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SURFACE IMPOUNDMENT DELISTING PETITIONS, USE OF VHS MODEL

OCT 26 1987

Mr. John Ramsey
Kansas Department of Health
and Environment
Hazardous Waste Section
Forbes Field, Building 730
Topeka, Kansas 66620

Dear Mr. Ramsey:

In your telephone conversation on October 13, 1987 with Mr. Scott Maid of my staff, you requested a statement from our office regarding the models used to evaluate wastes in surface impoundments and how they differ from those used to evaluate landfilled waste. We are glad to comply with your request.

As you are aware, our office developed the Vertical and Horizontal Spread (VHS) model based on a landfill scenario. The site characteristics at the hypothetical site were fixed at reasonable worst-case levels, which allows the model to operate using just two variables, leachate constituent concentration and waste volume. Potential ground water impacts are evaluated at a hypothetical drinking water well, called the compliance-point, located 500 feet from the disposal site.

We have, as a matter of policy, used the VHS model as it presently exists to evaluate wastes in surface impoundments. We have indicated in numerous Federal Register notices that the VHS models was used in those instances where surface impoundments were evaluated and that this use of the model was justified in the evaluation process. We believe the VHS model is sufficiently conservative to provide a reasonable degree of protection to human health and the environment when used to evaluate impounded wastes. For example, the VHS landfill model assumes no attenuation, no biodegradation, and no photolysis; each of these mechanisms may be significant in an impoundment scenario. The VHS landfill scenario also assumes the use of the EP Leachate results (or the results of the Organic Leachate Model (OLM) which is an empirical model

of the Toxicity Characteristic Leaching Procedure (TCLP) and EP results); the EP assumes an acetic acid leaching media from a municipal landfill which generally will overestimate leaching potential in an aqueous impoundment, as well as a 20 to 1 dilution factor for a municipal landfill which will underestimate the dilution which is expected to occur in most impoundments and thus overestimates the Leachate concentration for impoundments. We therefore believe that the VHS model is the best model currently available to evaluate data included in delisting petitions. Until, in our judgement, a more suitable model is developed for impoundments we will continue to use the VHS landfill model for delisting.

I hope that this letter addresses your concerns. If you have other questions about delisting, please call me at (202) 382-4788.

Sincerely,

Myles E. Morse, Chief
Variances Section