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

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

Mr. James Warner, Manager
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Dear Jim:

Over the last several months, we have been discussing the U.S. Environmental Protection Agency's (EPA's) Report to Congress on Flow Control and Municipal Solid Waste (RTC). In these discussions, you shared several concerns about characterizations by some representatives of the waste management industry of EPA's supposed positions on a number of issues. For example, you shared that one industry representative has asserted to clients that the Federal government requires all landfills to be "state-of-the-art." During our discussions, you posed a series of questions that you would like us to answer to clarify our views on municipal solid waste landfills and their relationship to other waste management methods. Below are our responses to the questions you asked us to address.

Question: Are all landfills state-of-the-art if they meet the requirements contained in the municipal solid waste landfill criteria codified at 40 CFR Part 258?

Answer: The Part 258 regulations establish national minimum standards for municipal solid waste landfills that protect human health and the environment. The regulations are performance-based rather than being based on an EPA characterization of the "best available technology." There is no Congressional mandate that EPA establish design and operating requirements for municipal solid waste landfills based on EPA defining the "state-of-the-art" of landfill technology. Rather. the performance standard established by Congress is "no reasonable probability of adverse effects on health or the environment" resulting from solid waste disposal facilities or practices. To the best of my knowledge, there is no consensus definition of a state-of-the-art landfill in the solid waste management industry

As you are aware, for the purposes of the Design Criteria (i.e., landfill liner design), 40 CFR Part 258 recognizes two groups of landfills. The first group is comprised of new landfills and the lateral expansions of existing units. These units

must either meet a performance standard based on releases to ground-water or be constructed with a liner and leachate collection system.

The second group of landfills is made up of existing units that may be lined or unlined. These sites dispose of newly-generated municipal waste only on top of older waste (i.e., the landfills are expanding vertically rather than laterally), These existing units are not required to retrofit liner systems. These units are, however, subject to all other Part 258 requirements applicable to new or the lateral expansions of existing landfills. EPA believes it would be impractical to require that these landfills dig up all previously-deposited wastes, install a new liner system, and subsequently redeposit the older waste.

While some might argue that this second group of landfills provides a lower level of environmental protection, EPA believes that our regulations for this second group are protective of human health and the environment. Existing units, as well as new units and the lateral expansions of existing units, must monitor for releases from the landfill, take appropriate corrective action in the event of a release, and meet the ultimate performance standards in the post-closure care requirements. We expect that the number of existing units will diminish over time until all of these facilities either close or expand laterally as they run out of vertical space in which to expand. Thus, at some unknown time in the future, all active municipal landfills will have to meet the liner design or performance standards specified in the Design Criteria in the Federal regulations.

Additionally, in April 1997, the Federal regulations will require financial assurance for all municipal landfills. There is a provision that would allow a State to extend the compliance date for up to one year if the landfill owner or operator can demonstrate that s/he has insufficient time to comply and that a delay will not adversely affect human health and the environment. To meet these financial assurance requirements, landfill owners and operators will be required to establish trust funds or other equivalent financial mechanisms sufficient to pay for landfill closure and post-closure care. Post-closure care includes maintenance of the final cover system and ground-water monitoring for the post-closure care period established in the regulation or, alternatively, by the State, as appropriate. As you know, some States, such as Minnesota, already require financial assurance. The Federal regulations will make this a required practice throughout the country.

Question: Does EPA recognize any environmental distinction between composting, waste-to-energy incineration, and landfilling?

Answer: We consider collection of yard waste and other organic materials and their subsequent composting to be a form of recycling. As stated in the Agenda for Action, the Agency suggests a hierarchy of management methods for officials to

consider when developing a solid waste management plan. All things being equal, we consider source reduction to be the preferred management option, followed by recycling, which includes composting. While lower on the hierarchy than source reduction and recycling, combustion (with energy recovery) and landfilling are also options to manage materials that cannot be reduced, reused, or recycled. We believe that all of these approaches to waste management can be accomplished in a manner that is protective of human health and the environment when the accompanying systems are properly designed and operated.

Question: One of the questions addressed in the RTC was to identify the impact of flow control on protection of human health and the environment, The RTC did not, however, discuss whether flow control serves the Resource Conservation and Recovery Act's stated purposes of promoting energy and materials conservation. Does EPA have any plans to study the resource recovery aspects of waste-to-energy combustion compared to landfilling?

Answer: At the present time, we do not have any plans to study the resource recovery aspects of waste-to-energy combustors relative to municipal solid waste landfills on a site-specific basis or in isolation of other waste management options. However, we are involved in two ongoing studies which address resource-recovery as an integral component of municipal solid waste (MSW) management options.

The first is a multi-year study being conducted by EPA's Office of Research and Development (ORD) to develop a life-cycle inventory database and decision-support tool for MSW managers. The life cycle inventory includes publicly-available data on environmental emissions and energy use for material components of MSW (e.g., corrugated containers, newspapers, etc.) based on national average data and MSW management options (e.g., recycling collection, composting, combustion, landfilling). The decision-support tool is envisioned to allow MSW managers to model MSW management systems across a variety of environmental and economic parameters. Once developed, resource-recovery aspects of waste-to-energy combustors could generally be compared to landfilling using this tool. Prototypes of the life cycle database and decision-support tool are being developed for presentation at an industry, State, and local government stakeholder meeting later this year. Susan Thorneloe, Senior Environmental Engineer, ORD, is the project lead. Her phone number is 919-541-2709.

In the second study, we are working with EPA's Office of Policy Planning and Evaluation (OPPE) to develop a greenhouse gas (GHG) emissions inventory for ten materials in MSW, including three paper grades, three plastic resins, aluminum, steel, yard trimmings and food discards. Each material is analyzed from a GHG emissions perspective across a set of MSW management options (i.e., source reduction,

recycling, composting, combustion, and landfilling). Avoided GHG emissions for various materials associated with energy recovery from combustors and landfills is one component of the broader analysis. The analysis uses national assumptions about combustor efficiencies, landfill gas recovery, and fuel mix being displaced. At this point, EPA is anticipating the release of the analysis as a draft report for public comment later this spring. Eugene Lee of OSW is the project lead. He can be reached at 703-308-7270 for further information.

Again, I appreciate you sharing your concerns with us and hope this information is helpful in explaining the Agency's interpretation of the findings contained in our Report to Congress.

Sincerely,

Robert W. Dellinger, Director
Municipal and Industrial
Solid Waste Division