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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Washington, D.C. 20460

September 15, 1995

Mr. Peter C. Wright
Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167

Dear Mr. Wright:

I am writing in response to your letter of January 3, 1995, in which you requested clarification of the RCRA "contained-in" policy. In your letter you asked several specific questions regarding this policy and we offer our responses below. It should be understood that these responses reflect the Agency's current interpretation of the contained-in concept; in the Hazardous Waste Identification Rule for Contaminated Media (HWIR-media), currently under development, we will be looking closely at the contained-in policy and other issues associated with contaminated media and will be addressing those issues through the rulemaking process.

Question 1. Can a State determine whether or not soils which contained a listed hazardous waste, but were then treated to below health based concentrations, no longer contain the hazardous waste?

The contained-in policy is intended to clarify the application of RCRA hazardous waste regulations to environmental media. As stated in previous guidance on this policy, contaminated media are not considered solid wastes in the sense of being abandoned, recycled, or inherently waste-like as those terms are defined in RCRA regulations. However, environmental media that contain listed hazardous wastes must be managed as hazardous wastes because--and only as long as--they contain listed waste(s) (see footnote 1). EPA Regions and authorized states may apply the contained-in policy to determine site-, media- and contaminant-specific levels, such that if the concentration of the hazardous constituents in the environmental media fall below these levels, the environmental media may be determined to no longer contain hazardous waste. Such "contained-in determinations" may be made

before or after treatment of the contaminated environmental media and may include consideration of site-specific exposure pathways (e.g., potential for human exposure, soil permeability, depth to groundwater).

Question 2. Are soils that have been treated and then determined not to contain hazardous wastes still subject to the Land Disposal Restrictions (LDRs) Universal Treatment Standards (UTS) prior to land disposal?

Yes. If contaminated environmental media are treated and then determined to no longer contain hazardous waste, the LDR treatment standards still must be complied with prior to land disposal. This means that the media would have to be treated to meet UTS or a treatability variance would have to be obtained (see footnote 2). Individuals who believe that the UTS are not appropriate for media containing solid waste are encouraged to work with their State regulatory agency and the appropriate EPA Regional Office to obtain a site-specific treatability variance under 40 CFR §268.44(h). EPA's policy is that site-specific treatability variances are presumed to be appropriate for contaminated media. See 55 FR 8760 (March 8, 1990). For more information on site-specific treatability variances granted in the context of environmental cleanup, please refer to the Superfund LDR Guides Numbered 6A and 6B, entitled, Obtaining a Soil and Debris Treatability Variance for Remedial Actions and Obtaining a Solid and Debris Treatability Variance for Removal Actions, respectively. For your convenience, copies of these guidance documents are enclosed.

Of course, if no land disposal will occur, the LDR treatment standards do not apply. Additionally, contaminated environmental media determined not to contain any waste (i.e., it's just media), would not be subject to any RCRA Subtitle C requirement, including the LDRs.

Question 3. If groundwater that originally exhibited a hazardous characteristic is subsequently treated to below a State-determined contained-in level, would the ground water still be subject to the UTS requirements prior to land disposal?

Yes. Once the LDR treatment standards attach to characteristic wastes, even if the characteristic is eliminated, the media remain subject to any applicable LDR treatment standards

that have not been met through removal of the characteristic. As indicated in the Third decision, *Chemical Waste Management v. U.S. EPA*, 976 F.2d 2 (D.C. Cir. 1992), cert. denied, 1135 S.Ct 1961 (1993), elimination of the characteristic does not necessarily satisfy LDR requirements. If groundwater that exhibits a characteristic is treated prior to land disposal, it must be treated in accordance with applicable LDR treatment standards or pursuant to a treatability variance to meet LDR requirements. As discussed in our response to question 2, individuals who believe that the UTS are not appropriate to their contaminated media are encouraged to apply for a site-specific treatability variance.

Of course, if no land disposal will occur, the LDR treatment standards do not apply. Additionally, ground water managed in accordance with one of the existing statutory or regulatory exclusions may not be subject to the LDR treatment standards even when land disposal will occur. For example, under RCRA §3020(b), contaminated groundwater may be treated in accordance with a cleanup action and then reinjected into the aquifer from which it was withdrawn without meeting LDR treatment standards, provided the treatment substantially reduces the hazardous constituents prior to reinjection and the cleanup action will, upon completion, be sufficient to protect human health and the environment.

Question 4. May a State that is authorized only for the base RCRA program make contained-in determinations, or does the State need to be authorized for the LDRs as well?

In order to make contained-in determinations, a State must only be authorized for the part of the base program under which the waste of concern is identified as hazardous. For example, when determining whether or not a medium contains a particular characteristic waste, the State must be authorized for that characteristic. In the same manner, if the State wishes to determine whether or not a medium contains a particular listed waste, that State must be authorized for that particular waste listing. In regard to the two sites described in your letter, both Massachusetts and Texas are authorized for the base program under which the wastes you mentioned are identified as hazardous, and may, at their discretion, make the contained-in determinations you described.

Question 5. Do contained-in determinations needed to be made under a RCRA permit, or can another mechanism be used?

Authorized states and EPA regions may use any format or mechanism to document contained-in determinations. These mechanisms could include official agency correspondence, orders, and RCRA permits.

We hope this will be of assistance to you in applying the contained-in policy. If you have any further questions, please contact Elizabeth McManus, of my staff, at (703) 308-8657. In addition, please note that authorized states have their own regulations and policies which may be more stringent than federal regulations and policies. In authorized states, questions about application of the contained-in policy, including the interpretations put forth in this letter, should be referred to the appropriate state agency. In Texas, please contact Paul Lewis of the Texas Natural Resources Conservation Commission at (512) 239-2340; in Massachusetts, please contact John Carrigan of the Massachusetts Department of Environmental Protection at (617) 292-5584.

Sincerely,

Michael Shapiro
Director, Office of Solid Waste

Enclosure

cc: Matt Hale, OSW, PSPD
David Bussard, OSW, CAD
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US EPA Regional RCRA Branch Chiefs, Regions I - X
John Carrigan, State of Massachusetts
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Footnotes

1. June 19, 1989 letter from Jonathan Cannon, Acting Assistant Administrator of EPA's Office of Solid Waste and Emergency Response to Thomas Jorling, Commissioner of the New York Department of Environmental Conservation.

2. Nothing in this letter is intended to affect the status of existing regulatory or statutory exclusions to the definition of solid or hazardous waste. Such provisions can prevent the duty to comply with LDRs from attaching in the first instance. See, e.g., RCRA §1004(27) (exempting industrial point source discharges subject to Clean Water Act permits from the definition of solid waste). In addition, the Agency does not intend in this letter to expand the scope of activities that constitute land disposal and thus trigger LDR treatment requirements. For example, the Agency's positions that in situ treatment and movement of contaminated media within an area of contamination do not constitute land disposal remain unaffected. Similarly, this letter is not intended to affect any statutory or regulatory exclusions to the requirement to comply with LDRs (see .e.g, RCRA §3020(b)).

Attachment

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Peter C. Wright
Environmental Attorney
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January 3, 1995

Mr. Michael Shapiro
United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
401 M Street, S.W.
Washington, D.C. 20460

Re: Clarification of the Contained in Rule

Dear Mr. Shapiro:

This letter addresses an urgent issue that arises with the December 19 effective date of the Phase II Land Disposal Restriction (LDR) rule. Your immediate attention and response is requested in order to avoid delay of planned remedial work that has been developed in concert with state authorities.

Monsanto Company has two plant sites that are planning to engage in remediation activities in the near term, which require confirmation of Monsanto's understanding of the operation of the contained in rule. More specifically, as will be described in detail below, these two sites have planned to implement remedial measures that will remove hazardous waste constituents from affected environmental media so that it is Monsanto's understanding (and that of the two RCRA authorized states) that the treated media will no longer "contain" a hazardous waste. The treated environmental media will likely contain traces of hazardous constituents after treatment, at concentrations below health based concentration limits established by the two states. We understand that once the media no longer contains the listed

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waste (as determined by the State agency) it no longer must be managed as a hazardous waste, i.e. subtitle C no longer applies and the media may be placed on the land without regard to the Land Disposal Restrictions Universal Treatment Standards (UTS). Do you concur? We also understand that a State authorized for the base program is empowered to make the contained-in determination without regard to the State's authorization status for the LDR program. Do you concur?

Overview of the Sites and Remediation Projects

The first plant site is located in Everett, Massachusetts, just north of the City of Boston. This long time chemical manufacturing facility was closed in November, 1992. Currently, the Everett site has been proceeding under the authority of the Massachusetts Contingency Plan (MCP) with proposed remediation scheduled for completion in 1997. In order for the Everett site to proceed on its cleanup schedule, the Agency's interpretation of the contained in rule is important, particularly as the site is currently under a Purchase and Sale Agreement for development as a shopping center with construction scheduled to begin in 1997. This development is critical to the local community because the shopping center will be a major element of Everett's tax base and a significant source of employment in the city.

Due to historic manufacturing operations, areas of the plant site have been contaminated with bis 2-ethyl hexyl phthalate (BEHP), naphthalene and phthalic anhydride still bottoms, materials which carry the RCRA hazardous waste codes U028, U165 and K024, respectively. Concentrations as high as 10,000 mg/kg of BEHP, 30,000 mg/kg of naphthalene, and 60,000 mg/kg of phthalic acid have been detected in soil samples collected at the site. The remediation plan that has been under development would involve the separation of some discreet waste materials, treatment of some soil in place, and excavation and treatment of some soil from hotspot areas with subsequent reuse of the treated soil on-site as backfill. These treatment methods would significantly reduce the concentration of hazardous constituents remaining in the soils. The Everett Plant has held discussions with the Massachusetts Department of Environmental Protection (DEP's) Bureau of Waste Prevention regarding the impact of RCRA regulations on the planned remediation strategy and has assumed that once the soil was remediated to meet health-based concentrations levels established by Massachusetts (a RCRA authorized state), that the soil no

longer would contain hazardous waste and could be beneficially reused as backfill on-site with no further RCRA restrictions. The planned remediation strategy would satisfy the Massachusetts Bureau of Waste Site Cleanup Program requirements to achieve a Permanent Solution, addressing potential risks to human health and the environment and eliminate the potential for constituent migration. Attached is a copy of a DEP policy memorandum dated March 4, 1994 and a letter issued on the same date describing DEP's understanding of how it will apply the contained in rule to a particular remediation project.

The other Monsanto site is the Chocolate Bayou plant, located near Alvin, Texas. This is a large diversified chemical manufacturing site that has a RCRA permit, which includes a corrective action component that is administered by the Texas Natural Resource Conservation Commission (TNRCC). Texas is authorized for RCRA corrective action. The particular remediation project at issue, a program to pump, treat and reinject groundwater that has been contaminated by benzene, phenol and acetone, is not being conducted under RCRA permit, but rather these actions are being undertaken proactively by Monsanto in consultation with the TNRCC. The plant applied for and has received a groundwater class V reinjection permit from TNRCC for this remedial project.

The groundwater at the point it is brought out of the ground is characteristically hazardous for benzene. The groundwater exhibited measured levels of benzene, phenol and acetone as high as 62 mg/l, 6 mg/l and 6 mg/l, respectively without any treatment. The air stripping treatment system to be installed has been designed to treat the groundwater so that the concentrations of benzene, phenol and acetone are no higher than 0.001 mg/l, 6 mg/l, and 2 mg/l respectively. This treatment of groundwater to these levels would mean that all three contaminants would be below the Texas Risk Reduction Rule Standard 2 Residential levels of 0.005 mg/l benzene, 21.9 mg/l phenol and 2.65 mg/l acetone. The phenol and the acetone are biodegradable organic chemicals and it is believed that the reinjection process will add oxygen to the affected groundwater, assisting in the biodegradation of the organic materials that are not removed by the treatment.

Neither site has considered applying for a Corrective Action Management Unit (CAMU). First, it was believed to be unnecessary to employ a CAMU because of the plan to treat contaminated media to meet health based levels. Second, the time, expense and effort

on behalf of Monsanto and the state agencies to put in place the necessary RCRA permits and modifications makes the CAMU option not practical for a timely commencement of remediation activities.

History of the Contained in Rule

Monsanto's understanding has been that treating affected environmental media to meet health based concentration levels that have been applied on a site specific basis by the respective authorized states would free the treated media from further RCRA regulation, including the application of any land disposal restrictions. Monsanto's understanding is based on EPA discussions of the contained in rule. Monsanto's understanding of EPA's position on the "contained in rule" is that it was an interpretative rule long before it was "codified" in rulemakings in the 1990s. EPA has stated that this view of the contained in rule was supported by the 1989 Chemical Waste Management decision. *Chemical Waste Management v. EPA*, 869 F.2d 1526, 1538 ftnt. 15 (D.C. Cir. 1989).

The contained in rule was first explained in a memorandum from Marcia Williams to Patrick Tobin dated November 13, 1986. That memorandum stated that "if groundwater is treated such that it no longer contains a hazardous waste, the groundwater would no longer be subject to regulation under Subtitle C of RCRA."

Subsequent memoranda and letters (see footnote 1) expanded on the application of the contained in rule. These writings refined the concept that if contaminated environmental media was treated so that the levels of hazardous constituents that remained after treatment were below certain levels, which often have been set at health based levels, that EPA would consider that the affected media no longer "contained" a hazardous waste and so no longer was subject to regulation under RCRA Subtitle C. Monsanto is not certain that the contained in rule applies to a situation like what exists at the Chocolate Bayou plant where there are no listed, but only characteristic wastes involved. Yet Monsanto can see no reason why an exit level appropriate for media contaminated with listed waste would not also apply to media contaminated with a characteristic waste.

EPA also made it clear that an authorized RCRA state could determine what the contained in levels could be. EPA guidance to the states in making the contained in determinations has stressed

the need to make the contained in determination on a site-specific basis, in accordance with the general State or Federal guidelines, or by means of a site specific risk assessment. It would appear that the Massachusetts regulations, 310 CMR 40.00 (the Massachusetts Contingency Plan) and the associated policy on the contained in rule and the TNRCC's Risk Reduction Rules provide precisely the kind of the decision making framework EPA requires that an authorized RCRA state use for making the contained in rule decision. It is only a requirement for a state to be authorized for the basic RCRA program to be able to make contained in determination, and it is not necessary for the state to be authorized for all or parts of the land disposal program.

The rulemakings "codifying" the contained in rule began with the reference in the Third Third rulemaking in which EPA "clarified" the treatment standards that would apply to soils that had been contaminated with listed waste. 53 Fed. Reg. 31138, 31142 (August 17, 1988). The contained in rule has been addressed in at least five other Federal Register notices (see footnote 2). The most involved discussion and greatest reliance on the contained in rule is found in the Contaminated Debris rulemaking. In the proposed rulemaking, EPA stated that debris which had been contaminated with hazardous waste would "no longer be a prohibited waste or a hazardous waste if it achieves levels which debris no longer 'contains' hazardous waste." 57 Fed. Reg. at 982. EPA further explained that the levels would be that at which the potential threat to human health and the environment had been minimized. Id. at 985. In the final rulemaking, EPA explained that treated contaminated debris would be considered to no longer "contain" a hazardous waste, if the debris were treated so as to achieve health based concentrations based on considerations of site hydrology and exposure pathways. EPA summarized the regulatory effect of providing treatment to these levels by stating that "[d]ebris found not to contain hazardous waste (and not exhibiting a hazardous waste characteristic) would not be subject to further Subtitle C regulation, and so could be land disposed without further treatment." 57 Fed. Reg. at 37226 (emphasis added).

The contained in rule has also been discussed in context of the rulemaking proposing land disposal restriction standards for soil and in the final UTS rulemaking. EPA stated "the primary function of a contained in determination has been to determine specific constituent concentrations at which the media at a specific site no longer 'contained' hazardous waste and thus would no longer be

subject to the management standards for hazardous waste." 58 Fed. Reg. at 48127. EPA's discussion of the contained in rule and its relationship to the concept of minimized threat levels in these rulemakings is unclear to us. Yet it appears to us that a contained in determination based on a site specific determination satisfies any requirement to achieve minimized threat levels. If this is not EPA's position, then EPA has made a major change in policy for which no notice has been given, for which no rationale has been provided and which may mean that the work on the HWIR will be a complete waste of time. More to the point, if this interpretation about the affect of the contained in rule has changed it may bring to a halt the two remedial projects referenced above and undoubtedly countless other projects.

In order to avoid delay and unnecessary additional expense in connection with approving bids from remediation contractors, we request a prompt response. Monsanto would also like an opportunity to meet with the Agency at the Agency's convenience during January to address the matters raised in this letter.

We look forward to the Agency's urgent consideration and response on this important matter.

Very truly yours,

Peter C. Wright

cc: Barbara Pace, Esquire, EPA Office of General Counsel
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Lowell Martin, Esquire, RCRA Corrective Action Project

Footnotes

1. See e.g., Sylvia K. Lowrance to Jeff Zeikinson, January 24, 1989; Jonathan Cannon to Thomas Jorling, June 19, 1989 (authorized states can make determination on what the appropriate health based levels are at which media no longer "contains" a hazardous waste); Sylvia K. Lowrance to John Ely, March 20, 1991 (recommended that the state use a risk assessment approach to making contained in determinations) [The Massachusetts letter cites additional letters].
2. See e.g., 56 Fed. Reg. 24456 (May 11, 1991); 57 Fed. Reg. 958, 961 (January 9, 1992); 57 Fed. Reg. 37194 (August 18, 1992); 58 Fed. Reg. 48092, 48096 (September 14, 1993) and 59 Fed. Reg. 47982, 47986 (September 19, 1994).