

ARKANSAS DEPARTMENT OF POLLUTION CONTROL & ECOLOGY

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REGULATORY

MEMORANDUM

TO : Gerald Delavan, Senior Geologist, Water Division

FROM : Tammie Hynum, Mgr., TASB, Hazardous Waste Division

DATE : October 8, 1998

SUBJECT : **Response to General Comments on "Development of Risk-Based Target Monitoring Levels" for El Dorado Chemical Company, El Dorado, Arkansas**

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I have reviewed the response to comments issued by El Dorado Chemical Company regarding the list of concerns I directed to your attention in April 1998. The intent of the April 1998 memorandum was to respond to your written request dated March 26, 1998 for technical assistance in reviewing and providing a list of concerns based on a review of the subject report for El Dorado Chemical Company (EDC).

The following are comments/suggestions based on my review of the EDC's response to comments:

- It appears the CAO 95-070 and the approved workplan for the groundwater assessment are in conflict with one another. The CAO does require assessment of the gw for nitrates, sulfates, lead, and chromium. The approved workplan identifies nitrates as the only constituent of concern requiring such assessment. I am of the opinion the CAO is the binding document. The CAO or the workplan would require amending, whichever is determined to be most applicable by all parties involved. The workplan was approved by the water division and the work was implemented according to the approved workplan without review/consensus from the hazardous waste division. Therefore, many conflicts have risen based on HWD's comments to the water division.

Executive Summary

- Page ES-1, third paragraph: EDC responded the workplan was submitted per Solid Waste Regulation No. 22, not HWD criteria. The CAO does reference SW regulations for developing and assessing the groundwater, but it is my understanding the CAO was a multi-media enforcement order inclusive of water, solid waste, and hazardous waste. The workplan was approved without

the review and consensus from the HWD, but the HWD was requested to review and comment on the final report.

- Page ES-1, fourth paragraph: EDC responds there is no potential exposure of on-site receptors to shallow groundwater. The shallow groundwater could pose an ecological risk when and if it is released to surface water.
- Page ES-1, fifth paragraph: EDC responded nitrate is the only COC evaluated as indicated in the approved workplan. The HWD response is the same as indicated in responses above related to the coordination between the various medias when dealing with multi-media enforcement cases.
- Page ES-2, Ecological Evaluation: EDC indicates the other process areas besides the unnamed tributary and Lake Kildeer are upstream of the outfall and are not areas of ecological concern. The CAO requires Lake Lee, Lake Kildeer, plant drainage system, nitric acid concentration area, and all product loading and unloading areas to be evaluated for potential impact from the process wastewater treatment system. Regardless of the development and use for industrial purposes, an area could pose an ecological threat and warrants investigation (i.e., screening ecological assessment).
- Page ES-3, last paragraph: The response provided by EDC is only appropriate if and when it is determine nitrates are the only real COCs at the site to be evaluated.
- Page ES-4, Conclusions and Recommendations: EDC responds they proposed 4 wells and it was approved. This does not negate the fact the site has 17 wells on-site and only including 4 of 17 in the assessment limits the reality of conducting the assessment in the first place. Human health, as well as ecological receptors, should be fully evaluated.

Introduction

- Page 1-1, first paragraph: EDC indicates the objective of the risk report was to solely evaluate nitrates. The HWD offers the same comments as mentioned previously in relation to the importance of coordination between media divisions and the selection and evaluation of pathways and receptors (i.e., human health and ecological).
- Page 1-2, last paragraph: EDC indicates they are exempted from conducting an ecological screening assessment because this was not discussed in the approved workplan. EDC also mentions

again the workplan was based on SW regulations, not HW. Again, the HWD offers the same comments and suggestions as mentioned in previous comments in relation to coordination between media divisions and the importance of appropriately and adequately evaluating a site for protection of human health and the environment.

Data Evaluation and Identification of Constituents of Concern

- Page 2-1, second paragraph: EDC responds the EPA proposed corrective action levels were from the proposed Subpart S Corrective Action Rules. These rules were never finalized.

Exposure Assessment

- Page 4-1, Section 4.1, first paragraph: EDC responds there is no use of the shallow groundwater at the site. This may be true for human health issues at the site, but what about the evaluation of groundwater discharge to surface water and the impacts to human health and ecological receptors on and off site?
- Page 4-1, Section 4.1, second and third paragraphs: As mentioned previously, there is also the need to evaluate ecological receptors as well as human receptors.
- Page 4-3, Section 4.2.1: As mentioned previously, this report does not account for other potential exposures related to groundwater (i.e., ecological and human health exposures via release of gw to sw).
- Page 4-5, first bullet item: The same comment as issued previously. There are other ways to be exposed to groundwater besides drinking water consumption.
- Page 4-6, Section 4.3.1: The facts have yet to be presented to HWD that nitrates are the only COCs to be evaluated at the site. Apportionment may or may not be appropriate or necessary. It is premature at this stage to adequately make that determination.
- Page 4-7, Section 4.4: The HWD does not agree that process areas should be excluded from an ecological assessment. The CAO listed other areas besides Lake Kildeer and the unnamed tributary to be evaluated. Again, EDC mentions the approved workplan did not require assessment of these areas. The issue arises again with the workplan and CAO being in conflict with one another.

- Page 4-9, Section 4.4.1: The same comments apply to this section as mentioned previously in relation to the potential ecological receptors and the flow rate of the creek.

Fate and Transport Modeling of Contaminants

- Page 5-1, Section 5.1: Again, EDC's responses are assuming there is no ecological receptor or human receptor from potential release of the shallow gw to sw.

Target Monitoring Level Development

- Page 6-2, Section 6.2: There are other potential receptors, as discussed previously, which have not been adequately addressed in the current assessment.
- Page 6-4: The HWD does not agree there are no additional potentially receptors and pathways which should be addressed. It was the understanding of the HWD, the focus of the report was a risk assessment, yet EDC mentions clearly in their response that was never the intent. This issue needs clarification for all parties involved.

Conservative Risk Factors

- Page 7-3, second paragraph: If primary uses of groundwater are do not warrant evaluation due to an incomplete pathway, the secondary uses can, and should, be evaluated, if applicable. Again, there is the potential for shallow gw to sw releases which impact ecological and human health.

Project Conclusions and Recommendations

- Page 8-3: The HWD still recommends the use of the data from all existing wells in the assessment to obtain a more accurate evaluation. Limiting the assessment to a smaller number of wells limits the accuracy of the assessment.

Figures

- Figure 4.1: The HWD suggests all wells located on-site, regardless of the aquifer depth, be included to this figure.

- Figure 4.2: The HWD does not see that EDC answered the question related to groundwater to surface water releases.

Appendix C

- Page C-16: Ecological receptors and additional human health exposure pathways have the potential to be present in relation to the site and should be appropriately evaluated.

In summary, the final assessment report may adhere to the approved work plan mentioned in the text of this report (ADPC&E approved October 31, 1996). However, the CAO is not in agreement with the approved workplan. There are additional pathways and receptors which should be addressed in a site specific risk assessment to aid in determining the full potential for protection of human health and the environment. The extent of contamination is not known at the site. What impact, if any, does the amended Order have on the responses provided by EDC?

If I can answer any further questions or help in any other way, please contact me at X-20856.

Tammie

cc: Mike Bates
Joe Hoover

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