UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

0 8 JUN 2010

Colonel Robert D. Peterson
District Engineer
U.S. Army Corps of Engineers
Huntington District
502 Eighth Street
Huntington, WV 25701

Re: PN LRH-2006-828-TUG; Mid Vol Coal Sales, Inc; Paradise Surface Mine; McDowell County, West Virginia

Dear Colonel Peterson:

The U.S. Environmental Protection Agency (EPA or Agency) has reviewed the public notice for Mid Vol Coal Sales, Inc.'s proposed Paradise Surface Mine located near Brewsterdale, McDowell County, West Virginia. The project's proposal involves the placement of fill into 4,086 linear feet of North Fork and unnamed tributaries of North Fork, near Brewsterdale, McDowell County, West Virginia. The project involves the construction, operation and reclamation of a surface mine operation utilizing contour, auger and/or highwall mining methods. The applicant has proposed the construction of two valley fills permanently impacting 2,201 linear feet of perennial stream, 1,565 linear feet of intermittent stream channel, 0.08 acres of shrub/scrub wetland, 0.31 acres of emergent wetland and 0.20 acres of open water, and the construction of one in-stream sediment pond temporarily impacting 320 linear feet of perennial stream and 0.10 acres of emergent wetland. The applicant is proposing sediment pond removal, off-site wetland restoration and creation, and off-site stream restoration of 130 linear feet of North Fork and enhancement of 6,500 linear feet of Big Creek and 190 linear feet of an unnamed tributary to North Fork.

The project is located in the Big Creek Subwatershed (HUC-12) and the Tug Fork Sub Basin (HUC-8). The North Fork of Big Creek and Big Creek are currently not listed as impaired on the West Virginia Clean Water Act (CWA) Section 303(d) list. However, an immediately adjacent stream, Middle Fork/Big Creek is listed for conditions not allowable (CNA) – biological. Data from the applicant shows that streams proposed to be filled have high levels of conductivity and, at the time of sampling, were just meeting their designated use for aquatic life. The Specific Conductivity values (>1000 uS/cm) and sulfates are already very high in North Fork and are likely due to pre-law mining impacts. The monitoring data provided by the applicant shows that the benthic data was collected in January, which is outside of the West Virginia Stream Condition Index (WVSCI) index period of April through October. However, the taxa list at the most upstream monitoring station indicates that the stream is in good condition and has a WVSCI score of 69. Overall, downstream of the filled areas, the monitoring data shows that the

aquatic life use is not being met, having low WVSCI score, 43, as well as high conductivity, 937 uS/cm. We are concerned that the proposed activities may cause or contribute to significant degradation of streams proposed to be filled and further impair water quality downstream.

EPA's review is based upon the Public Notice for this project and the information contained therein. EPA's review is generally intended to ensure that the proposed project meets the requirements of the Clean Water Act (CWA). The CWA Section 404(b)(1) Guidelines (40 C.F.R. Part 230) provide the substantive environmental criteria against which this application must be considered. Fundamental to the Guidelines is the premise that no discharge of dredged or fill material may be permitted if: (1) it causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable state water quality standard; (2) a practicable alternative exists that is less damaging to the aquatic environment; or (3) the nation's waters would be significantly degraded. On April 1, 2010, EPA released interim final guidance to the Regional offices titled: *Guidance on Improving EPA Review of Appalachian Surface Coal Mining Operations under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order* (SCM Guidance). The SCM Guidance provides a framework for the Regions when they review permits for discharges associated with Appalachian surface mining projects. At the same time, EPA released two Office of Research and Development (ORD) reports: *The Effects of Mountaintop Mines and Valley Fills on Aquatic Ecosystems of the Central Appalachian Coalfields* and *A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams (Benchmark Conductivity Study).* The ORD reports are being submitted to the EPA Science Advisory Board (SAB) for review and are also publicly available. In the interim, EPA views the reports as providing information, along with published, peer-reviewed scientific literature, that may inform permit reviews.

Alternatives Analysis – 40 CFR 230.10(a)

According to the Section 404(b)(1) Guidelines, only the least environmentally damaging practicable alternative (LEDPA) can be permitted, and to identify the LEDPA, the applicant's alternatives analysis must examine a full range of alternatives that would avoid and minimize impacts to aquatic resources to the maximum extent practicable. The applicant's alternatives analysis has included a range of alternatives including on-site, off-site and appropriate mining methods. The applicant has reduced the scope of the project from the original 2007 permit application resulting in reduced impacts by 650 linear feet of stream, 1.19 acres of wetland, and 0.19 acres of open water. EPA recognizes these efforts undertaken to reduce impacts through reduction in project scope, however, we recommend continued evaluation of the project to identify opportunities through practicable, modern engineering, mining methods, and materials handling that would further reduce the number of valley fills or extent of streams impacted, particularly with respect to Valley Fill 2. We recommend exploring opportunities to construct Valley fill 1 at an elevation above the lowest coal seam to be mined as required by the approximate original contour (AOC) model while still being in compliance with the West Virginia Department of Environmental Protection's regulations. Doing so may allow further fill material to be placed and minimize stream impacts within Valley Fill 2.

The applicant also proposes to haul overburden material to an adjacent site, Cactus Ridge, but the amount of material to be transported to Cactus Ridge is unclear. More information is needed about the Cactus Ridge Mine and about other possible off-site disposal opportunities. Opportunities to place overburden within nearby or adjacent mine sites that may have additional

capacity by increasing the elevations above those required by the AOC model but remain within the allowances and regulations of the WVDEP should be explored.

The alternatives analysis provided in the public notice did not discuss alternatives in construction techniques or best management practices to protect water quality and prevent significant degradation of the aquatic ecosystem. The applicant must consider alternate techniques and provide clear documentation about their use and likely effectiveness in protecting the impacted streams and the downstream receiving waters. As discussed below, water quality impacts are a significant concern, therefore EPA recommends that the applicant address in the alternatives analysis the "sequencing" of the construction of valley fill 2 if the number of valley fills can not be reduced. In this context, the term "sequencing" refers to the construction of one valley fill at a time combined with a demonstration that construction has not caused or contributed to significant degradation and/or an excursion from applicable water quality standards before the applicant proceeds to the construction of the next valley fill.

Compliance with Other Environmental Standards – 40 CFR 230.10(b)/Significant Degradation of the Aquatic Ecosystem – 40 CFR 230.10(c)

40 C.F.R. Section 230.10(b)(1) of the CWA Section 404(b)(1) Guidelines states that "no discharge of dredged or fill material shall be permitted if it causes or contributes, after consideration of disposal site dilution and dispersion, to violation of any applicable State water quality standard." The Guidelines, at 40 C.F.R. Section 230.10(c) also prohibit any discharge of dredged or fill material which would cause or contribute to significant degradation of the aquatic ecosystem, with special emphasis placed on the persistence and permanence of effects, both individually and cumulatively. EPA is concerned that the applicant has not demonstrated that the project as proposed will comply with Sections 230.10(b) and (c).

The best information available to the Agency, including published, peer-reviewed studies, indicate the activities proposed by the applicant, i.e., surface mining with valley fills in Central Appalachia, are strongly related to downstream biological impairment, as indicated by raw taxonomic data, individual metrics that represent important components of the macroinvertebrate assemblage, or when multi-metric indices are considered. These studies show that surface mining impacts on aquatic life are strongly correlated with ionic strength in the Central Appalachian stream networks. Downstream of valley fill overburden disposal sites, specific conductance and component ions can be elevated as much as 20 to 30 times over the background levels observed at un-mined sites. This increase in conductivity impairs aquatic life use, is persistent over time, and cannot be easily mitigated after-the-fact or removed from stream channels. These aquatic life use impairments can rise to a level of significant degradation and/or may result in a violation of West Virginia's narrative water quality standards.

Based on site-specific information provided by the applicant, conductivity values from AS-3, located at the proposed valley fill 1, appear to be elevated and AS-2, at the proposed location of valley fill 2, has a conductivity value of 197.2 uS/cm. Sampling for WVSCI shows AS-3, valley fill 1, to be just meeting its designated use at a score of 69. No WVSCI score is available for AS-2, valley fill 2, as no flow was present during sampling. Downstream of proposed impacts on North Fork conductivity is elevated and the WVSCI score is 43 and is not meeting its designated use. In light of this information, EPA is requesting data and discharge information from adjacent mine sites on North Fork.

Based on the best information available to EPA, projects with predicted conductivity values below 300 µS/cm generally are not likely to cause water quality violations or significant degradation of the aquatic ecosystem. Discharges with levels of conductivity above 500 µS/cm generally are likely to be associated with adverse impacts that could cause or contribute to significant degradation and/or excursions from narrative water quality criteria. EPA recognizes that in certain fact-specific circumstances, instream conductivity levels greater than 500 µS/cm may not cause adverse impacts to the biological community. To the extent that the applicant believes that to be that case with this project, an analysis of the ionic matrix and discharge information should be provided. In addition, the applicant should provide the metrics from the 200-organism subsample, not the full benthic sample pick effort.

EPA further recommends that the applicant provide documentation and an upfront demonstration based on the proposed mining techniques, best management practices, or other actions, that the project will not cause or contribute to excursions from applicable water quality standards, including narrative standards, or to significant degradation. To ensure consistency with 40 CFR Sections 230.10(b) & (c). EPA strongly recommends "sequencing" construction of those valley fills deemed necessary and acceptable after appropriate minimization and avoidance efforts are documented. In this context, the term "sequencing" refers to construction of one valley fill at a time combined with a demonstration that construction has not caused or contributed to significant degradation and/or an excursion from applicable water quality standards before the applicant proceeds to construction of the next valley fill. Any proposal that moves forward should include a process to identify the impacts that may be occurring to the aquatic ecosystem, and a plan for remediation and prevention of further impacts.

Minimization and Compensation for Unavoidable Impacts – 230.10(d)

The applicant has provided a conceptual compensatory mitigation plan to compensate for the proposed impacts to waters of the U.S. which includes off-site enhancement of 6,500 linear feet of Big Creek and restoration of 190 lf of the North Fork of Big Creek that had been impacted by the construction of the drainage control pond, which is located within the same subwatershed (HUC 12) as the proposed project. While some improvements associated with the proposed enhancement of Big Creek may be needed, other improvement points are not as fully supported or documented. Compensatory mitigation proposed for impacts to North Fork should clearly replace the lost functions and values. EPA suggests that the applicant also consider opportunities that may improve watershed water quality and health as enhancement only may not fully compensate for the full loss through burial of stream channels. We recommend that the applicant provide examples of other work performed in similar streams along with biological, chemical, and physical information. We also request additional information on the "15 functions" as described in the compensatory mitigation plan gained or similarly compensated in previous work or other similar projects.

The proposed impacted streams have been assessed using EPA's Rapid Bioassessment Protocol (RBP) and the WVSCI. The proposed compensatory mitigation plan includes the use of monitoring data for comparative purposes only, not as a measurement for mitigation success, such as, water chemistry and benthic macroinvertebrates. EPA feels that the proposed performance standards should be more comprehensive. EPA further recommends that the applicant incorporate into the monitoring plan observable and measurable biological and

chemical parameters along with the proposed physical parameters as benchmarks for success, i.e., performance standards, along with a timeframe in which the performance standards would be reasonably expected to occur. EPA suggests considering the use of a longer monitoring period than the currently proposed period of five years. Finally, an adaptive management plan should also be provided that identifies alternate plans and strategies should the mitigation plan not meet the required performance standards. EPA requests the opportunity to review and provide further comments as this plan is further developed.

Determination of Cumulative Effects on the Aquatic Ecosystem – 230.11(g)

The Section 404(b)(1) Guidelines require consideration of cumulative impacts: "[A]lthough the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of the existing aquatic ecosystem." The data provided by the applicant indicates that the streams within the project area are currently meeting designated use, while downstream portions may not be. These streams are the uppermost headwaters of the North Fork of Big Creek, and may be some of the last unfilled tributaries to the North Fork of Big Creek. Headwater streams provide maximum interface with the terrestrial landscape and collectively provide high levels of water quality and quantity, sediment control, nutrients, and organic matter, and as a result, are largely responsible for maintaining the quality of downstream riverine systems.

EPA recommends that the Corps conduct a thorough cumulative effects analysis which includes a detailed presentation of past, present and reasonably foreseeable activities. The analysis should describe the current state of the ecosystem, including past mining operations on the project site, and consider affects on the human environment including impacts to the subwatershed from filling of streams and potential impacts to private drinking water wells and other drinking water supplies. This analysis should include, at a minimum, the function and habitat, and the effects of the hydrologic modifications to the watershed. It should also address the impact of deforestation on water quality, water quantity, and other ecological conditions within the watershed. These impacts should be compared to the attributes of healthy watersheds in the ecoregion with a goal towards assuring that the watershed within which the project is proposed will not be impacted beyond its current condition. We strongly suggest an approach that would manage and link proposed projects to overall water quality and habitat improvement on a subwatershed basis.

Conclusion

Finally, consistent with Executive Order 12898 entitles "Federal Actions to Address Environmental Justice In Minority Populations and Low-income Populations" and the accompanying Presidential Memorandum, EPA recommends that the Corps' Section 404(b)(1) Guidelines and NEPA reviews analyze the potential for disproportionately high and adverse effects on low-income or minority populations in the area of Paradise Surface Mine, as well as ensuring the meaningful engagement of affected communities. Analyses should consider impacts to the affected community including impacts to drinking water supplies, subsistence fishing, and effects of blasting, truck traffic, noise and fugitive dust.

In conclusion, EPA believes that the project as currently proposed may not comply with the Section 404(b)(1) Guidelines, that the project may adversely affect water quality and result in significant degradation to the aquatic ecosystem, and that efforts may be considered to address such impacts. In light of these concerns, EPA believes that the project may result in substantial and unacceptable impacts to aquatic resources of national importance, as covered in Part IV, paragraph 3(a), of the 1992 Clean Water Act Section 404(q) Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army. EPA recommends that additional analysis and study be conducted to determine the significance of the proposed activity and the current anticipated impacts from the project that may not be mitigated to a level that would serve as a basis for supporting a Finding of No Significant Impact (FONSI). It is important that the project be protective of water quality and not lead to the significant degradation of aquatic resources.

Thank you for the opportunity to provide comments on the proposed Paradise Surface Mine. Should you have any questions please feel free to contact Alaina DeGeorgio at 215-814-2741 or by email at degeorgio.alaina@epa.gov.

Sincerely,

John R. Pomponio, Director
Environmental Assessment and Innovation Division