



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

APR 3 - 2009

OFFICE OF  
WATER

The Honorable John Paul Woodley, Jr.  
Assistant Secretary of the Army (Civil Works)  
108 Army Pentagon  
Room 3E446  
Washington, DC 20310-0108

Dear Secretary Woodley:

In accordance with the provisions of the 1992 Memorandum of Agreement (MOA) between the U.S. Environmental Protection Agency (EPA) and the Department of the Army under Section 404(q) of the Clean Water Act (CWA), I am requesting your review of a decision by Colonel Jefferson M. Ryscavage, U.S. Army Corps of Engineers (the Corps), Wilmington District (the District), to issue a Section 404 permit to the Potash Corporation of Saskatchewan Phosphate Division (PCS or the Applicant) to expand an existing phosphate mining operation (Action ID: AID 200110096) in Beaufort County, North Carolina (NC). The 15,100 acre project area is located adjacent to the Pamlico River which is part of the nationally significant Albemarle Pamlico Estuary Complex. The project area contains 6,293 acres of wetlands and 115,843 linear feet of streams that support the Albemarle Pamlico Estuary and collectively constitute aquatic resources of national importance (ARNI). The proposed mine advance involves mining and mining related activities within approximately 11,454 acres, resulting in direct adverse impacts to approximately 3,953 acres of wetlands and 25,727 linear feet of streams. In addition to our concerns regarding the magnitude of the project's adverse impacts to the site's important aquatic resources, we believe there is compelling evidence that additional avoidance, minimization, and compensation are practicable under the CWA Section 404(b)(1) Guidelines (Guidelines). After a thorough review of the available information, I have determined this case warrants elevation to you in accordance with the criteria under Part IV of the MOA, Elevation of Individual Permit Decisions.

This referral meets the criteria in Part IV of the 1992 EPA/Army Section 404(q) MOA. EPA finds that the proposed discharge of fill material into waters of the United States and associated direct and indirect impacts will result in substantial and unacceptable impacts to an aquatic resource of national importance. I want to emphasize, however, our conclusions regarding the current mining proposal do not mean EPA is opposed to additional mining at the site. We believe that a modified mining proposal consistent with the regulations and the CWA could proceed and I am interested in working with you and the mining company to identify an acceptable alternative. However, we do not believe, as currently proposed, the permit complies with the requirements of the Guidelines.

## **Substantial and Unacceptable Impacts to an ARNI**

The 15,100 acre project area is composed of three tracts identified as the NCPC, Bonnerton and South of NC Highway 33 (S33) tracts. There are wetlands on all three tracts that perform important ecological functions that support the Albemarle Pamlico Estuary such as temporary storage of surface water, nutrient cycling, organic carbon export, pollutant filtering/removal, and maintenance of biologically diverse plant and animal habitat. Similarly, there are streams on all three tracts that perform important ecological functions that support the Albemarle Pamlico Estuary such as the transport of water, nutrients and sediment downstream, pollutant processing and removal, and maintenance of biologically diverse plant and animal habitat. We recognize that not all of the approximately 3,953 acres of wetlands and 25,727 linear feet of streams that would be impacted by the proposed project perform all of these respective functions to the same degree (because of their position in the landscape and/or their level of prior disturbance); however, the loss of this entire suite of wetland and stream functions on this scale raises serious ecological concerns.

The proposed permit would represent the single largest wetland impact ever authorized under the CWA in NC and would result in a significant loss of wetlands, streams and other waters of the United States within the nationally significant Albemarle Pamlico Estuary Complex. EPA is particularly concerned with the proposed project's:

- Direct impacts to a 271 acre nonriverine hardwood wetland forest on the Bonnerton tract that has been designated as a Nationally Significant Natural Heritage Area by the NC Natural Heritage Program, and
- Indirect impacts to the site's ten tidal creeks, four of which have been designated as Primary Nursery Areas by the NC Wildlife Resources Commission, associated with the 70 percent reduction in the drainage basins for these creeks.

Nationally Significant Natural Heritage Area: The NC Natural Heritage Program designates areas in the state which it has determined to be important for conservation of the state's biodiversity as Significant Natural Heritage Areas. These areas can be classified as significant by the Natural Heritage Program at the county, regional, state or national level. The fact that the Bonnerton tract's Significant Natural Heritage Area has been classified as nationally significant means the Natural Heritage Program has determined it to be one of the five best examples of this community type in the Nation. This wet hardwood forest community type found on the Bonnerton tract is considered to be among the most threatened and endangered of NC's natural communities. The proposed project would directly impact approximately 97 acres of this ecologically valuable and rare wetland system and would allow mining through the middle of the Significant Natural Heritage Area, bisecting it into two separate and smaller pieces, an eastern and a western piece. This large reduction in size and the fragmentation of the Significant Natural Heritage Area into two separate pieces would undermine some of the key ecological characteristics which make it ecologically valuable and "nationally significant." Although the NC Division of Water Quality's (NCDWQ) CWA Section 401 Water Quality Certification requires the mined out area between the eastern and

western pieces to be restored after mining, we believe it will be extremely difficult, based on the current state of the science, to restore this area to its prior condition after mining and this will have a significant detrimental impact to the integrity of this rare and threatened biological community.

Tidal Creeks/Primary Nursery Areas: EPA also has strong concerns with the proposed project's indirect impacts to the project area's ten tidal creeks, four of which have been classified by the NC Wildlife Resource Commission as Primary Nursery Areas. Although the proposed project would not directly impact the perennial reaches of the four Primary Nursery Areas, the headwater drainages of the project site's tidal creeks (including those designated as Primary Nursery Areas) would be reduced by approximately 70 percent. Our concerns regarding the proposed drainage basin reductions are amplified on the NCPC tract since its watersheds have already lost approximately 1,268 acres of wetlands as part of the Applicant's existing mining permit issued by the District in 1997.

Eliminating the headwater streams and wetlands and significantly reducing the drainage areas of the project site's Primary Nursery Areas and other tidal creeks would:

- Reduce flow from ground water and increase variability in surface water flows to the tidal creeks, thereby increasing the frequency and magnitude of short-term salinity fluctuations;
- Reduce filtration of nutrients and other contaminants previously accomplished by the site's streams and wetlands, increasing sedimentation and turbidity in tidal creeks;
- Reduce productivity of native fish and shellfish in the downstream estuary by disrupting the estuarine food web (caused by a reduction of organic materials critical for biological activity in the surface water drainage); and
- Shift downstream estuarine productivity from the benthic community which is dominated by sensitive submerged aquatic vegetation and benthic invertebrate species to tolerant phytoplankton species. This would exacerbate ongoing environmental stress and create an open niche for problematic invasive plant and animal species to colonize and degrade the estuary.

We believe the disruption of these processes and functions in the drainage basin will significantly impact the site's tidal creeks and impair the ability of these systems to function as Primary Nursery Areas.

In summary, EPA believes the impacts to ecological functions at the scale associated with this project, as described above, would cause or contribute to significant degradation [40 CFR 230.10(c)] of the Nation's waters.

### **Alternatives Analysis**

A key provision of the Guidelines requires evaluation of practicable alternatives which satisfy the project's primary purpose. The Guidelines provide that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem" [40

CFR 230.10(a)]. An alternative is practicable if “it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” [40 CFR 230.10(a)(2)].

The proposed project’s Final Environmental Impact Statement (FEIS) evaluated eleven alternative mining alignments and a “No-Action” alternative. During the review process, EPA Region 4 has consistently expressed concerns regarding the economic analysis conducted in support of the District’s alternatives review. The Guidelines also require selection of the least environmentally damaging practicable alternative (LEDPA). I understand, however, the “LEDPA” identified by the District in the FEIS has since been replaced with a less-damaging alternative required by the NCDWQ’s CWA Section 401 Water Quality Certification. Our review indicates that the new “LEDPA” may still not be the least damaging alternative, as required by the Guidelines.

### **Minimizing and Compensating for Adverse Impacts**

The Guidelines require that adverse environmental impacts associated with the proposed discharge of fill material to waters of the United States first be avoided to the maximum extent practicable and then minimized to the extent appropriate and practicable. For unavoidable impacts which remain, compensatory mitigation is required to offset wetland and other aquatic resource losses. In addition to the need to further avoid impacts to the site’s high value aquatic resources, we also believe that additional measures can be taken to minimize the impact of the mining project on avoided aquatic resources by improving the quality of the reclamation area (i.e., re-using top soil and re-vegetating with target plant species). Further, we recommend that all avoided aquatic resources be provided permanent protection from future mining with appropriate binding real estate instruments such as conservation easements.

We also have concerns regarding the adequacy of the proposed compensatory mitigation to offset authorized impacts to mature forested wetlands. In light of the very unique and rare qualities of the Nationally Significant Natural Heritage Area, it is not clear that its attributes could be replaced by compensatory mitigation, raising concerns regarding significant degradation [40 CFR 230.10(c)]. Additionally, for impacts to other mature forested wetlands, not located in the Nationally Significant Natural Heritage Area, we continue to have concerns that the proposed compensatory mitigation will not adequately offset impacts to these systems. Even if proposed efforts to replace mature forested wetlands with immature restored or created wetlands are successful, the replacement wetlands will not provide the same level of physical, chemical, and biological processes and functions as the impacted forested wetland systems for a very long time (e.g., 60 to 80 years). The current plan requires 2:1 compensation ratios for these impacts. We continue to believe that compensation ratios of 3:1 would better address the temporal losses associated with the replacement of this wetland type.

### **EPA/FWS/NMFS Recommended Alternative**

Although the formal permit elevation process was initiated with the District’s February 24, 2009, Notice of Intent (NOI) letter, EPA has continued to coordinate with

the District and the Applicant in an effort to resolve our concerns regarding the proposed project. To this end, on March 24, 2009, representatives from EPA, the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) met with the District and the Applicant to discuss our continued concerns with the proposed project. At that meeting EPA and the Services presented a potential alternative plan for mining the site that would address the concerns raised by the agencies by avoiding and minimizing impacts to the aquatic ecosystem, consistent with the Guidelines. The EPA/FWS/NMFS proposal would provide:

- Additional avoidance designed to reduce the direct and indirect impacts of the mining project on the site's Nationally Significant Natural Heritage Area as well as the site's tidal creeks, including those identified as Primary Nursery Areas;
- Measures to ensure that avoided aquatic resources are provided permanent protections from future mining with appropriate binding real estate instruments such as conservation easements;
- Measures to be taken to minimize the impact of the mining project on avoided aquatic resources by improving the quality of the reclamation areas (i.e., re-using top soil and re-vegetating with target plant species); and
- Measures to be taken to improve the monitoring and adaptive management of both the mining and mitigation sites.

EPA believes that this alternative, if practicable, would also address the primary concerns of those who are challenging the NCDWQ's CWA Section 401 certification of the project, and threatening potential litigation. The Applicant expressed a desire to review the new alternative and noted that its evaluation could take a month or longer. We believe that we cannot conclude that this alternative proposal, or a modified version of it, is not practicable until we have heard back from the Applicant.

### **Conclusions and Recommendations**

In summary, we believe that the permit, as proposed, would fail to comply with the Guidelines for the following reasons:

1. There are less environmentally damaging practicable alternatives that meet the project purpose [40 CFR 230.10(a)];
2. The project's direct and indirect impacts to high value wetland and stream systems including areas designated as Nationally Significant Natural Heritage Areas and Primary Nursery Areas would cause or contribute to significant degradation of the Nation's waters [40 CFR 230.10(c)]; and
3. All appropriate and practicable steps have not been taken to minimize and compensate for the project's adverse impacts to waters of the United States [40 CFR 230.10(d)].

I request, therefore, that your office coordinate with the District to: 1) in coordination with the Applicant, withdraw the NOI letter and initiate further analysis of the new proposed alternative to determine whether such alternative, or a modification of it, would be practicable, and thus the "LEDPA"; or 2) revise the proposed permit consistent with the following: a) revise its alternatives analysis for the proposed project to

address inconsistencies that bias identification of the LEDPA, b) in development of the LEDPA, avoid direct impacts to the Nationally Significant Natural Heritage Area and indirect impacts to the site's tidal creeks, including those identified as Primary Nursery Areas, to the maximum extent practicable, c) incorporate all appropriate and practicable measures to minimize the impact of the mining project on avoided aquatic resources by improving the quality of the reclamation areas (i.e., re-using top soil and re-vegetating with target plant species), d) ensure that all avoided aquatic resources are provided permanent protection from future mining with the appropriate binding real estate instruments such as conservation easements, e) revise the compensatory mitigation plan to effectively offset impacts to mature forested wetlands and f) include measures to ensure effective monitoring and adaptive management of both the mining and mitigation sites.

EPA has attempted to reach resolution of our concerns with the District and the Applicant. We believe your support for continuation of these discussions would provide the opportunity for successful resolution, and obviate the need to complete this elevation. I appreciate your personal attention to this important matter.

My request for your review of the District's permit decision is based on information provided to EPA in the District's NOI letter. I am concerned that we continue to receive a significant amount of new information regarding the project from the District even as recently as this afternoon. We look forward to working with you in the context of this elevation to consider this new information.

Should you have any questions or concerns regarding this matter, please contact me or have your staff contact Palmer Hough of my staff at (202) 566-1374.

Sincerely,



Michael H. Shapiro  
Acting Assistant Administrator

Enclosure

Cc: Colonel Jefferson M. Ryscavage, U.S. Army Corps of Engineers, Vicksburg District  
Brigadier General Joseph Schroedel, South Atlantic Division, U.S. Army Corps of Engineers  
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