



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

Colonel Dana R. Hurst
District Engineer
Huntington District
U.S. Army Corps of Engineers
Huntington, West Virginia 25701-2070

23 MAR 2009

Re: PN 2007-000099-GUY; Highland Mining Company, Reylas Surface Mine

Dear Colonel Hurst:

Thank you for discussing with us the proposed surface mining project by the Highland Mining Company on Wednesday, March 18. The Environmental Protection Agency (EPA) has expressed significant concerns regarding this project. The Highland Mining Company is proposing to place fill material into approximately 13,174 linear feet of stream channel in conjunction with the construction of Valley Fill No. 1, the installation of the embankment for Sediment Pond S-9, installation of a temporary Erosion Protection Zone, and implementation of one mine-through area near the town of Ethel, Logan County, West Virginia. EPA believes that this proposal is likely to cause or contribute to an excursion from the State's water quality standards downstream resulting in an impairment of the aquatic life use, and that the direct and cumulative impacts from this and future mines will be persistent and permanent and can not be sufficiently or effectively compensated through the proposed mitigation. Accordingly, EPA must recommend denial of the permit as proposed.

Construction of Valley Fill No. 1 would include the permanent impacts to 1,600 linear feet of perennial stream channel, 7,426 linear feet of intermittent stream channel, and 3,448 linear feet of ephemeral stream channel. Temporary impacts include 600 linear feet of perennial channels and 100 linear feet of intermittent stream channel. Impacts are proposed in Reylas Fork of Bandmill Hollow and unnamed tributaries of Bandmill Hollow which is a tributary to Dingess Run, which flows into the Guyandotte River. The applicant has proposed to mitigate for the impacts by creating on-site stream channels.

EPA has expressed its significant concern regarding the impact to the human environment through a lack of avoidance and minimization efforts undertaken for this project, the cumulative impacts on the watershed, forest and habitat destruction and fragmentation within a globally significant and biologically diverse forest system, and the impairment of downstream water quality. In addition, EPA has concerns regarding the success of the proposed mitigation and that it will not adequately offset the persistent and permanent impacts to the aquatic ecosystem communities and functions. Accordingly, EPA believes that this project will result in significant impacts to the human environment requiring an environmental impact statement pursuant to Section 102 of the National Environmental Policy Act (NEPA).

The Clean Water Act Section 404(b)(1) Guidelines state that the “fundamental precept of these Guidelines is that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.” Based on information gathered for our review of the Public Notice EPA believes that this project, as proposed, has not made such a demonstration.

The CWA Section 404(b)(1) Guidelines clearly state that alternatives are presumed to be available for non-water dependent activities that do not involve the use of the aquatic ecosystem, including jurisdictional wetlands [40 CFR 230.10(a)(3)]. Only the least environmentally damaging practicable alternative (LEDPA) can be permitted and in order to identify the LEDPA the applicant’s alternatives analysis must examine a full range of alternatives which would avoid and minimize impacts to the maximum extent practicable. The applicant has indicated that because of the post mining land use, as permitted through the SMCRA process, does not allow for the use of the Approximate Original Contour +/-Excess Overburden Guidelines. Post mining land use is proposed to be FEMA relocation for residents in the stream valley following flooding events. Here, it appears that the evaluation for avoidance and minimization efforts under section 404 have been made relative to the SMCRA permit issued. It is important to remember that the review as authorized by the Clean Water Act is an independent review relative to its own requirements and considerations. We would also note that the SMCRA review is not a substitute for and should not be used in lieu of a rigorous review under the Section 404(b)(1) Guidelines. As the Office of Surface Mining made clear in the recent revision to the Stream Buffer Zone Rule:

“In interpreting this statutory provision with respect to effluent limitations adopted as part of our initial regulatory program, the U.S. Court of Appeals for the D.C. Circuit held that “where the Secretary’s regulation of surface coal mining’s hydrologic impact overlaps EPA’s, the Act expressly directs that the Federal Water Pollution Control Act and its regulatory framework are to control so as to afford consistent effluent standards nationwide.” The new rules emphasize that issuance of a SMCRA permit is not a substitute for the reviews, authorizations, and certifications required under the Clean Water Act and does not authorize initiation of surface coal mining operations for which the applicant has not obtained all necessary authorizations, certifications, and permits under the Clean Water Act.” [73 Fed. Reg. 75814, 75819 (Dec. 12, 2008)].

In addition, the Guidelines at 230.10(b) state that “no discharge of dredged or fill material shall be permitted if it (1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violation of any applicable State water quality standard...” While we recognize that matters involving compliance with water quality are generally deferred to the state’s certification pursuant to Section 401 of the Clean Water Act, other water quality aspects brought to the Corps’ attention by EPA must be considered. 33 C.F.R. 320.4(d). Thus, water quality impacts must be considered as part of the permit review process. *See* 33 C.F.R. 320.4(d) (“Applications for permits for activities which may adversely affect the quality of waters of the United States will be evaluated for compliance with applicable effluent limitations and water quality standards, during the construction and subsequent operation of the proposed activity”); 40 C.F.R. 230.10(b)(1) & (c)(3). Moreover, West Virginia’s Section 401 (standard condition # 10) certification in this instance states it is the Corps’ responsibility that the 404 permit “...comply

with water quality standards contained in the West Virginia Code of Regulations, Requirements Governing Water Quality Standards, Title 47, Series 2.” As set forth below, evidence to date shows that valleyfills permitted for this mining-operation will result in downstream impacts that will lead to impairment of the aquatic life use and would therefore result in a violation of West Virginia’s water quality standards.

This proposed project is located in the headwaters of Dingess Run watershed which drains into the Guyandotte River. Approximately 25% of the subwatershed has been mined or is being actively mined. Dingess Run has been identified as an impaired stream and has elevated conductivity levels. The Guyandotte River is a High Quality Stream as defined by the West Virginia Division of Natural Resources for fisheries.

EPA Region 3’s Freshwater Biology Team has extensively investigated the downstream effects of mountaintop mining and the associated valley fills. The results indicate that these types of activities proposed by the applicant are strongly correlated to downstream aquatic life use impairment, as indicated by raw taxonomic data, individual metrics that represent important components of the macroinvertebrate assemblage, or when multi-metric indices are considered (Pond et al 2008). Their results also confirm earlier studies that mountaintop mining impacts to aquatic life are strongly correlated with ionic strength in the Central Appalachians. In U.S. EPA’s dataset, all mined sites with the specific conductance greater than 500 $\mu\text{S}/\text{cm}$ were rated as impaired with a genus-level multi-metric index (GLIMPSS). Undisturbed streams in the Central Appalachians are naturally very dilute, with background conductivities generally less than 75 $\mu\text{S}/\text{cm}$. Downstream of mine sites, specific conductance and component ions can be elevated twenty to thirty times over the background levels observed at un-mined sites (Bryant et al. 2002). This increase in conductivity impairs aquatic life use and is persistent over time. This impact can not be easily mitigated or removed from stream channels.

The severity of the biological impairment established by our Freshwater Biology Team’s work rises to the level of a violation of water quality standards (WQS). In West Virginia, the narrative WQS reads, “. . . no significant adverse impact to the chemical, physical, hydrologic, or biological components of aquatic ecosystems shall be allowed”. EPA has long recognized that biological assessments provide a useful means of ascertaining consistency with water quality standards because they represent a direct measure of attainment of the aquatic life use. In July 1991, EPA transmitted final national policy on the integration of biological, chemical and toxicological data in water quality assessments. According to this policy, referred to as “Independent Application,” indication of impairment of water quality standards by any one of the three types of monitoring data (biological, chemical, or toxicological) should be taken as evidence of impairment regardless of the findings of the other types of data. This policy continues to the present. *See, e.g., Guidance for 2006 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d), 305(b), and 314 of the Clean Water Act.* It is also consistent with West Virginia’s use of biological data to support determinations of water quality impairments.

Our Freshwater Biology Team’s work also establishes there is significant degradation of waters of the United States and a violation of the antidegradation policy, which is part of water quality standards and is intended to protect existing uses, including the aquatic life use. 40 C.F.R. 131.12(a)(1). EPA has interpreted the antidegradation policy as not precluding physical modifications otherwise authorized pursuant to Section 404, provided the discharge does not

result in “significant degradation” to the aquatic ecosystem as defined under section 230.10(c) of the Section 404(b)(1) Guidelines. *See EPA, Water Quality Standards Handbook: Second Edition*, Section 4.4.3 (Aug. 1994). The Section 404(b)(1) Guidelines define significant degradation as including, among other things, significant adverse effects “on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes.”

Moreover, the permit, if issued, will eliminate or impact 13,174 linear feet of headwater streams. EPA remains concerned about the conceptual mitigation plan. The conceptual plan is likely inadequate to fully compensate for lost functions of the aquatic ecosystem and will not be able to return aquatic life uses downstream. The use of constructed sediment ditches to comply with SMCRA and NPDES requirements as stream channels post reclamation is a concern. These channels are designed to carry polluted waters during active mining. These constructed channels even after reclamation will not provide clean, freshwater dilution to the watershed, which is so essential to the overall health of those receiving waters. To date it has not been demonstrated that the mitigation of headwater streams at these sites are adequately constructed to provide the functions of natural headwater streams, therefore incurring a loss of aquatic functions which can not be adequately restored or replaced. Headwater streams are vital components of the ecosystem. These ephemeral and intermittent streams 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. Even though ephemeral and intermittent streams may go dry during a portion of the year, they continue to provide habitat for macroinvertebrates and amphibians that utilize the interstitial water flows in the substrate below the stream. These streams provide clean, freshwater dilution to downstream receiving waters to maintain the overall health and vitality of the larger watershed. Such aquatic resources have been significantly impacted by mining in Southern West Virginia.

In addition to the importance of headwater streams these large tracts of intact forested areas are also vitally important. The mining region of Appalachia is characterized by the Anderson Level Land Use/Land Cover as approximately 92% forested, providing large interior forested habitats. These habitats are important ecologically because a variety of wildlife species require large forested tracts of continuous forest cover to subsist. Forest fragmentation can adversely impact these species and in some cases, result in their disappearance from the area. Forested areas are therefore important from the standpoint of maintenance of interior forest species.

In light of the information above, this proposed project has the potential to cumulatively add to the miles of impaired streams in this watershed. Cumulative impacts are required to be considered in the 404(b)(1) Guidelines analysis. (40 CFR 230.11(g)) Given the past mining conducted in this watershed, the cumulative and synergistic impacts of past and proposed mining must be evaluated. The Guidelines require an analysis to determine if significant degradation of the aquatic ecosystem will occur, with special emphasis on the persistence and permanence of effects, both individually and cumulatively. The most current science and data provides the evidence of the extent of persistent and permanent degradation to aquatic communities exists.

EPA has provided evidence that these activities are likely to cause or contribute to an excursion of water quality standards. The CWA Section 404 permit evaluation must ensure that



these excursions will not occur, otherwise, the proposed activity may not be authorized. EPA believes that additional avoidance and minimization efforts must be considered to reduce the adverse impacts of this proposal, that the anticipated impacts may cause or contribute to an excursion from the State's water quality standards downstream and that the direct and cumulative impacts from this and future mines will be persistent and permanent and can not be sufficiently or effectively compensated through the proposed mitigation, therefore EPA must recommend denial of the permit as proposed.

EPA's comments reflect a concern that the substantive environmental criteria upon which permit decisions are to be based will not be met. Based on the evidence that avoidance and minimization of the proposal's impacts have not been fully considered, and that this project is likely to cause excursions from water quality standards, specifically, impairment of the aquatic life use, and will impact remaining unmined streams necessary to provide clean freshwater dilution to the watershed, EPA believes that the proposed project will result in substantial and unacceptable impacts to aquatic resources of national importance.

In addition, Section 404(c) of the Clean Water Act gives EPA the authority to prohibit the issuance of a permit to fill waters of the United States if it is determined that such a discharge will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas. After careful consideration, we find that the extensive cumulative and other impacts give this proposed project high potential as a candidate for a 404(c) action.

My staff is interested in discussing these issues with the applicant and the Corps as quickly as possible to resolve these concerns. Should you have any questions please feel free to contact Ms. Jessica Martinsen at 215-814-5144 or by email at martinsen.jessica@epa.gov.

Sincerely,



John R. Pomponio, Director

Environmental Assessment and Innovation Division

