UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUN 30 2011

Colonel Keith A. Landry
District Engineer
Louisville District Corps of Engineers
Attn: Ann M. Nye
OP-FN, Room 752
P.O. Box 59
Louisville, Kentucky 40201-0059

Dear Colonel Landry:

The U.S. Environmental Protection Agency, Region 4, has completed a preliminary review of the Public Notice (PN) and accompanying Clean Water Act (CWA) Section 404 permit application associated with U.S. Army Corps of Engineers (Corps) Louisville District (District) Individual Permit application (LRL-2011-138) submitted by Armstrong Coal Company, Inc. for its proposed Midway West Mine in Ohio County, Kentucky (KDMP #892-0113). Our review also included supplemental water quality information provided by the permit applicant in response to an email request from the EPA. That data is associated with other existing coal mines in the West Fork Lewis Creek watershed. The EPA would like to acknowledge the receipt of that data and express our appreciation to the permit applicant for his prompt response to our request.

The proposed 316.4 acre surface coal mining project will impact 0.745 acres of wetlands, 5,059 linear feet (lf) of intermittent streams, and 13,977 lf of ephemeral streams, the vast majority of which are tributaries to the West Fork Lewis Creek. This letter presents results of the EPA's preliminary review of this project and outlines additional information needed to conduct a thorough review consistent with the CWA §404(b)(1) Guidelines (Guidelines).

Alternatives Analysis – 40 CFR §230.10(a)

The Guidelines, at 40 CFR §230.10(a), provide that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem so long as the alternative does not have other significant adverse environmental consequences. The Guidelines consider an alternative practicable if it is capable of being done after taking into consideration cost, existing technology and logistics in light of the overall project purpose.

The EPA believes that a more thorough documentation of efforts to avoid jurisdictional waters on the proposed project site should be undertaken by the permit applicant. For example, the applicant states in Section II.A of the Alternatives Analysis that buffers were considered for all streams and wetlands, but were eliminated due to the configuration of the site. However, the Alternatives Analysis fails to make clear that any intermediate consideration of avoidance was evaluated. That is, the Alternatives Analysis suggest that the permit applicant considered only total avoidance of jurisdictional waters (the no build

alternative) or no avoidance (the preferred alternative). The EPA believes that a thorough alternatives analysis for this project, consistent with the Guidelines, should consider a complete range of avoidance measures beyond only the "no build alternative" (complete avoidance) and "the preferred alternative" (no avoidance) scenarios thus far contemplated by the applicant. While we acknowledge and appreciate the applicant's configuration of the project boundaries to avoid aquatic resources on the site's southern and eastern periphery, to date there appears to have been no evaluation of options to avoid any percentage of the 19,036 lf of streams proposed to be impacted by the applicant's preferred alternative within the 316.4-acre project area.

The EPA recommends that the applicant consider a full range of impact avoidance options, with particular emphasis on avoiding impacts to the highest quality streams in the proposed project area. Notwithstanding the very limited stream assessment information provided as part of the CWA Section 404 permit application, the EPA recommends, at a minimum, that the applicant evaluate the practicability of avoiding those streams for which assessment data ranks in the upper quartile of stream condition within the project area. Various ratios for each possible scenario would be illustrative, including but not necessarily limited to mining ratio, tons of coal per acre disturbance, tons of coal per linear foot of stream impact, etc. Mine Sequence Plan and Mine Reclamation Plan maps would also be helpful to determine the location of coal seams in the project area.

Additionally, there is an inconsistency in the permit application regarding Alternate Spoil Disposal locations and previous mining activity within the project area. As partial justification for dismissing alternative mine spoil disposal locations, the applicant states in Section II.B of the Alternatives Analysis that "*the proposed configuration...includes areas of previous mining disturbance*," [emphasis added]. However, in Section I of the Stream Habitat Assessment and Wetland Delineation Report, the applicant states, "*There is no clear evidence of previous mining activities within the area.*" Clearly, these two statements are inconsistent, and the EPA requests clarification regarding the presence or absence of previous mining activity and its extent within the proposed project area, if applicable.

The information included within this permit application packet does not, at this time, provide sufficient identification and consideration of alternatives to discharging dredged or fill material into project area aquatic resources, including streams and wetlands.

Significant Degradation of the Aquatic Ecosystem –40 CFR §230.10(c) and Determination of Cumulative Effects on the Aquatic Ecosystem – 40 CFR §230.11(g)

The Section 404(b)(1) Guidelines, at 40 CFR §230.10(c), provide that no discharge shall be permitted that will cause or contribute to significant degradation of the waters of the U.S. When evaluating permit applications in light of this provision, key factual assessments should include all direct, indirect and cumulative adverse effects of the proposed mine in consideration of current, previous and reasonably foreseeable future impacts; a watershed assessment of total length of streams to be impacted; the type of streams to be impacted, including extent of impacts to critical headwater streams and/or perennial reaches; the geographic location of the proposed mine; and an assessment of impacts based on a watershed-scale evaluation of stream quality (physical, chemical and biological) and other relevant factors.

The EPA notes that Lewis Creek, into which the West Fork Lewis Creek discharges, is on the Kentucky 303(d) List as being impaired for sedimentation/siltation attributed to surface mining activities. Based on the limited information available to characterize existing conditions on-site and existing conditions from streams elsewhere in the watershed, both of which are further discussed below, the EPA believes that

this project may cause or contribute to significant degradation of the aquatic ecosystem inconsistent with the requirements of 40 CFR §230.10(c).

The 404(b)(1) Guidelines, at 40 CFR §230.11(g), provide that cumulative effects attributable to the proposed project should be predicted to the extent reasonable and practicable, including the collective effects of any number of individual discharges of dredged or fill material in the same watershed, whether by the applicant alone or with others. The applicant's Cumulative Impacts Analysis (CIA) included as Section II.B(4) of its CWA 404 permit application focuses on two HUC-12 watersheds (Rough River, 051100040505 and Lewis Creek, 051100030502). While acknowledging that there are 103 issued mine permits in the above referenced watersheds, and 15,950 acres impacted by surface mining (29.4% of the land area), the CIA only discusses land use and land cover in these watersheds. The CIA fails to include or assess any water quality data or trends in these watersheds, and is thereby wholly inadequate to assess the impacts of the proposed mine in combination with all past and anticipated mining activity on the water quality and biological condition of jurisdictional aquatic resources in these watersheds.

On June 16, 2011, the permit applicant provided the EPA with water chemistry and in-situ physiochemical monitoring data from a number of other operating mines in the West Fork Lewis Creek watershed, including the Midway Mine that lies immediately east of the proposed Midway West Mine. Based on these data from November 2007 to January 2011, there are clear water quality impacts evident in unnamed tributaries in the West Fork Lewis Creek watershed that are strongly associated with the timing of mining operations on the Midway Mine. For example, at Surface Water Monitoring station ACC-S05, which lies on the unnamed tributary between the Midway Mine and the proposed Midway West Mine, specific conductance increased by an order of magnitude over background conditions with the commencement of mining at the Midway Mine (baseline conditions, average 99 µS/cm vs. post-mining conditions, average 426 µS/cm). Similarly, average sulfate concentrations doubled from 26.8 mg/l to 52.6 mg/l, total iron concentrations tripled from 0.47 mg/l to 1.63 mg/l, alkalinity increased by a factor of 7x from 13.8 mg/l to 97.8 mg/l, and pH increased from 6.56 to 8.13.

Stream assessments on the proposed Midway West Mine project site were conducted in July 2010, during a period of little to no surface water flow in a majority of project site streams. As a result, no physiochemical, analytical water quality or biological data was collected. The existing condition of on-site aquatic resources is thereby generally limited to the rapid physical habitat assessment scores determined from the Rapid Bioassessment Protocols (RBP). The EPA considers the RBP rapid physical habitat assessment to provide a poor representation of stream conditions when used absent any additional data (i.e. physiochemical and analytical water quality and biological data). The original authors of the RBP (Barbour et al., 1999) never intended for the habitat assessment component thereof to be used as the sole means for evaluating the condition of surface waters. Rather, it was intended that an integrated assessment of biological, chemical and physical components of the stream ecosystem would be conducted upon which determinations of stream quality would be based. The habitat assessment component of the RBP is described by the authors as a "qualitative habitat assessment approach," (Barbour et al., 1999), and the subjectivity of rapid habitat assessment procedures, such as the RBP habitat assessment, has been well documented (Hannaford and Resh, 1995; Kaufmann et al., 1999; Poole et al., 1997; Roper and Scarnechia, 1995).

The EPA also notes that the applicant utilized an unpublished modified table relating RBP habitat scores to descriptive stream condition classes (i.e. Grace-Jarrett, 2010) in lieu of the respective table in

Kentucky standard methods (KDOW, 2008). The EPA requests a copy of all documentation supporting the use of these alternative criteria, including their development and justification.

Given the growing body of scientific evidence demonstrating that certain pollutants or pollutant parameters associated with coal mine discharges are causing or contributing to violations of narrative water quality standards, the EPA believes that any CIA that fails to evaluate the potential adverse water quality effects on aquatic resources downstream from a proposed coal mine likewise fails to satisfy the requirements at 40 CFR §230.11(g). The lack of consideration of water quality in the permit applicant's CIA and the EPA's analysis of water quality data from other existing coal mines in the West Fork Lewis Creek watershed, which clearly illustrate water quality impacts as a result of those mines, leads the EPA to conclude that the permit applicant's CIA included as Section B(4) of its CWA Section 404 permit application falls critically short of properly evaluating all direct, indirect and cumulative adverse effects of the proposed mine in consideration of current, previous and reasonably foreseeable future impacts, thus, making a proper cumulative impacts analysis consistent with the Section 404(b)(1) Guidelines, at 40 CFR §230.11(g) impossible with the current state of baseline information on project site aquatic resources. In addition, the relative paucity of baseline site assessment information and the failure to fully consider the potential impacts of the operation on downstream water quality has resulted in an adequate assessment of the project's likelihood to cause or contribute to significant degradation of the waters of the U.S. consistent with requirements at 40 CFR §230.10(c).

Minimization and Compensation for Unavoidable Impacts – 40 CFR §230.10(d) and 40 CFR §230.91-98

The 404(b)(1) Guidelines, 40 CFR §230.10(d) provides that no discharge shall be permitted unless appropriate and practicable steps have been taken that will minimize potential adverse environmental impacts of the discharge on the aquatic ecosystem. Unavoidable impacts require adequate compensatory mitigation. The applicant is proposing to return the site to Approximate Original Contour and in so doing, reestablish 7,827 lf of ephemeral streams and 5,310 lf of intermittent streams. Thus, the proposed mitigation plan would result in a deficit of 6,150 lf of ephemeral stream and a surplus of 251 lf of intermittent stream relative to existing conditions.

We believe that the proposed mitigation plan is inconsistent with EPA and Corps' regulations relating to compensatory mitigation, because it fails to consider undertaking requisite mitigation at existing mitigation banks or approved in-lieu-fee programs before considering permittee-responsible mitigation. The regulation clearly requires considering mitigation options in the above-referenced order of preference (40 CFR §230.93(b)). The EPA knows, for example, that the Kentucky Department of Fish and Wildlife Resources, Wetland and Stream Mitigation Program, which is an authorized in-lieu fee (ILF) program, services all of western Kentucky. The EPA believes that mitigating for unavoidable impacts to waters of the U.S. via payment of an appropriate ILF should be considered as a means of providing compensatory mitigation that minimizes temporal losses otherwise likely to occur as a result of the protracted delay between impact and mitigation under the proposed plan.

Notwithstanding the above-referenced need to comply with the Final Rule, the EPA is also concerned about the technical validity of the applicant's proposed mitigation plan. There is little information provided in the mitigation plan that demonstrates the likelihood for groundwater contributions to sustain the proposed intermittent stream reaches proposed to be reestablished on the project site after mining. Given the degree of proposed disturbance to both the surficial soil horizons as well as the underlying geologic strata as a result of surface mining, the EPA is concerned that the proposed intermittent stream

reaches will in fact be devoid of groundwater contributions and thus function only as ephemeral streams at best. The EPA requests any data and/or monitoring reports illustrating the efficacy of similar proposals elsewhere in the western Kentucky coal field.

While the applicant's CWA 404 permit application indicates that permanent protection for both wetland and stream mitigation sites will be provided by a protective covenant (CWA 404 permit application, Section B(2) pg. 3), no such protection is offered for those streams and wetlands allegedly avoided as part of the 404(b)(1) analysis. The permit application states that the project footprint was reduced to minimize impacts to adjacent potentially jurisdictional waters along the southern and eastern boundaries of the proposed project area. Specifically, approximately 1,800 lf of intermittent stream(s) and 4,550 lf of perennial stream(s) were excluded from the mine area to avoid disturbance to these resources (CWA 404 permit application, Section B(3), pgs. 3-4). It is further noted that Armstrong Coal owns both the surface rights and mineral rights in these areas, but "has chosen to avoid these streams to reduce impacts to waters." As noted in the preceding paragraph, avoidance and minimization are both fundamental aspects of the Guidelines, and the EPA believes that protection of aquatic resources, including appropriate riparian buffers, avoided as part of a CWA 404 permit application should be protected from future disturbance when under the ownership or control of the permit applicant.

Notwithstanding the importance of avoiding, minimizing and compensating for adverse impacts to jurisdictional waters as part of the CWA 404 permit application review process, the uppermost approximately 2,500 lf of the perennial stream "avoided" on the proposed project site's eastern boundary has already been adversely affected by the adjacent Midway Mine. The EPA would like to know more about these present conditions of this stream and believes that all waters of the U.S. avoided as a result of avoidance and minimization efforts should be preserved in perpetuity by appropriate conservation easements.

Other Considerations

The requirements of Executive Order (E.O.) 12898 and the Presidential Memorandum accompanying it must be addressed appropriately in federal actions—such as federal permitting under Section 404 of the CWA and National Environmental Policy Act (NEPA). Under E.O. 12898, "each Federal agency shall make achieving environmental justice (EJ) part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The EPA encourages the District to include EJ as part of this permit's review. Residences may be affected by changes in ground water (drinking water wells), particulate matter, noise and vibrations. The EPA is also concerned that the PN may not have provided the surrounding community with a chance to review and comment.

Lastly, the EPA requests that the District provide us with the appropriate NEPA documentation that supports their proposed permit decision. In this determination, the EPA recommends that the District consider the cumulative impacts to the watershed from this proposed project taking into account historic water quality, habitat, and human health impacts. The NEPA documentation should address how the proposed mitigation would serve as a basis for supporting a Finding of No Significant Impact. Our NEPA staff are willing to review and comment on draft NEPA documents that are prepared prior to the permit decision.

Additional Information Needs

To summarize, the EPA requests the following additional information needed to complete our review of this project:

- A more detailed alternatives analysis that evaluates the potential to avoid waters of the U.S. on the proposed project site;
- The most current Mine Sequence Plan and Mine Reclamation Plan (MRP) maps that are consistent with project plans submitted as part of the CWA Section 404 permit application;
- Updated mitigation plans and analysis;
- A comprehensive CIA that evaluates the potential for the proposed mine to exacerbate water quality perturbations that are apparent based on data provided by the applicant from other existing coal mines in the West Fork Lewis Creek watershed; and
- NEPA and EJ documentation.

Conclusion

In conclusion, the EPA believes that the project, as proposed, may not comply with the Clean Water Act Section 404(b)(1) Guidelines. The EPA finds this project may have substantial and unacceptable adverse impacts on Aquatic Resources of National Importance (ARNI). Therefore, we recommend denial of this project as currently proposed. As summarized above, additional information is required for us to complete our review and make specific comments and recommendations, including recommending special permit conditions to ensure project compliance with the Section 404(b)(1) Guidelines. This letter follows the field level procedures outlined in the August 1992 Memorandum of Agreement between the EPA and the Department of the Army, Part IV, paragraph 3(a) regarding § 404(q) of the CWA.

I want to thank you and your staff for your cooperation and willingness to address our issues. We look forward to working closely with you and the applicant to resolve the concerns outlined above. If you have any questions, please call me at (404) 562-9345 or Eric Somerville (706) 355-8514 of my staff.

Sincerely,

James D. Giattina
Director
Water Protection Division

cc: Mr. Jim Townsend, Louisville District
Mr. Michael Ricketts, Louisville District
Ms. Ann M. Nye, Louisville District
Mr. Joe Blackburn, Office of Surface Mining
Mr. Lee Andrews, U.S. Fish and Wildlife Service
Mr. Carl Campbell, Kentucky Department of Natural Resources
Mr. Bruce Scott, Kentucky Department of Environmental Protection
Mrs. Sandy Gruzesky, Kentucky Division of Water