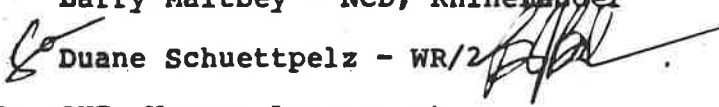


# CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

DATE: March 15, 1989

TO: Larry Maltbey - NCD, Rhinehander

FROM:  Duane Schuettpelz - WR/2

SUBJECT: SNE, Wausau Assessment

FILE REF: 8250

MAR 24 1989  
 V E L  
 DIST. Hq. Dir.  
 WISCONSIN DEPARTMENT OF HEALTH

Per your request, we have reviewed the "Public Health and Environmental Assessment for Wauleco, Inc., completed by Keystone Environmental Resources, Inc. In addition, since risk and/or exposure assessments relating to human health were performed, we requested a review by the Department of Health and Social Services, Division of Health (DOH). Our request and the Division of Health's review is attached. We concur with and support the comments provided by the Division of Health. Many of the concerns voiced by the DOH were also singled out by our staff. Rather than repeat these detailed comments, we will provide summary comments and add emphasis where necessary.

We feel very strongly that many assumptions are made without adequate explanation. In almost all instances these assumptions lead to an exposure assessment of less risk. For instance the non-assessment of metals and volatile organic compounds is not well substantiated and the elimination of dioxin/furan from direct contact exposure is not in accordance with existing data.

The impact of exposure to wildlife is inadequate. A wildlife exposure assessment should consider food chain and water exposure for dioxins and furans as well as pentachlorophenol.

An additional flaw of the report is the non-reporting of detection levels. As much as one-half the data is reported as non-detected and is useless in the data analysis without a specified detection level.

In summary we feel that revisions to the report are necessary. More importantly however, based on the information reviewed to date, and concerns voiced by Department staff and the Division of Health, it is our recommendation that at a minimum the floating product should be removed from the groundwater and safely disposed. If you have any questions regarding this matter, please contact John Sullivan of my staff.

LL:jms/S1001-23

Attachments

- cc: Bill Smith - NCD
- Gary Kulibert - NCD
- Jay Hochmuth - AD/5
- Jack Sullivan - WR/2
- Mark Johnson - Wausau Area Office

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State of Wisconsin \ DEPARTMENT OF HEALTH AND SOCIAL SERVICES

March 2, 1989

DIVISION OF HEALTH  
MAIL ADDRESS:  
1 WEST WILSON STREET  
P.O. BOX 309  
MADISON, WI 53701-0309

Jack Sullivan  
Bureau of Water Resources Management  
Department of Natural Resources  
101 S. Webster Street  
Madison, WI 53707

Dear Jack:

I have reviewed the exposure assessment for the SNE site at Wausau, titled "Public Health and Environmental Assessment for Wauleco, Inc.", by Keystone Environmental Resources, Inc (KERI), as you requested. As we discussed, this was not an in-depth review, but done over a day or so.

A number of thoughts developed while reviewing this document. These are listed as follows:

1. The potential effect/exposure on adjacent properties, homes (basements), gardens, etc. are not even discussed. This oversight needs to be corrected. If KERI felt this was not a possible exposure route, this should be succinctly stated, as well as the reasons why this is believed. Throughout this document, assumptions are used or deleted without adequate explanation.
2. A population estimate of nearby and/or potentially exposed people should be included, if available. This would include schools, nurseries, day care centers, elderly housing and general demographics. Since this is an urban area, this information is probably available.
3. The possible routes of exposure besides groundwater movement into the Wisconsin River and subsequent exposure are not adequately explored in this document. For example, the possible effect of volatilization and upward movement through the ground is summarily dismissed without adequate justification.

4. The potential exposure to metals and volatile organic compounds (VOCs) is dismissed without adequate explanation, especially since some of the VOC's and all of the metals are over the WI groundwater standards. Both VOC's and metals were found in the contaminated groundwater underneath the SNE site, yet were dismissed as being unable to move off-site. Proper sampling of the groundwater should have eliminated metals from consideration using the logic of KERI, yet they were found. The reasons for dismissing metals are not well developed. Since dioxins/furans probably move off-site by oil droplets, there is no reason to assume that metals attached to suspended sediments will not also act similarly (U.S. EPA. 1986. Alternate Concentrations Limits for Dioxin Groundwater Contamination at Wood Preserving Sites. Waste Identification Branch). The sediments and fish of the River should have been examined for some of the metal contaminants and these metals factored into the exposure assessment.
5. It is noted in the document (p. 1-2) that only the constituents having the greatest potential, based on analytical results, to affect human and environmental receptors, will be assessed for exposure. All the constituents should be listed, then the rationale for not selecting certain constituents should be fully explained. As it is currently given, it leaves me wondering what may not have been assessed.
6. A compilation of the total amount of chemicals estimated to occur underneath this site would be very useful. In other words, how many gallons of PCP, pounds (or grams) of dioxin, etc. occur at this site. Also the rate of movement (grams per year, etc.) of these chemicals into the river, lost through volatilization, etc., would be useful.
7. The detection limits (or limit of quantitation) for dioxins/furans are not listed on any table. This is an important piece of information and must be included.
8. On p 1-8, it is stated that the fish samples contained "low" concentrations of dioxins and furans. The DOH does not consider fish concentrations of from 38-87 ppt of dioxins and furans to be "low". These are levels which may be of concern, even though they are not 2,3,7,8-TCDD. It is also important to identify the location (site) of dioxin/furan bearing fish.

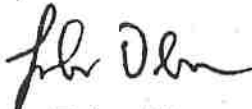
9. The elimination of dioxins/furans from direct contact exposure to the river should not be done. Dioxins/furans were found in the river water in 1986. The fact they were not found in 1987 is probably only an annual or detection variation and should not be evidence to remove them from exposure considerations. (p. 1-10)
10. On p 1-15, with regards to the assumption of 90 days as an appropriate averaging period for chronic effects, it should be noted that the EPA office of Drinking Water uses 10 years as a chronic human exposure period.
11. It would have been most helpful in following the exposure assessment equations to use generally accepted terms such as ADI, rather than AIC, etc.
12. In the fish consumption exposure equations, the daily consumption rate used is 6.5 grams per day. A better and more accurate rate is 20 grams per day, as used by the DNR Codes NR105-6. Even the FDA estimates have increased dramatically since the early 1970's when this 6.5 grams per day estimate was derived.
13. In the swimming scenarios, an evaluation of acute and chronic toxicity for children swimming for many more days/week and hours/day than the once-a-week lifetime estimate utilized in the KERI document should be calculated.
14. In regards to the use of 0.0 as a TEF for octadioxins (Table 1-16), it should be noted that recent evidence indicates that octadioxins have 1/100 - 1/1000 the toxicity of 2,3,7,8-TCDD. The use of draft EPA guidelines is understandable, but new information should be taken into account.
15. With regards to the uptake of PCP by fish, some recalculations with the SNE data showed only a 22.9 fold difference between the measured versus estimated PCP uptake, not several orders of magnitude as derived in the document. Given the large amount of PCP available to the river, this may become a concern for aquatic or terrestrial wildlife. Also, the dismissal of dioxins or furans as a concern is not appropriate, especially since the detection limit is unknown.

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In summary, minimal routes of exposure and numbers of chemicals of concern were defined and evaluated in this assessment. There are potential routes and chemicals which were not adequately addressed. Some of the assumptions should be re-examined in light of recent data or more appropriate values, etc. I hope this review helps meet the DNR needs. If you have any questions, please feel free to contact me.

Sincerely Yours;

For the Bureau of Community Health and Prevention,



Leon John Olson, Ph.D.  
Toxicologist  
Section of Environmental and Chronic Disease Epidemiology

enclosures (J. Hochmuth letter and original reviewed document  
with LJO margin notes)

CC: Jay Hochmuth, DNR  
Bill Schmidt, DOH  
Henry Anderson, M.D., DOH

LJO C:\DNRSNE

## CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

DATE: February 14, 1989  
TO: Bill Schmidt - DOH  
FROM: Jay Hochmuth - DNR  
SUBJECT: Review of Document

RECEIVED FILE REF: 3200

FEB 17 1989

Division of Health

The purpose of this memo is to request assistance of your office in reviewing a document entitled "Public Health and Environmental Assessment for Wauleco, Inc." This assessment was recently submitted to the Department for its review. This document contains information relating to a situation commonly known as the SNE contamination site in Wausau, Wisconsin.

Contaminated groundwater is flowing from the site to the Wisconsin River. A number of contaminants are involved including heavy metals, pentachlorophenol and dioxins. This assessment attempts to characterize the public health risks associated with this site. Since public health is at issue, we feel it important for you to assist us in this review. Dr. John Olson of your staff is familiar with the case.

We feel that approximately one day will be required for review and comment. If possible, we would like your comments by Friday, March 3, 1989. If this creates a problem, please let me know.

Thank you for your help.

BS:js:bm/S0903-1  
cc: John Sullivan - WR/2