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United States Environmental Protection Agency
Washington, D.C. 20460
Office of Solid Waste and Emergency Response

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Thomas N. Tureen, Esq.
Chairman
Passamaquoddy Technology, L.P.
One Monument Way
P.O. Box 7412
Portland, Maine 04112

Dear Mr. Tureen:

This letter responds to your request for clarification of the regulatory status of two products produced in cement kilns equipped with your company's technology, the Passamaquoddy Technology Recovery Scrubber (the "Recovery Scrubber"). More specifically, you have asked whether, under the conditions of operation you described, the clinker and various fertilizers produced in a Recovery Scrubber equipped kiln are presently subject to regulation as hazardous wastes under Subtitle C of the Resource Conservation and Recovery Act (RCRA), or if they would become subject to regulation if the Agency were to regulate cement kiln dust as a hazardous waste.

Under current regulations, cement kiln dust (CKD) is not a hazardous waste. Consequently, the products partially derived from processing the CKD are not subject to regulation.

The Agency is currently evaluating whether CKD should be identified or listed as a hazardous waste. Based on the information provided in your April 29, 1994 letter, however, the Agency has determined that the clinker and fertilizer products produced by a Recovery Scrubber equipped kiln could still be marketed and used without RCRA regulatory controls.

The relevant factors upon which the Agency's determination is based are discussed below. Because the Recovery Scrubber has only been demonstrated at a cement kiln that does not burn hazardous waste fuels, some of the information you provided is based on a

working knowledge of the process chemistry and conditions under which the Recovery Scrubber would operate at a hazardous waste fuel burning cement kiln. I have noted where the information relied upon to make the regulatory determination has not yet been demonstrated by actual performance.

As I understand the process, the Recovery Scrubber first processes CKD by using it as an air pollution scrubbing medium. The CKD is then further processed to remove alkalis (which are processed into a commercial grade fertilizer, e.g., potassium chloride or potassium sulfate) and possibly metals (which will be separately recovered). The CKD (which is now analogous to limestone) is then fed back into the cement kiln as a raw material. During this process, the CKD is not placed on the ground and is handled exclusively in tank and piping systems.

The hazardous metals, if recovered from the CKD, will be sent off-site for further recovery. The processed CKD is fed back into the cement kiln as raw material and fertilizer is marketed directly to farmers or to fertilizer manufacturers/brokers. The process will be designed and operated at each facility that uses the Recovery Scrubber to ensure that the clinker and fertilizer products consistently meet the applicable land disposal restrictions treatment standards. The Agency understands that the metals recovery part of the process has not been demonstrated because the cement kiln which currently uses the Recovery Scrubber does not produce CKD with a high metals content (i.e., the relatively low level of metals are incorporated into the clinker product during production rather than being recovered); however, you have assured us that the clinker and fertilizer products will continue to achieve concentrations of hazardous metals below the applicable treatment standards when produced at a cement kiln that burns hazardous waste fuels (which, as a general rule, have the potential to generate CKD with higher concentrations of hazardous metals).

As you have stated, the fertilizer is a commercial grade product fit for direct use in agricultural applications or as an ingredient in producing other fertilizer formulations. It does not contain hazardous constituents that are not found in comparable fertilizers, and does not contain hazardous constituents in concentrations in excess of those found in comparable fertilizers. The Agency understands that the fertilizer produced by the demonstration facility has not actually been sold because the facility is waiting to acquire pelletizing equipment to realize a

greater market value for the fertilizer product (i.e., the pelletized fertilizer is more valuable than the current crystalline form). The Agency also understands that there is at least one buyer interested in purchasing the fertilizer at normal market values and that a market for the fertilizer is assured.

Although EPA may address the regulatory status of the products produced by cement kilns in future rulemakings, the Agency has determined that, based on the operating conditions you provided, such products may be used and marketed without being subject to regulation under RCRA. As you know, this regulatory determination is not to be considered an endorsement of the Recovery Scrubber or the products produced by a cement kiln that uses the Recovery Scrubber.

You should also note that this determination is based on the Federal RCRA program. State regulatory agencies may have hazardous waste programs that differ from the Federal program and may be more stringent than the Federal program. Therefore, I encourage you to seek a regulatory determination in each State in which the Recovery Scrubber is to be used.

I hope this letter answers your questions about the regulatory status of the clinker and fertilizer products produced by a cement kiln using the Recovery Scrubber. If you have any further questions regarding the applicability of RCRA hazardous waste regulations to products produced by the recycling hazardous wastes, you may call Mitch Kidwell, of my staff, at (202) 260-8771.

Sincerely,

Michael Shapiro, Director
Office of Solid Waste