (ND PSC)

- Pennsylvania is not aware of any empirical data that would support a quantitative impact threshold. (PADEP)

- Guidelines for water quality standards and effluent limitations designed to protect water quality and aquatic life for specific uses have already been established under the Clean Water Act. The courts have rejected previous OSM rules that intruded into this area of Clean Water Act regulation. (WVDEP)

- This alternative would effectively prevent Alaska from developing its coal resources in a way that maximizes resource recovery while still protecting the environment. (Alaska DNR)

- This type of threshold may be difficult and impracticable to establish because it would require comprehensive analyses of the baseline conditions of all affected watersheds and their ecological carrying capacity. (Corps of Engineers)

- When assessing water quantity and quality outside the permit area, the SMCRA regulatory authority should work closely with both the EPA and other federal land managers, like the NPS, to identify downstream aquatic resource impacts and to develop appropriate water quality and quantity thresholds that promote healthy natural aquatic systems for federal trust resources. Impacts from individual operations as well as cumulative impacts need to be evaluated with regard to aquatic species, especially threatened and endangered species. These impacts also should be considered in assessing past and present conditions in the watershed. (NPS GRD)

- Establishing watershed water quality criteria (either quantitative or qualitative) is entirely beyond the scope of what is authorized by SMCRA. This approach cannot be harmonized with the Clean Water Act and would be in violation of section 702(a)(3) of SMCRA, which states that nothing in SMCRA shall be construed as superseding, amending, modifying or repealing the CWA or any rule or regulation promulgated there under. (NMA)

- Establishing an arbitrary threshold is not feasible and is beyond the scope of SMCRA authority. These concerns should be covered by the existing requirement for a cumulative hydrologic impact assessment and separate permitting processes under the Clean Water Act. (Colorado Mining Ass'n)

- Mitigation should be considered in determining impacts. (Peabody)

- Considering the large variations in project-specific site conditions throughout the Appalachian surface coal mining states, application of even a regional limit (whether numerical, qualitative, or quantitative) to all operations is nonsensical. (D.R. Allen & Associates)

- The rule must define what a watershed is for regulatory purposes. (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission)

- Cumulative impairments should be examined at multiple levels, starting with a very local scale (HUC 14) and include the small watershed scale (HUC 11) to HUC 8 scale (watershed level). Otherwise, true watershed impacts cannot be assessed. (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission)

- The development of cumulative thresholds should be evaluated across various seasonal flow regimes to establish appropriate values. In addition, criteria should be set in relation to least disturbed condition streams from nearby areas. OSM or permit applicants should fund studies to gather information on what the critical environmental thresholds should be for threatened or endangered species (water quality, percentage of local watershed disturbance). (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission)

- OSM should consider the diversity, connectivity, and integrity of freshwater mussel communities within watersheds, especially those downstream of major mining operations. (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission)

- OSM should work directly with EPA, the U.S. Geological Survey, and scientific groups such as the North American Benthological Society, the American Fisheries Society, the Ecological Society of America, and the Freshwater Mollusk Conservation Society, to establish a framework for establishing appropriate criteria for biological thresholds. (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission)

- The cumulative effects of mining on groundwater resources must be considered as these connections are critical to the hydrological and biological integrity of watersheds. (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission)

- Appalachian waterways have already been ravaged by surface coal mining and no further degradation of aquatic habitats should be permitted. (Center for Biological Diversity)

***Alternative 6*: Adopt by regulation the watershed approach described in the preamble to the 2008 rule, rather than making project-specific determinations.**

- Any watershed approach must properly account for pre-SMCRA and nonmining pollutional loads, as well as accurately measure those loads through data analysis. (VA DMME)

- A watershed approach could open the window to the use of offsite best management practices and offsets that would provide the most benefit to water quality and aquatic life. It should encourage offsets to NPDES pollutant loading by companies engaging in point source to non-point source offsets and not in-kind offsets such as offsets for TSS or TDS for straight-pipe removal or sewage treatment projects. (VA DMME)

- This option is quite vague and more specifics are needed to have a clearer understanding of the proposal in order to properly evaluate and comment on it. (ND PSC)

- This alternative should be implemented. The SMCRA regulatory authority should evaluate the individual and cumulative effects of past, present, and reasonably foreseeable future activities in the watershed. The rule should specify the size of the watershed that must be evaluated, using Hydrologic Unit Codes. (Corps of Engineers)

- Requiring operators to engage in watershed-scale impact analysis likely would result in the extinction of mining by many of Ohio's smaller operators. The analysis is legally tenuous and would require operators to engage in a guessing game with respect to future mining development, land use, and downstream uses and characteristics. (Ohio Coal Ass'n)

- This alternative ignores the essential point that coal mining operations differ from other industrial sites that EPA is used to regulating. Mines can only go where the minable coal is. Coal mines are, by necessity, located where minable coal reserves are located. Minable reserves are not evenly distributed, nor do they encompass only a certain percentage of each watershed. Some watersheds are full of minable reserves, while others have few or no reserves. To preclude the mining of minable reserves--particularly when the infrastructure and equipment is already in the area--simply because other mines are already in the watershed makes no sense, either from an environmental or practical perspective. It would only increase the size of the infrastructure footprint for the same amount of coal production. (NMA)

- This alternative would be contrary to SMCRA in that section 102(k) encourages the "full utilization of coal resources" by underground mining methods, and section 515(b)(1) requires that surface coal mining operations be conducted so as "to maximize the utilization and conservation of the solid fuel resource being recovered so that

reaffecting the land in the future through surface coal mining can be minimized." (NMA)

- Precluding mining of readily available reserves would constitute a taking of private property requiring just compensation under the Fifth Amendment to the Constitution, especially when coal reserves are acquired years prior to mining, which is typically the case. (NMA, Colorado Mining Ass'n, Peabody)

- The SMCRA mandate for the regulatory authority to prepare a cumulative hydrologic impact assessment (CHIA) should not and cannot be shifted to the permit applicant. Further, the finding required by the regulatory authority, after preparing the CHIA, only applies to the proposed operation, not all anticipated mining. (NMA)

- Stopping mining in a watershed as opposed to providing sufficient mitigation will drive mining into greenfield locations, which would potentially be both more costly and more environmentally damaging. If mitigation is sufficient, there is no sound reason to limit mining in a watershed. (Peabody)

- All the factors mentioned in the 2008 preamble discussion of the watershed approach that EPA recommended are required under the Clean Water Act, not SMCRA. OSM has no authority to incorporate these requirements into SMCRA regulations, nor can OSM legally assume Clean Water Act duties that are reserved to EPA and its delegated states. (West Virginia Coal Ass'n)

- The rule must define what a watershed is for regulatory purposes. (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission)

Alternative 7a: **Define the term "material damage to the hydrologic balance."**

- This definition is needed, together with identification of actions that can be taken to ensure the material damage is prevented. (Corps of Engineers)

- The definition should require consideration of adverse on-site impacts, such as the conversion of perennial or intermittent stream segments within the permit area to ephemeral stream segments following reclamation. (Corps of Engineers)

- OSM should define the term "material damage to the hydrologic balance outside the permit area" to expressly include:

  a) exceedance of any applicable federal or state numeric water quality standard for a pollutant or condition that a surface coal mining and reclamation operation may reasonably be expected to discharge, cause, or worsen, where the exceedance occurs in any water resource that a particular surface coal mining and reclamation operation may or does detectably affect;

  b) any lesser concentration or load of a mining-related pollutant or combination of pollutants that a SMCRA or Clean Water Act regulatory authority may find to

indicate or constitute an unacceptable degree of damage to a water resource that a surface coal mining and reclamation operation may or does detectably affect;

c) any condition that applicable federal or state narrative water quality standard or anti-degradation standard prohibits and that a surface coal mining and reclamation operation may reasonably be expected to cause or worsen in a water resource that the operation detectably affects;

d) any other condition that the regulatory authority determines to constitute an unacceptable degree of damage to a water resource that a surface coal mining and reclamation operation may or does detectably affect; or

e) disturbance of more than 10% of the land area of any watershed.

Section 702(a)(3) of SMCRA precludes OSM from defining "material damage to the hydrologic balance outside the permit area" in any manner that fails to recognize an exceedance of applicable water quality standards under the Clean Water Act or state statutes that implement the Clean Water Act as "material damage to the hydrologic balance." (Appalachian Center for the Economy and the Environment)

- The definition of the term "material damage to the hydrologic balance outside the permit area" must expressly include any potential exceedance of state or federal numeric or narrative water quality standards or antidegradation requirements. (SELC)

- The significant amount of hydrologic information gathered during the past 25 years demonstrates the great variability in conditions from area to area and state to state. It confirms the wisdom of OSM's 1983 decision to leave determinations of material damage to the states, rather than codifying a national definition or establishing national criteria for material damage. (VA DMME)

- If OSM decides to define material damage, the definition must be based on sound science and be site-specific. A scoring matrix of relevant factors may provide the necessary flexibility. (VA DMME)

- To be consistent with EPA actions, any definition should consider establishing a conductivity of approximately 500 micro Siemens or TDS of approximately 350 mg/l as thresholds for material damage. (VA DMME)

- Any definition of material damage that includes a benthic life component should state specifically what species of macroinvertebrate or other biological marker organism(s) will be used as a measure of impairment. For instance, does the presence or absence of a particular mayfly species, when other mayfly species are present, indicate impairment? Additionally, the assessment protocol, scoring method, and specific score should be established. (VA DMME)

- Any in-stream water-quality-based definition of material damage to benthic life should take into consideration the fact that benthic impairment results from a combination of factors (e.g., drought, development, and straight-pipe discharges) that are not all related to coal mining. (VA DMME).

- As mentioned in the ANPR, OSM did not define this term in the past because the gauges for measuring damage vary from area to area and from operation to operation. This rationale remains valid. Therefore, we strongly oppose the suggestion that "material damage" be defined by rule. When the material damage topic has come up in OSM training courses and other discussions, OSM staff has consistently stated that this needs to be evaluated and determined on a case-by-case basis. (ND PSC)

- West Virginia has already adopted a definition of this term, as has OSM in Tennessee. Both definitions are crafted to avoid potential inconsistencies with the Clean Water Act. (WVDEP)

- Given the significant differences in geology, hydrology, and terrain among the various regions of the country where surface coal mining operations occur, regulatory terms such as "material damage to the hydrologic balance" have necessarily been left to each state to define based on their unique circumstances. This is the very essence of SMCRA's design, whereby Congress vested primary governmental responsibility for developing, authorizing, issuing and enforcing regulations for surface coal mining and reclamation operations with the states so as to accommodate the diversity in terrain, climate, biologic, chemical, and other physical conditions in areas subject to mining operations. (IMCC, Ohio Coal Ass'n)

- It is difficult to imagine one nationwide definition (or nationwide criteria) for what constitutes "material damage to the hydrologic balance outside the permit area." While some generic qualitative language like the definition that OSM has approved as part of the Wyoming program might work nationwide, it is hard to see that it would add much clarity. Criteria that would be appropriate for defining material damage to the hydrologic balance outside the permit area-for a permit covering thousands of acres in the Four Corners area with annual precipitation less than 10 inches a year and no intermittent or perennial streams in the immediate area can and should be quite different than those criteria appropriate for a mountaintop operation in central Appalachia, or a large dragline operation in the flat areas of east Texas with more than 50 inches of annual precipitation. (NMA)

- If OSM does propose a definition, the phrase "outside the permit area" should be included as part of the term because it is an integral part of the finding that a regulatory authority must make. (NMA)

- If OSM deems a definition necessary, it should include the following language: "Any long-term or permanent change in the hydrologic balance caused by surface mining operations that has a significant adverse impact on the capability of the affected water resources to support existing conditions and uses." (Mettiki)

- Time and further development of science cannot override geography. (West Virginia Coal Ass'n)

- OSM is precluded from assuming any role in areas of water quality regulation that are reserved to individual states under the Clean Water Act. (West Virginia Coal Ass'n)

- It would be difficult to come up with a definition appropriate for the vastly differing hydrologic conditions where coal mining occurs, and by necessity should be determined by state programs relative to individual sites. (Colorado Mining Ass'n)

- As stated in the ANPR, in 1983, OSM decided not to propose or adopt a definition or fixed criteria for material damage to the hydrologic balance "because the gauges for measuring damage may vary from area to area and from operation to operation." This is still the case; the conclusion drawn in 1983 still applies today. For example, the tolerance for change in a highly productive aquatic habitat would be significantly different than that for a barren aquatic zone. State programs should have the flexibility and authority to judge each project on a case-by-case basis. (Alaska Coal Ass'n)

- Any definition most likely would be unworkable because it would probably conform to the current EPA stance that almost any adverse impact on aquatic communities equates to material damage to the hydrologic balance. (Clintwood Elkhorn Mining Company)

- While understanding of the relevant hydrology and associated technology have advanced since 1983, the statement in the 1983 preamble quoted in the ANPR remains relevant: "...the gauges for measuring damage may vary from area to area and operation to operation..." The large variations in project-specific site conditions (climate, geology, etc.) would make any definition of material damage ripe for legal challenge. (D.R. Allen & Associates)

***Alternative 7b*: Revise the definition of "cumulative impact area" and the requirements for CHIAs and PHC determinations to incorporate elements that are consistent with the manner and standards by which the Corps of Engineers determines potential cumulative adverse impacts on waters of the United States under section 404 of the Clean Water Act.**

- OSM should align the geographic scope of the cumulative impact analysis under SMCRA with the geographic scope of NEPA to promote greater consistency between SMCRA and Clean Water Act cumulative impact analyses. (Corps of Engineers)

- OSM should not revise the definition of "cumulative impact area" to incorporate the manner and standards used by the Corps of Engineers for determinations under section 404 of the Clean Water Act. It is not necessary to invoke standards developed by another federal agency to meet provisions under a different federal act. (ND PSC)

- OSM should not incorporate elements of the Corps of Engineers' processes and standards for potential adverse impacts of fill disposal under the Clean Water Act Section 404 program into the SMCRA probable hydrologic consequences (PHC) determination and CHIA processes. As acknowledged in the ANPR, the Corps is concerned with determining adverse impacts to waters of the U.S. in relation to the discharge of fill material under Section 404 of the Clean Water Act. The CHIA process and the finding that the SMCRA regulatory authority must make is concerned with the possible impact of the entire mining operation upon the entire hydrologic balance outside the permit area (not the stream inside the permit area and not just the stream). (NMA)

- As the jurisdictional reach of the Corps of Engineers has been limited to the affected waters and adjacent riparian areas by the U.S. Court of Appeals for the Fourth Circuit in *Ohio Valley v. Aracoma Coal Co.*, No. 07-1479 (4th Cir. 2009), the differences in the scope of analysis between the section 404 and SMCRA permits warrant elimination of the portion of this alternative that would have OSM incorporate elements of the Corps of Engineers' processes and standards for potential adverse impacts of fill disposal under the Clean Water Act section 404 program into the SMCRA PHC determination and CHIA processes. (D.R. Allen & Associates)

- OSM should not revise the definition of "cumulative impact area" at 30 CFR 701.5. The definition requires regulatory authorities to delimit cumulative impact areas on the basis of scientific analysis of hydrologic data that demonstrate the geographic extent to which the effects of a proposed surface coal mining and reclamation operation may, given the particular environmental conditions adjacent to the proposed permit area, interact with the hydrologic effects of other mining operations to produce a cumulative impact on the hydrologic balance. That method of delimiting cumulative impact areas is pragmatic, wholly supportive of the purpose of CHIA analysis, easily reviewable for error, and not susceptible to manipulation by those who favor or oppose mining without regard to Congress's intent in enacting SMCRA. Properly applied, the definition works well. [Appalachian Center for the Economy and the Environment (ACEE), West Virginia Coal Ass'n]

- The Corps of Engineers' "Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material" contains scant methodology or standards for OSM to incorporate into its CHIA regulations. Other than repeated admonitions to look both individually and cumulatively at the various effects of fill placement, the "Guidelines" mention "cumulative" analysis only twice. Neither of these provisions adds anything to the CHIA process defined in OSM's current regulations and internal guidance documents. The Corps's cumulative impact methodology appears to differ from OSM's CHIA procedures only by limiting the extent of the Corps's analysis to what that agency deems "reasonable and practical," as opposed to OSM's statutory mandate to evaluate "the probable cumulative impact of all anticipated mining in the area" of a proposed mine. 30 U.S.C. § 1260(b)(3). Certainly, OSM has no authority to curtail the focus of its CHIA analysis to anything less than the extent of the agency's statutory mandate. Accordingly, OSM could not incorporate the Corps's narrower cumulative impact focus. (ACEE)

- Congress chose to elevate cumulative impact analysis from the simple mention of cumulative impact as a factor in deciding whether to issue a general permit for fill construction under the CWA to the far more elaborate and crucial test for issuance of any permit for any type of surface coal mining and reclamation operation under SMCRA. In doing so, Congress put the Secretary of the Interior, not the Secretary of the Army, in the driver's seat with respect to methodology and standards for cumulative impact analysis related to surface coal mining and reclamation operations. For that reason, if any incorporation is to be done, it is the Corps which must incorporate OSM's more detailed and stringent cumulative impact regulations rather than the other way around. (ACEE)

***Alternative 8*: Require that a SMCRA permit applicant concurrently submit the SMCRA permit application to the SMCRA regulatory authority, the National Pollutant Discharge Elimination System permitting entity, the U.S. Army Corps of Engineers, EPA, and the state agency responsible for certification under section 401 of the Clean Water Act.**

- Concurrent submittals are necessary to ensure successful interagency communication and to ensure that all agencies are evaluating the effects of the proposed mining activity on all aquatic resources that each agency regulates. (Corps of Engineers)

- The Tennessee Department of Environmental Conservation expressed support for this alternative.

- OSM should require prompt submittal of permit applications to the Fish and Wildlife Service so that threats to proposed and listed threatened and endangered species can be assessed on a permit-by-permit basis. (Center for Biological Diversity)

- Virginia's SMCRA permitting process already incorporates extensive coordination and cooperation with the listed agencies. (VA DMME)

- Electronic permitting allows simultaneous access to permit applications by all interested state and federal agencies. (VA DMME)

- We strongly oppose this option because the specific review times under SMCRA-based law and rules are likely to be very different from those of the state agency that handles the NPDES permitting and other Clean Water Act responsibilities and that of the Corps of Engineers for Section 404 authorizations that may be required. While we currently coordinate and consult with these other agencies as necessary, there should not be a mandatory requirement that the permit applications be filed at the same time. (ND PSC)

- This alternative is totally inappropriate and well beyond what is authorized by SMCRA. It just looks like permit review by a committee that includes parties that have no jurisdiction in a SMCRA permitting decision. If OSM wants to facilitate better coordination, then it should follow the pattern set by 30 CFR 780.16(c) for fish and wildlife protection. Under those rules, it is the responsibility of the SMCRA regulatory authority to provide relevant parts of the application to other agencies that have an interest. Further, the only permit application information provided to other agencies should be information that is relevant to the other agencies' jurisdiction. Also, if National Pollutant Discharge Elimination System authority has been delegated to a state, there is no reason for EPA to be involved. (NMA)

- Where is the authority under SMCRA to impose such a requirement? Such a requirement goes far beyond simple coordination or consultation. (Colorado Mining Ass'n)

- Adoption of this alternative would result in more duplication of effort both for industry and government. Integrated permitting would not assist with solving the already troubled and cumbersome permitting process under the Clean Water Act. In addition, the integrated permitting process in Ohio has been a failure. (Peabody)

- While coordinated permitting sounds attractive, there is a reason why different agencies have different permitting procedures and review parameters—those procedures and parameters are specifically tailored to their respective authorizing statutes and thereby their environmental and regulatory expertise. For example, submission of a detailed SMCRA permit application to an NPDES permitting authority will not benefit the section 402 review in any way—it will only supply volumes of irrelevant information. (West Virginia Coal Ass'n)

- West Virginia's experience with coordinated permitting initiatives shows that they quickly become obstacles to efficient and timely permit issuance under any of the programs and agencies involved, a problem that is exacerbated by the fact that additional funding rarely accompanies any of these initiatives. (West Virginia Coal Ass'n)

- In many cases, this is indeed how an applicant organizes the permit process. However, for large projects that may require an EIS or be managed under a permit coordinating agency (such as the Office of Project Management under the Alaska Department of

Natural Resources), this timing may not be in the best interest of the project or the agencies. For example, it may require incomplete applications be submitted to one agency to fulfill this requirement, only to have a modified application filed later, thus requiring additional review time. Allowing the applicant and the agencies the ability to coordinate their permit application submission and review schedules is in the best interest of all parties. No project can proceed until all applications are processed and approved, regardless of the timing of submittals. Thus, we suggest that this alternative be dropped from further consideration. (Alaska Coal Ass'n)

- Enhanced coordination that does not delay the permitting process is always welcome. However, it is not essential because no disturbance may be conducted until a permittee has obtained all necessary permits. Additionally, procedural issues with certain agencies may result in delays that would prevent submittal of all permit applications. Therefore, conditioning when a permittee may submit an application is in our opinion overly restrictive and would require revisions to not only OSM's regulations, but also the Corps of Engineers regulations as well as those of all state regulatory authorities. (D.R. Allen & Associates)

- We support a streamlined, practical approach to permitting, but to date the agencies have not been able to design such a system. Nothing in this alternative will change this reality. Each permitting authority operates on varying timelines and may request additional information and technical analyses from permit applicants. Under this alternative, those applicants then would be required to potentially submit numerous and unnecessary supplemental information to several agencies. In addition, there is no legal authority for this alternative. (Ohio Coal Ass'n)

***Alternative 9*: Establish more detailed permit application requirements and performance standards for stream-channel diversions and restoration of streams.**

- No further disturbance and diversion of streams should be permitted. Artificially-constructed stream channels do not support the same flora and fauna or fulfill the same ecological roles as natural streams, and the destruction of natural streams should be prohibited. However, because stream damage is likely to continue to be permitted, premining stream surveys should be conducted to document conditions including but not limited to: flow, temperature, conductance, turbidity, pH, dissolved oxygen, total suspended solids, total dissolved solids, and levels of nutrients and metals including nitrogen, phosphorus, sulfur, iron, selenium, arsenic, and mercury. Premining stream surveys should also include aquatic flora and fauna ranging from zooplankton and phytoplankton to aquatic macroinvertebrates, mollusks, amphibians, reptiles, and fishes. If coal mining activities are not going to be entirely prohibited in and near streams, then coal operators should be required to return streams to their premining biological condition. If these conditions cannot be met, then permits should not be issued. (Center for Biological Diversity)

- Performance bonds should not be released until restored streams fully support the forms of life which were present prior to mining. (Center for Biological Diversity)

- No additional requirements or performance standards are needed if applicants must demonstrate compliance with sections 401 and 404 of the Clean Water Act before the SMCRA permit is approved. (VA DMME)

- No additional monitoring or bond release requirements are necessary because the Corps of Engineers has adequate authority to require correction of any discrepancy found after SMCRA bond release. There is no need to require the state SMCRA regulatory authority to incur the additional inspection and administration expenses that would result from additional monitoring and bond release requirements. (VA DMME)

- This option is quite vague and more specifics are needed to have a better understanding of the proposal to properly evaluate and comment on it. (ND PSC)

- SMCRA regulatory authorities should develop stream relocation and restoration criteria that, when practical, align with mitigation requirements under the Clean Water Act. (Corps of Engineers)

- OSM should explore the practicality of requiring that the SMCRA regulatory authority hold the SMCRA performance bond until the success of stream restoration and mitigation requirements under the Clean Water Act have been demonstrated. (Corps of Engineers)

- It may be reasonable to consider adding more detailed permit application requirements for modern stream assessment and mitigation techniques and practices. (Peabody)

- Premining condition surveys would prove useless for permits subject to the arbitrary one-square-mile intermittent stream definition at 30 CFR 701.5. (Peabody)

- OSM needs to better articulate what problem it is trying to solve. It is unclear what the basis is for thinking that further rulemaking is needed on stream-channel diversions, or how this alternative is connected to central Appalachia. With no stated basis or purpose, it is simply impossible to respond without further information. In short, NMA does not believe that OSM should propose additional requirements of this nature. (NMA)

- It will be difficult to develop requirements that will properly fit all situations. State programs have the ability to request additional stream-channel details, such as Alaska has done for the proposed Chuitna Coal project, but this level of detail would not be justifiable or beneficial for all mine sites. Thus, this alternative should be dropped from further consideration. (Alaska Coal Ass'n)

- The current regulations regarding stream diversions and stream restoration are adequate. Because there can be only one mitigation plan, these regulations also would need to conform to any requirements of the Corps of Engineers district within which the proposed project exists. (D.R. Allen & Associates)

***Alternative 10*: Adopt provisions that would apply only to mountaintop removal operations and operations on steep slopes. This may include the deletion of 30 CFR 824.11(a)(9), which limits the statutory ban on mountaintop removal operations that would damage natural watercourses to those watercourses located below the lowest coal seam to be mined.**

- Any changes to the SBZ rules should apply nationwide because mining activities in states other than central Appalachia also adversely affect streams. (Corps of Engineers)

- It does not make sense to limit the SBZ rule to states that have historically allowed mountaintop removal operations. (Tennessee Dept. of Environmental Conservation)

- This approach, based solely on topography, involves constitutional issues such as the taking of private property and interference with interstate commerce. (VA DMME)

- This alternative appears to arbitrarily ignore the fact that mining impacts streams nationwide, regardless of the presence or absence of excess spoil fills. How can the federal government impose harsher standards on some states while allowing other states much more flexibility? (WVDEP)

- OSM should focus its rulemaking efforts squarely on mountaintop mining and valley fills and avoid adopting a rule that would require other states to revise their programs. (PADEP)

- Instead of proposing additional rules pertaining to these types of operations, OSM should work with the affected states to address the issues on a case-by-case basis. (ND PSC)

- It is beyond our understanding how OSM could apply regulations to specific states in a given coal region under a statute intended to be national in scope. Any such move by OSM would place Appalachian coal mining operations at a competitive disadvantage through selective application of a national statute. If anything, OSM and the other federal agencies should more closely examine the impact of mining operations on streams outside Appalachia because much less information is available for those areas. (West Virginia Coal Ass'n)

- Deletion of 30 CFR 824.11(a)(9) is a backdoor way of prohibiting all fills in streams. It would violate the spirit and intent of SMCRA and illegally restrict mining above and beyond the Clean Water Act. (West Virginia Coal Ass'n)

- We question the rationale for limiting the application of the rule to those states with mountaintop removal or steep-slope operations. Is OSM taking the stance that streams in the Appalachian states are in some way a more valuable resource than those present in other states? (D.R. Allen & Associates)

- Any such regulations must be limited to the types of issues that SMCRA recognizes as distinct to those operations, namely those identified in paragraphs (c) and (d) of section 515 of the Act. However, OSM has not articulated any support for such rules. (NMA)

- To the extent that OSM is concerned with mountaintop removal operations, it should identify and, if necessary, address those specific concerns instead of imposing a patchwork of new ill-considered regulations on all operations in all states. (Ohio Coal Ass'n, Peabody)

- Restricting certain provisions to certain regions is a valid approach for dealing with regional issues. However, as written in the ANPR, the alternative lacks sufficient detail for further comment. If the intent is to restrict certain regulations to a region, OSM should find a legally defensible way to clearly limit those requirements to a specific region, rather than applying those requirements to all mountaintop removal operations or steep-slope mining operations. In other words, the adoption of requirements intended to address a problem in central Appalachia, but not specifically restricted to central Appalachia, could lead to unintended consequences with no net benefit to operations outside the region that exist in an entirely different environmental setting. (Alaska Coal Ass'n)

- As practiced today, mountaintop removal operations are fundamentally incompatible with the requirement in section 515(c)(4)(D) of SMCRA that, before approving a permit application for a mountaintop removal operation, the regulatory authority must find that "no damage will be done to natural watercourses." It is simply impossible to fill streams with mining refuse without damaging them. The SMCRA regulatory authority has both the authority and the duty to deny permits that perpetuate this damage. (Center for Biological Diversity)

- OSM should revise its rules to delete 30 CFR 824.11(a)(9), which limits the statutory ban on mountaintop removal operations that would damage natural watercourses to those watercourses located below the lowest coal seam to be mined. However, otherwise, any revised SMCRA rules should apply to all states, not just Kentucky, Virginia, and West Virginia. (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission, SELC)

Should we revise the approximate original contour (AOC) provisions of our regulations?

- AOC is a term expressly defined in SMCRA on a national basis. Any regulatory changes to it would have to be national in scope and consistent with the statutory definition. The differences in terrain from Appalachia to the Illinois coal basin, to East Texas, to the Western states, and on to Alaska simply preclude further specificity in that definition in a way that is workable across the nation. (NMA)

- Each state program has the discretion to further clarify the nationwide definition of AOC as it applies to mining conditions in that state. If further refinement is warranted for the specific conditions in a state, it should be done at the state (or federal program for a state) program level. (NMA)

- The permitting process for each operation constitutes the appropriate way to address any concerns that citizens or others may have about how AOC is being applied in

Appalachia as well as other areas of the nation. No new national rulemaking is needed to facilitate that site-specific process. (NMA)

- Any requirements beyond those in the 2008 rule and existing policies in the central Appalachian states would somehow have to modify natural, physical mechanics of geology and the constants of engineering or compromise safety and stability. (West Virginia Coal Ass'n)

- There should be no revisions to the AOC provisions of OSM's regulations, which are well-understood and have withstood the test of time. (PADEP)

- OSM should adopt a rule similar to the Montana program provision requiring that reclaimed drainage basins, including excess spoil fills, valleys, channels, and floodplains, be constructed to:

  (a) Comply with the postmining topography map approved by the regulatory authority.

  (b) Restore the approximate original contour.

  (c) Allow the drainage channel to remain in dynamic equilibrium with the drainage basin system without the use of artificial structural controls unless approved by the regulatory authority.

  (d) Provide separation of flow between adjacent drainages and safely pass the runoff from a six-hour precipitation event with a 100-year recurrence interval, or larger event as specified by the regulatory authority.

  (e) Provide for the long-term relative stability of the landscape by creating appropriate geomorphic landforms. The term "relative" refers to a condition comparable to an unmined landscape with similar climate, topography, vegetation and land use.

  (f) Provide an average channel gradient that exhibits a concave longitudinal profile.

  (g) Establish or restore a diversity of habitats that are consistent with the approved postmining land use, and restore, enhance where practicable, or maintain natural riparian vegetation.

  (h) Exhibit dimensions and characteristics that will blend with the undisturbed drainage system above and below the area to be reclaimed and that will accommodate the approved revegetation and postmining land use requirements.

Technological innovations made since the promulgation of SMCRA currently provide landform design tools that greatly facilitate the ability of coal operators to comply with these provisions. Such technologies have been successfully demonstrated and they should be implemented in accordance with the SMCRA requirement to use the best technology currently available. Previously permitted excess spoil fill designs are inherently unstable landforms that natural forces will ultimately, if not catastrophically, remove. It is time to require that coal operators seek to emulate nature, rather than control nature. Adoption of these provisions would provide a framework within which surface coal mining, and specifically the practice of mountaintop removal, could continue in Appalachia. (New Mexico MMD)

- OSM should revise its rules to clarify that approximate original contour (AOC) restoration requirements apply to excess spoil fills. The legal opinion to the contrary is flawed. (ACEE, SELC)

- OSM needs to define AOC to mean that the reclaimed area must resemble the area before mining in aspect (or slope) and elevation. A minimum difference in elevation between premining and postmining conditions should be established as an enforceable requirement in a regulation. The regulation should also require a minimum difference in premining and postmining slopes as well as describe the allowable differences between the drainage pattern of the postmining site and the premining site. For example, OSM should require the postmining site to have as many linear feet of ephemeral, intermittent and perennial streams as the premining site. It should require those streams to be similar in configuration and morphology to the original streams. To demonstrate compliance or non-compliance with these requirements, the rule should require mine operators to submit premining and postmining field surveys, GPS data, photographs and measurements of slope of stream beds, plan cross-sections and aerial photographs of the disturbed areas. (ACEE)

- OSM should adopt a regulation clarifying that when an operation cannot comply with AOC restoration requirements as a result of application of a fill optimization formula such as those in place in Kentucky and West Virginia, the operation must obtain a legitimate variance from the AOC requirement. (ACEE)

- Because the detailed, site-specific reclamation plans required by SMCRA are rarely required by permitting authorities, OSM must promulgate a rule setting out in detail the requirements for a variance from AOC. (ACEE)

- OSM should clarify that AOC requirements and variances do not override the prohibitions and restrictions in the SBZ rule. (SELC)

- OSM should seek to minimize the use of AOC variances and improve the consistency with which different states adhere to AOC requirements. The large number of vacant mountaintop removal sites indicates that variances for residential, industrial, or commercial use often are not warranted. Variances should be subject to review to

consider economic feasibility and the potential that the stated postmining land use will in fact occur. It is also important that AOC standards are implemented consistently across all states. (Trout Unlimited)

What other provisions of our regulations should we consider revising to better protect the environment and the public from the impacts of Appalachian surface coal mining?

- Hydrology, geology, and aquatic biology

1. OSM should define perennial, intermittent, and ephemeral streams in a manner that is consistent with the Clean Water Act, rather than using or referencing definitions from the U.S. Geological Survey. (Corps of Engineers)

2. OSM should adopt rule language that encourages state and federal agencies to coordinate on stream jurisdictional determinations as part of the permitting process. (Corps of Engineers)

3. OSM should establish baseline aquatic life information and monitoring requirements at the genus level rather than at the family level. (Bryon Arnold)

4. OSM should adopt a multifactor approach for the SBZ rule. While a 100-foot buffer should be the absolute minimum, the regulatory authority should be required to determine whether a wider buffer is needed to protect all streams. Such a determination should be based upon information concerning adjacent slopes, geology, soil types, and existing riparian context. Whatever stream protections are adopted should apply, without exception, to any intermittent, temporary, or perennial watercourse. (Freshwater Mollusk Conservation Society, KY State Nature Preserves Commission)

5. The current recommendation for stream buffers to protect amphibian habitat is 100 meters. This fact is especially important because the Appalachian region supports the highest diversity of amphibian species in North America and amphibian species worldwide are undergoing a rapid decline, largely due to habitat loss and water pollution. (Elizabeth Summers, UT)

6. The mining of coal and disruption of surrounding strata high in selenium are common sources of selenium that can degrade water quality and biologic diversity. Any rules proposed by OSM should require regulatory authorities to include selenium monitoring as a routine sampling parameter at all mines and require establishment of numerical limits for selenium for all outfalls at any mine where an overburden core sample shows elevated selenium concentrations. OSM also should revise its rules to specify that no permit may be issued where selenium may become a problem unless the applicant has (1) submitted a viable plan for treating selenium pollution if it becomes a problem during mining and (2) demonstrated the financial ability to implement an effective selenium treatment plan. (KY Waterways Alliance)

7. OSM should promulgate a regulation that requires (1) routine, site-specific core sampling for selenium as part of each permit application, and (2) core testing that includes leachable selenium instead of just total selenium and decreases the interval between core samples. In addition, the regulation should make clear that operations at risk for selenium discharges must, during the mining process, test the geology for selenium every time mining operations change in elevation, enter a new strata or move more than 100 feet. One method of accomplishing this may be to require testing of holes drilled to blasting. The operator should be required to submit these samples to the regulatory authority at least twice per month. [Appalachian Center for the Economy and the Environment (ACEE)]

8. OSM should promulgate a regulation requiring that if selenium is found in core samples before or during mining, an analysis must be performed to determine whether it may create a perpetual pollution discharge. If the analysis shows that selenium is present in sufficient quantities to cause perpetual material damage to the hydrologic balance (including causing violations of water quality standards), then the mining operation must cease and reclamation must begin. (ACEE)

9. OSM should require additional information on the baseline hydrology and additional characterization of the premining hydrologic balance. Specifically, OSM should amend 30 CFR 780.21(b)(1) and (2) and 784.14(b)(1) and (2) to—

   a) Expressly provide that a minimum of 12 consecutive months of water quality and quantity information is necessary to establish the seasonal flow conditions that SMCRA requires each permit applicant to demonstrate. The amended regulation should clarify that baseline monitoring of flow rates must occur daily to enable the permit applicant and the regulatory authority to distinguish between seasonal flow patterns (including base flow from ground water) and flow rates that are generated in immediate response to precipitation events.

   b) Require, throughout the minimum 12-month baseline collection period, synchronous measurements at a sufficient number of stations along each stream course to enable the permit applicant and the regulatory authority to identify when and where the stream is gaining or losing flow. This change is needed to ensure collection of adequate information on exchanges between streamflow and groundwater.

   c) Designate the pollutants and conditions currently listed there as "pollutants and conditions of concern." The PHC determination, the CHIA, the hydrologic monitoring plans, and the hydrologic reclamation plan must expressly address the potential of the proposed surface coal mining operation to cause or contribute to an exceedance of the applicable numeric or narrative water quality standard or standards for each pollutant or condition of concern that applies to the proposed surface coal mining operation.

   d) Require information on both total dissolved solids and specific conductance and to add aluminum, selenium, and sulfate as required parameters. Alternatively, OSM should require the regulatory authority to add aluminum, selenium, or sulfate as pollutants of concern wherever geologic or hydrologic baseline data indicate their presence in the permit area.

e) Require that wherever geologic or hydrologic baseline data indicate the presence of any other pollutant or condition for which there exists an applicable federal or state numeric or narrative water quality standard, such as additional metals or temperature, the regulatory authority must treat it as a pollutant or condition of concern for which the permittee must at least provide baseline information.

f) Provide that where proposed operations would introduce contaminants or potential sources of contamination to the permit area that are unrelated to geologic materials at the site–for example, explosives, fuels, coal combustion wastes, or coal processing chemicals—those pollutants also must be treated as "of concern" and the permit applicant must provide baseline information on each contaminant, including background concentrations, whenever that substance or contaminant naturally occurs in, or has previously been introduced into, the surrounding environment.

g) Provide that where a proposed operation would discharge into a water resource listed as impaired on a state's list under section 303(d) of the Clean Water Act, the regulatory authority must treat as "pollutants and conditions of concern" each pollutant or condition that is identified as a cause of impairment in question and is among the pollutants or conditions that the proposed operation may reasonably be expected to discharge, cause, or worsen.

h) Expressly require that the regulatory authority treat all applicable narrative water quality criteria for each water resource that will receive a discharge from a proposed surface coal mining operation as conditions of concern for which baseline information must be collected. The amended regulations should ensure that the regulatory authority formulates numeric standards or criteria (such as the Index of Biological Integrity) to translate each narrative "free from" into a measurable standard.

i) Expressly provide that a pollutant or condition of concern for which a permit applicant must collect and present baseline information may be eliminated from analysis in the PHC determination and CHIA and from the proposed hydrologic monitoring and reclamation plans only if baseline geologic and hydrologic information indicate to a reasonable degree of scientific certainty that discharges of that substance from the proposed permit area will not cause or contribute to an exceedance of any applicable numeric or narrative water quality standard. (ACEE)

10. OSM should amend 30 CFR 780.21(b) and 784.14(b) to require that the regulatory authority inform each permit applicant of the minimum pollutants and conditions of concern that the PHC determination, hydrologic monitoring plan, and hydrologic reclamation plan must address, based on the regulatory authority's assessment of the baseline hydrologic information provided in the permit application or otherwise available to the regulatory authority. (ACEE)

11. OSM should amend 30 CFR 780.21(f)(3)(iv) and 784.14(e)(3)(iii) to expressly require that the PHC determination analyze the probable impact of the proposed surface coal mining

operation on each pollutant or condition of concern identified pursuant to amended 30 CFR 780.21(b) or 784.14(b). (ACEE)

12. OSM should amend 30 CFR 780.21(g) and 784.14(f) to provide expressly that the regulatory authority may not conclude that a proposed surface coal mining and reclamation operation has been designed to prevent material damage to the hydrologic balance, and thus may not approve the pertinent permit application, if the proposed operation includes a new discharge to a water resource on a state's 303(d) list under the Clean Water Act for a mining-related pollutant or condition that the proposed operation would discharge or worsen, except in compliance with the requirements of 40 CFR 122.4(i) concerning available waste load allocations under a TMDL and compliance schedules covering existing dischargers. (ACEE)

13. OSM should amend 30 CFR 780.21(g) and 784.14(f) to require that each CHIA identify all pertinent material damage criteria for the proposed operation, including, at a minimum, each numeric water quality standard or translated numeric standard for a narrative water quality standard or anti-degradation standard applicable to each water resource that the proposed operation will likely affect. The amended regulation should further require the regulatory authority to notify the permittee as soon in the permit application evaluation process as practicable, through a publicly available document, of the material damage criteria applicable to the proposed operation. The amended regulation should require that each notice also direct the permittee to structure its hydrologic monitoring plans and hydrologic reclamation plan so as to detect trends toward exceedance of those criteria and to specify measures to prevent actual exceedances. (ACEE)

14. OSM should amend its water monitoring regulations at 30 CFR 780.21(i)(1) and (j)(2)(i) and 784.14(h) and (i)(2)(i) to require that—

    a) The permittee regularly monitor each pollutant and condition of concern and annually monitor each other pollutant or condition for which there is a material damage criterion.

    b) Each hydrologic monitoring plan require monitoring at times and places capable of ascertaining the mine's compliance status with respect to all pollutants and conditions of concern.

    c) The hydrologic monitoring plans of any permit application that includes a material handling plan meant to prevent water pollution (whether by acid mine drainage, selenium, or any other substance) contain specific measures to be taken within the permit area to indicate effectively whether the material handling plan is failing or has failed to prevent water pollution as predicted.

    d) Selenium be included as a routine sampling parameter at all mines.

    e) The regulatory authority establish numerical limits for selenium for all outfalls at any mine where a core sample shows elevated selenium concentrations. (ACEE)

15. OSM should amend its regulations at 30 CFR 780.21(h) and 784.14(g) concerning hydrologic reclamation plans to—

    a) Provide that the "preventative and remedial measures" required by the current regulations must address specifically each pollutant or condition of concern that the regulatory authority identifies for the proposed operation. The amended regulation should require the permittee to identify, in terms of hydrologic monitoring data and any other appropriate condition, the trigger event or series of events that would prompt the permittee to implement each preventative or remedial measure proposed in the plan. The amended regulation should further require the permittee to explain how each proposed preventative or remedial measure will accomplish its purpose and how the permittee will monitor and assess the effectiveness of each measure. The suggested amendment would promote use of hydrologic monitoring data as an effective early warning system for actually preventing, rather than remediating, material damage to the hydrologic balance outside the permit area.

    b) Require that the regulatory authority order a permittee to develop alternate or additional "preventative and remedial measures" for inclusion in the hydrologic reclamation plan whenever one or more of the initially approved measures fail to prevent deterioration toward material damage, prevent material damage itself, or remedy material damage to the hydrologic balance.

    c) Forbid regulatory authorities from accepting any material handling plan as a component of a hydrologic reclamation plan and require that the hydrologic reclamation plan of any permit application that includes a material handling plan meant to prevent water pollution (whether by acid mine drainage, selenium, or any other substance) contain specific preventative and remedial measures to be taken if monitoring data indicate that the material handling plan is failing or has failed to prevent water pollution as predicted. (ACEE)

16. OSM should amend its permitting regulations to provide that if the regulatory authority relies to any extent on information not in the permit application, the regulatory authority must place a written copy of all such information among the publicly available decision documents for the application in question. The amended regulations should require the regulatory authority to provide the required notice at the time that the regulatory authority determines the permit application to be administratively complete. The amended regulation should authorize the regulatory authority to amend its notice of pollutants and conditions of concern based on information subsequently submitted or obtained, provided that both the amended notice and the supporting information are made immediately available for public inspection. (ACEE)

- <u>Revegetation, topsoil, and postmining land use</u>

    1. The revegetation regulations should be modified to ban the planting of non-native species during restoration. (Center for Biological Diversity)

2. OSM must promulgate a regulation assuring that topsoil is saved unless operators can demonstrate that the proposed topsoil substitute is "the best available subsoil which is best able to support vegetation," as required by section 515(b)(6) of SMCRA. (ACEE)

3. OSM must make clear that topsoil substitutes may not be approved on sites with a postmining land use that involves woody plants unless the applicant demonstrates that the substitute will result in a soil medium that is at least as productive as the premining site. Specifically, OSM must make it clear that regulatory authorities may not permit mining operations to utilize gray sandstone as a topsoil substitute. No studies have shown gray sandstone to be the "best available in the permit area to support revegetation," nor have any studies shown that this material is "equal to, or more suitable for sustaining vegetation than, the existing topsoil," as required by 30 CFR 816.22(b). (ACEE)

4. OSM must promulgate a rule clarifying the requirements of a "higher or better use." Postmining sites used as fish and wildlife habitat, hayland or pasture, and forestland cannot measure up to SMCRA's "higher or better" use standard. (ACEE)

- Performance bonds

12. OSM should revise its bonding and reclamation regulations to effectively address the problem of long-term postmining pollutional discharges. OSM should amend its regulations to require that owners and operators of mines with the potential for long-term postmining pollutional discharges post additional financial guarantees sufficient to cover the costs of permanently treating such discharges. The revised regulations should further provide that owners and operators who do not post the additional financial guarantees will be ineligible to receive any new surface mining permits. (ACEE)

- Permit renewal requirements

1. OSM should clarify and strengthen rules governing renewal of permits when the applicant is violating federal and state laws protecting surface water quality. First, 30 CFR 774.15(c)(1)(ii) should be amended to add the following clause to the end: "including, but not limited to, effluent limitations established in NPDES permits issued pursuant to section 402 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1342, and the rules and regulations promulgated there under." Second, 30 CFR 774.15(c)(2) should be amended to add the following sentence at the end of the existing provision: "If the opponents of renewal, including citizen opponents, establish one of the criteria in § 774.15(c)(1) of this chapter, the regulatory authority shall deny the renewal application." (ACEE)

- Violation information requirements and permit block sanction

1. OSM should promulgate a regulation that provides that, where the surface mining regulatory authority and the water pollution regulatory authority are the same entity, "the regulatory authority, department, or agency which has jurisdiction over" violations of the Clean Water Act or permits issued there under is the U.S.

Environmental Protection Agency for purposes of section 510(c) of SMCRA. (ACEE)

2. OSM should ensure appropriate oversight of surface mining regulatory authorities by expanding the definition of "regulatory authority, department, or agency" for purposes of section 510(c) of SMCRA to include citizens that have provided notice under one of the citizen suit provisions of the federal environmental statutes to sue an operator for violation of the one of the laws referred to in section 510(c). Through those citizen suit provisions, Congress evidenced its intent for citizens to act as private attorneys general. Therefore, it is appropriate to treat them as regulatory agencies for purposes of section 510(c). (ACEE)

3. OSM should define the terms "has been corrected" and "is in the process of being corrected" for purposes of section 510(c) of SMCRA. The term "has been corrected" should be defined to mean that "the violation at issue has completely ceased and that there is no real likelihood of its recurrence." The term "is in the process of being corrected" should be defined to mean that "the applicant is subject to a judicial decree or other judicially enforceable order compelling the applicant to achieve full compliance with no real likelihood of recurrence as soon as possible, but not to exceed one year from the date of the decree or order." (ACEE)

- <u>Other provisions</u>

1. The alternatives analysis requirements for coal mine waste impoundments and refuse piles should be revised to include consideration of impacts to local residents, such as traffic, dust, and noise. (PADEP)

ATTACHEMNT #4 - REFERENCE MATERIAL

REFERENCE MATERIAL

1979 OSM-EIS-1 *Permanent Regulatory Program*

1983 OSM-EIS-1 *Supplement*

2003 DRAFT EIS *Mountain Top Mining and Valley Fills*

2005 EIS *Mountain Top Mining and Valley Fills*

2008 OSM-EIS-34 *Excess Spoil Minimization and Stream Buffer Zones*

END OF STATEMENT OF WORK

SECTION E – INSPECTION AND ACCEPTANCE

52.246-4 INSPECTION OF SERVICES - FIXED-PRICE (AUG 1996)

(a) Definitions. "Services," as used in this clause, includes services performed, workmanship, and material furnished or utilized in the performance of services.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the services under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires.

(c) The Government has the right to inspect and test all services called for by the contract, to the extent practicable at all times and places during the term of the contract. The Government shall perform inspections and tests in a manner that will not unduly delay the work.

(d) If the Government performs inspections or tests on the premises of the Contractor or a subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, at no increase in contract price, all reasonable facilities and assistance for the safe and convenient performance of these duties.

(e) If any of the services do not conform to contract requirements, the Government may require the Contractor to perform the services again in conformity with contract requirements, at no increase in contract amount. When the defects in services cannot be corrected by reperformance, the Government may (1) require the Contractor to take necessary action to ensure that future performance conforms to contract requirements and (2) reduce the contract price to reflect the reduced value of the services performed.

(f) If the Contractor fails to promptly perform the services again or to take the necessary action to ensure future performance in conformity with contract requirements, the Government may (1) by contract or otherwise, perform the services and charge to the Contractor any cost incurred by the Government that is directly related to the performance of such service or (2) terminate the contract for default.

SECTION F - PERFORMANCE

F.1 Period of Performance

A base period of one-year is anticipated to begin on or about mid May and end 12 months later. Three one-year options will be included.

F.2 Place of Performance and Hours of Operations

Place of Performance: The place of performance is OSM Headquarters Building at 1951 Constitution Ave., NW, Washington, DC 20240.

Hours of Operations: Hours of operation are traditionally five days per week, with hours ranging from as early as 6:00 a.m. to as late as 7:00 p.m.. Overtime is not expected; however, may be required on a limited basis.

Federal Holidays: Federal Holidays must be covered by the contractor; compensation plan and backup included as an overhead expenditure. Contractor will not be paid for administrative leave or extra holidays given to Government employees.

F.3 Special Considerations

Contract employees are to have appropriate experience for positions.

F.3.1 Disclosure Information

Information made available to the contractor by the Government for the performance or administration of this effort shall be used only for those purposes and shall not be used in any other way without the written agreement of the Contracting Officer.

The contractor agrees to assume responsibility for protecting the confidentiality of Government records, which are not public information. Each contractor or employee of the contractor to whom information may be made available or disclosed shall be notified in writing by the contractor that such information may be disclosed only for a purpose and to the extent authorized herein. A signed Non-Disclosure Agreement (NDA) will be required.

F.3.2 Limited Use of Data

Performance of this effort may require the contractor to access and use data and information proprietary to a Government agency or Government contractor which is of such a nature that its dissemination or use, other than in performance of this effort, would be adverse to the interests of the Government and/or others.

Contractor and/or contractor personnel shall not divulge or release data or information developed or obtained in performance of this effort, until made public by the Government, except to authorize Government personnel or upon written approval of the Contracting Officer (CO). The contractor shall not use, disclose, or reproduce proprietary data that bears a restrictive legend, other than as required in the performance of this effort. Nothing herein shall preclude the use of any data independently acquired by the contractor without such limitations or prohibit an agreement at no cost to the Government between the contractor and the data owner which provides for greater rights to the contractor.

F.3.3 Section 508

The 1973 Rehabilitation Act amended in 1998 required Federal agencies to ensure that any time the Government maintains, procures, develops, or uses electronic and information technology that it is accessible to persons with disabilities. Unless an undue burden of significant difficulty or expense can be established OSM will provide reasonable accommodation for Section 508 compliance.

F.4 Contract Type.

OSM intends to award a Firm Fixed Price contract.

F.5 Travel Requirements.

The Contractor will be reimbursed, not to exceed amount for all domestic travel as described below, incurred directly and specifically in the performance of this contract, claimed by the Contractor and accepted by the Contracting Officer.

Costs for lodging, meals, and incidental expenses will be based on the Federal Travel Regulation per diem rates. Actual expenses or a combination thereof may be used provided the method used results in a reasonable charge. A written justification for use of the higher amounts will be approved by COR.

http://www.gsa.gov/Portal/gsa/ep/contentView.do?P=MTT&contentId=9646&contentType=GSA_BASIC

All travel related expenses will be charged to ODC.

F.6 Government Furnished Facilities, Property, Materials

When the contractor is working at the OSM Headquarters site located at 1951 Constitution Ave, NW, Washington, DC, the Government is responsible for providing office space and supplies, software, hardware, DOI required IT security training, and the appropriate monitoring resources for hardware and software.

F.7 Government POCs -- Contract Administrator/COR/PM

Contracting Officer's Representative: Li-Tai BilBao
Phone #: 202 208-2895
Fax # 202-219-3276
Email: lbilbao@osmre.gov

Contracting Officer: Nancy E. Sloanhoffer
Phone #: (202) 208-2902
Fax # (202) 219-3104
Email: nsloanhoffer@osmre.gov

Contract Specialist: Tracy R. Meeker

Phone #: 303-236-0330 x253
Fax #: 303-236-0340
Email: tmeeker@osmre.gov

SECTION G – CONTRACT ADMINISTRATION

INVOICE - The Contractor shall submit all invoices for services rendered to:

Office of Surface Mining
Attn: Nancy Sloanhoffer
1951 Constitution Avenue, NW
SIB, RM 336
Washington, DC 20240

SECTION H - SPECIAL CONTRACT REQUIREMENTS

The proposal shall includes a plan/statement describing how the contractor will address organizational and other conflicts of interest for subcontractors or persons who are consultants or who work for organizations with potential conflicts.

1. Progress Reports

   Monthly progress reports shall be submitted to the COR beginning one month from the date of Notice to Proceed. The monthly reports shall be concise, factual, and informal and shall include, but not be limited to:

   A. Work accomplished during the period of the report;
   B. A description of the overall progress, including data, in sufficient detail to explain the progress achieved;
   C. A description of the current problems that may impede performance with the proposed corrective actions;
   D. A description of the work to be performed during the next reporting period.

2. Mailing to Third Parties

   The Contractor shall provide appropriate envelopes and postage for all mailings under this contract. OSM shall review and approve all mailing lists before the documents are mailed. The Contractor shall be responsible for assembling documents and preparing them for mailing. The Contractor shall also be responsible for preparing all mailing lists; updating those lists as necessary; preparing mailing labels and/or envelopes; assuring that all mailings are timely, accurate, and inclusive of all required materials.

3. Drawings, Reports, and Publications

   All drawings, reports, publications, notes, and other work developed and submitted or relied on for submittals in the performance of this contract shall become the property of the Government and the Government shall have unlimited rights to their use, including the right to use the same without additional compensation to the Contractor. The Contractor hereby grants to the Government a current license to all such works to which it may assert or establish any claim under design patent or copyright laws. The

Government shall be considered the "person for whom the work was prepared" for the purpose of authorship in any copyrightable work. With respect thereto, the Contractor agrees not to assert or authorize others to assert any rights nor establish a claim under the design patent or copyright laws.

4. Contractor Services

The Contractor shall furnish the necessary personnel, materials, services, equipment, facilities and otherwise do all other things necessary for an incident to the performance of the work specified in a manner consistent with accepted professional standards.

The Contractor shall be responsible for providing 3 hard copies and 15 digital copies of verbatim transcripts of the official proceedings of all public meetings held in conjunction with this contract.

Specific minimum service s to be provided by the Contractor shall include the following documents:

A. Draft Environmental Impact Statement

1. The Contractor shall assist the OSM in the preparation for and shall conduct public scoping meetings to be scheduled 45 days after Notice to Proceed. The Contractor shall prepare the invitation on behalf of the OSM, subject to review and approval by the COR. In addition, the Contractor shall in conjunction with the OSM, prepare an agenda and project summary for distribution at the meetings. Additional assistance for the preparation and conduct of scoping meetings may be requested by the OSM's contracting officer.

2. The Draft EIS shall analyze the impact of the proposed action.

3. The Contractor shall submit 3 hard copies and 30 digital copies of the preliminary DEIS.

4. After the OSM and cooperating agencies review and comment, the Contractor shall submit 3 hard copies and 50 digital copies for the OSM. In addition, the Contractor shall provide sufficient digital copies for mailing. A mailing list of proposed recipients of the Published DEIS will be approved by the OSM prior to the Contractor's mailing. It shall be the sole responsibility of the Contractor to ensure that the Draft EIS is mailed to all parties (including attendees at the Scoping Meetings) who have requested a copy, as well as those who are required to receive one. OSM will provide an appropriate transmittal letter on OSM letterhead for inclusion with the mailings.

5. The Contractor shall be responsible for printing the DEIS and consulting with the printer to ensure quality reproduction of all materials. If additional copies are needed, they shall be provided by the Contractor at their exact printing cost.

6. The Contractor will be responsible for publishing the DEIS Notice of Availability in appropriate general circulation local newspapers. OSM will assist the Contractor in determining which newspapers are to be selected.

7. Mailing of the completed DEIS shall be coordinated with the publication of the Notice of Availability in the Federal Register.

8. OSM shall be responsible for the publication of the Notice of Availability in the Federal Register.

9. During and after the close of the public review and comment period following the publication of the Notice of Availability of the DEIS in the Federal Register, the Contractor shall consult with the COR in determining which responses are substantive and must be addressed in the FEIS.

B. Final Environmental Impact Statement

The Contractor shall be responsible for the complete analysis of all significant new issues raised as a result of the DEIS review process.

1. The Contractor shall submit 3 hard copies and 30 digital copies of the proposed FEIS for OSM and cooperating agency review and approval.

2. After review by OSM and cooperating agencies, the Contractor shall submit a revised FEIS incorporating responses to comments by OSM and cooperating agencies. The Contractor shall submit 3 hard copies and 50 digital copies for the OSM. In addition, the Contractor shall provide sufficient electronic copies for mailing. A mailing list of proposed recipients of the Published FEIS will be approved by OSM prior to the Contractor's mailing. It shall be the sole responsibility of the Contractor to ensure that the FEIS is mailed to all parties (who have requested a copy), as well as those who are required to receive one. OSM will provide an appropriate transmittal letter on OSM letterhead for inclusion with the mailings.

3. The Contractor shall be responsible for printing the FEIS and consulting with the printer to ensure quality reproduction of all materials. If additional copies are needed, they shall be provided by the Contractor at their exact printing cost.

C. Submission Requirements

All documents shall be prepared on 8 ½ x 11 inch bond paper and bound in a manner agreed upon by the Contractor and COR. A cover page design for the proposed Draft and Final EISs shall accompany each of those documents for approval by the OSM. All designs have to be approved by the OSM prior to submittal.

SECTION I

52.252-02	CLAUSES INCORPORATED BY REFERENCE	FEBRUARY 1998

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address (es):

Federal Acquisition Regulation clauses and provisions: http://www.acquisition.gov/comp/far/index.htm or http://www.arnet.gov/far/loadmainre.html

CLAUSES INCORPORATED BY REFERENCE

52.203-3	Gratuities		APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984	
52.203-6	Restrictions on Subcontractor Sales to the Government		SEP 2006
52.203-7	Anti-Kickback Procedures		JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity		JAN 1997
52.203-10	Price or Fee Adjustment for Illegal or Improper Activity		JAN 1997
52.203-12	Limitation on Payments to Influence Certain Federal Transactions		SEP 2007
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000	
52.209-6	Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment		SEP 2006
52.212-3	Offeror Representations and Certifications—Commercial Items		
52.215-2	Audit and Records - Negotiation	JUN 1999	
52.215-10	Price Reduction for Defective Cost or Pricing Data.	OCT 1997	
52.215-11	Price Reduction for Defective Cost or Pricing Data - Modifications		OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997	
52.215-13	Subcontractor Cost or Pricing Data - Modifications	OCT 1997	
52.215-15	Pension Adjustments and Asset Reversions		OCT 2004
52.215-16	Facilities Capital Cost of Money	JUN 2003	
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other Than Pensions	JUL 2005	
52.219-6	Notice of Total Small Business Set-Aside		JUN 2003
52.219-8	Utilization of Small Business Concerns		MAY 2004
52.222-3	Convict Labor		JUN 2003
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	JUL 2005	
52.222-21	Prohibition of Segregated Facilities	FEB 1999	
52.222-26	Equal Opportunity		MAR 2007
52.222-35	Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans		SEPT 2006
52.222-36	Affirmative Action for Workers with Disabilities	JUN 1998	
52.222-37	Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans		SEPT 2006
52.222-41	Service Contract Act of 1965, as Amended		NOV 2007

52.222-43	Fair Labor Standards Act and Service Contract Act-Price Adjustment (Multiple Year and Options Contract)		NOV 2006
52.222-44	Fair Labor Standards Act and Service Contract Act-Price Adjustment		FEB 2002
52.222-50	Combating Trafficking in Persons	FEB 2009	
52.223-6	Drug-Free Workplace		MAY 2001
52.223-14	Toxic Chemical Release Reporting		AUG 2003
52.225-1	Buy American Act - Supplies	FEB 2009	
52.225-13	Restrictions on Certain Foreign Purchases		FEB 2006
52.227-1	Authorization and Consent		DEC 2007
52.227-2	Notice and Assistance Regarding Patent and Copyright Infringement		DEC 2007
52.228-5	Insurance-Work on a Government Installation	JAN 1997	
52.229-3	Federal, State, and Local Taxes	APR 2003	
52.232-8	Discounts for Prompt Payment	FEB 2002	
52.232-9	Limitation on Withholding of Payments		APR 1984
52.232-11	Extras		APR 1984
52.232-17	Interest		OCT 2008
52.232-23	Assignment of Claims		JAN 1986
52.233-2	Serviced of Protest		SEP 2006
52.233-3	Protest After Award		AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004	
52.242-13	Bankruptcy		JUL 1995
52.242-15	Stop Work Order	AUG 1989	
52.244-5	Competition in Subcontracting	DEC 1996	
52.244-6	Subcontracts for Commercial Items	FEB 2009	
52.245-1	Government Property		JUN 2007
52.245-2	Government Property Installation Operation Services	JUN 2007	
52.245-9	Use and Charges	JUN 2007	
52.246-25	Limitation of Liability - Services	FEB 1997	
52.247-34	F.O.B. Destination		NOV 1991
52.253-1	Computer Generated Forms		JAN 1991
1452.203-70	Restriction on Endorsements - Department of the Interior	JUL 1996	

CLAUSES INCORPORATED BY FULL TEXT

52.202-1 DEFINITIONS (JUL 2004)

(a) When a solicitation provision or contract clause uses a word or term that is defined in the Federal Acquisition Regulation (FAR), the word or term has the same meaning as the definition in FAR 2.101 in effect at the time the solicitation was issued, unless—

(1) The solicitation, or amended solicitation, provides a different definition;

(2) The contracting parties agree to a different definition;

(3) The part, subpart, or section of the FAR where the provision or clause is prescribed provides a different meaning; or

(4) The word or term is defined in FAR Part 31, for use in the cost principles and procedures.

(b) The FAR Index is a guide to words and terms the FAR defines and shows where each definition is located. The FAR Index is available via the Internet at http://www.acqnet.gov at the end of the FAR, after the FAR Appendix.

52.204-7 CENTRAL CONTRACT REGISTRATION (APR 2008)

(a) Definitions. As used in this clause—

"Central Contractor Registration (CCR) database" means the primary Government repository for Contractor information required for the conduct of business with the Government.

"Data Universal Numbering System (DUNS) number" means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

"Data Universal Numbering System+4 (DUNS+4) number" means the DUNS number means the number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see the FAR at Subpart 32.11) for the same concern.

"Registered in the CCR database" means that—

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database; and

(2) The Government has validated all mandatory data fields, to include validation of the Taxpayer Identification Number (TIN) with the Internal Revenue Service (IRS), and has marked the record "Active". The Contractor will be required to provide consent for TIN validation to the Government as a part of the CCR registration process.

(b) (1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" or "DUNS+4" followed by the DUNS or DUNS+4 number that identifies the offer or's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number—

> (i) Via the internet at http://fedgov.dnb.com/webform or if the offeror does not have internet access, it may call Dun and Bradstreet at 1-866-705-5711 if located within the United States; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office. The offeror should indicate that it is an offeror for a U.S. Government contract when contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business name.

(ii) Trade style, doing business, or other name by which your entity is commonly recognized.

(iii) Company physical street address, city, state and Zip Code.

(iv) Company mailing address, city, state and Zip Code (if separate from physical).

(v) Company telephone number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation

and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to:

(A) Change the name in the CCR database;

(B) Comply with the requirements of Subpart 42.12 of the FAR;

(C) Agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the Internet at http://www.ccr.gov or by calling 1-888-227-2423, or 269-961-5757.

52.215-8 ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT (OCT 1997)

Any inconsistency in this solicitation or contract shall be resolved by giving precedence in the following order:

(a) The Schedule (excluding the specifications).
(b) Representations and other instructions.
(c) Contract clauses.
(d) Other documents, exhibits, and attachments.
(e) The specifications.

52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance

hereunder shall not exceed one year. The Contracting Officer may exercise the option by written notice to the Contractor within 15 calendar days.

52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)

(a) The Government may extend the term of this contract by written notice to the Contractor within 15 days; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 30 days before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed three years.

52.219-14 LIMITATIONS ON SUBCONTRACTING (DEC 1996)

(a) This clause does not apply to the unrestricted portion of a partial set-aside.

(b) By submission of an offer and execution of a contract, the Offeror/Contractor agrees that in performance of the contract in the case of a contract for—

(1) *Services (except construction).* At least 50 percent of the cost of contract performance incurred for personnel shall be expended for employees of the concern.

(2) *Supplies (other than procurement from a nonmanufacturer of such supplies).* The concern shall perform work for at least 50 percent of the cost of manufacturing the supplies, not including the cost of materials.

(3) *General construction.* The concern will perform at least 15 percent of the cost of the contract, not including the cost of materials, with its own employees.

(4) *Construction by special trade contractors.* The concern will perform at least 25 percent of the cost of the contract, not including the cost of materials, with its own employees.

52.222-42 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (MAY 1989)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

This Statement is for Information Only:
It is not a Wage Determination

Employee Class	Monetary Wage -Fringe Benefits
GS - 11	$24.10
GS - 12	$28.88

GS - 13 $34.34

52.232-1 PAYMENTS (APR 1984)

The Government shall pay the Contractor, upon the submission of proper invoices or vouchers, the prices stipulated in this contract for supplies delivered and accepted or services rendered and accepted, less any deductions provided in this contract. Unless otherwise specified in this contract, payment shall be made on partial deliveries accepted by the Government if—

(a) The amount due on the deliveries warrants it; or

(b) The Contractor requests it and the amount due on the deliveries is at least $1,000 or 50 percent of the total contract price.

52.232-19 AVAILABILITY OF FUNDS FOR THE NEXT FISCAL YEAR. (Apr 1984)

Funds are not presently available for performance under this contract beyond September 30, 2010. The Government's obligation for performance of this contract beyond that date is contingent upon the availability of appropriated funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment may arise for performance under this contract beyond September 30, until funds are made available to the Contracting Officer for performance and until the Contractor receives notice of availability, to be confirmed in writing by the Contracting Officer.

52.232-25 PROMPT PAYMENT (OCT 2008)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer (EFT). Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see subparagraph (a)(4) of this clause concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) *Invoice payments* --

(1) *Due date.*

(i) Except as indicated in paragraphs (a)(2) and (c) of this clause, the due date for making invoice payments by the designated payment office shall be the later of the following two events:

(A) The 30th day after the designated billing office receives a proper invoice from the Contractor (except as provided in paragraph (a)(1)(ii) of this clause).

(B) The 30th day after Government acceptance of supplies delivered or services performed. For a final invoice, when the payment amount is subject to contract settlement actions, acceptance is deemed to occur on the effective date of the contract settlement.

(ii) If the designated billing office fails to annotate the invoice with the actual date of receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice; provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) *Certain food products and other payments.*

(i) Due dates on Contractor invoices for meat, meat food products, or fish; perishable agricultural commodities; and dairy products, edible fats or oils, and food products prepared from edible fats or oils are --

(A) For meat or meat food products, as defined in section 2(a)(3) of the Packers and Stockyard Act of 1921 (7 U.S.C. 182(3)), and as further defined in Pub. L. 98-181, including any edible fresh or frozen poultry meat, any perishable poultry meat food product, fresh eggs, and any perishable egg product, as close as possible to, but not later than, the 7th day after product delivery.

(B) For fresh or frozen fish, as defined in section 204(3) of the Fish and Seafood Promotion Act of 1986 (16 U.S.C. 4003(3)), as close as possible to, but not later than, the 7th day after product delivery.

(C) For perishable agricultural commodities, as defined in section 1(4) of the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(4)), as close as possible to, but not later than, the 10th day after product delivery, unless another date is specified in the contract.
(D) For dairy products, as defined in section 111(e) of the Dairy Production Stabilization Act of 1983 (7 U.S.C. 4502(e)), edible fats or oils, and food products prepared from edible fats or oils, as close as possible to, but not later than, the 10th day after the date on which a proper invoice has been received. Liquid milk, cheese, certain processed cheese products, butter, yogurt, ice cream, mayonnaise, salad dressings, and other similar products, fall within this classification. Nothing in the Act limits this classification to refrigerated products. When questions arise regarding the proper classification of a specific product, prevailing industry practices will be followed in specifying a contract payment due date. The burden of proof that a classification of a specific product is, in fact, prevailing industry practice is upon the Contractor making the representation.
(ii) If the contract does not require submission of an invoice for payment (*e.g.*, periodic lease payments), the due date will be as specified in the contract.
(3) *Contractor's invoice.* The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(3)(i) through (a)(3)(x) of this clause. If the invoice does not comply with these requirements, the designated billing office will return it within 7 days after receipt (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, dairy products, edible fats or oils, and food products prepared from edible fats or oils), with the reasons why it is not a proper invoice. The Government will take into account untimely notification when computing any interest penalty owed the Contractor.
(i) Name and address of the Contractor.
(ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of the mailing or transmission.)
(iii) Contract number or other authorization for supplies delivered or services performed (including order number and contract line item number).
(iv) Description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.
(v) Shipping and payment terms (*e.g.*, shipment number and date of shipment, discount for prompt payment terms). Bill of lading number and weight of shipment will be shown for shipments on Government bills of lading.
(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).
(vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.
(viii) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.
(ix) Electronic funds transfer (EFT) banking information.
(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.
(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (*e.g.*, 52.232-38, Submission of Electronic Funds Transfer Information with Offer), contract clause (*e.g.*, 52.232-33, Payment by Electronic funds Transfer—Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.
(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.
(x) Any other information or documentation required by the contract (*e.g.*. evidence of shipment.)
(4) *Interest penalty.* The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(4)(i) through (a)(4)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.
(i) The designated billing office received a proper invoice.
(ii) The Government processed a receiving report or other Government documentation authorizing payment, and there was no disagreement over quantity, quality, or Contractor compliance with any contract term or condition.
(iii) In the case of a final invoice for any balance of funds due the Contractor for supplies delivered or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(5) *Computing penalty amount.* The Government will compute the interest penalty in accordance with Office of Management and Budget prompt payment regulations at 5 CFR part 1315.
(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance is deemed to occur constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivers the supplies or performs the services in accordance with the terms and conditions of the contract, unless there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. If actual acceptance occurs within the constructive acceptance period, the Government will base the determination of an interest penalty on the actual date of acceptance. The constructive acceptance requirement does not, however, compel Government officials to accept supplies or services, perform contract administration functions, or make payment prior to fulfilling their responsibilities.
(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.
(6) *Discounts for prompt payment.* The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.
(7) *Additional interest penalty.*
(i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--
(A) The Government owes an interest penalty of $1 or more;
(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and
(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(7)(ii) of this clause, postmarked no later than 40 days after the invoice amount is paid.
(ii)
(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall --
(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;
(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and
(3) State that payment of the principal has been received, including the date of receipt.
(B) If there is no postmark or the postmark is illegible--
(1) The designated payment office that receives the demand will annotate it with the date of receipt, provided the demand is received on or before the 40th day after payment was made; or
(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand; provided such date is no later than the 40th day after payment was made.
(iii) The additional penalty does not apply to payments regulated by other Government regulations (*e.g.*, payments under utility contracts subject to tariffs and regulation).
(b) *Contract financing payments.* If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.
(c) *Fast payment procedure due dates.* If this contract contains the clause at 52.213-1, Fast Payment Procedure, payments will be made within 15 days after the date of receipt of the invoice.
(d) *Overpayments.* If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall—
(1) Remit the overpayment amount to the payment office cited in the contract along with a description of the overpayment including the—
(i) Circumstances of the overpayment (*e.g.*, duplicate payment, erroneous payment, liquidation errors, date(s) of overpayment);
(ii) Affected contract number and delivery order number if applicable;
(iii) Affected contract line item or subline item, if applicable; and
(iv) Contractor point of contact.

(2) Provide a copy of the remittance and supporting documentation to the Contracting Officer.

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER-

CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Method of payment.

(1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either—

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) *Contractor's EFT information.* The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) *Mechanisms for EFT payment.* The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR Part 210.

(d) *Suspension of payment.* If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Liability for uncompleted or erroneous transfers.

(1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for—

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and—

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(f) *EFT and prompt payment*. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) *EFT and assignment of claims*. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register separately in the CCR database and shall be paid by EFT in accordance with the terms of this clause. Notwithstanding any other requirement of this contract, payment to an ultimate recipient other than the Contractor, or a financial institution properly recognized under an assignment of claims pursuant to Subpart 32.8, is not permitted. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) *Liability for change of EFT information by financial agent*. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(i) *Payment information*. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

52.233-1 DISPUTES -- ALTERNATE I (DEC 1991) (JUL 2002)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this

contract. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding $100,000 is not a claim under the Act until certified. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The Contractor shall provide the certification specified in paragraph (d)(2)(iii) of this clause when submitting any claim exceeding $100,000.

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of $100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over $100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative dispute resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the offer.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date that the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in FAR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the

rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

52.243-1 CHANGES - FIXED-PRICE -- ALTERNATE I (APR 1984) (AUG 1987)

(a) The Contracting Officer may at any time, by written order, and without notice to the sureties, if any, make changes within the general scope of this contract in any one or more of the following:

(1) Description of services to be performed.

(2) Time of performance (*i.e.,* hours of the day, days of the week, etc.).

(3) Place of performance of the services.

(b) If any such change causes an increase or decrease in the cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, the Contracting Officer shall make an equitable adjustment in the contract price, the delivery schedule, or both, and shall modify the contract.

(c) The Contractor must assert its right to an adjustment under this clause within 30 days from the date of receipt of the written order. However, if the Contracting Officer decides that the facts justify it, the Contracting Officer may receive and act upon a proposal submitted before final payment of the contract.

(d) If the Contractor's proposal includes the cost of property made obsolete or excess by the change, the Contracting Officer shall have the right to prescribe the manner of the disposition of the property.

(e) Failure to agree to any adjustment shall be a dispute under the Disputes clause. However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

52.249-2 Termination for Convenience of the Government (Fixed-Price). (May 2004)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government—

(i) The fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated; and

(ii) The completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in paragraph (b)(6) of this clause; *provided*, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 49.001 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored,

within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (f) or paragraph (g) of this clause, exclusive of costs shown in paragraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and the Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (f) of this clause:

(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under paragraph (b)(9) of this clause) not previously paid for, adjusted for any saving of freight and other charges.

(2) The total of—

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under paragraph (g)(1) of this clause;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(2)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(2)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow

no profit under this subdivision (g)(2)(iii) and shall reduce the settlement to reflect the indicated rate of loss.

(3) The reasonable costs of settlement of the work terminated, including—

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted—

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

52.244-2 Subcontracts (June 2007)

(a) *Definitions.* As used in this clause—

"Approved purchasing system" means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

"Consent to subcontract" means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

"Subcontract" means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contractor a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (c) or (d) of this clause.

(c) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that—

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds—

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

ALL SUBCONTRACTS.

(e)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (b), (c), or (d) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting—

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's cost or pricing data in determining the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (b), (c), or (d) of this clause.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination—

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(i) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

52.249-8 DEFAULT (FIXED-PRICE SUPPLY AND SERVICE) (APR 1984)

(a)(1) The Government may, subject to paragraphs (c) and (d) of this clause, by written notice of default to the Contractor, terminate this contract in whole or in part if the Contractor fails to—

(i) Deliver the supplies or to perform the services within the time specified in this contract or any extension;

(ii) Make progress, so as to endanger performance of this contract (but see paragraph (a)(2) of this clause); or

(iii) Perform any of the other provisions of this contract (but see paragraph (a)(2) of this clause).

(2) The Government's right to terminate this contract under subdivisions (a)(1)(ii) and (1)(iii) of this clause, may be exercised if the Contractor does not cure such failure within 10 days (or more if authorized in writing by the Contracting Officer) after receipt of the notice from the Contracting Officer specifying the failure.

(b) If the Government terminates this contract in whole or in part, it may acquire, under the terms and in the manner the Contracting Officer considers appropriate, supplies or services similar to those terminated, and the Contractor will be liable to the Government for any excess costs for those supplies or services. However, the Contractor shall continue the work not terminated.

(c) Except for defaults of subcontractors at any tier, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises from causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (1) acts of God or of the public enemy, (2) acts of the Government in either its sovereign or contractual

capacity, (3) fires, (4) floods, (5) epidemics, (6) quarantine restrictions, (7) strikes, (8) freight embargoes, and (9) unusually severe weather. In each instance the failure to perform must be beyond the control and without the fault or negligence of the Contractor.

(d) If the failure to perform is caused by the default of a subcontractor at any tier, and if the cause of the default is beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either, the Contractor shall not be liable for any excess costs for failure to perform, unless the subcontracted supplies or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery schedule.

(e) If this contract is terminated for default, the Government may require the Contractor to transfer title and deliver to the Government, as directed by the Contracting Officer, any (1) completed supplies, and (2) partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (collectively referred to as "manufacturing materials" in this clause) that the Contractor has specifically produced or acquired for the terminated portion of this contract. Upon direction of the Contracting Officer, the Contractor shall also protect and preserve property in its possession in which the Government has an interest.

(f) The Government shall pay contract price for completed supplies delivered and accepted. The Contractor and Contracting Officer shall agree on the amount of payment for manufacturing materials delivered and accepted and for the protection and preservation of the property. Failure to agree will be a dispute under the Disputes clause. The Government may withhold from these amounts any sum the Contracting Officer determines to be necessary to protect the Government against loss because of outstanding liens or claims of former lien holders.

(g) If, after termination, it is determined that the Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Government.

(h) The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

SECTION J - LIST OF ATTACHMENTS

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  WD 05-2103 (Rev.-8) was first posted on www.wdol.gov on 06/02/2009
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REGISTER OF WAGE DETERMINATIONS UNDER  |       U.S. DEPARTMENT OF LABOR
      THE SERVICE CONTRACT ACT         |  EMPLOYMENT STANDARDS ADMINISTRATION
By direction of the Secretary of Labor |         WAGE AND HOUR DIVISION
                                       |         WASHINGTON D.C.  20210
                                       |
                                       |
                                       |
                                       | Wage Determination No.: 2005-2103
Shirley F. Ebbesen       Division of   |           Revision No.: 8
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States: District of Columbia, Maryland, Virginia

Area: District of Columbia Statewide
Maryland Counties of Calvert, Charles, Frederick, Montgomery, Prince George's, St Mary's
Virginia Counties of Alexandria, Arlington, Fairfax, Falls Church, Fauquier, King George, Loudoun, Prince William, Stafford

David Bell Q 6a

From: Varvell, Stephanie L.
Sent: Monday, December 20, 2010 12:02 PM
To: John Maxwell; Craynon, John; Sloanhoffer, Nancy E.; Rideout, Sterling
Cc: spr@engrservices.com; Caroline Bari; David Bell; Doug Mynear; Edmundo Laporte; J Steven Gardner; Jaque Mitchell; Jeff Baird; Jenkins, Josh; jmahan@plexsci.com; jmorgan@morganworldwide.com; Joe Zaluski; Jose Sosa; Kathy Kelly; Liz Edmondson; Mike Stanwood; Randy Sosa; Shortelle, Ann; Singer, Robert
Subject: RE: Confirmation of EIS Analysis Methodology

John,
I just spoke with John Craynon. He asked me to send a note to you confirming the methodology as described. He does not understand the source of the concern regarding Alt. 5 and the rule language. I hope that the conversation you had this morning with Bill, Lois and Dennis has cleared that up.

From: John Maxwell [mailto:JMaxwell@polukaiservices.com]
Sent: Friday, December 17, 2010 4:29 PM
To: Varvell, Stephanie L.; Craynon, John; Sloanhoffer, Nancy E.
Cc: (spr@engrservices.com); Caroline Bari; David Bell; Doug Mynear; Edmundo Laporte; J Steven Gardner; Jaque Mitchell; Jeff Baird; Jenkins, Josh; jmahan@plexsci.com; jmorgan@morganworldwide.com; Joe Zaluski; John Maxwell; Jose Sosa; Kathy Kelly; Liz Edmondson; Mike Stanwood; Randy Sosa; Shortelle, Ann; Singer, Robert
Subject: Confirmation of EIS Analysis Methodology

The EIS team has been discussing over the last couple of months the need for a clear understanding of the appropriate method to define the effect of each of the alternatives (as represented by the defined elements), and as a way to transition from Chapter #3 to Chapter #4.

As a primary assumption for this impact analysis we all agreed (PKS/OSM team) that we should treat the US coal supply as a steady state; specifically we should maintain the US coal production at the 2008 level, as defined by the EIA (but adjusted for energy content). Anything more complex would be unmanageable.

It was also recognized that Alternative #2 would not meet this primary assumption, as the most restrictive alternative precluded the production to meet the target production. Based on the projected production shifts resulting from the Alternatives we have defined the need to use certain key metrics and the metrics agreed upon are:

- Tons of production by region and by mining type
- Stream length (perennial and intermittent) per ton of coal mined by region
- Acre disturbed per ton of coal mined by region and by mining type
- Tons of coal per permit by region and by mining type
- Employment per ton of coal mined by region and by mining type

We believe that these are all of the relevant metrics and that they are adequate to provide a reasonable disclosure of potential impacts in Chapter #4. We also are working under the assumption that the potential changes from the alternatives would occur over a period of 12-15 years (possibly more) for full effect, and that the impacts defined would reflect full implementation.

We are also still concerned about potential inconsistencies between the proposed rule language and Chapter 2 text. Some of the assessment team is concerned that the rule language (as represented in Alternative 5) is inconsistent with the October 15 redline version of the Rule. If the current version of Chapter 2 Alternative 5 supersedes the October 15 redline version, we would like confirmation as such.

We need written agreement that OSMRE is in concurrence with the above metrics and approach using the production shifts as a basis for impacts. Also, a call to verify our direction would be appreciated to alleviate any misunderstandings at your earliest convenience.

I apologize that this seems to be a recurring theme, but with the current schedule, we feel it necessary to have confirmation.

Thank you.

POLU KAI SERVICES

John R. Maxwell
Senior Environmental Scientist
Polu Kai Services
352.258.1045

"For Official Use Only – Deliberative Process Material"

David Bell Q6b

From: John Morgan <jmorgan@morganworldwide.com>
Sent: Sunday, February 06, 2011 4:49 PM
To: Jose Sosa; J. Steven Gardner; John Maxwell; Mike Stanwood; Jenkins, Josh; dbell@plexsci.com
Cc: bwinters@osmre.gov; dshawley@osmre.gov; svarvell@osmre.gov; Liz Edmondson
Subject: Coal Production Forecast

As we have all discussed on numerous occasions we have agreed to use the coal production shifts as a means to evaluate some of the impacts and benefits of the proposed rule (Alternative 5) and the other 3 alternatives under review. Also recognizing that the alternatives will have other benefits that are independent of any production shift.
The difficulty of using the 2008 production as the base is becoming apparent, as it does not recognize trends that are already occurring due to the industry's own decisions plus the effects of the 2008 SBZ and the changes in the implementation of the CWA. The other issue is that the implementation of any of the alternatives will occur over time and any fixed production analysis has to be limited to a snapshot after full implementation (say 10 to 15 years).
As a solution to these problems I think that we should consider changing from a static model to a dynamic model.
There is a very good basis for this dynamic modeling, specifically the long term coal forecast produced by the EIA. Their most recent forecast was published in December 2010.
I recommend that we use this model as our base and then identify what additional production shifts will occur due to each alternative and the key elements I each alternative that will affect production. Based on these shifts the metrics, such as disturbed acres and stream miles plus employment, can be calculated.
I know this is a big change so late in the day, but I think it might provide a solution to some of the challenges that have been identified over the last couple of weeks.
In addition we should use EIA data whenever possible for items such as mine productivity, seam thickness and heat content as they are a recognized source.
Maybe we can try and get consensus on this tomorrow morning, as we need a quick decision if we are to include this approach into Ch4.
John

John S L Morgan
Office 859 259 0959
Cell 859 991 1414

David Bell Q6b

From: Winters, William R. "Bill" <bwinters@osmre.gov>
Sent: Tuesday, February 08, 2011 7:27 AM
To: jmorgan@morganworldwide.com; jose@polukaiservices.com; jsgardner@engrservices.com; jmaxwell@polukaiservices.com; r.m.stanwood@gmail.com; jljenkins@mactec.com; dbell@plexsci.com
Cc: Shawley, Dianne M; Varvell, Stephanie L.; ledmondson@morganworldwide.com
Subject: Re: Coal Production Forecast

Sorry for the delay.

I like the dynamic idea a lot. It addresses a number of issues missing from the 2008 model method.

From: John Morgan [mailto:jmorgan@morganworldwide.com]
Sent: Sunday, February 06, 2011 02:48 PM
To: Jose Sosa <jose@polukaiservices.com>; J. Steven Gardner <jsgardner@engrservices.com>; John Maxwell <JMaxwell@polukaiservices.com>; Mike Stanwood <r.m.stanwood@gmail.com>; Jenkins, Josh <JLJENKINS@mactec.com>; dbell@plexsci.com <dbell@plexsci.com>
Cc: Winters, William R. "Bill"; Shawley, Dianne M; Varvell, Stephanie L.; Liz Edmondson <ledmondson@morganworldwide.com>
Subject: Coal Production Forecast

As we have all discussed on numerous occasions we have agreed to use the coal production shifts as a means to evaluate some of the impacts and benefits of the proposed rule (Alternative 5) and the other 3 alternatives under review. Also recognizing that the alternatives will have other benefits that are independent of any production shift.
The difficulty of using the 2008 production as the base is becoming apparent, as it does not recognize trends that are already occurring due to the industry's own decisions plus the effects of the 2008 SBZ and the changes in the implementation of the CWA. The other issue is that the implementation of any of the alternatives will occur over time and any fixed production analysis has to be limited to a snapshot after full implementation (say 10 to 15 years).
As a solution to these problems I think that we should consider changing from a static model to a dynamic model.
There is a very good basis for this dynamic modeling, specifically the long term coal forecast produced by the EIA. Their most recent forecast was published in December 2010.
I recommend that we use this model as our base and then identify what additional production shifts will occur due to each alternative and the key elements I each alternative that will affect production. Based on these shifts the metrics, such as disturbed acres and stream miles plus employment, can be calculated.
I know this is a big change so late in the day, but I think it might provide a solution to some of the challenges that have been identified over the last couple of weeks.
In addition we should use EIA data whenever possible for items such as mine productivity, seam thickness and heat content as they are a recognized source.
Maybe we can try and get consensus on this tomorrow morning, as we need a quick decision if we are to include this approach into Ch4.
John

John S L Morgan
Office 859 259 0959
Cell 859 991 1414

David Bell

From: Jose Sosa <jose@polukaiservices.com>
Sent: Tuesday, February 08, 2011 12:55 PM
To: John Maxwell; Jenkins, Josh; jmorgan@morganworldwide.com; Joe Zaluski; 'J Steven Gardner'; 'Jeff Baird'; Randy Sosa; r.m.stanwood@gmail.com; dbell@plexsci.com; Caroline Bari; Shortelle, Ann; 'Doug Mynear'; 'Liz Edmondson'; Edmundo Laporte
Subject: FW: Strategy to address Comments & Concerns
Attachments: High Priority EIS Items-chap 4_consolidated.docx; High Priority EIS Items-chap 3 _summary.docx

fyi

From: Winters, William R. "Bill" [mailto:bwinters@osmre.gov]
Sent: Tuesday, February 08, 2011 12:29 PM
To: Jose Sosa
Cc: Shawley, Dianne M; Varvell, Stephanie L.
Subject: RE: Strategy to address Comments & Concerns

Hi Jose,

Find attached the high priority list we discussed last week.

Thanks.

From: Jose Sosa [jose@polukaiservices.com]
Sent: Monday, February 07, 2011 8:30 PM
To: Winters, William R. "Bill"; Sloanhoffer, Nancy E.; Varvell, Stephanie L.; Shawley, Dianne M
Cc: John Maxwell; Randy Sosa; Mike Stanwood; Jenkins, Josh; jmorgan@morganworldwide.com; 'J Steven Gardner'; Joe Zaluski; David Bell
Subject: Strategy to address Comments & Concerns

All:

Attached you will find the methodology to address the broad concerns about the content of the working drafts submitted to date as well as the individual comments provided by OSM to our team.

Please compare to your assessment of the working drafts. We hope to reconcile your assessment with ours to ensure that comments and concerns about the content of the working drafts are address through the delivery of the PDEIS and then the DEIS.

We welcome your input and ideas about working together to improve the working documents and provide a DEIS that meets or exceeds your expectations.

Jose

- **Cost-benefit analysis.** The EIS is to contain a cost-benefit analysis of the probable costs of the proposed rulemaking, and a monetized benefit equivalent, to evaluate the overall net impact of the rulemaking. Chapter 4 does not contain a cost-benefit as outlined in 40 CFR 1502. The chapter contains much narrative on the impacts to the coal industry in the form of lost production, production shifts, and forecasted job losses but contains very little discussion of rulemaking benefits. For example, it is reasonable to believe that the increase baseline data requirements will lead to better characterization of the pre mining hydrology which in turn leads to better hydrologic predictions and associated reduction in consequences. The additional baseline data will help to ensure that mine plans are designed to minimize disturbances within the permit boundary and prevent off site impacts that cause environmental degradation and may result in additional restoration costs for the operator. There are many of these environmental benefits contained in the rule that require discussion. There are instances in Chapter 4 where the contractor's illuminate non monetary benefits of the proposed rule in summary fashion but provide expansive narrative on the costs. For example, page 4-196 line 35 through line 2 on page 4-197 provides a discussion of the benefit of requiring material damage thresholds but make no effort to monetize the benefit. In comparison, the contractors provide paragraphs of discussion on how Alternative 5 will shift coal production. The goal of a rulemaking is to provide more benefit than cost of implementing the rule. The costs and benefits need monetized in a meaningful way to illuminate the net impact of the rule on the industry, regulators, and society.

- **Impact Analysis.** The RIA and EIS chapter 4 lack an analysis of the increased compliance cost on the coal equilibrium supply and demand model. This analysis needs to explain the impacts of the price increase on important model outputs such as jobs, electricity supply and demand, and other important impacts. In addition, the IMPLAN model was used as the foundational assessment tool for the RIA. Guidance provided to the contractors indicates that IMPLAN is not an appropriate tool for the analysis required in the RIA.

- **Environmental Impact Assessment.** The impact assessment is one of fundamental aspects of an EIS. The contractor has utilized the Expert Elicitation Process to predict coal production shifts for each of the alternatives. The shifts involved production method and regional shifts to meet the no net change in production equilibrium assumption. The contractor then used the production data and regional stream density data to quantify acres and stream miles affected by the proposed rule changes. The contractors explain the Expert Elicitation process and basic calculation method to arrive at the impact metric then make an enormous leap forward by providing the results of the analysis under the various alternatives. The contractors fail to provide the assumptions and thresholds used in the metrics that quantify impact of the various alternatives in each of the coal regions. The reader is left with having to solely trust the judgments of the expert team and cannot use the techniques used by the Expert Solicitation methodology to understand the analysis or perform an independent analysis. All variables used in the impact assessment must be thoroughly vetted and have clear foundational support in a numerical analysis. Some parameters used such as life of mine in the acre disturbance and streams calculations for example, are very sensitive parameters and need some rationale established by review of existing data.

- **Concerns about the cumulative impacts analysis.** First, since impacts to ground water were evaluated, there should be a cumulative impact analysis provided for ground water or an explanation of why it is not needed or provided. Second, the cumulative impact tables in this section should provide a more

complete, summarized description of the cumulative impacts. Lastly, the cumulative impact tables as presented in this document make no differentiation in regions. For example, when coal production in the east is generally predicted to decrease acres / stream length impacts while the Rockies - Great Plains region predicts acre / stream length increases, can we say that there is uniformly across the country substantial reductions in acres disturbed. Please make the tables more reflective of cumulative impacts and adjust for those more significant cumulative impacts that may exist between regions.

- **Coal production shifts.** The analysis of alternatives must consider the fact that anthracite coal production in the Appalachian Region cannot be "offset" by bituminous coal production in the western US. In addition, metallurgical coal impact and offsets may not be achievable under the assumptions used for coal production shifts.

- **Production shift methodology.** It is not clear how the production shifts were determined other than a page or two explanation of the Expert Elicitation Process. No methodology was laid out how the production shifts were derived, the rulemaking assumptions used in the analysis, or a breakdown of each individual element for each alternative. Please conduct or provide an analytic analysis using a numeric method to support the production shift model and associated conclusions drawn in chapter 4.7 and discussed throughout chapter 4. When complete, please provide an explanation outlining the numeric method, assumptions, and conclusions.

- **Production shift feasibility.** Also missing from the production shift narrative is any discussion of the feasibility validating the assumption stated on page 4-257, "For this analysis, it was considered that each unaffected area would contribute to the energy make-up, proportionally to its current production". Please provide the feasibility and logistical analysis that supports the assumption that unaffected areas can absorb greater production under the assumption laid out on page 4-250 pertaining to implementation over a 10-12 year time frame. The foundational assumption underlying the coal production shift needs supported and not validated with another assumption stating the feasibility was not considered (page 4-250, last bullet).

- **Baseline condition.** The EIS uses 2008 coal production as the baseline condition from which to draw conclusions. Much discussion has occurred between OSM and the contractors concerning the baseline conditions and assumptions contained therein. Please use 30 CFR in its entirety as the baseline condition to make all baseline comparisons. It is also strongly suggested to use an averaged coal production tonnage rate to account for market fluctuations over the past 2-3 years. Using 2008 data, the highest coal production ever in the history of the US, as the basis for drawing conclusions may miss the impact of supply and demand economics on production. A similar line of thought needs to be used to evaluate the production shift model as shifts to the west have been impacting the coal market over the past 10 years.

- **Impacted stream miles.** Table 4.1.3-2 lists the estimated impacted stream miles under the five alternatives. Several significant issues exist with this table. The EIS would be well served with a summary section in the front of chapter 4 outlining the metrics used in the impact analysis. In a following section, the EIS would greatly benefit from a discussion of the impacts from the rule on all the alternatives using the metrics outlined.
    - The authors need to provide much more narrative explaining the table, impacts shown, methods and rulemaking assumptions underlying the impacts, and a discussion outlining the major

differences between the alternatives. If this is to be a metric used to compare impacts, it must be discussed in much greater detail. As it stands it is a table of numbers – with significant import.

- The numeric method underlying the table must be explained. The numbers outlined in the table for each region under each alternative indicate several potentially anomalous conclusions and are a cause for concern. This rulemaking is designed to afford better protection of streams. As such, the difference between the baseline condition (alternative 1) and the most stringent alternative (alternative 2) is approximately 67 fewer stream miles impacted, a reduction of 60%. Other sections of the EIS contend 95% of surface coal production will be eliminated. The authors must explain this apparent anomaly and how impacts to stream miles are only reduced to 60%.
- The preferred alternative (alternative 5) indicates approximately 94 stream miles will be impacted, a reduction of 17 stream miles or 15% from the current baseline condition (alternative 1). Intuitively, this large rulemaking should impact significantly less stream miles than listed in alternative 5, given the amount of material in the proposed rule designed to provide better analysis and prediction methods during the permitting phase. There appears not to be a translation between desired rule effects and ultimate results (benefits) manifest in the figures in table 4.1.3-2 which leads to concerns on the foundational basis of the table and the author's understanding of both current and proposed changes in 30 CFR.

- **Lack of understanding of 30 CFR and SPR.** The authors of the EIS do not appear to have a correct understanding of 30 CFR, specifically the 2008 Stream Buffer Zone Rule and the proposed Stream Protection Rule. Numerous erroneous quotes and misunderstandings are found throughout the document. The authors understanding and interpretations of 30 CFR, as it exists, and proposed changes in the SPR form the foundation of the assumptions used in the impact assessment methodology. Misunderstanding lead to foundational errors in assumptions and erroneous impacts derived from these flawed foundational principles. For example:
  - Page 4-7 "Although states in the Appalachian Basin, where the majority of excess spoil fills occur, currently have fill minimization policies, on the ground impacts of Alternative 1 are still expected to occur." This statement is problematic. If states do indeed have fill minimization policies in place, how can more impacts be expected from the baseline condition? This statement also appears to run counter to statements made on pages 4-6 and 4-7 concerning the same fill policies "..... already have policies in place requiring fill minimization for all steep slope operations, the Water Elements under Alternative 1 would likely not change current practices in these areas....."
  - Page 4-45 "Topsoil does not necessarily have to be re-used on-site". This is not an accurate assumption.
  - Page 4-199 The EIS states that "Mining through **intermittent and ephemeral** streams would be prohibited unless restoration of the stream form and ecological function could be demonstrated." Proposed rule language at 784.12 (B)(7) states: ".....Restoration of the ecological function of all reconstructed perennial and intermittent stream segments, either in their original location or as permanent stream-channel diversions." Restoration of function only applies to perennial and intermittent streams.

- **Material damage misunderstanding.** There seems to be much misunderstanding concerning the concept of material damage. Several statements concerning material damage are not accurate.

- Page 4-6 "…..under Alternative # 1 since material damage to the hydrologic balance outside the permit are would remain undefined and no corrective action thresholds would exist." This is a gross misunderstanding of material damage.
- Page 4-196 "For example, if it is predicted that a longwall operation under a stream would cause the stream to experience a decrease in elevation, it would be reasonable to assume that returning the stream to pre-mining elevation would be difficult if not impossible. Therefore the RA would not issue a permit for the longwall operation." This is not accurate.
- Page 4-199 "The definition of material damage to the hydrologic balance (which may include quantity impacts) is expanded, in comparison to Alternative 1, to include adverse impacts related to coal mining that are outside the permit area." The definition of material has always been aimed at significant adverse impacts outside the permitted area – there has been no change.
- Page 4-201 discusses and links restoring stream form and function with material damage. This analysis of alternatives should be revised to more accurately reflect the proposed rule, which prohibits material damage to the hydrologic balance outside the permit area. Alteration in "designated use" is the standard applicable to impacts *outside* the permit area. Reestablishing "form and function" are the correct standards applicable when evaluating impacts *within* the permit area (e.g. mining through a stream). In addition, under OSM's proposed rules, form and function are not required to be restored when valley fills are proposed. The discussions "valley fills" and "form and function" in the alternatives analysis need to be reviewed and revised as necessary to make sure this is clear.

- **Chapter content.** The chapter 4 narrative contains many unsupported statements. Statements are made concerning conclusions but have no explanation of why or how the conclusion was drawn. In general, the EIS is a series of unsupported statements and needs much more information about, and analysis of, impacts and reasoning behind conclusions drawn.
  - In many instances, this chapter simply does not give meaningful information about what the impacts are. In particular we need more discussion of the impacts of the preferred alternative's new requirements, on stream resources.
  - The alternatives analysis do not do a sufficient job at discerning the specific differences of each alternative from the no action alternative and fail to establish a clear outline of the impacts for the reader.
  - Chapter 4 needs to discuss the alternatives as a whole – their impacts on the environment, differences between alternatives and the baseline condition (alternative 1), and benefits derived from each alternative when viewed from the sum total of the elements in each alternative.

- **General comments** concerning chapter 4:
  - Move Section 4.7 "Methodology" to the front of Chapter 4 to facilitate a better understand of the rationale used to generate an analysis of the alternatives.
  - The document would benefit greatly from an explanation of the grouping of elements and inserted early in the document.

High Priority EIS Items Chapter 3

- **Chapter 3 Content.** The authors have missed the opportunity to discuss the basis of the issues in the coalfields of the United States that underlie the SPR rulemaking. Issues such as large contiguous tracts of grass land that have replaced forests, valley's that have been replaced with excess spoil and coal refuse, sediment and iron laden streams, large scale altered topography, etc. The authors need to discuss the existing environment in the context of the impact of mining on the landscape, the Nation's streams, and of pre-law mining on the landscape. The successes and failures of SMCRA and the pre-SMCRA landscape scars are part of the existing environment and need discussed. Chapter 3 needs to set the stage for the chapter 4 analysis and alternatives discussion. This discussion needs to tie the chapter 3 existing environment with the specific elements under consideration and the monetized benefits of chapter 4. Maps, pictures, statistics would be very helpful in setting the stage of the existing environment.

- **Chapter 3 Format.** Chapter 3 is fragmented in many areas with no effective flow between chapters 3 and 4. As an example, section 4.3.4 Biological Resources in chapter 4 will need to cross reference the section(s) of Chapter 3 in which those biological resources can be found for <u>all</u> 7 coal regions. The reader of chapter 4 must not struggle to find those biological descriptions and inventory lists in chapter 3. This clarity is needed not just for the Biology, but all parts of chapters 3 and 4. The outline structure of both chapters needs to be very similar in organization and structure to prompt this flow.
    - Chapter 3 material is organized in a way that highlights regional differences. Each resource section is further broken into specific regional sections. This level of regional detail is not carried forward into Chapter 4. The two chapters need reconciled in a manner that allows the author to clearly convey the information and the reader to comprehend the information without searching through the document.
    - Material presented in Chapter 3 is for the most part hardly utilized in any Chapter 4 analysis. For example, Chapter 3 covers stream reconstruction techniques in great detail. There is no discussion of these techniques with respect to any provisions of the alternatives or predicted impacts in Chapter 4.
    - In some sections of Chapter 3, numbers and percentages are used in the discussion but no source reference information is cited. The contractors need to make sure that the source reference is included or if the data was derived by the Contractor, the method by which the data was derived needs to be briefly described.
    - The description of visual resources in this chapter is lacking. For example, in the Appalachian Region, the author provided very little description of the existing / affected environment for this topic. Please provide additional description of the existing visual resources, the extent to which pre-SMCRA mining has affected the existing visual resource environment, and the affect SMCRA implementation has had on the existing environment.
    - There needs to be better explanation of the grouping of the elements, "land, water and other". As a suggestion, chapter 3 should be organized so that the reader is familiar with the format by chapter 4. In chapter 4, adding a brief rationale of the groups and provide a reference for the reader back to the chapter 3 grouping would benefit the reader greatly. In the grouping scenario, biology will need to be considered in the context of both the Clean Water Act and SMCRA as the definition of material damage has linked the two Acts to some degree. This EIS needs to include a much stronger discussion of biological impacts and benefits of this rulemaking.

- **Misrepresentation of regulations.** A thorough understanding of the entirety of 30 CFR and the proposed regulations for the SPR has been a common theme throughout the EIS. For example, excess spoil fills and refuse impoundments/fills have been discussed with respect to Approximate Original Contour. The provisions of AOC and AOC variances have not been adequately or properly described.
    - OSM and the Contractor agreed that the term "mountaintop mining" would not be used in this document. Since this term was coined in the 2004 EIS, the use of this term has created a great deal of confusion. The entire document should be searched and this term should be revised to reflect the specific type mining being referred to as per SMCRA (e.g. mountaintop removal, steep slope, contour, etc.).

- **No description of the current mining and reclamation practice.** The EIS should contain a description of the current regulatory structure and practice for each of the major elements in the EIS under alternative 1 (e.g., topographic and fluvial reconstruction). It was assumed that this discussion would occur somewhere in the EIS but is not evident. This discussion will help clarify the distinction between pre-SMCRA practices, current mining Regulations, and current mining practices. The distinction between the three items is blurred in many instances and needs reconciled before the EIS can be considered acceptable.

- **Misrepresentation of regions or regional practice.** State agencies and regulatory professionals are reviewing this document. As such, the document must contain accurate statements about regional practice or regional statistics.

- **Inconsistent level of detail across regions.** This EIS evaluates impacts on a proposed action that apply nationally. For this reason, the level of detail provided for all coal regions should be the same and not appear to be skewed to any one region (e.g. Appalachian Basin). The EIS Team has discussed this issue with the consultants and a preliminary draft of the reorganized Chapter 3 is forthcoming soon and should alleviate the inconsistency.

    - In various places in Chapter 3, there was confusion or inconsistency as to what states were going to be included in the study area (sec. 3.0.2) and what states ultimately would not. For example, data presented in a table for a certain region might not include all the states identified as being in the study area. The contractor needs ensure that all states identified as belonging to a study area are included in the various regional discussions and tables or provide an explanation why areas or states were left out.

David Bell

Q6e

From: David Bell
Sent: Thursday, September 23, 2010 10:25 AM
To: 'Jose Sosa'; 'John Maxwell'; 'Mike Stanwood'; 'Caroline Bari'; 'Randy Sosa'
Subject: RE: Action Items

Importance: High

Jose:
This is what I have in my notes and what I recall. I did not include Joe/Liz's task breakdown, as that's internal to the PKS team.

Action Items:

- John C. is also to provide OSM wording for Chapter 1 (might also be used in other Chapters) to address:
  - Federal – state relationship in administering the SMCRA program, the so-called "primacy" question that relates directly to the "nationwide" vs "regional" debate/issue
  - John C. will also provide a paragraph or so describing applicability of the SPR to underground mining. To be inserted in Chapter 1 Scope description.
  - Distinction between MTR and MTM, and the fact that this EIS will not deal with MTM
- John C. will provide (by Thursday 9/23) OSM's comments on the 9/17 Proposed Action and Alternatives, including any additional wording necessary to capture the expansion of the Alternatives to capture underground mining. This is not limited to just the Preferred Alternative, but to *any and all* Alternatives that might be implicated by the expansion, e.g., Material Damage, Baseline Data, Monitoring, etc.
- John C. will provide a redline/strikeout of latest version of the SPR.
- Brent will send Bill Winter an email regarding certain aspects of the SPR as it now applies to underground mining.
- OSM (John C.) agreed the Matrix and discussion could be reordered to put "Stream Definition" first and to set aside for separate analysis the four overarching, but tangentially-related to Stream Protection provisions dealing with "Bonds," "Financial Assurance," "Permit Coordination," and "OSM's Other Requirements."
- Dave is to provide Chris the final Phase I Public Involvement Plan for use in subsequent discussion on Phase II – Public Involvement for DEIS. Looking at the first week of October for meeting among Dave, Chris, Peter, and John C.(?). This will form the basis for the Phase II PIP. Consensus developing that Phase II should include 9 or 10 hearing locations, which would require a contract mod and additional funding (Nancy aware and supports).
- John M. and Dave will incorporate the additional comments (Director's comments) received from John C. regarding Chapter 1.
- John M. and Dave will also strip from Chapter 1 much of the background information and place it in a Preface, thereby limiting Chapter 1 primarily to the Need and Purpose.
- John C. concurred in framework analysis for Chapter 2 Alternatives. Dave and John M. to proceed to integrate inputs from PKS team into the Chapter 2 template that Dave drafted earlier. Draft Chapter 2 due to OSM on September 30th.

David E. Bell
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(703) 845-5602 (direct)
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(703) 845-8568 (fax)

(703) 774-6578 (cell)

From: Jose Sosa [mailto:jose@polukaiservices.com]
Sent: Thursday, September 23, 2010 9:38 AM
To: John Maxwell; Mike Stanwood; Caroline Barl; Randy Sosa
Cc: David Bell
Subject: Action Items

All:

It is important to send Stephanie a quick report with an action item list. What to me is the most important is to put ourselves on the record that:

We got word of an underground mining proposed rule that OSM is attempting to promulgate with the surface mining rule and,
John C. of OSM indicated that there were no material changes affecting the alternatives and elements to be analyzed in the EIS. OSM committed to looking at the two regulations and make sure any changes were provided to the PKS EIS team.

OSM gave the EIS Team the go ahead to start the analysis of the alternatives presented to them on 9/17/10. OSM was to provide our team wording for us to add to Chapter 2.

Those are the ones that come to my head from the meeting. Lets capture the other ones based on our notes to send to Stephanie and put ourselves on the record.

Jose

David Bell Q 6e

From: Jose Sosa
Sent: Thursday, September 30, 2010 12:13 PM
To: John Maxwell
Cc: David Bell
Subject: FW: Discovery
Attachments: WS400003, Kick-off Mtg, Part I.docx

Text from kickoff meeting. The talk relates to surface mining and the rule to be published. Nothing related to underground mining.

From: Caroline Bari
Sent: Thursday, September 30, 2010 11:57 AM
To: Jose Sosa
Subject: RE: Discovery

Tape 1 is transcribed through 42 minutes. They make mention (highlighted) of surface and mountain top removal in a couple of places. The last part of the discussion I didn't hear anything; however, some of what they are discussing (bonding, etc...) is over my head. So I'm going to finish transcribing that for review by you/John/Mike.

Tape 2 – nothing there

Jaque is in the process of getting me the other tapes.

From: Jose Sosa
Sent: Thursday, September 30, 2010 11:53 AM
To: Caroline Bari
Subject: Discovery

What have you found so far?

WS400003
Kick-off Meeting, Part I

Nancy	Welcome
Glenda Owens	Introductions of OSM personnel – Lai-Tai, John Craynon, Bill Winters, Nancy S, Sterling Rideout, unknown (4.00 min approx)
Various	Introductions (Randy, Jose, Cynthia, John Maxwell, Dave Bell, John Morgan, Joe Zaluski, Steve Gardner, Rick Newsome, Josh Jenkins, Ann Shortelle
Glenda Owens	*(8:00)* Thank-you. Well I'm pleased that I heard a few of you use our acronym SMCRA and you have years of experience working, you've worked with Walter ??
	Unintelligible then laughter
Glenda Owens	*(8:20)* But anyway, I'm very pleased to hear that you have experience not only in mining engineering and biology and hydrology because those are going to be extremely important issues as we go through the development of the EIS. But, also with SMCRA and the surface mining requirements and principles and regulations. That's going to be extremely important as well. I'm sure that you've heard that what started out to be an attempt to do a regulation to revise what we had formerly called our Stream Buffer Zone Rule as a protection from the areas of the streams from the mining has expanded and we're taking on a much more comprehensive and holistic approach as to this rulemaking. I don't know how much of the background that you have but in 2008 a, OSM promulgated, as I said, what was known as a stream buffer zone rule, it had a narrower focus. When the new administration came in, and I think that rule became effective in 2009, January 2009. When the new administration came in, as one of the reviews of regulations that had recently been promulgated; well, two things happened. First of all, the regulation, the stream buffer zone regulation, two environmental groups challenged that rule so there's a challenge in the District Court. *(9:58)* We've entered into a settlement agreement on that litigation. We're not going to defend that rule because a decision was made that we wanted to re-promulgate, revise that rule and so right now we have, that litigation is stayed while we do the actual re-promulgation. But we're under some time constraints here and that's where the interesting part of this endeavor comes in. As a part of that settlement agreement, we have agreed to try to get a proposed rule out in February 2011 and you don't even to think too hard to realize that you have less than a year to get that rule promulgated. Now, that means we have even less time to get the EIS drafted because the basis of what we're going to do in that rule is our EIS we got to get that bad boy done. So, as I said, we have some time constraints here which I'm sure you all are aware of, and we have lots of issues because this is a, I'm also assuming that you've seen the concept paper for the regulation. So you know the extent and the comprehensive nature of what we are proposing to do and the work that we're going to need, the support that we're going to need, in the development of the EIS. There will be more, I guess we're going to get into more specific discussions here today. Today looks like it's more a matter of contractual discussions, and I see there is outline for division of the project, and I guess the project is the EIS project. So, I'm going to leave that to the project managers and contractual folks to do. I just want to express my sincere appreciation for your being there. This has been, we've been trying to get this team pulled together and move forward on this EIS or several months. One of the things that I don't know, if you haven't heard but you will

hear over the next today or tomorrow, is that we also have some cooperating agencies that are going to be working with us on this EIS. We have EPA that wants to be a cooperating agency. We have a couple of states that have already indicated that they want to be cooperating agencies. And so this meeting is for us to establish the kinds of expectations that we'll have on both sides. It's going to be a two-way street. That's the only way we're going to be able to get through this in a timely manner. To get everything done that needs to be done. We are, not withstanding the fact that EPA is a cooperating agency, we are the lead agency. Now, one of the things that we did ask our cooperating agencies and another, there are a couple of other agencies that will be assisting us as well. The Corps of Engineers and, let me just back up for one minute, one of the things that is driving this as well as the litigation is the memorandum of understanding that the Secretary of Interior, the Administrator of EPA and the Deputy Assistant something-or-other form the Corps, Deputy Administrator of Civil Works, I didn't mean to diminish their position. But anyway, those three have signed onto a Memorandum of Understanding in which each of the three agencies make certain commitments, short term commitments. And we're on target with those in the longer term. And actually with getting the stream buffer zone rule amended, or at least getting some guidelines out immediately, was one of the shorter term commitments that we made. And we actually have some immediate protective measures that we put out in the interim while we get the rule re-promulgated. So we're on track with that as well. The longer term commitment is this rulemaking and because EPA and the Corps are signatories on that MOU they have more of an involvement than they otherwise would and they normally would and also in our statute there is a provision that says that any regulations that we promulgate that have Clean Water Act, air, or water quality implications have to be signed off on by the EPA. And I can tell you that EPA is taking that very seriously. And, so we're going to be walking, working and walking with them hopefully, I don't want to say lock-step, but we'll be walking down the same path and hopefully we'll be going in the same direction and we'll be moving together as quickly as we can and making sure that we don't, that we do all that has to be done. So I say all that to say there are a lot of players in this endeavor and so that's, that's always a challenge. A lot of cooks in the kitchen here. So we got to make sure that we keep the stew brewing and that we get this dish ready on time.

(15:43) So, I'm not sure there's much more I need to say cause you need to talk about what it is that you'll be doing and the timelines and how you're going to set everything up. As I said, our Director had hoped to be here to welcome you and give you a little bit of overview and give you his perspective of where things are and he is very, very much involved in this rule, the development of this rule, he is, I don't know if you're aware of it, but he's actually been going around all over the country doing stakeholder outreach meetings so that on the concepts that we actually put out. So, he's had an awful lot of feedback and interaction with the various groups. We, we fully expect to be watching every move we make on this rulemaking and we will be waiting with baited breath to file any lawsuit that comes, that, we know this rule is going to be challenged, there's no doubt about that. So we need to have an EIS that's going to support what the rule does. We want as defensible rule as is possible for any number of reasons. First of all, we need this rule. We need this comprehensive approach to protecting streams. And we also need to put together good rules that are going to withstand judicial challenge because otherwise this effort will have been for naught. And, this is a pretty long, long, protracted and expensive endeavor for it to have all have been for naught. So, it's got to be a sustainable action. We're going to depend on you to give us what we need in the EIS so that we can do a rule that's going to do what

	it needs to do. And I think our Director will be in to speak to you also when he gets here, just to welcome you and to let you know how important this is to him as well. It's important to us as a Bureau, our Assistant Secretary, and our Secretary, who as I said was the signatory on our MOU. This is a high priority for him as well. We have every interest, not only at OSM, but as I said, at the Assistant Secretary level and at the Secretary's level to make sure that we do this correctly, do it right , do it on time. And so, welcome to the team.
Jose Sosa	(18:15) I think it's very critical for us to, and that's something that we've been kicking around now for several weeks, and we have said prior to coming into the meeting, we got together. And, it's very critical that we understand division and understand division of that rule because obviously the EIS will basically support, our findings will support, what that rule says and good, bad, or indifferent, we got to have a platform, we have to have a baseline of what it is that you want to achieve with this rule, holistic comprehensively, country-wide mining activities which is very, very ambitious. But, we need to understand, and the team needs to understand, so like we were talking about we can define what box we got to build for you. You know, we don't want to be out there building a skyscraper if we only need to buy and build a five story building and it's very critical (unintelligible other) yeah, so, so these couple of days, I'm hoping that it will actually set and define, you know, get us to understand what the rule is, get an understanding of what parameters and so on and so forth. And understanding again that if you have that true commitment from the EPA, from the Corps and even some of the states. Because like we were talking during the day, you know a lot of the states deal with their own Clean Water Act regs, they regulate a lot of these parameters. So we need to understand, is this going to be a federal action that is going to take over and displace the state mandate on some of mining activities either Appalachian or other locations. So we really have to understand the nuts and bolts of what it is that you want to accomplish and how this thing is going to get done. So we can be as effective as we possibly can.
Glenda	*(20:08)* Yes, those are things you do need to understand and the next couple of days, those, we'll lay that out for you. Short answer - no we're not taking over from the states. We are providing oversight for the states. We're going to set the federal minimum states will expected to....
Randy Sosa	Above and beyond.
Glenda	Yes, they'll be able, they'll be expected to adopt regulations, once we get our regs down. They'll be expected to adopt regs that are no less effective. And that's why a couple of the states have actually expressed an interest in being cooperating agencies. Because they understand how this is going to work as well. Fish and Wildlife Service has also expressed an interest in being a cooperating agency. There's a lot of interest in what we're doing because it is so comprehensive and because it goes beyond just a buffer zone. We're expanding the, one of the things we are proposing to do is to change the definition of streams to include form and function. Which is an expansion. But they'll, our team will get more into that, some details. I just wanted to give you an overview since the Director was not here. I hadn't really planned to because I thought he'd be back, but, he'll probably still want to come in and say something to you. When he gets in and we're expecting him, probably around 3 o'clock or so. And I can see from the schedule you'll still be plugging away. So he'll be back then. And we'll come back down probably tomorrow some time just to see how things are going and if there are any questions you have of us. So again, welcome, welcome, we're happy that

	you're here. And we're glad to get this EIS under way. So thank-you, and, (unintelligible)
John Craynon	*(22:29) **Before*** we get into the contractual matters, I'll talk a little about the project. As Glenda indicated this rulemaking is going to be (unintelligible) there are a number of areas that we're focusing on (unintelligible) if I miss anything Bill you can jump in. I sat through the Director's meetings 14 times, stakeholder outreach meetings, so I think I got (unintelligible). 14 times over the course of a month the Director, we met with a number of groups across the country and I was the only one that was at every meeting Bill. (unintelligible) The first concept that's really a part of the rulemaking is, relates to collecting appropriate baseline data. Really focusing on looking at what's in the streams prior to mining, chemically, physically, biologically. And expanding what's currently in our regulatory program, add a lot more detail. So, that's one area that we are focusing on in the rule. The second one is, in the surface mining act there is a provision that we have to protect the hydrologic balance from material, prevent material damage to the hydrologic balance off the permit and minimize the impacts on the permit. Did I get that right Mr. Hydro? I'm a mining engineer, so I may not use the water terms correctly. But for the first time we are going to be composing, putting a federal definition of material damage that is really going to focus on the function of the stream so we'll have a biologic component to define what material damage is. As a part of that concept we are also going to include, we anticipate including something that focuses on establishment of an action threshold, corrective action threshold that, for example, if a particular parameter is the stream is considered important as far as material damage goes and you see a trend in that parameter that's moving toward material damage would occur, it would be a threshold where the operator, the permittee would have to take a corrective action to prevent material damage from actually occurring. This again is a new regulatory concept for us. It's a trigger point that would require the operator to do something different. And would examine what's going on in the watershed that may causing that parameter to increase. The third area is monitoring, right? In addition to collecting more baseline data to characterize what's there, we're going to expand the required monitoring on, within the watersheds affected by the mining operation. So not only on the permit, but also at the point downstream that relates to the cumulative hydrologic impact analysis that the SMCRA regulatory authority (unintelligible). That focus really of material damage and of monitoring and so on is to ensure that you're not; your mining operation is not causing material damage. You have to have some way of determining what area is impacted by not just this particular permit but by other existing mining operations, by past mining operations, and by reasonably anticipated future mining in that area. The regulatory authority takes the information submitted by the permit applicant and prepares this cumulative hydrologic impact analysis. And that is an area, again by saying that, by creating this definition of material damage, by requiring additional monitoring, there will be more information to determine if that's going on. (unintelligible) Did I muddy the water?
Bill Winters	*(26:47)* No. The only thing you can add (unintelligible) might as well add here. We're talking about cumulative some states release the monitoring (unintelligible) whenever they want.

John Craynon	*(35:08)* In the case where you have variances from the requirements for AOC, that would be true mountaintop removal mining where the statute, the regulatory program had a couple of provisions that allow for the waiver of the requirement to return the mining site to approximate original contour. One is for steep slope mining sites, the other is for mountaintop removal which is defined as where you take the entire coal seam, or seams, from one outcrop to the other and you mine the entire mountain or ridge. Those are very rare, actually, over the last several years. Where there are variances, we want to make sure that there's legitimate post-mining land uses in place. For example, if you say you're going to create an industrial park on this flat land that you've created by not returning it to approximate original contour there needs to be contracts in place or at least the zoning, etcetera in place to indicate that that is actually a legitimate post-mining land use and not just a sham that you created. Where the land has been forested prior to mining, we're also going to include is this rule an encouragement, the details are still being worked out, for reforestation of previously forested areas. Preference for use of native species, not just of trees but the other biologic species that may be on the site, the understory, the brush and the shrubs and so on that stay on the forest (unintelligible). Next thing that we're going to include in this regulatory package is a codification of our 1997 acid mine drainage policy. To basically require financial guarantees for long term pollutional discharge, regardless of whether it's related to acid mine drainage or any other pollutional discharge. Right now, as I said, that's a policy statement so we think by putting it in the regulations that's better (unintelligible) notice of what's understood there and it expands it to include issues like if, for example, let's pick something out of the air like selenium. When you have a discharge of selenium from the site and that's going to be a long term pollutional discharge, then you provide some sort of financial mechanism to ensure that that can be treated before discharging on the site.
Various	(Unintelligible)
John Craynon	*(38:18)* The, as far as, on the, when you have a fill on the site, and actually any time you're impacting the stream, one of the goals that the Director has in this rulemaking is ensuring that all the pertinent provisions of the surface mining act are being implemented. And, one he feels that through the years has not been, and we do have an opportunity here, is when you effect fish, wildlife and related environmental values that the statute actually indicates that we should protect and enhance, where possible, minimize the impacts, and enhance where possible, so where you have fills on a site and anytime affected streams there's going to be real focus on ensuring that you enhance the fish, wildlife, and related environmental resources. So, if you're putting the fill in one stream, and you have an opportunity to do an enhancement on another stream reach on the permit then we're looking for requirements that you'd be doing that as well. Permit coordination, yes. Another area we expect to address in this is a requirement that the permitting aspects under SMCRA and the permitting aspects of the Clean Water Act be coordinated to the greatest degree possible. We don't know exactly how to do that in rule, we can't obligate the EPA, the Fish and Wildlife Service, the Army Corps of Engineers or anybody to do anything over our regulatory program. But we can create a framework, I think, to ensure better permit coordination.
John Morgan	(Unintelligible) Stream delineation.
John Craynon	*(40:04)* The definition of streams, that's the last part. Thank-you, John.

Various	(unintelligible)
John Craynon	We are looking at redefining streams. Right now our definitions are based on flow and place of intermittent, based on area watershed of one square mile or greater. We're considering changing those definitions to include a biologic component. And, this I can actually do verbatim. Something along the lines of what's in the Pennsylvania program, which defines intermittent streams as the water course will define better bank in a substrate indicative of flowing water that contains two or more macroinvertibrate species visible by the naked eye which require water to complete all of their life cycle. Water for part of the year, to complete all of their life cycle. And then, a perennial stream is the same except for they require water the entire year to complete their life cycle. So, that sort of definition but we're not wedded to that exact word. That's the kind of thing that we have in mind. And then, for ephemeral of course. Did I miss anything else, Bill? Dennis, did I miss anything in the regulatory?
Various	Unintelligible
Joe Zaluski	*(41:42)* I got a question on the permit coordination part. Is this for ADCs that issue permits for mines or those (unintelligible) are both these covered?
John Craynon	I think the the intention is to cover both. In part, because of the role of the Fish and Wildlife Service Endangered Act, Species Act, coordination and so on. It's not like there's a permit there, but there is a coordination. They actually have the ability to be involved in Clean Water Act permitting and SMCRA permitting, so I think we definitely want them (unintelligible). I think we'd encourage that.
	Alternative bonding, sedimentation ponds,

Q6a

POLU KAI SERVICES

September 24, 2010

Ms. Nancy E. Sloanhoffer
Contracting Officer
Division of Administration
Office of Surface Mining Reclamation & Enforcement
U.S. Department of the Interior
1951 Constitution Avenue, NW
Washington, D.C. 20240

Delivered via email and U.S. Postal Service

Dear Ms. Sloanhoffer:

At our monthly meeting on September 20, 2010, the PKS Team provided OSM a review of the Chapter 2 – Description of Proposed Action and Alternatives framework and methodology for development of the alternatives, which we had delivered to OSM on September 17th. John Craynon acknowledged receipt and approved the team's analytical approach to defining the proposed action and alternatives. He indicated that OSM was currently reviewing the alternatives matrix and narrative description of alternatives and would provide comments by September 23rd. Mr. Craynon authorized the PKS Team to start the environmental impacts analysis based on the alternatives and elements provided to OSM in our September 17th submission.

Mr. Craynon went on to say, much to our surprise (as well as to some of the assembled OSM personnel), that OSM had also decided to develop new rules applicable to *underground* mining. On Tuesday, Mr. Craynon shared with us the draft rule changes associated with underground mining, ostensibly so that we could include these in our analysis. These changes comprise an additional 122 pages. According to Mr. Craynon, the language contained in the new concept rule for underground mining is similar, if not identical, to the language contained in the current concept rule for surface mining. He agreed to provide the PKS Team a copy of the redlined concept rule for underground mining so a comparison can be made between the two concept rules. Further discussions resulted in Mr. Craynon agreeing to provide an in-depth review of the concept rule for underground mining with an outline of the areas where the two regulations differ.

Although the PKS Team had repeatedly asked whether underground mining would be included in the rulemaking, it was not until the face-to-face meeting this past Monday and Tuesday that we learned of OSM's intentions to promulgate the underground rule as well. Based on discussions with our subject matter experts in the field of mining, the introduction of this new concept rule will have environmental impacts different from the ones that are being analyzed in the context of surface mining. PKS has instructed our subcontractors to continue our analysis of

the environmental impacts of the various rule provisions as they apply to surface mining, just as we have been doing since the inception of this contract.

The PKS Team initially requested clarification of OSM's intent to apply the new rules to underground mining at the June Kick-off Meeting, but OSM deferred answering. We continued to ask about the applicability of the rules to underground mining at our bi-monthly meetings, and OSM again deferred answering -- until Monday's revelation.

We believe the expansion of the EIS to include any rules changes related to underground mining is outside the scope of the contract as currently written or contemplated by the parties. The Statement of Work for this EIS is virtually silent on the question, with only two references to anything related to underground mining. Specifically, Section A (Scope), paragraph 3.2 J.4) r.vii. states:

> r. The Contractor shall identify cumulative effects, to include but not limited to:
>
> ...
>
> vii. A narrative summarizing peer reviewed publications resulting from long term studies on water quality impacts from surface and *underground* mines. A compilation of some of the studies is provided in attachment #2. (emphasis added)

A few paragraphs later, the following reference appears.

> v. Topics to be included for Material Damage to Hydrologic Balance – Cumulative Hydrologic Impact Assessment (CHIA) topics include but are not limited to:
>
> i. A narrative summary of existing water quality and quantity (surface and ground water) downstream of coal mine sites at a CWA 305(b) scale with emphasis on regional analysis. Including but not limited to: active and reclaimed mines (water quality, flow, loadings), land use categories (identified as a percentage) within a CWA 305(b) scale, percent of disturbed relative to bond release status, percent of valley fills, percent of remined areas, and identification of mining impacts (surface and *underground*) to existing groundwater conditions. Source material shall include most recent coal field watershed and hydrology reports (USGS). (emphasis added)

In both instances, the reference to underground mining is in the context of providing a narrative describing studies or standards that already exist. There is *no* mention of assessing the impacts of *any* proposed rules on underground mining otherwise in the SOW. References for and against inclusion or comments concerning potential impacts were raised in the comments to the Advance Notice of Proposed Rulemaking, but there is no indication that OSM intended to or did act on them to include underground mining in this EIS.

The proposed action in this EIS is the rulemaking. As such, we requested a copy of the proposed rule and received it shortly after the June Kick-off Meeting. That rule addresses *only* the surface

mining regulations under SMCRA; it does not include *any* changes to the underground mining regulations. Whatever the rationale now, it is clear that at contract award and until Monday, as far as we know, OSM did not intend to include underground mining in its rulemaking and thus within the scope of this EIS. We have proceeded accordingly for the past 3½ months based on the SOW and the lack of any contrary indication from OSM.

Furthermore, the April Notice of Intent for this EIS makes no mention of underground mining at all, and the June Notice of Intent includes a single reference in the description of only one element, *Definition of Material Damage to the Hydrologic Balance*: "...This term includes streams downstream of the mining operation and above underground mines." (emphasis added). Interestingly, the sentence is the same in the April NOI, with the exception of the underlined language that was added in the June NOI. The Public Scoping Open House materials include only this single reference in the handouts and posters associated with Material Damage.

Likewise, none of the discussions associated with development of the Need and Purpose or the Proposed Action and Alternatives have involved underground mining. Indeed, the draft Chapter 1 and OSM's comments thereto do not mention underground mining. The Alternatives matrix that OSM first provided at the June Kick-Off meeting does not include any such reference. And, of course, the Alternatives matrix and narrative that we just submitted for OSM review and comment make no mention of underground mining. In fact, OSM acknowledged this point and promised to include any necessary underground mining-related changes in their review comments. While we appreciate OSM's attempt to mitigate the impact of this late addition to the rulemaking, the fact remains that it is outside the scope of the current EIS contract.

I believe we need to address this immediately in order to avoid delays to the completion of the EIS. We are prepared to discuss this matter on Tuesday as requested in Ms. Varvell's email earlier today.

Sincerely,

Jose J. Sosa, PE, CIH, CGC
Executive Vice President
Polu Kai Services

Cc:
Stephanie Varvell, Senior Program Analyst
John Craynon, OSM EIS Project Manager

David Bell Q 62

From: Jose Sosa
Sent: Tuesday, October 05, 2010 11:22 AM
To: John Maxwell; spr@engrservices.com; Caroline Bari; David Bell; Doug Mynear; J Steven Gardner; Jaque Mitchell; Jenkins, Josh; jmahan@plexsci.com; jmorgan@morganworldwide.com; Joe Zaluski; Liz Edmondson; Mike Stanwood; Randy Sosa; Shortelle, Ann; Singer, Robert
Subject: RE: Underground Mining

Some of you have asked during the call about underground mining. I have replied that I have been discussing and will continue to discuss with the contracting officer (Nancy Sloanhoffer). The last meeting the agency had with their lawyers, the same rationale that some of you had brought up was discussed regarding the fact that none of the public outreach ever mentioned underground mining. The meeting ended with the lawyers questioning whether the agency could even attempt to bring this into the rule making process at this time.

I will follow up with the her to see If there had been any new developments. As per our meeting with OSM last week, Mr Craynon indicated and directed the team to proceed with the analysis of alternatives based on the matrix provided by ECSI/Morgan.

We will keep everyone posted of nay new development.

From: John Maxwell
Sent: Tuesday, October 05, 2010 10:01 AM
To: (spr@engrservices.com); Caroline Bari; David Bell; Doug Mynear; J Steven Gardner; Jaque Mitchell; Jenkins, Josh; ,mahan@plexsci.com; jmorgan@morganworldwide.com; Joe Zaluski; John Maxwell; Jose Sosa; Liz Edmondson; Mike Stanwood; Randy Sosa; Shortelle, Ann; Singer, Robert
Subject: FW: Agenda for Conference Call tomorrow (1st Tuesday of the Month)

Below is the phone in info for the call to OSM. Meeting time is 10:30.
Thanks.

From: Craynon, John [mailto:jcraynon@osmre.gov]
Sent: Tuesday, October 05, 2010 7:30 AM
To: Jose Sosa; Varvell, Stephanie L.; Sloanhoffer, Nancy E.
Cc: John Maxwell; Randy Sosa; Caroline Bari; Mike Stanwood
Subject: RE: Agenda for Conference Call tomorrow (1st Tuesday of the Month)

We can use my line 877-601-6577, code 5508854#

Items for the agenda from me.....Review of Chapter 2, Status of RIA, Progress on Chapter 3, October Face-to-face

---

From: Jose Sosa [jose@polukaiservices.com]
Sent: Monday, October 04, 2010 4:22 PM
To: Craynon, John; Varvell, Stephanie L.; Sloanhoffer, Nancy E.
Cc: John Maxwell; Randy Sosa; Caroline Bari; Mike Stanwood
Subject: Agenda for Conference Call tomorrow (1st Tuesday of the Month)

ohn:

Do you have an agenda for tomorrow's meeting? Are we using your conference line?

We are finishing chapter 2 and will be sent to you today.

Stephanie:
John Maxwell is finishing a reply to your comments contained in your email today.

Please let us know.

Jose

David Bell Q 6e

From:	Randy Sosa
Sent:	Friday, October 08, 2010 9:04 AM
To:	John Maxwell; Mike Stanwood; Caroline Bari; Jose Sosa
Cc:	David Bell; J Steven Gardner; Jaque Mitchell; Jenkins, Josh; jmahan@plexsci.com; jmorgan@morganworldwide.com; Joe Zaluski; Liz Edmondson; Mike Stanwood; Shortelle, Ann
Subject:	FW: Fw:
Attachments:	PKS letter0001.PDF

Good morning all, please see OSM's response to our 9/24 letter regarding the underground mining and other related issues attached and received from Nancy Sloanhoffer last night. We will discuss during our Team meeting this morning.

POLU KAI SERVICES

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"For Official Use Only – Deliberative Process Material"

From: Jose Sosa
Sent: Friday, October 08, 2010 8:09 AM
To: Randy Sosa
Subject: Fw:

FYI

Sent from my Verizon Wireless BlackBerry

From: "Sloanhoffer, Nancy E." <nsloanhoffer@osmre.gov>
Date: Thu, 7 Oct 2010 20:58:25 -0400
To: Jose Sosa<jose@polukaiservices.com>
Cc: Craynon, John<jcraynon@osmre.gov>; Varvell, Stephanie L.<svarvell@osmre.gov>; Rideout, Sterling<srideout@osmre.gov>
Subject:

Jose, attached is the response to the 9/24 PKS letter. Any questions, please feel free to call or email me. Nancy

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement

October 7, 2010

Polu Kai Services
Attn: Mr. Jose J. Sosa, Executive Vice President
6911 Pistol Range Road, Ste. 101E
Tampa, FL 33635

Dear Mr. Sosa,

Thank you for your letter dated September 24, 2010 regarding the development of alternatives, the applicability of the stream protection rulemaking to underground mining, and the impact of that applicability on the EIS. I am responding on behalf of the Office of Surface Mining Reclamation and Enforcement (OSM). As discussed below, OSM does not agree with some of the characterizations in your letter, and we address our concerns below.

Your letter asserts that addressing changes in underground regulations is outside the scope of work contractually agreed to by both parties. Nonetheless, your letter also expressed your belief that it is necessary to expand the EIS discussion of alternatives in order to address a reasonable range of alternatives for anticipated changes to underground mining rules. PKS contends that the development of regulations for underground mining that are parallel to those for surface mining, will have different environmental impacts than those for surface mining, and therefore will require consideration of additional alternatives. OSM addresses these concerns below.

You indicate that PKS had no knowledge of OSM's intent to include underground mining regulations in the stream protection rulemaking and assert that the inclusion of underground mining-related changes is outside the scope of the statement of work (SOW) signed by both parties. In your letter, you cite two specific portions of the SOW pertaining to narratives describing long-term water quality and quantity impacts from both surface and underground mining.

PKS' first concern pertains to the heading repeated for both of the sections quoted in the September 24 letter: "The contractor shall identify cumulative effects, to include but not limited to: . . . ." With regard to the "to include but not limited to" language, We believe the question is whether the contractors have timely received enough information that they reasonably should have understood that the EIS was intended to address effects from underground

mining. We believe that the contractors did have timely information sufficient to alert them that changes in the underground regulations would be included in the rulemaking and that therefore the EIS would have to address them.

ANPR:

The subject line of The Advance Notice of Proposed Rulemaking (ANPR) published by OSM for the Stream Protection rulemaking (November 30, 2009) specifically includes: 30 CFR parts 780, 784, 816, and 817. Parts 780 and 816 are the permit application requirements and performance standards, respectively, for surface mining; and parts 784 and 817 are the underground mining equivalent. The ANPR discusses the major sections of SMCRA and includes reference to 516(c) pertaining to underground mining adjacent to streams. In section III of the ANPR, "What Provisions of SMCRA form the basis for the SBZ?", The ANPR discusses section 516 and 30 CFR 817.57 as they pertain to "the surface effects of underground mining." In the "How do we plan to revise our rules?" section of the ANPR, OSM states under alternative one that they may repeal existing stream buffer zone rules and cite 780.28, 784.28, 816.57, and 817.57, sections 784 and 817 are the underground regulations. References to the underground mining regulations are found throughout the ANPR.

[note that the definition of surface coal mining operations (SCMO) in SMCRA § 701.28 includes surface activities in connection with underground mining (*See* 64 Fed. Reg. 70838-70866); and therefore all of the references in the SOW to SCMO's in general, encompass surface activities in connection with underground mining.]

SOW:

In their September 24, 2010 letter, PKS identified two specific portions of the SOW that address underground mining. Both portions are in the Collection of Empirical Data section of the SOW, and begin by stating: "The Contractor shall identify cumulative effects, to include but not limited to:". Both portions then describe items to be addressed in the EIS. SOW Item A.3.2A states that the EIS shall include ".... a discussion of background information including issues raised in the comments on the ANPR, and a description of the scope of the EIS analysis..." As we noted above, the ANPR referred to various rules concerning underground mining that might be addressed in OSM's rulemaking.

Outreach meetings:

The applicability of the stream protection rule to underground mining was discussed in all five stakeholder outreach meetings. Contractors from ECSI were present during the Kentucky and Washington, D.C. meetings where the subject was broached and addressed by the OSM Director.

Prior to sending your letter, at the September 21 face-to-face meeting between PKS and OSM, you raised the following four technical questions concerning applicability of the draft proposed stream protection rule to underground mining:

1. How would sequencing apply to underground mining; specifically to A. planned subsidence, B. incidental hydrologic impacts from room and pillar?
2. How would the stream restoration requirements apply to underground mining, specifically to restoring form and function?
3. Would bonding for stream restoration apply to underground mining?
4. How would requirements for protection of the hydrologic balance apply to underground mining? Specifically, how would the rules implement the requirements of SMCRA section 510(b)(3), for preventing material damage outside the permit boundary, in light of SMCRA section 516(b)(1), which requires prevention of material damage only to the extent economically and technologically feasible?

1. How would sequencing apply to underground mining; specifically to: A. planned subsidence, B. incidental hydrologic impacts from room and pillar?

The draft proposed language at 30 CFR 784.28 and 817.57 applies to surface activities in connection with an underground mine. The draft language on sequencing does not apply to under-mining streams by underground methods. Impacts on streams from planned subsidence and subsidence from standard room and pillar mining are addressed in draft section 817.34 concerning protection of the hydrologic balance.

2. How would the stream restoration requirements apply to underground mining, specifically to restoring form and function requirements?

The stream restoration requirements outlined in 817.57 apply to surface mining activities pertaining to surface disturbances associated with the underground mine. They do not apply to under-mining streams using underground methods.

3. Would bonding for stream restoration apply to underground mining?

The stream restoration bonding requirements apply to all proposed surface activities that plan to divert or mine through a stream. As such, underground mining under streams is not covered, except for surface disturbance associated with surface facilities or activities.

4. How would requirements for protection of the hydrologic balance apply to underground mining? Specifically, how would the rules implement the requirements of SMCRA section 510(b)(3), for prevention of material

damage outside the permit boundary, in light of SMCRA section 516(b)(1), which requires prevention of material damage only to the extent economically and technologically feasible?

SMCRA section 516(b)(1) requires that each permit issued relating to underground coal mining shall require the operator to: "adopt measures consistent with known technology in order to prevent subsidence causing material damage to the extent technologically and economically feasible, maximize mine stability, and maintain the value and reasonably foreseeable use of such surface lands, except in those instances where the mining technology used requires planned subsidence in a predictable and controlled manner: Provided, That nothing in this subsection shall be construed to prohibit the standard method of room and pillar mining."

Under section 516(b)(1), an operator must prevent subsidence causing material damage, to the extent economically and technologically feasible. the operator must also maximize mine stability, and maintain the value and reasonably foreseeable use of surface lands. An exception occurs at the end of the sentence for operation with planned subsidence – either longwall or room/pillar retreat mining. Plain reading indicates that planned subsidence is exempt from the "economically and technologically feasible" material damage repair standard. 516(b)(1) also states that subsidence is to be prevented in room and pillar mines, hence the "maximize mine stability" language. OSM interprets the language to mean ***if*** subsidence occurs in a standard room and pillar mine that maximizes stability, then any material damage must be repaired to the extent economically and technically feasible. In effect, this language does not apply to planned subsidence mines.

Underground mining methods employing planned subsidence, longwall or retreat room and pillar mining methods, are required to protect the hydrologic balance outside the permit boundary as outlined in SMCRA section 510(b)(3). In effect, the prevention of material damage language at 510(b)(3) applies to all mining activities, 516(b)(1) is a special exemption for unplanned subsidence incidental to room and pillar mines.

30 CFR 817.121 deals with controlled subsidence and contains language at (a)(1) mimicking section 516(b)(1). Section 817.121(a)(2) contains language stating that material damage must be prevented to the extent technologically and economically feasible to structures. 817.121(b) discusses repair of surface lands and contains the following language:

"The permittee must correct any material damage resulting from subsidence caused to surface lands to the extent technologically and economically feasible, by restoring the land to a condition capable of maintaining the value and reasonably foreseeable uses that it was capable of supporting before subsidence damage."

At issue is the statement to correct material damage related subsidence to the extent economically and technologically feasible. The second clause pertaining to restoration of the land to a condition such that the land was capable of supporting before subsidence provides the context for subsidence repair. If the repair cannot bring the land back into a state capable of supporting its original land use, material damage has occurred. If the regulatory agency has a priori knowledge that subsidence is likely, and that it may result in a post-mining land condition that is not capable of supporting its pre-mine uses, prevention of material damage off the permit has not been achieved. SMCRA section 510(b)(3) applies to the post-mining configuration of all mine sites; 516(b)(1) is the sole exception to 510(b)(3) and only applies to unplanned subsidence. Under the Hydrologic Balance Protection (817.41) for underground mines, material damage outside the permit area is to be prevented. The regulatory authority may require additional preventive, remedial, or monitoring measures to assure that material damage outside the permit area is prevented. In summary, if the regulatory authority believes underground mining will leave the post-mining land in such a condition as to not support pre-mining uses, additional measures must be taken up to and including preventing subsidence, and associated material damage, from occurring.

The next issue to address related to subsidence damage outside the permit boundary is defining what is the permit boundary. As such, preventing material damage outside the permit area pertains to all mining activities. 30 CFR 701.5 defines the permit area as the area required to be covered by a performance bond in which the operator proposes to perform surface mining and reclamation operations. The permit area for an underground mine is the surface area disturbed by surface activities associated with the underground mine; normally the face-up and associated facilities. The term "shadow area" has been coined by the industry and includes all lands to be under-mined by the underground operation. The shadow area is not part of the permit area in that no performance bond is submitted to cover reclamation costs associated with surface disturbances. Note also that no mention of permit area or boundary is found in 817.121 concerning subsidence control.

Including the shadow area in the description of the permit area in hopes of meeting the letter of the law with respect to minimizing impacts within the permit boundary but preventing material damage outside the boundary is disingenuous at best and does not meet the intent of SMCRA. The subsidence regulations at 30 CFR 817.121 contain no language or exemptions for subsidence repair outside the permit boundary. Subsidence damage repair must occur wherever it occurs in conjunction with the mine workings for each respective operation. The Federal Register notices for the Valid Existing Rights (VER) rule stated in several places that the area overlying an underground mine is considered adjacent area and is not part of the permit boundary. Language at 30 CFR 701.5 for adjacent area contains similar language and intent.

As indicated above, we believe that PKS and your team were on ample notice that companion changes to underground mining regulations were contemplated as a part of this rulemaking and therefore must be addressed in the EIS. The draft of the Chapter 3 outline provided to OSM by PKS indicates clearly that areas and resources that may be affected by underground mining are to be included in discussion of the affected environment. Further, the counties selected for analysis in the EIS include those that had only underground coal production in 2008.

Mr. John Craynon has consistently provided PKS and your team with input on the alternatives. After an in-depth review of the alternatives and a comparison with the draft underground mining rule text for the rulemaking, Mr. Craynon indicated that no additional changes are needed in the alternatives as outlined in the Chapter 2 draft that was delivered to OSM on October 4, 2010. OSM appreciates the expertise of PKS, but OSM continues to believe that any changes in the EIS needed to explicitly discuss and evaluate the underground mining rule changes, as well as alternatives, are well within the scope of the work previously discussed and agreed to.

Should you have questions on this letter, please feel free to contact the undersigned.

Sincerely,

Nancy E. Sloanhoffer
Contracting Officer

David Bell

rom: Jose Sosa
Sent: Tuesday, October 26, 2010 9:28 PM
To: John Maxwell; Mike Stanwood; David Bell; Caroline Bari
Subject: RE: Underground Mining Clarifications Follow up

John:

I am confused with the whole issue of UG mining, even more with your statement. Let's discuss among many other items tomorrow.

Jose

From: John Maxwell
Sent: Tuesday, October 26, 2010 4:26 PM
To: Jose Sosa; Mike Stanwood; David Bell; Caroline Bari
Subject: FW: Underground Mining Clarifications Follow up

Interesting that the original email was sent to only me from PKS. Houston we have a problem.

From: Craynon, John [mailto:jcraynon@osmre.gov]
Sent: Tuesday, October 26, 2010 4:00 PM
To: J. Steven Gardner; Sylvester, Cheryl; Varvell, Stephanie L.; Coker, Jeffrey A. "Jeff"
Cc: John Maxwell; 'John Morgan'; 'Liz Edmondson'; 'Edmundo Laporte'; 'Doug Mynear'; 'Jeff Baird'; 'Zaluski, Joe'; Rice, Dennis; Winters, William R. "Bill"; Uranowski, Lois J.
Subject: RE: Underground Mining Clarifications Follow up

A few clarifications are in order.

After discussion with the rule team, the preferred alternative is equivalent to the most restrictive alternative. That alternative considers any detrimental impact from subsidence on the hydrologic balance, regardless of the temporal component, to be material damage.

An intermediate alternative (Alternative 3) is that such impacts to streams can be repaired and streams reclaimed and have those impacts not considered to be material damage to the hydrologic balance.

The least restrictive alternative (Alternative 4) disregards the impacts from underground mining in determining material damage to the hydrologic balance.

These changes above were included in the subsequent input on Chapter 2 provided this morning.

I am copying Dennis, Bill and Lois in hopes that the questions you raise (highlighted below) can be quickly answered.

John R. Craynon, P.E.
Chief, Division of Regulatory Support
OSM SPR EIS Team Lead
Office of Surface Mining Reclamation and Enforcement
Washington, DC

202-208-2866
202-617-5002 cell
202-219-3276 fax
jcraynon@osmre.gov

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From: J. Steven Gardner [mailto:jsgardner@engrservices.com]
Sent: Tuesday, October 26, 2010 3:07 PM
To: Craynon, John; Sylvester, Cheryl; Varvell, Stephanie L.; Coker, Jeffrey A. "Jeff"
Cc: 'John Maxwell'; 'John Morgan'; 'Liz Edmondson'; 'Edmundo Laporte'; 'Doug Mynear'; 'Jeff Baird'; 'Zaluski, Joe'; 'J. Steven Gardner'
Subject: FW: Underground Mining Clarifications Follow up

John,

Following up on our conference call on Friday, October 22. Thanks for the opportunity to further discuss the relevant issues related to OSM's interpretation of the requirements of SMCRA and the applicability of the proposed rule and requirements for protection of the hydrologic balance [particularly section 510(b)(3) and 516(b)(1)]. We wanted to make sure that we had the correct understanding of statements made.

First, referring back to the OSM letter of October 7 to PKS, we discussed several items that we wanted to clarify. We were disappointed with several things stated in that letter. We have always understood that SMCRA covers underground mining, especially as it regards surface facilities, mine portal and fills. What was never clear for the SPR EIS was the surface impacts aspect of the actual underground mining or shadow area. From the first meeting in June, we had asked about how the proposed rule would impact Underground Mining. The letter did finally address several of our questions, but it raised others that we brought up on the conference call.

Also, just as a point of clarification, the letter refers to ECSI being present at meetings in DC and Lexington in April. We did have representatives at the Lexington meeting, but not in DC. We checked with others present at those meetings and no one recalls the subject being clearly broached. That is why we kept raising the questions.

The 4 questions that were answered were very helpful and the wording will be referenced and quoted verbatim in the EIS where appropriate.

Regarding underground mining impacts under the proposed rule and alternatives, we understand that:

1. OSM would like the most restrictive alternative (Alternative 2) to consider that if a mining permit application predicts potential dewatering or other impact to the hydrological balance OUTSIDE the permit area as a result of the operation, a permit will not be issued.

2. From our conversation, it is our understanding that the impact to the hydrologic balance of a stream will only be considered material damage if that impact is permanent.

3. OSM indicated that the preferred alternative (Alternative 5) would allow for reestablishment of the hydrologic balance, provided that the impact is not permanent.

4. Surface Mining through a stream within the permit area does not necessarily mean that material damage has been caused, so long as form and function of the stream can be restored.

5. The "shadow area" of an underground mine is outside the permit area, therefore if dewatering or other hydrologic impact to any stream within the shadow area is predicted, no permit will be issued, under the most restrictive alternative.

6. The terms mitigation or remediation should not be used in regard to stream reconstruction as a result of longwall or room and pillar subsidence.

Also, it was indicated that it would be possible under the preferred alternative to divert a stream if it appears that the operation could cause dewatering or other hydrologic impacts outside the permit area. This statement raises at least one question. If the diversion of the stream in question is within the shadow area (e.g., risk of dewatering due to a longwall operation), what aspects will need to be considered for the permitting and bonding of the diversion?

There was a statement made about including underground mining in permit area being "disingenuous". We're not sure why that characterization was made, but we all agreed it was a legitimate question, especially since some states, if not all consider the underground areas in the permitting process. We still feel there needs to be a discussion of how underground areas continue to be considered in the permitting process.

We appreciate the time and effort put into clarifying these key matters that will allow us to complete the definition of the alternatives under study (Chapter 2) and start assessing their environmental consequences (Chapter 4).

As previously stated in various meetings and letters, we are concerned about the current schedule to complete the Chapter 4 alternatives analysis. As OSM is aware, there was a 3-4 month delay in actually beginning the EIS drafting process, due to the scoping meetings and alternatives development. Our primary concern above all is producing a quality work product that is both legally defensible for OSM and that we can be proud to be associated with.

Please let us know if our understanding of the matters discussed on the call is correct.

Thanks,

Steve

J. Steven Gardner, P.E.
President/CEO
Engineering Consulting Services, Inc.
Civil – Environmental – Mining – Safety
340 South Broadway, Suite 200
Lexington, KY 40508

859-233-2103 (office)
859-806-5826 (cell)
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jsgardner@engrservices.com
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David Bell Q 6f.

'rom: J. Steven Gardner <jsgardner@engrservices.com>
Sent: Saturday, February 19, 2011 10:38 AM
To: 'Dave Bell'; 'Joshua L. Jenkins'
Subject: FW: Implementation Timeline
Attachments: Implementation of Stream Protection Rule.docx

Dave & Josh,

Did you all get this?

J. Steven Gardner, P.E.
President/CEO
ECSI, LLC
Civil – Environmental – Mining
340 South Broadway, Suite 200
Lexington, KY 40508

859-233-2103 (office)
859-806-5826 (cell)
859-259-3394 (fax)
jsgardner@engrservices.com
www.engrservices.com

From: Winters, William R. Bill [mailto:bwinters@osmre.gov]
Sent: Friday, February 18, 2011 2:23 PM
To: John Maxwell
Cc: John Morgan ; Steve Gardner ; Shawley, Dianne M
Subject: Implementation Timeline

Hi folks,

Find attached the implementation timeline we discussed last week. Sorry for the delay but we had several key folks out sick this week.

Thanks.

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Implementation of Stream Protection Rule

If adopted in final form, the stream protection rule would take effect 60 days after publication in states with federal programs and on Indian lands. Implementation in states with approved regulatory programs would take considerably more time. We would first notify those states under 30 CFR 732.17 that we have determined that they must amend their programs to remain no less effective than the revised federal rules. The states would respond by submitting either a proposed program amendment or, more likely, a description of amendments to be proposed together with a schedule for submission of the proposed amendments and a timetable for enactment. To avoid unnecessary disruption of state programs, we generally accept schedules under which states would prepare and submit proposed amendments only after the completion of litigation of the new federal rule at the appellate level. This process can easily take 5 or more years.

Implementation Timeline

Federal Program States and Indian lands

- Rule takes effect 60 days after publication in the Federal Register.
- Permit applications approved after that date must comply with the rule.
- Existing operations would have to comply with new performance standards no later than the time of permit renewal (within 5 years).

Primacy States

- OSM will send Part 732 notifications to all states 90 days after publication of the final rule in the Federal Register. The notifications would require the states to amend their programs to be no less effective than the revised federal rules.
- Within 60 days of receipt of a Part 732 notification, the state must submit either a proposed program amendment or an action plan with a timeline for submission of such an amendment.
- Because the rule will likely be challenged in court, we anticipate that states will submit timelines providing for submission of proposed program amendments only after litigation is concluded, which we estimate will take 5 years.
- We anticipate that states will take 18 months to develop program amendments after the conclusion of litigation.
- OSM review and approval of state program amendments will take 7 months after submission.
- We anticipate that states will put the approved program amendments into effect within an average of one year from date of approval (up to 2 years in states with legislatures that do not meet every year).

- Total Elapsed Time: 102 months (8.5 years)

- Permit applications approved after that date must comply with the amended state programs.
- Existing operations would have to comply with new performance standards no later than the time of permit renewal (within 5 years).

David Bell

From: John Maxwell
Sent: Wednesday, March 23, 2011 1:42 PM
To: 'Jenkins, Josh'; John Morgan; 'J Steven Gardner'; David Bell; Liz Edmondson
Cc: Jose Sosa; Randy Sosa
Subject: OSM Mod 5 change order
Attachments: 3-23-2011 Draft Mod 5 PKS.docx

is attached. Please provide additional text for consideration in reply to the Mod. It is anticipated that we will be able to include only billing through February 2011 and limited administrative costs.

Thank you.

POLU KAI SERVICES

John R. Maxwell
Senior Environmental Scientist
Polu Kai Services
352.258.1045

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1. The period of performance as set forth in Section F.1 of the contract, 06/01/2010 to 05/31/2011, is hereby revised to read 06/1/10-03/23/11.

2. OSM and PKS agree not to make any statements, written or verbal, or cause or encourage others, including subcontractors, to make any statements, written or verbal, that defame, disparage, ridicule or in any way criticize the personal or business reputation, practices or conduct of the other party, its employees, directors and officers. OSM and PKS acknowledge and agree that this prohibition extends to statements, written or verbal, made to anyone, including but not limited to, the news media, investors, potential investors, any board of directors or advisory board of directors, industry analysts, competitors, strategic partners, vendors, employees (past and present), and clients.

OSM and PKS acknowledge and agree that, notwithstanding the foregoing, the parties are not prohibited from disclosing any information to their attorneys or in response to a lawful subpoena, congressional inquiry, administrative proceeding, court order, Freedom of Information Act (FOIA) request, or other legal requirement, including under the Federal Acquisition Regulation. If either party is required to disclose information under operation of law, the party will disclose only such information as is legally required or ordered by a court of competent jurisdiction or other competent administrative body.

3. Pursuant to the terms of this contract, and in consideration of the sum of $3,475,269, which has been or is to be paid under the contract to PKS by OSM, PKS unconditionally waives and releases the Government from any and all obligations, liabilities, and existing and future claims and demands, known or unknown, that it may have against the Government arising under or relating to this contract. Similarly, the Government unconditionally waives and releases PKS from any and all obligations, liabilities, and existing and future claims and demands, known or unknown, that it may have against PKS arising under or relating to this contract.

4. The parties will promptly take any further necessary actions to close out the contract and execute the terms of this modification including, but not limited to, proper disposition of government property and submission of any further documentation.

5. The Contract Amount is decreased by: $1,506,401
Contract Total Amount is revised to read: $3,475,269

6. All other terms and conditions remain the same.

Polu Kai Services, LLC/Plexus Scientific

Final Contract Modification

A. Change Order Description

In accordance with Section 9(a) of the "Consulting Agreement for Federal Government Projects," Consulting Agreement No. 10-092-004 ("Subcontract"), Polu Kai Services, LLC ("PKS") requests a modification of the Subcontract based on a request by the Office of Surface Mining Reclamation and Enforcement ("OSM") for a modification to the prime contract (Contract No. S10PC00060). Consistent with the prime contract modification, PKS requests that the Subcontract be modified to end on March 23, 2011, with the work done by Plexus Scientific. (Plexus) to that date representing complete fulfillment of Plexus's contractual obligations to PKS under the Subcontract, including, but not limited to, the satisfactory completion and delivery of all required work.

B. Contract Amount

The original Subcontract amount was $810,000, and was revised by the PKS-approved Change Order #1 ($13,500), and Change Order #2 ($2,247.60) for a total contract amount of $825,747.60.

As a result of this Change Order #3, the Subcontract amount is decreased by: $442,602.68.

Therefore, the Subcontract Total amount is revised to read: $383,144.92.

C. Payment

Pursuant to the terms of the Subcontract, PKS agrees to pay Plexus a Final Payment of $43,167.31. This represents the total amount outstanding and due to Plexus of the Subcontract Total for work performed under the Subcontract.

Upon receipt of the Final Payment of $43,167.31, Plexus represents that all payrolls, bills for materials and equipment, and other indebtedness connected with the Subcontract for which OSM or its property or PKS or PKS's surety might in any way be liable, have been paid in full or otherwise satisfied.

D. Release of Claims

PKS agrees to release and forever discharge Plexus, its owners, officers, employees, agents, representatives, and sureties from all claims and demands arising out of, or related to, the Subcontract. This includes all claims and demands related to the Subcontract whether known or unknown and regardless of whether based on contract, tort, or equitable grounds.

Plexus, in consideration of the sum of $43,167.31, which is to be paid under the Subcontract to Plexus by PKS, agrees to release and forever discharge PKS, its owners, officers, employees, agents, representatives, sureties, and OSM from all claims and demands arising out of, or related to, the Subcontract. This includes all claims and demands related to the Subcontract whether known or unknown and regardless of whether based on contract, tort, or equitable grounds.

E. Statements

PKS and Plexus agree not to make any statements, written or verbal, or cause or encourage others, including subcontractors, to make any statements, written or verbal, that defame, disparage, ridicule or in any way criticize the personal or business reputation, practices or conduct of the other party, its employees, directors and officers. PKS and Plexus acknowledge and agree that this prohibition extends to statements, written or verbal, made to anyone, including but not limited to, the news media, investors, potential investors, any board of directors or advisory board of directors, industry analysts, competitors, strategic partners, vendors, employees (past and present), and clients.

PKS and Plexus acknowledge and agree that, notwithstanding the foregoing, the parties are not prohibited from disclosing any information to their attorneys or in response to a lawful subpoena, congressional inquiry, administrative proceeding, court order, or other legal requirement. If either party is required to disclose information under operation of law, the party will disclose only such information as is legally required or ordered by a court of competent jurisdiction or other competent administrative body.

The Contractors, Polu Kai Services, LLC and Plexus Scientific, acknowledge that they have read and understand this Change Order and agree to be bound by its terms and conditions.

Change Order Agreed to:

David Bell

Vice-President, Plexus Scientific.

Date: 4.18.2011

Change Order Agreed to:

Randy Sosa

Polu Kai Services, LLC

Date: 4/21/2011

David Bell

From:	Randy Sosa
Sent:	Tuesday, April 05, 2011 5:56 PM
To:	David Bell; Jose Sosa
Cc:	John Maxwell; 'J. Steven Gardner'; Joe Zaluski; Josh Jenkins; John Morgan; 'Liz Edmondson'; Sloanhoffer, Nancy E.; Varvell, Stephanie L.; Shawley, Dianne M; Holmes, Christopher J
Subject:	RE: Any Reporters Call You??

Please do NOT respond to any questions. You MUST refer them to Chris Holmes at DOI/OSM as previously instructed. I copied him above. Thanks.

Chris Holmes

Public Affairs Specialist

U.S. Department of the Interior

Office of Surface Mining Reclamation and Enforcement

Tel: (202) 208-7941

Cell: (202) 697-3889

Fax (202) 501-0549

cholmes@osmre.gov

<<...>>

Randy Sosa

VP of Construction Operations

Southeast and Caribbean

Polu Kai Services, LLC

8(a), Native American, SDVOSB, SDB

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Direct: 305-975-2173

e-mail: randy@polukaiservices.com

url: www.polukaiservices.com

<<...>>

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From: David Bell [mailto:dbell@plexsci.com]
Sent: Tuesday, April 05, 2011 5:50 PM
To: Jose Sosa
Cc: Randy Sosa; John Maxwell; 'J. Steven Gardner'; Joe Zaluski; Josh Jenkins; John Morgan; 'Liz Edmondson'
Subject: Any Reporters Call You??

I have received 2 calls today, 1 from the NY Daily News and 1 from WSJ/Dow Jones. NY Daily News did not leave a message. WSJ did. Wanted to talk about the contract with OSM and SPR. Anyone else receive calls? How did you respond?

Dave

<< OLE Object: Picture (Device Independent Bitmap) >>

David E. Bell

Vice President and General Counsel

Plexus Scientific Corporation

4501 Ford Avenue

Suite 1200

Alexandria, VA 22302

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dbell@plexsci.com