9432.1986(02)

BOILERS AND INCINERATORS, DISTINCTION BETWEEN/INTEGRAL DESIGN STANDARD

JAN 3 1986

MEMORANDUM

SUBJECT: University of South Alabama Heat Recovery Unit

FROM: Jack W. Mcgraw
Deputy Assistant Administrator

TO: Thomas Devine
Director, Air and Hazardous
Materials Division
Region IV

This is in reference to a November 22, 1985, memorandum from James H. Scarbrough to J. Winston Porter requesting comments on a petition to classify a heat recovery unit at the University of South Alabama as a boiler.

We understand from your memo and conversation with your staff that the University plans to build a solid waste combustion unit equipped with a heat recovery boiler. The device would also burn hazardous wastes at a maximum rate of less than 4 percent on a heat input basis. Recovered steam would be used in a hospital laundry at the University.

This device cannot be classified as a boiler because it fails the fundamental and objective criterion for a boiler--that the combustion chamber and heat recovery unit must be of integral design. The variance procedure provided by 40 CFR 260.32 is intended to consider classifying as boilers devices not anticipated during development of the rules. The definition of a boiler and the variance procedure criteria, however, were structured specifically to classify incinerators with waste heat recovery boilers as incinerators. I am not aware of any characteristics of this case that indicate that this is a type of design not anticipated by the Environmental Protection Agency (EPA) when it adopted the basic definition of boiler and variance

procedure on January 4, 1985 (see 50 FR 661-662).

It is important to be able to clearly distinguish between incinerators and boilers because they are subject to different standards. Owners and operators of hazardous waste incinerators and 265. The burning of hazardous waste in industrial boilers and industrial furnaces is currently exempt from regulation. Permit standards to control emissions from these devices are under development, however, and are scheduled to be proposed in June 1986. Even though we plan to model the boiler and industrial furnace standards generally after the incinerator standards, it still may be necessary to distinguish between incinerators, boilers, and industrial furnaces because standards or permit procedures may be somewhat different (e.g., we are considering an automatic waiver of trail burns for boilers operated under specified conditions that would ensure 99.99% destruction and removal efficiency of toxic organics).

In addition to being a clear, unambiguous test to distinguish between boilers and incinerators, the integral design criterion has environmental significance. Devices where the combustion chamber and heat recovery unit are of integral design recover energy more efficiently. Thus, such devices are more likely to be operated for the primary purpose of energy recovery and, in turn, more likely to be operated and maintained to achieve peak combustion (and destruction) efficiency (see 50 FR 626).

I should also point out that the final rule establishing administrative controls on blending and burning hazardous waste and used oil fuels published in the Federal Register on November 29, 1985, prohibits the burning of hazardous waste fuels in nonindustrial boilers (copy attached). Even if the University's combustion unit were of integral design and otherwise determined to be a boiler, it would be considered a nonindustrial boiler under that rule. Thus, hazardous waste could not be burned in the device, unless the University complied with an exception to the prohibition provided by that rule for nonindustrial boiler owners and operators who comply with the hazardous waste incinerator standards under Subpart O Parts 264 or 265. When the technical, permit standards for boilers and industrial furnaces are ultimately promulgated, any nonindustrial boilers burning hazardous waste under the interim status incinerator standards of Part 265 would become subject to the standards for boilers. We

expect that few nonindustrial boiler owners and operators will elect to continue (or begin) burning hazardous waste fuels under these requirements.

As a final note, you may want to consider whether the hazardous wastes to be burned are eligible for the exemption from many of the incinerator standards for wastes that are ignitable, reactive, or corrosive, and that contain no or insignificant levels of Appendix VIII compounds. See (b and c) and .340(b)
If you have questions or comments on any of these points, please give Bob Holloway or Marc ????? a call at 387-7917.

attachment