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ENVIR. APPEALS BOARD

BEFORE THE ENVIRONMENTAL APPEALS BOARD  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C.

In the Matter of: )  
 )  
 ) Appeal No. NPDES 03-10  
 )  
 ) HECLA MINING COMPANY, )  
 ) LUCKY FRIDAY MINE )  
 ) NPDES Permit No. ID-000017-5 )  
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**REGION 10's SECOND STATUS REPORT**

In a December 16, 2004 order, the Environmental Appeals Board ("EAB") directed Region 10 of the U.S. Environmental Protection Agency ("Region") to submit a report on the progress of the remand proceedings in the above-referenced matter and to identify when it anticipates issuing its decision on remand and its decision on Petitioner Hecla Mining Company's ("Hecla's") request for a variance. The Region respectfully submits the following Status Report in accordance with this order.

As described in the Region's Brief on Effect of Modified Section 401 Certification, the Region has assigned a permit writer to process Hecla's modification request and this permit writer has already begun compiling the administrative record and drafting the fact sheet and

permit language necessary to propose modifications to the permit. *See* Region 10's Brief on Effect of Modified Section 401 Certification at pp. 11-12 (September 7, 2004). On November 17, 2004, the Region sent a letter to the Idaho Department of Environmental Quality ("IDEQ") requesting that IDEQ provide additional information related to the increased mixing zones for copper and mercury that Idaho authorized in its revised Section 401 Certification. *See* Letter from Gearheard to Hardesty (November 17, 2004), attached hereto as Ex. 1. The Region believes that this additional information is necessary to enable the Region to fulfill its obligations under Clean Water Act Section 301(b)(1)(C) and 40 C.F.R. 122.44(d) to ensure that these increased mixing zones are protective of downstream designated uses. IDEQ has not yet submitted additional information in response to this letter, but reports that it anticipates being able to do so in January 2005. The Region believes it would be ready to propose modifications to the permit in response to the EAB's remand order soon after it receives the requested additional information from IDEQ and to issue a final modified permit within two or three months of publication of the draft modified permit.<sup>1</sup>

With respect to Hecla's variance request, the Region continues to evaluate and respond to comments on its proposed decision to deny Hecla's request and is not currently aware of any circumstances that would cause significant delay in making its final decision. As described in the Region's October 27, 2004 Status Report to the EAB in this matter, the United States and

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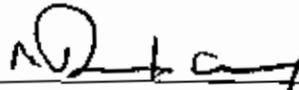
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<sup>1</sup> The precise schedule would depend, of course, on the number and complexity of issues raised by commenters during the public comment period on the draft permit

Hecla intend to file a joint report with the federal district court for the Western District of Washington on February 15, 2005 that describes the status of this administrative process.

Dated this 29<sup>th</sup> day of December, 2004.

Respectfully submitted,



R. DAVID ALLNUTT  
Assistant Regional Counsel  
U.S. Environmental Protection Agency  
1200 Sixth Avenue  
Seattle, Washington 98101  
Tel: (206) 553-2581  
Fax: (206) 553-0163  
Email: [allnuttdavid@epa.gov](mailto:allnuttdavid@epa.gov)

**CERTIFICATE OF SERVICE**

I certify that the foregoing "Region 10's Second Status Report" was sent to the following persons, in the manner specified, on the date below:

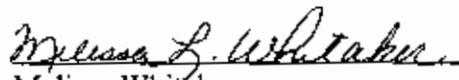
Original and five copies, delivered via facsimile and first class U.S. mail, to:

U.S. Environmental Protection Agency  
Clerk of the Board  
Environmental Appeals Board 1103B  
Ariel Rios Building  
1200 Pennsylvania Avenue, NW  
Washington, D.C. 20460-0001  
Fax: (202) 233-0121

One copy, by facsimile and first class U.S. mail, to:

Kevin J. Beaton  
Teresa A. Hill  
STOEL RIVES LLP  
101 S. Capitol Blvd. Suite 1900  
Boise, Idaho 83702-5958  
Fax: (208) 389-9040

Dated: 12/29/04

  
Melissa Whitaker  
U.S. EPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue  
Seattle, WA 98101

Reply To  
Attn Of: OWW-130

NOV 17 2004

Toni Hardesty  
Director  
Idaho Department of Environmental Quality  
1410 N. Hilton  
Boise, Idaho 83706

Re: Mixing Zone Information in the Clean Water Act (CWA) Section 401 Revised Certification of the Hecla Lucky Friday Mine National Pollutant Discharge Elimination System (NPDES) Permit and in Future Section 401 Certifications

*Toni*  
Dear Ms. Hardesty:

I am writing to express my concern with the revised CWA Section 401 certification for the Hecla Lucky Friday Mine NPDES permit issued by IDEQ on July 15, 2004. Specifically, we are concerned that the revised 401 certification does not clearly demonstrate that the increased mixing zones for copper and mercury are protective of beneficial uses, supported by documentation of the scientific basis, and consistent with IDEQ's mixing zone policy. The enclosure to this letter discusses our concerns.

In a letter dated August 19, 2004, Hecla Mining Company requested that EPA revise the Lucky Friday NPDES permit to incorporate the revised 401 certification. We are currently revising the Lucky Friday NPDES permit, but in order for us to complete a draft modified permit we are requesting that IDEQ provide us with specific information related to the increased mixing zones for copper and mercury authorized in the revised 401 certification.

Our concern with the Hecla Lucky Friday Mine revised 401 certification prompted us to review our files, where we found similar deficiencies in the mixing zone analyses (or lack thereof) contained in past 401 certifications issued by IDEQ. For future 401 certifications we are requesting that IDEQ provide us with the technical evaluation that IDEQ relied upon to determine the mixing zone size.

The enclosure to this letter provides a list of the information we are requesting for the Lucky Friday Mine mixing zone analysis and for future mixing zone analyses in 401 certifications for major municipal and industrial permits. We believe that the information we are requesting is consistent with IDEQ's mixing zone policy that the department conduct a physical,

chemical, and biological appraisal of the mixing zone before determining the applicability and size of a mixing zone. The CWA and NPDES regulations impose an independent obligation on EPA to ensure that all NPDES permits include any additional effluent limits more stringent than technology-based standards which are necessary to meet water quality standards. Mixing zones are a key factor in the development of water quality-based effluent limits.

We hope that our staff can work together to resolve the concerns regarding the Lucky Friday Mine mixing zones. In regard to future 401 certification actions, we would like to work with IDEQ and come to agreement on the information needed for future mixing zone analyses in 401 certifications for major municipal and industrial permits.

Please feel free to contact me at (206) 553-7151 or Mike Lidgard, the NPDES permits unit manager at (206) 553-1755 should you have questions regarding this letter or to set up a meeting to discuss the content of mixing zone analyses in future 401 certifications. Contact Patty McGrath at (206) 553-0979 with questions related to the Hecla Lucky Friday Mine NPDES permit.

Sincerely,



Michael F. Gearheard  
Director  
Office of Water and Watersheds

Enclosure

cc: Gwen Fransen, IDEQ CDA

## MIXING ZONES IN HECLA LUCKY FRIDAY REVISED 401 CERTIFICATION AND IN FUTURE CERTIFICATIONS

### Background

NPDES permits issued by EPA require state review and certification under Section 401 of the CWA. The CWA requires that the certification include conditions which are necessary to assure compliance with certain provisions of the CWA (including CWA section 301) and with appropriate requirements under State law. The certification may also include a statement of the extent to which the draft permit conditions can be made less stringent (e.g., through application of a mixing zone) without violating the requirements of State law, including water quality standards. CWA Section 301(b)(1)(c) and 40 CFR 122.44(d) impose an independent obligation on EPA to ensure that all NPDES permits include any additional effluent limits more stringent than technology-based standards which are necessary to meet water quality standards. EPA develops water quality-based effluent limits according to the NPDES regulations and EPA's 1991 Technical Support Document for Water Quality-based Toxics Control (TSD) which require consideration of a number of factors, including effluent variability, critical receiving water flows, down stream uses, and, where appropriate, the dilution from mixing zones. Therefore, the mixing zone is a key factor in calculating water quality-based limits. Understandably we believe that the mixing zone must be adequately justified as are the other factors that we use to develop effluent limits.

Idaho's water quality standards contain a mixing zone policy that is to be used to determine the applicability of mixing zones (IDAPA 58.01.02.060). Idaho's mixing zone policy states that "[a]fter a biological, chemical, and physical appraisal of the receiving water and the proposed discharge and after consultation with the person(s) responsible for the wastewater discharge, the Department will determine the applicability of a mixing zone and if applicable, its size, configuration, and location." The mixing zone policy then lists a number of principles that IDEQ must consider in defining a mixing zone. One of these principles states that the mixing zone is to be located so it does not cause unreasonable interference with or danger to existing beneficial uses. Another principle is that the mixing zone is not to include more than 25% of the volume of the stream flow. The 25% stream flow volume is usually the volume specified in 401 certifications from IDEQ. IDEQ's mixing zone policy contains other provisions which suggest limiting mixing zone widths (i.e., to 25% of the stream width).

### Hecla Lucky Friday Mine NPDES Permit Revised 401 Certification

EPA recently received a revised 401 certification for the Hecla Lucky Friday Mine NPDES permit (July 15, 2004 letter from Toni Hardesty, IDEQ, to Robert R. Robichaud, EPA). One of our major concerns with the certification was that mixing zones were increased from 25% for copper and mercury to 50% for copper (at the low receiving water flow tiers) and 75% for mercury. The revised 401 certification did not include a biological, chemical, and physical appraisal to support that the mixing zone was protective of beneficial uses nor did the 401 certification include justification for departing from Idaho's mixing zone policy principle limiting mixing zone volumes to 25% of the stream flow.

On June 21, 2004, EPA submitted comments on the public notice draft of the revised 401 certification. One of our comments was that it was not clear how the increased mixing zones for copper and mercury were protective of beneficial uses. In response, IDEQ sent EPA information prepared by the Hecla Mining Company (mixing zone modeling and biological data from the South Fork Coeur d'Alene River near the area of the discharges) and stated that the information supports DEQ's conclusion that the increased mixing zones will not impair beneficial uses (June 30, 2004 letter from Toni Hardesty, IDEQ to Michael Gearheard, EPA). We reviewed Hecla's CORMIX mixing zone modeling but were unable to duplicate the modeling since all of the model input parameters were not submitted (either to EPA or to IDEQ). We are concerned about making decisions based on modeling that neither EPA nor IDEQ can duplicate. While we accept the approach of relying on the permittee to conduct mixing zone evaluations, we also believe that the state should critically review the permittee's analyses and document its review to support its mixing zone determinations.

In a letter dated July 20, 2004, IDEQ responded to our comments on the draft revised 401 certification. DEQ's response to our concern that the revised 401 certification did not provide information demonstrating that the increased mixing zones would protect beneficial uses, was that "A lot of information beyond CORMIX was provided to DEQ to support protection of beneficial uses." However, it was not clear from the response what specific information was used by IDEQ and how that information shows that beneficial uses will be protected. In regards to mercury, IDEQ's response stated "There is a healthy aquatic community above and below each Lucky Friday outfall without any mixing zone restrictions in the prior permit. A 75% mixing zone is more stringent than past permit conditions and therefore will continue to be protective of the designated beneficial uses." However, IDEQ's June 30, 2004 submittal contained an analysis of macroinvertebrate data prepared by IDEQ that stated "Based on this analysis it appears that the existing discharge from the Lucky Friday Mine results in a significant change in the aquatic macroinvertebrate community." Given this, it is not clear how IDEQ concluded in their response to our comments on the 401 certification that there is a healthy aquatic community above and below the outfalls and therefore a 75% mixing zone for mercury is protective.

As stated in the cover letter, EPA is working on a revision to the Lucky Friday permit to incorporate the revised 401 certification. In order for us to complete a draft modified permit for public notice, we are requesting the following additional information from IDEQ related to the increased mixing zones for copper and mercury:

- A discussion of, or citations to, the specific information/reports relied upon by IDEQ to determine the mixing zone size. Where the information/reports are prepared by Hecla, please provide IDEQ's independent evaluation of the methods and conclusions of Hecla's evaluations.
- If the mixing zone modeling performed by Hecla was relied upon to determine the mixing zone size, also provide the input parameters to the model.
- A demonstration that the larger mixing zones will not impair beneficial uses. Again, if information from Hecla is relied upon, then provide IDEQ's independent evaluation of the information.

### Future 401 Certifications

Since receipt of the revised 401 certification for the Lucky Friday Mine NPDES permit, we reviewed our files and found many examples where we have received 401 certifications for major NPDES permits that did not include a biological, chemical, and physical appraisal or other scientific basis for the mixing zone sizes or their protectiveness. These examples include 401 certifications for: West Boise (50% mixing zones for metals and whole effluent toxicity), Boise Lander Street (50% mixing zones for metals and 75% mixing zone for whole effluent toxicity), Hecla Grouse Creek Mine (25% to 100% mixing zones for metals, and 100% mixing zone for cyanide and whole effluent toxicity), Meridian Beartrack Mine (25% mixing zones for metals and 100% for whole effluent toxicity), Cities of Burley and Nampa (25% mixing zones for ammonia and chlorine), City of Ketchum (25% mixing zone for ammonia and chlorine). In the last example, the 401 certification did not even specify a mixing zone size; for this permit EPA reasonably interpreted the state standards as allowing a 25% mixing zone based on Idaho's mixing zone policy. We ask that IDEQ compare these certifications with the 401 certification and mixing zone analysis prepared by IDEQ for the Thompson Creek Mine which included a biological, chemical, and physical evaluation of the mixing zones which adequately characterized and justified mixing zones ranging from 5% to 100% for various metals. While we do not expect IDEQ to apply the rigor of the Thompson Creek Mine certification to every mixing zone decision, we urge the State to move in this direction when determining mixing zones for major facilities.

To ensure that mixing zones authorized in CWA 401 certifications are protective of beneficial uses, supported by sound science, and consistent with IDEQ's mixing zone policy, we request that future 401 certifications that authorize mixing zones for major municipal and industrial permits include the following information:

- The technical analysis (e.g., the biological, chemical, and physical appraisal per Idaho's mixing zone policy) relied upon by IDEQ to determine the mixing zone size. Where mixing zone modeling or other evaluations are performed by the permittee, the 401 certification should include (1) citations to the relevant reports and (2) IDEQ's independent evaluation of the methods and conclusions of the permittee's evaluations.
- The mixing zone volume and physical size (length and width) in relation to receiving water geometry.
- In addition, where the mixing zone is inconsistent with Idaho's mixing zone policy (greater than 25% by volume or width), a statement as to why the larger mixing zone is needed and a demonstration that it will not impair beneficial uses.

EPA has guidance that can be used to determine the type of mixing zone analyses that may be needed. This guidance includes the TSD and user manuals for dilution models. In addition, EPA staff can assist IDEQ in reviewing mixing zone assessments prior to final 401 certification.