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INCINERATOR METALS EMISSIONS CONTROLS

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

OCT 17 1989

Mr. Eliot Cooper
V.P. Environmental Operations
Waste-Tech Services, Inc.
18400 W. 10th Avenue
Golden, Colorado 80401

Dear Mr. Cooper:

This is in response to your September 13, 1989, letter in which you expressed several concerns about the hazardous waste incinerator metals emissions controls that permit writers are applying based on recommended guidance from this Office. I want to address each of your concerns in turn.

Health-Based Limits May Be Too Restrictive

I believe that the recommended acceptable ambient levels are not overly restrictive. In this regard, the use of the health-based limits ensures that corrective measures are required only when emissions may pose an unacceptable health risk. These levels for carcinogens are based on Agency-approved unit risk values. The values for noncarcinogens are based on Agency-approved oral reference doses (RfDs) converted to inhalation RfDs. Although issues arise when converting oral RfDs to inhalation Rfds, we believe that this interim approach is reasonable and comports with acceptable procedure. As the Agency's Inhalation RfD Work Group develops specific approved inhalation RfDs, we will revise our guidance accordingly.

Overall, I believe, this approach provides a reasonable balance that assures environmental protection but which should minimize the impact of the controls on the regulated community.

Risk Assessment Methodology Is Inconsistent With Other Regulations

You correctly noted that the guidance recommends control of carcinogenic metals at a 10-5 risk level while the Agency's proposed standard for benzene emissions is based on a 10-4 risk level. Agency policy is that the appropriate risk level for a regulation will be determined on a case-by-case

basis depending on factors such as statutory mandate, nature of the pollutant, control alternatives, fate and transport of the pollutant in the environment, and potential human exposure. The risk level that triggers a regulatory action need not be the same for all regulations.

After considering a risk level for the metals controls in the range of 10-4 to 10-6, we selected the 10-5 risk level. We did not consider a 10-4 risk level to be acceptable for these controls because: (1) to total annualized cost of the controls at a 10-5 risk level is not substantial ($6 million or on average of $26,000/facility) -- thus, the margin of safety is cost effective; and (2) indirect exposure from the metals is not considered in the risk assessment methodology. We considered limiting the risk to 10-6 but determined that it would result in setting risk levels for individual carcinogens on the order of 10-7 given that the risk from each carcinogen must be added to determine the summed or aggregate risk. We believe that limiting individual metals to levels that would result in (on the order of) a 10-7 risk level would be unnecessarily conservative considering the relatively low projected cancer incidence (total population cancer risk) posed by metals emissions from hazardous waste incinerators.

Risk Assessment Approach Is Difficult To Implement

I appreciate your concerns about the difficulty in conducting a trial burn that demonstrates conformance with the metals controls while allowing operating flexibility during the life of the permit, and in complying with permit conditions that limit the feed rates of metals. We certainly do not have all the answers. We believe that our permit writers are working with permit applicants to address issues as they arise and to develop reasonable solutions to them.

You may be aware that we have retained a contractor, Energy and Environmental Research Corporation, to help permit writers and applicants to use the best available information to develop an appropriate test burn plan, to interpret the test results, and to develop reasonable permit conditions. Dr. Randy Seeker and his staff have assisted permit writers at the site-specific level on three occasions to date.

All Chromium Is Assumed To Be Hexavalent

The recommended guidance assumes all chromium is in the highly potent exavalent state unless the applicant documents otherwise. As you know, the guidance takes this conservative position because, until recently, we did not have a reliable sampling and analysis technique for hexavalent chromium emissions. The Agency has nearly completed successful validation tests of a hexchromium technique -- Sampling and Analytical

Methodology for Measurement of Low Levels of Hexavalent Chromium from Stationary Sources (copy enclosed).

Applicants may now use the methodology to determine hexchromium emissions.

Health-Based Standards Can Be Met By Increasing Stack Height Rather Than Emissions Control We agree that one implication of health-based standards is that a facility can comply with ambient limits on pollutants by increasing stack height to provide increased dilution rather than by removing pollutants from the stack gas. To address this shortcoming, we are limiting to 65 meters the height of the stack that can be considered for compliance purposes. The Agency uses this same approach to implement controls promulgated under the Clean Air Act.

Stringent Particulate Standard Is Better Than Health-Based Standards

Although health-based standards require corrective measures only when public health is likely to be adversely affected, we share a number of your concerns about the implications of health-based standards -- they can be difficult to implement and a facility may be able to comply using means other than emissions controls. Moreover, emissons standards cannot be developed when there are not enough health data to establish acceptable ambient levels (e.g., for selenium).

On the other hand, even a particulate standard as stringent as 0.02 gr/dscf may not be adequately protective in cases where metal-bearing wastes are incinerated and toxic metals may comprise a relatively large fraction of emitted particulates.

We are considering developing a revised particulate standard for proposal in he future. However, we are not now prepared to purpose or recommend as guidance to permit writers any such revisions at this time. We need additional information to pin down performance levels and to investigate the impact on the regulated community.

New Capacity Is At An Economic Disadvantage You expressed concern that new facilities are at an economic disadvantage because existing facilities are not required to meet the metals controls. Only about 80 incineration facilities of the approximately 200 existing facilities were issued permits before permit writers began to apply the metals controls. I am advised that permit writers intend to add metals controls as necessary to those 80 permits when they are renewed.

I hope this information is helpful. If you have further questions or

comments, please feel free to contact Bob Holloway, Chief of our Combustion Section. Bob can be reached on (202) 382-7936.

Sincerely,

Original Document signed

Sylvia K. Lowrance, Director
Office of Solid Waste

Enclosure