

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

In re:)	
)	
Los Alamos National Laboratory,)	No.
)	
NPDES Permit No. NM 0028355)	
)	
)	

**LOS ALAMOS NATIONAL SECURITY, LLC'S AND UNITED STATES
DEPARTMENT OF ENERGY'S PETITION FOR REVIEW OF
FINAL PERMIT DECISION**

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INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(a), Los Alamos National Security, LLC (“LANS”) and the U.S. Department of Energy (“DOE”) (collectively, “Permittees”) submit this petition seeking review of a condition in National Pollution Discharge Elimination System (“NPDES”) Permit No. NM0028355 (“the Permit”), which was issued to Permittees on August 12, 2014, by Region 6 of the Environmental Protection Agency, Water Quality Protection Division (the “Region”). The Permit authorizes Permittees to discharge from eleven sanitary and/or industrial outfalls located at Los Alamos National Laboratory. Permittees challenge the imposition of monitoring and sampling requirements for selenium at permitted Outfall 03A048. As explained below, Permittees maintain that this condition is based on a reasonable potential determination that is clearly erroneous.

THRESHOLD PROCEDURAL REQUIREMENTS

Permittees have satisfied the threshold timeliness, standing, and issue preservation requirements for filing a petition for review under 40 C.F.R. § 124.19, as follows:

1. This Petition was filed within thirty days after service of the Permit and has been timely filed within the time periods specified in 40 C.F.R. §§ 124.19(a)(3) and 124.20(d).
2. Permittees have standing to petition for review of the permit decision because they are the permittees and submitted written comments during the public comment process on the Permit. See 40 C.F.R. § 124.19(a). A copy of the relevant written comments submitted by Permittees is attached hereto as Exhibit A.
3. The issues raised by Petitioner in this Petition were raised with specificity during the public comment period and were therefore preserved for review. *Id.*

FACTUAL AND PROCEDURAL BACKGROUND

Los Alamos National Laboratory (the “Laboratory” or “LANL”) is a federal facility located in Northern New Mexico on approximately 36 square miles of Department of Energy-owned property. The Laboratory is part of the nation’s weapons complex and additionally performs significant research and development in a number of areas including chemical science, energy, information science, and Earth and space science. In connection with this work, LANL engages in industrial activities that result in discharges of effluent to waters of the United States. Accordingly, LANL maintains an appropriate National Pollutant Discharge Elimination System (“NPDES”) permit pursuant to 33 U.S.C. § 1342. The original LANL NPDES Permit No. NM0028355 was issued on September 13, 1978, and currently establishes conditions for eleven outfalls that discharge or may discharge to canyons within the Laboratory boundary.

The instant appeal arises out of a permit renewal proceeding, which began with LANL’s submission of a renewal application to the Water Quality Protection Division of EPA Region VI (the “Region”) on January 27, 2012. The Region issued a draft permit on June 29, 2013, and commenced a 45 day public comment period pursuant to 40 C.F.R. § 124.10. The draft permit proposed effluent limits and corresponding monitoring requirements for selenium at Outfall 03A048 based on a determination that there was a reasonable potential for selenium to cause or contribute to an excursion above state water quality standards. Upon receipt of the draft permit, Permittees recognized an error in the data used for the reasonable potential (“RP”) analysis for Outfall 03A048.¹ Specifically, the values for selenium were reported in the renewal application using EPA Method 200.8, which method generated false positives for selenium, as explained

¹ Permittees also recognized and commented on similar errors with respect to Outfalls 03A027 and 03A199. However, because those errors did not result in an RP determination for these two outfalls, this appeal only addresses Outfall 03A048.

below. Thus, EPA's RP determination for selenium at Outfall 03A048 was based on flawed data.

Permittees brought the selenium false positives issue to the Region's attention in comments on the draft permit, and submitted new split sample results indicating that selenium was not present in the samples at levels with a reasonable potential to cause or contribute to an excursion above state water quality standards. Accordingly, Permittees requested that the requirements related to selenium at Outfall 03A048 be eliminated, explaining, in pertinent part, as follows:

The fact sheet for the draft permit indicates an RP for selenium water quality standard exceedances at Outfall[] . . . 03A048 The appearance of selenium in samples taken at LANL cooling towers is a false positive caused by bromine analytical interference. These cooling towers routinely use bromine as a biocide.

It has been well established that when using EPA method 200.8 (ICP-MS) for selenium analyses and bromine is present in the waste stream, there will be a positive interference and selenium will appear to be present in the sample. [Permittees] documented this occurrence in comments submitted to EPA on the current permit. As a result, [Permittees] used SW 846 Method 7742 (included in Section G. Test Methods in Part II of the current permit) for selenium monitoring and reporting purposes during the existing permit monitoring period. However, during sampling, analyses and reporting for [Permittees'] NPDES Reapplication Project (Summer/Fall 2011), some selenium results were reported on the EPA's application Form 2C using EPA Method 200.8. These results indicated the presence of selenium, but they are false positives due to the presence of bromine. Upon discovery of the false positives, split samples from Summer/Fall 2011 were sent to the analytical laboratory for selenium re-analysis using SW 846 7742. ***The split sample results confirm that selenium is not present in the samples*** (see Table 1). More recent sample results are also included in Table 1. [Table 4 applies] the data analyzed by SW 846 Method 7742 in the recalculation of the RP for selenium for [Outfall 03A048]. Based on the RP recalculations, there is no reasonable potential for selenium water quality standard exceedances at these outfalls. Therefore [Permittees] request[] that the selenium requirements for [this] outfall[] be deleted from the permit.

LANL Comments on Draft NPDES Permit No. NM0028355 Issued On July 29, 2013, at 2, 12 (Table 1), and 15 (Table 4) (Aug. 13, 2013), attached hereto as Exhibit A (emphasis added).

The Region's response to the above-quoted comment indicates that EPA based its RP determination for Outfall 03A048 on both the accurate selenium data set generated under SW 846 Method 7742 and the inaccurate data set containing false positives generated under Method 200.8: "When EPA recalculated the RP based on the *average value of all selenium data*, the instream waste concentration [] at . . . Outfall 03A048 is 8.62 ug/l Effluent limitation remains for Outfall 03A048." Region 6 NPDES Permit No. NM0028355 Response to Comments, 14 (Aug. 12, 2014) ("Response to Comments"), attached hereto as Exhibit B (emphasis added).

The method which resulted in the false selenium positives, EPA Method 200.8, is used by LANL to analyze a suite of metals including copper, mercury, aluminum and chromium. However, as explained in Permittees' comment on the draft permit, that method is not properly used to analyze selenium when bromine is present, due to element interference. This interference between bromine and selenium is expressly acknowledged in the method itself. See EPA Method 200.8, *Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma – Mass Spectrometry*, Revision 5.4, at 200.8-34, Table 2 (Molecular Ion BrH / Element Interference Se), attached hereto as Exhibit C. After discovering that it had mistakenly used Method 200.8 to analyze the samples from Outfall 03A048, LANL sent aliquots from the same samples to be reanalyzed for selenium using SW 846 7742, which reanalysis showed selenium present at <1.02 ug/L – levels that do not support an RP finding. As indicated in the above-quoted comment, Permittees provided this data to EPA in their comments on the draft permit.

Notwithstanding that the likelihood of false positives is known and reflected in the 200.8 Method itself, and that Permittees explained the false positive results and provided data from aliquots analyzed with SW 846 7742 demonstrating no RP for selenium, the Region erroneously

determined RP for selenium at Outfall 03A048 by averaging the false positive results with the accurate results. Based on this erroneous determination, the Region imposed effluent limitations for selenium, as well as a burdensome three-times-per-week sampling requirement for that outfall in the Final Permit.

REGULATORY BACKGROUND

Under the federal regulations implementing Section 402 of the Clean Water Act, 33 U.S.C. § 1342, EPA must impose effluent limitations on a given pollutant in an NPDES permit if EPA determines that the pollutant is or may be discharged “at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” 40 C.F.R. 122.44(d)(1)(i). Thus, the reasonable potential determination serves as the anchor for EPA’s authority to impose effluent limitations and corresponding monitoring requirements; if there is no reasonable potential that a pollutant will cause or contribute to an excursion above a state water quality standard, there is no basis to include an effluent limitation and corresponding monitoring requirements for that pollutant in the permit.

ARGUMENT

I. Standard of Review

The Board may grant review of a condition in an NPDES permit when that condition is based on a clearly erroneous finding of fact or conclusion of law. 40 C.F.R. § 124.19(a)(4). Under this standard, the Board’s review of the Region’s decision to impose an effluent limitation and corresponding monitoring requirements for selenium at Outfall 03A048 is clearly warranted because it is based on a clearly erroneous finding of fact.

II. The Record Does Not Support Imposition of An Effluent Limitation and Corresponding Monitoring Requirements for Selenium at Outfall 03A048

In reviewing issues that are technical in nature, the Board “look[s] to determine whether the record demonstrates that the [permit issuer] duly considered the issues raised in the comments and whether the approach ultimately adopted by the [permit issuer] is rational in light of all the information in the record.” *In re MCN Oil & Gas Co.*, Order Denying Review, UIC Appeal No. 02-03, slip op. at 25-26 n. 21 (EAB Sept. 4, 2002); accord *In re Washington Aqueduct Water Supply System*, 11 E.A.D. 565, 573 (EAB July 29, 2004). As explained below, the Board should find the selenium effluent limitation and corresponding monitoring requirements at Outfall 03A048 invalid for two related reasons: (1) the approach ultimately adopted by the Region to determine RP for selenium at Outfall 03A048 is not rational in light of the information in the record; and (2) the Region failed to consider the issues raised in Permittees’ comments regarding the selenium limitation at Outfall 03A048.

A. The Region’s Reasonable Potential Finding for Selenium at Outfall 03A048 Was Clearly Erroneous

As explained above, Petitioners informed the Region during the public comment period that the results from the Method 200.8 analysis had resulted in false positives for selenium, that aliquots analyzed under SW 846 7742 confirmed that selenium was not present in the samples at levels that would indicate a reasonable potential for selenium water quality standard exceedances at Outfall 03A048. Supporting data were included with these comments, including a table showing the significant difference in selenium levels when the split samples were analyzed under the two methods. Exhibit A, at 12, Table 1. Recalculations based on the correct data showed that no reasonable potential exists for selenium to be discharged at a level that will cause or contribute to an excursion above state water quality standards. *Id.*, at 2.

As indicated in its Response to Comments, instead of using only the accurate data generated under SW 846 7742 to determine RP, the Region averaged that accurate data with the invalid false positive data set generated under Method 200.8. This approach does not comport with basic principles of sound science, particularly where the method that generated the false positives expressly notes bromine-selenium interference. The highest selenium level detected under SW 856 7742 was 1.01 ug/l,² with an approximate average of .899 ug/l. Detection levels under Method 200.8 ranged from 2.8 to 15.1 ug/l and averaged approximately 7.2 ug/l. Rather than addressing these significant differences in detection levels or the explanation provided by Petitioners, the Region simply averaged all the data – both accurate and inaccurate – and determined that RP exists. Such averaging necessarily led to an erroneous conclusion.

In sum, the calculations and analysis upon which the Region based its determination of RP for selenium run contrary to basic principles of sound science, and the RP determination is thus clearly erroneous. When the Region's erroneous approach is corrected, there is no basis for finding a reasonable potential that selenium will cause or contribute to an excursion above a state water quality standard. Thus, EPA is without authority to impose an effluent limitation and corresponding monitoring requirements for selenium at Outfall 03A048 in the Permit.

B. The Region's Response to Permittees' Comments on the Selenium Effluent Limitation was Deficient

Pursuant to 40 C.F.R. § 124.17, EPA's response to comments on a draft permit must provide the reasons for any provisions in the draft permit that have been changed in the final permit decision, and "briefly describe and respond to all significant comments on the draft permit" raised during the public comment period. The Board has interpreted this provision as requiring that responses "must address the issues raised in a meaningful fashion and that the

² The most stringent applicable stream standard for total selenium is 5.0 ug/l. *See* Exhibit B, at 14.

response, though perhaps brief, must nonetheless be clear and thorough enough to adequately encompass the issues raised by the commenter.” *In re Washington Aqueduct Water Supply System*, 11 E.A.D. at 585. Moreover, the administrative record must reflect the permit issuer's “considered judgment,” meaning that the permit issuer must articulate with reasonable clarity the reasons for its conclusions and the significance of the crucial facts it relied upon in reaching those conclusions. *Id.* (citing *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 417-18 (EAB 1997), and *In re Austin Powder Co.*, 6 E.A.D. 713, 720 (EAB 1997)). The Region’s Response to Comments in the instant case does not meet these standards prescribed by the Board.

In its Response to Comments, the Region did not address Permittees’ explanation that the selenium results reported on application Form 2C using EPA Method 200.8 falsely indicated the presence of selenium at levels supporting an RP determination due to the presence of bromine, and that the split sample results submitted using EPA test method SW 846 7742 confirmed that selenium was not present in the samples at such levels. While the Region acknowledged that “results from SW 846 7742 have demonstrated no RP,” Response at 14, it failed to explain why it would be appropriate to average both data sets for the RP analysis on selenium even though one data set had been identified as invalid. Instead, the Region simply stated that it had “recalculated the RP based on the average value of all selenium data.” Exhibit B, at 14.

The Region’s response is plainly deficient. The Region did not mention or address the central issue of false positives raised by Permittees, and completely ignored the data and comments submitted by Permittees explaining the analytical interference and the split samples, beyond a bare statement that one method demonstrated RP while the other did not. Thus, the response is not “clear and thorough enough to adequately encompass” Permittees’ argument that the Method 200.8 data was not representative of selenium levels at Outfall 03A048, and thus

should not be used in analyzing RP. *Washington Aqueduct Water Supply System*, 11 E.A.D. at 585. Further, as discussed above, the averaging approach that the Region adopted without any explanation was clearly erroneous, and therefore does not reflect a “considered judgment” in imposing an effluent limit for selenium when such a limit is unsupported by a rational and factually correct RP determination. *See id.* at 585-86 (finding nominal response inadequate when Region III chose to conduct an RP analysis using pollutant concentration levels that competing data showed to be substantially lower than average levels discharged from source without explaining why such an approach was appropriate).

CONCLUSION

For the reasons set forth above, the Permit condition imposing an effluent limitation and corresponding monitoring requirements for selenium at Outfall 03A048 should be held invalid.

Dated: September 15, 2014

Respectfully submitted,

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LIST OF EXHIBITS

- A. LANL Comments on Draft NPDES Permit No. NM0028355 Issued On July 29, 2013 (Aug. 13, 2013)
- B. Region 6 NPDES Permit No. NM0028355, Response to Comments (Aug. 12, 2014)
- C. EPA Method 200.8, *Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma – Mass Spectrometry*, Revision 5.4

CERTIFICATE OF SERVICE

I hereby certify, pursuant to the Rules of the Environmental Appeals Board of the U.S. Environmental Protection Agency, that on September 15, 2014, the foregoing *Los Alamos National Security's and the United States Department of Energy's Petition for Review of Final Permit Decision* was filed electronically with the Clerk of the Environmental Appeals Board using the Central Data Exchange. Interested parties listed below will be served by U.S. Mail.

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/s/ Louis W. Rose
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