

Peggy Harris, Chief
Standardized Permitting Section
Hazardous Waste Management Program
400 P Street, 4th Floor, P.O. Box 806
Sacramento, California 95812-0806

Dear Ms. Harris:

Thank you for your letter of October 25, 1999 on the applicability of the Resource Conservation and Recovery Act (RCRA) section 3020(b) to in-situ bioremediation technologies. In response to inquiries from the state of California and others on the scope of section 3020(b), the Office of Solid Waste is developing guidance that addresses the issues you raise. I've answered your specific question below, and will send you a copy of our guidance when it is completed.

As you know, RCRA section 3020(a) bans hazardous waste disposal by underground injection into or above an underground source of drinking water (within one-quarter mile of the well). However, section 3020(b) exempts from the ban the reinjection of contaminated ground water under a Superfund section 104 or 106 response action or as part of a RCRA corrective action B assuming certain conditions are met.

Your letter specifically addresses the condition in section 3020(b)(2) that the contaminated ground water be Atreated to substantially reduce hazardous constituents prior to such injection.@ In the biotreatment system you describe, ground water contaminated with hazardous waste is withdrawn from an aquifer, amended by the addition of nutrients or other products designed to promote in-situ bioremediation, and then reinjected. This approach is consistent with section 3020(b)(2), as long as the hazardous constituents are substantially reduced, either before reinjection or as a result of subsequent in-situ bioremediation.

EPA interprets section 3020(b)(2) to require treatment of the contaminated ground water prior to reinjection, but the Asubstantial reduction@ of hazardous constituents in

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the ground water may occur either before or after reinjection. Thus, if extracted ground water is amended at the surface (i.e., Areated@) before reinjection, and the subsequent in-situ bioremediation achieves a substantial reduction of hazardous constituents, the remedy would satisfy section 3020(b)(2). Please note that to qualify for an exemption, the remedy would also have to meet the other conditions specified in section 3020(b) (i.e., the reinjection is a CERCLA section 104 or 106 response action or part of a RCRA corrective action intended to cleanup the contamination, and the response action or corrective action is sufficient to protect human health and the environment upon completion).

I trust this clarification will facilitate the use of in-situ bioremediation and other in-situ treatments that substantially reduce the hazardous constituents at sites where ground water is contaminated with RCRA hazardous waste. If you have any specific questions about these issues, please contact me at 703-308-8895 or Bob Hall, Chief of the Corrective Action Programs Branch at 703-308-8432.

Sincerely,

Matthew Hale, Deputy Director
Office of Solid Waste

cc: Larry Bowerman, Reg. 9
Susan Bromm, OECA
RCRA Senior Policy Managers