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Advocacy: the voice of small business in government

April 20, 2010

By Electronic Mail

The Honorable Lisa P. Jackson
Office of the Administrator
Environmental Protection Agency
Ariel Rios Federal Building
1200 Pennsylvania Avenue, N.W
Washington D.C. 20460

Re: Petition to Reconsider the Construction and Development (C&D) Effluent Limitations Guideline (ELG) Final Rule; 74 Fed. Reg. 62996; December 1, 2009; Docket No. EPA-HQ-OW-2008-0465.

Dear Administrator Jackson:

Under § 553(e) of the Administrative Procedure Act, Advocacy requests that the Environmental Protection Agency (EPA) reconsider its December 2009 effluent limitation guidelines (ELG) and issue a new standard that would apply to water discharges from construction and development (C&D) activities. Advocacy believes that EPA issued a numeric standard that is costly, difficult to implement, and based on numerous factual errors. The fact that the public did not have an opportunity to comment on either the data or the methodology used to derive the numeric standard likely contributed substantially to this result. Instead of promulgating a new numeric standard, EPA could propose a new ELG, after consideration of the new information provided with this letter.

Effluent limitation guidelines are technology-based water discharge standards (effluent limitations) required by Clean Water Act section 301 for categories or subcategories of point source dischargers. These limitations are incorporated into water permits issued by the local permitting authorities. ELGs are based on the degree of control that can be achieved using various levels of pollutant control technology. In this case, EPA promulgated a numeric standard of 280 nephelometric turbidity units (NTU) for construction activities that disturb 10 acres or more, in order to further reduce sediment flow into streams and rivers, over the existing requirements.

Introduction

EPA issued a proposed ELG for the construction and development industry in 2002, and took final action on this proposed ELG in April 2004. In the 2004 ***Federal Register*** notice, EPA stated that it was not finalizing the proposed regulation, choosing instead to rely upon existing measures to control active construction stormwater discharges.**(1)** In subsequent litigation with the Natural Resources Defense Council, a court ordered the Agency to issue a final ELG by December 1, 2009. On December 1, 2009, the Agency published a new rule implementing a very stringent numeric turbidity limit that supplements the existing federal and state requirements. Even according to EPA, regulation of C&D stormwater controls less than 0.25% of all total sediment runoff, at a cost of approximately $953 million annually.**(2)** As EPA determined in 2004, the existing measures already provide substantial control of sediment erosion. In contrast to the Agency's estimate, we estimate that EPA's new regulation will cost up to $10 billion annually, hurting small businesses and housing affordability, with little additional environmental benefit.

In its rush to meet the court-ordered December 1 deadline, EPA promulgated a standard without providing the public with an opportunity to review the data or methodology upon which it was based.**(3)** We have subsequently uncovered a series of technical errors that, at a minimum, should cause EPA to reconsider the standard and raise the limitation to more than 500 NTU, a standard which small (or large) firms could possibly meet without undue harm. In one particularly crucial error, without the aid of the facility schematics, EPA misinterpreted vendor data from a construction site in Seattle, Washington, as representing 15, instead of 3, pretreatment systems. This correction alone would drive the limit to approximately 500 NTU.

Equally important, EPA set the limit using data from advanced treatment systems rather than passive treatment systems, the technology chosen for the final ELG. If EPA excluded the advanced treatment systems (ATSs) from consideration, the standard would be in the neighborhood of 800 NTU. In addition, EPA should re-evaluate the turbidity data for true passive systems. These data clearly demonstrate both a lack of consistent treatment success, and for instances where passive treatment was successful, a high degree of variability in turbidity levels. A more careful review of the available passive treatment system (PTS) data leads to the conclusion that an action level approach is more appropriate because it will incentivize facilities to lower discharges at a much lower cost than a standard-based approach that will require facilities to install costly modified ATSs to ensure regulatory compliance. EPA now has the opportunity to fix its previous errors, and derive a regulatory approach that will achieve environmental benefits at a reasonable cost, simultaneously reducing adverse small business impacts and aiding affordable housing goals.

EPA Modified a Final ELG in 2003

There is recent precedent for modifying a final ELG. After the promulgation of the Centralized Waste Treatment (CWT) ELG in December 2000, several industry members raised concerns about the ability of the specified technology to effectively remove some of the newly regulated pollutants. EPA had believed that the same technology would effectively remove a group of chemicals. A review of the existing record and new evidence submitted by industry, however, demonstrated that these removals could not be achieved for some chemicals without treatment technology that was not specified in the EPA final rule. EPA agreed to propose regulatory changes and promulgated a final modification in December 2003.

Likewise, based on a review of the information in the record and new information provided with this letter, EPA can now determine that the 280 NTU standard cannot be achieved without application of a modified advanced treatment system, a technology not specified by EPA in this final rule, nor included in the cost of the final rule. The agency can now take steps to modify the final rule to reflect the additional information.

I. The Final Standard is Extremely Costly and EPA Needs to Reconsider the Standard

We estimate that EPA's final rule will cost businesses, including small businesses, in excess of $9.7 billion per year, whereas EPA estimated the costs at about $953 million per year. This large difference is based on EPA incorrectly assuming that the standard can be achieved using a passive treatment system, instead of more complex and more costly advanced treatment systems.

While EPA derived its limits almost entirely by using data from slightly modified ATSs, it characterized the model technology as a passive treatment system, a much less expensive technology. An ATS generally uses pipes, pumps, valves, tanks, chitosan, a sand media filter, and a computerized monitoring and data collection system to continuously reduce turbidity in construction stormwater. Stormwater is first pumped from its retention pond to the control system, where an initial dose of chitosan is added. The stormwater is then routed to pretreatment tanks (or ponds) for bulk solids removal. From the tanks, pretreated stormwater is pumped through the control system, where turbidity, pH and flow are measured. As the water passes through the control systems, another dose of chitosan is added prior to sand filtration. The systems have a programmable logic controller (PLC) which monitors influent and effluent water quality parameters. To facilitate achievement of water

quality goals, these ATSs provide for operational adjustments, including chitosan dosage rates, recycling of treated water for further treatment, and system shutdowns. EPA used data from this ATS configuration without a sand filter in deriving the standard, but excluded all of the aforementioned ATS components except chitosan in developing costs for the model technology.

Passive systems involve the addition of polymer to check dams or to channeled runoff leading into sediment basins. They are truly passive in that they are designed and placed into operation before a storm event—there is no expectation that manual adjustments will be made during operation, and they certainly do not require the constant oversight of an ATS. For a number of reasons explained in the attached Pechan memorandum,**(4)** the passive treatment design cannot meet the 280 NTU performance standard on a regular basis. Therefore, the compliance costs of a 280 NTU limit should be based on the cost of a modified ATS, not a true passive treatment system.

URS Corporation has estimated the costs of an ATS without sand filters, which would be required to regularly achieve a 280 NTU limit with confidence throughout the country.**(5)** A conservative annual cost estimate of approximately $9.7 billion is estimated for this standard reflecting the fact that facilities would be using the modified ATS technology, instead of a PTS to comply with the ELG. This contrasts with EPA's estimated cost of $953 million per year.**(6)** Given the conservative nature of the $9.7 billion URS cost estimate, and the inherent variability in the effectiveness of PTSs, we believe that this is the best available estimate of the costs of achieving a 280 NTU limit.**(7)**

It is important to emphasize that the housing industry is in a recession of unprecedented scale for the post-World War II era. From 1965 through 2004, home starts averaged over 1.5 million units. Between 1945 and 2007, starts never fell below 1 million units, even in the worst recession years. However, there were only 554,000 total housing starts in 2009, and the National Association of Home Builders (NAHB) is forecasting only 643,000 starts in 2010. Employment in residential construction has fallen by 38 percent, representing a loss of more than 1.3 million jobs, since peaking in February of 2006.**(8)**

Given the high annual cost of this standard, the severity of the impact on home builders in the current economic climate, the adverse effect on housing affordability, and the multiple ELG problems discussed below, EPA needs to explore less costly alternatives to the final ELG that will provide equivalent or similar environmental benefits.

II. EPA Incorrectly Set A Passive Treatment System Turbidity Standard Based on Data Almost Exclusively from Advanced Treatment Systems

EPA set a standard based on "passive treatment" as the model technology, yet relies on data from 22 modified advanced treatment systems (of a total of 25 treatment systems) in establishing the standard. This approach results in a huge disconnect between the technology used to estimate the costs of the ELG and the technology used to estimate its benefits. As explained further in the Pechan memorandum, EPA made numerous errors in its final determination. First, EPA used data in the final rule that were not subject to notice and comment. In so doing, the agency made a large number of errors relating to the use of data from these 22 modified ATS plants. Among these errors were: (1) EPA failed to obtain schematic information about the Sea-Tac Airport project, which accounted for 15 of the 25 data points, but truly represented only 3 pretreatment projects (this mistake alone almost halved the calculated limit); (2) EPA failed to properly determine whether any of the 22 ATS plants were performing any actual treatment, a key requirement of the EPA protocol; (3) EPA failed to document why several plants were included or excluded from the limit calculation;**(9)** (4) EPA failed to include data from at least one plant in Morrisville, North Carolina, that had data that met the EPA criteria for inclusion;**(10)** and (5) EPA improperly excluded higher turbidity concentrations when the plant reported "zero flow."**(11)**

Second, even if EPA could address all the above and other errors about how the ATS data were improperly used, the agency's use of ATS data to characterize the performance of PTSs is also incorrect. The available data make it clear that the 3 PTSs are vastly different from the 22 ATSs under examination. All but one of the 12 system long term averages (LTA) below the median of 64 NTU are

derived solely from ATSs.(12) More important, the mean daily variability factors for PTSs is 8.99, while the mean of the ATSs is only 3.69.(13) In a comparison of the available turbidity data before treatment, the URS Corporation analysis shows that the average influent turbidity for the PTSs was about 5000 NTU, whereas the average for the three ATSs with data was approximately 300 NTU.(14) These are clearly not similar systems.(15)

In addition, the one example in the record where the engineers attempted to use a PTS to comply with a low turbidity target is instructive. The Morrisville, NC site first tried a true PTS employing flocculant logs and then chitosan "gel-socks" (permeable fabric sleeves containing polymer), placed in drainage areas prior to basin locations, but were "unable to reduce turbidity at all." Even after pumping water through chitosan gel-socks/cartridges placed in pipes, and settling in separate treatment tanks/cells, the site engineers reported to EPA that they were only able to reduce turbidity down to about 500 NTU (well over the 280 NTU standard), and therefore proceeded to develop an ATS for the site.(16) Yet EPA made no mention of the failure of a PTS, or even a hybrid PTS/ATS, to meet the standard in the final rule.

III. Correction of One or More of These Errors Would Result in a Turbidity Standard in Excess of 500 NTU

In the Pechan memorandum, we suggest a variety of methods whereby EPA can correct one or more of these technical errors, and could re-promulgate a higher numeric limit.(17) In the first instance, EPA should clearly redo the Sea-Tac calculations, using Sea-Tac as representing either three facilities, or more appropriately, one facility.(18) If EPA only corrects the most egregious Sea-Tac error, compiling the data to represent three treatment facilities, the resultant limit would be 501 NTU. If it uses Sea-Tac as a single facility, the number would be 652 NTU.(19) EPA also needs to re-examine generally its inclusions and exclusions of data from ATS facilities. Lastly, if EPA were to rely solely on data from true PTS facilities, the number would be 793 NTU.(20)

IV. An Action Level Approach is the Most Appropriate Solution

A turbidity-based action level approach is likely the best solution for this ELG for a large number of reasons. Under an action level approach, a facility that exceeds a benchmark (action) level must re-evaluate and document the effectiveness of its best management practices to minimize discharges.

First, the available literature on PTS performance shows a wide variability in the turbidity values that can be achieved by passive treatment systems, not unlike the wide variability resulting from stormwater discharges under the Federal multi-state general permit (MSGP) for stormwater. The MSGP rule is based on a benchmark-triggered action level approach. This suggests that a single numeric limit is also inappropriate in the C&D setting. Second, real world applications of PTSs clearly indicate that they would require substantial maintenance during storm events to ensure system performance. For example, in the NC.Road dataset, data for 9 of the 16 total rain events were omitted because there was significant disruption of the PTS.(21) Unfortunately, the EPA numeric standard does not allow a single exceedance of a numeric limit that could result from a disruption of the PTS. A numeric standard is not compatible with true passive treatment because of the inability to design such systems ahead of time to incorporate all potential contingencies that could disrupt system performance. However, an action level approach provides the necessary flexibility.

Third, state regulators were overwhelmingly opposed to a single numeric limit, because of the increased workload and doubts that the numeric limit would be feasible or yield significant benefits. On the other hand, an action level approach will keep discharges low by requiring re-evaluations of best management practices for any benchmark turbidity exceedances. Fourth, the numeric limit approach is not consistent with states that want to adopt or have adopted the environmentally preferred low impact development (LID) standards, whereas the flexibility of the action level approach is ideal for accommodating LID. The recent National Research Council (NRC) report highlights the importance of LID efforts in controlling stormwater.(22) A federal action level approach would be much less disruptive for advanced and effective state C&D stormwater programs, such as those operated in Washington and Maryland. Last, the environmental benefit of an action level approach

and the numeric standard (if achievable) are likely to be very similar due to the small size of the expected benefits. Therefore, adoption of an action level approach is vastly superior to simply fixing the numeric standard.

V. Other Improvements in the Rule that EPA Should Consider: Modification of the Area Threshold to 30 Acres and Adoption of the R-value Waiver

A. EPA Should Reinstate the 30 Acre Threshold for the Rule

In the final rule, EPA applied this stringent numerical standard to all construction projects disturbing 10 or more 10 acres, in contrast to the proposed 30 acre cutoff. Besides dramatically increasing the overall cost of this standard by revising the proposed cutoff from 30 to 10 acres, EPA also considerably increases the risk that residual polymer from ATSs and PTSs would harm aquatic life. In interagency comments that we filed with EPA on the draft final rule, we identified several instances of polymer spills into receiving waters resulting in fish kills.**(23)** Larger firms are more likely to be able to handle the complex protocols designed to avoid toxicity issues, which will be more prevalent as this ELG becomes the national standard. We believe that raising the threshold to 30 acres would significantly reduce total costs and limit the number of projects for which small firms, with much less engineering expertise, would be subject to this requirement.

B. EPA Should Reinstate the R-Factor Waiver

EPA originally introduced the idea of using the rainfall R-factor**(24)** during the SBREFA process as a means to avoid overregulation of more arid sites which rarely have stormwater runoff problems. EPA proposed to waive the numeric limit for projects in areas where the R-factor was below 50, but dropped this provision in the final rule.**(25)**

EPA stated in the final rule that one main reason they dropped the R-factor waiver was because it made the rule unnecessarily complex.**(26)** The state agencies charged with regulatory authority would be in the best position to judge this, and not one single state permitting agency comment was opposed to a waiver based on R-factor or similar rainfall metric, though some advocated for more liberal waivers. Only Alaska expressed concern with the R-factor as proposed, solely because much of Alaska lacked even regional R-factor data. They instead proposed a waiver based on annual inches of rainfall (<30 inches) to be used where R-factor data were lacking. EPA could either adopt a rainfall standard for Alaska, or the R-factor waiver would be inapplicable in the state at this time. Complexity is not a problem for those with data and those firms that request the waiver. Without the waiver, EPA will be forcing those firms that have insufficient rainfall to set up an elaborate stormwater treatment system with little likelihood that any benefits would accrue.

In the final rule, EPA also asserted that insufficient R-factor data exist for significant portions of the country. As noted above, there is a lack of R-factor data for Alaska, but this can be addressed via a rainfall-based waiver threshold. In the contiguous United States, essentially all areas have at least countywide R-factor data available. In fact, EPA already uses R-factor data for determining whether small construction sites can qualify for a low erosivity waiver in the National Pollutant Discharge Elimination System (NPDES) Phase II stormwater regulations.**(27)** Claims of the overall insufficiency of countywide R-factor data that were made by a few commenters are unfounded. For the overwhelming number of counties, R-factors are all either reported as above or below the 50 threshold. For the rare counties where R-factors are both above and below this threshold, it would not be problematic to account for this condition since it usually occurs on opposite sides of a major topographic feature such as a large mountain. This issue is not analogous to the soil clay content waiver issue, which in contrast can vary significantly over relatively small areas of some sites.

As an additional justification for rejecting the proposed waiver, EPA also stated that in certain areas of the country, the annual R-factor may be low, but soil erosion rates may still be very high during certain time periods (such as during spring thawing).**(28)** Although EPA specifically requested comment on this concern, EPA received only three comments addressing the issue. With the exception of a comment from an ATS vendor that rainfall may be a better applicability criterion than R-factor,

the only comment expressing concern over this issue suggested that the rule could allow state permitting authorities to develop site-specific requirements to address such instances (using EPA guidance when it becomes available). None of the commenters on this issue recommended that the R-factor waiver be eliminated. We don't agree with this justification for eliminating the proposed waiver in large part because this is a very limited situation not applicable to more than ninety nine percent of the country where construction is likely to occur. EPA should retain the R-value national waiver element of the proposal because it is a common sense way of limiting this stringent requirement to areas of the country that would show real benefits from its application.

VI. Conclusion

Based on the information described above, EPA needs to revise the ELG to address readily correctible errors to the numeric standard. We have suggested several avenues for modifying the ELG. In addition, we suggest two important additional revisions to the scope of the ELG to enhance its cost-effectiveness, and thereby reduce negative impacts on small businesses, the overall economy, and housing affordability. We look forward to a dialogue with EPA to resolve these important issues. Please feel free contact me or Kevin Bromberg (at (202) 205-6964 or kevin.bromberg@sba.gov) if you have any questions or require additional information.

Sincerely,

/s/

Susan M. Walthall
Acting Chief Counsel
Office of Advocacy

/s/

Kevin Bromberg
Assistant Chief Counsel for Environmental Policy
Office of Advocacy

cc:

Bob Perciasepe, Deputy Administrator, EPA
Peter Silva, Assistant Administrator, Office of Water, EPA
Nancy Stoner, Deputy Assistant Administrator, Office of Water, EPA
Cass Sunstein, Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget

Docket ID Number EPA-HQ-OW-2008-0465

ENDNOTES

1. 69 ***Fed Reg.*** 22472, April 24, 2004.

2. See discussion in E.H. Pechan & Associates, Inc.'s "Review of Technical Issues Related to the Final Effluent Limitation Guidelines for the Construction and Development Industry," April 2010.

3. EPA was still performing data review and analyses, and making modifications in the final weeks of November 2009.

4. E.H. Pechan & Associates, Inc., "Review of Technical Issues Related to the Final Effluent Limitation Guidelines for the Construction and Development Industry," April 2010.

5. URS Corporation, EPA's Final Construction and Development ELG, Summary Comparison of EPA and URS Cost Estimates, April 14, 2010, at 3.

6. 74 ***Fed. Reg.*** 62996, 62298, December 1, 2009.

7. Based on the information provided in URS Corporation's "Discussion of the EPA Calculation and Implementation of a 280 NTU NEL Limit Based on Passive Treatment Technology for the Final C&D ELG," March 2010 (discussed elsewhere in this letter), and given that the great majority of the country contains clay content much higher than 10 percent, it appears unlikely that a large portion of the construction sites could consistently meet a 280 NTU standard with only a passive system.

8. Email from Ty Asfaw, NAHB to Kevin Bromberg, Advocacy, dated April 14, 2010.

9. EPA declined to respond to our questions about inadequacies and omissions in the record, so we are unable to comment completely on the underlying EPA determinations. Based on the existing record, in our judgment, it appears likely that one or more of these determinations were not made properly or consistently.

10. See discussion in URS Corporation, "Discussion of the EPA Calculation and Implementation of a 280 NTU NEL Limit Based on Passive Treatment Technology for the Final C&D ELG," March 2010, pp. 29-32.

11. Zero flow denotes when the modified ATS stopped discharging water while the plant recycled water back into the pretreatment cells for additional treatment when the turbidity numbers were rising substantially. See discussion in URS Corporation, "Discussion of the EPA Calculation and Implementation of a 280 NTU NEL Limit Based on Passive Treatment Technology for the Final C&D ELG," March 2010, pp. 25-28.

12. Since the limit is the product of the LTA median and a coefficient of variation, the limit is almost entirely dependent on the ATS data because almost all the lower LTAs were established by the ATS data.

13. E.H. Pechan & Associates, Inc., "Review of Technical Issues Related to the Final Effluent Limitation Guidelines for the Construction and Development Industry," April 2010. If EPA had included the variability from disruptive events that were excluded from the dataset by either EPA or the PTS operator, the variability for PTSs would be increased. Note that EPA removed one high reported data point for NCR.2, which lowered the LTA by a factor of 16.

14. See ATS versus passive treatment influent comparison discussion in the Pechan memorandum.

15. In large part, it appears that the ATS influent values represent post-sediment basin treatment, while the PTS influent values represent raw runoff (unlike a PTS, a modified ATS requires a sediment basin).

16. "The contractor was attempting to passively treat the water using Poly acrylamide (PAM) "floc logs" prior to us being called in, but was unable to reduce the turbidity at all because of the large volumes of water, highly turbid water (>3000 NTU), and colloidal red clay soil type. We also attempted to passively treat the water prior to each of the basin locations using Chitosan lactate (gel-socks), however found that the water treated best by pumping to isolated tanks or cells with the chitosan lactate sock/cartridge installed within the plumbing just after the pump. After about a 20 minute settling time this would bring the turbidity down to about 500 NTU." Email from Nate Holloway, Clear Water Compliance Services, Inc. to Jesse Pritts, U.S. Environmental Protection Agency, titled "FW: ATS Data," August 26, 2009 , Docket ID EPA-HQ-OW-2008-0465-1943).

17. The Pechan memorandum only addresses approaches to fix the numeric limit, including relying solely on PTS data for the calculation of the limit. This letter addresses the other option to employ an action level approach.

18. Sea-Tac could represent three facilities since there were three separate pretreatment systems on site. On the other hand, Sea-Tac does represent an outlier facility in several respects, and there is a good argument that it should be represented no more frequently than any other site in the calculations (see Pechan memorandum for details).

19. The enclosed URS Report provides a more extensive analysis of the many deficiencies of the derivation of the 280 NTU limit. This provides substantial additional information to the Pechan memorandum.

20. If EPA were to include data from the disruptive PTS events that were omitted in the studies, the limit calculation would be even higher (see text elsewhere in this letter). The 793 NTU is derived from data for the three treatment systems that clearly represent passive treatment (i.e., NC.Road, NCR.1, and NCR.2). See the Pechan memorandum for the derivation of the 501, 652 and 793 values.

21. McLaughlin, R.A, "Target Turbidity Limits for Passive Treatment Systems," no date provided. Similarly, for the NCR.1 data set, 5 out of 27 rain events were not included in the reported data due to significant disruption of the PTS system.

22. ***Urban Stormwater Management in the United States***, National Research Council, The National Academies Press, Washington, D.C. (2008) at 339-474.

23. See references in the Pechan memorandum.

24. The R factor (USDA 1997) is an indicator of rainfall energy and intensity and varies seasonally across the United States.

25. 74 ***Fed. Reg.*** 62996, 63009, December 1, 2009.

26. ***Id***.

27. The EPA already provides an online calculator to assist firms in determining the R-factor value for their construction project: http://cfpub.epa.gov/npdes/stormwater/lew/lewcalculator.cfm.

28. 74 ***Fed. Reg.*** 62996, 63015, December 1, 2009.