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FOSSIL FUEL COMBUSTION WASTE EXCLUSION IN 261.4(B)(4), FUEL MIXTURES

January 13, 1981

Mr. Paul Emler, Jr.
Chairman
Utility Solid Waste Activities Group
Suite 700
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Dear Mr Emler:

This is a response to your letter of October 10, 1980 to Administrator Costle, regarding the recent Solid Waste Disposal Act Amendments of 1980 and their relation to the electric utility industry. In your letter and its accompanying document, you discussed the specific amendments which address fossil fuel combustion wastes, and suggested interpretive language which EPA should adopt in carrying out the mandate of the amendments. You requested a meeting with our staff to make us more fully aware of the solid waste management practices of the electric utility industry, and to discuss the effect of the amendments on the utility solid waste study which EPA is currently conducting.

I appreciated the opportunity to meet with you, in your capacity as chairman of the Utility Solid Waste Activities Group (USWAG), on November 21 to discuss your concerns. I am taking this occasion to share with you the most recent EPA thinking on the exclusion from our hazardous waste management regulations of waste generated by the combustion of fossil fuels, and to confirm certain agreements which were reached during our meeting. The language contained in this letter should provide you and your constituents with an adequate interpretation of the fossil fuel combustion waste exclusion in Section 261.4(b) (4) of our regulations. This letter is also being circulated to appropriate Agency personnel, such as our Regional Directors of Enforcement, for their information and use. We intend to issue in the Federal Register an official Regulations Interpretation Memorandum reflecting the policies articulated in this letter.

In our May 19, 1980 hazardous waste management regulations, we published an exclusion from Subtitle C regulation for those fossil fuel combustion wastes which were the subject of then pending Congressional amendments. The language of that exclusion in §261.4(b) (4) of our May 19 regulations is identical to pertinent language of Section 7 of the Solid Waste Disposal Act Amendments of 1980 (P.L. 96-482) which was enacted on October 21, 1980 and which mandates that exclusion. Specifically, the exclusion language of our regulations provides that the following solid wastes are not hazardous wastes:

> "Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels."

Residues from the Combustion of Fuel Mixtures

The first point which you raise in your letter and your "Proposed RIM Language" is the interpretation of the term "primarily" used in this exclusion language. EPA believes that Congress intended the term "primarily" to mean that the fossil fuel is the predominant fuel in the fuel mix, i.e., more than 50 percent of the fuel mix. (See Congressional Record, February 20, 1980, p. H1103, remarks of Congressman Horton and p. H1102, remarks of Congressman Bevill.) Therefore, EPA is interpreting the exclusion of §261.4(b) (4) to include fly ash, bottom ash, boiler slag and flue gas emission control wastes (hereinafter referred to as "combustion wastes".) that are generated by the combustion of mixtures of fossil fuels and alternative fuels, provided that fossil fuels make up at least 50 percent of the fuel mix.

This interpretation begs the question of whether the exclusion also extends to combustion wastes that result from the burning of mixtures of fossil fuels and hazardous wastes. We have limited data which indicates that spent solvents listed in §261.31 of our regulations, certain distillation residues listed in §261.32, waste oils that may be hazardous wastes by virtue of characteristics or the mixture rule, and other hazardous wastes are often burned as supplemental fuels--sometimes in proportionally small amounts but sometimes in significant amounts (comprising 10 percent or more of the fuel mix ratio)--particularly in industrial boilers but sometimes in utility boilers. EPA is concerned about the human health and

environmental effect of the burning of these hazardous wastes: both the effect of emissions into the atmosphere and the effect of combustion residuals that would be contained in the fly ash, bottom ash, boiler slag and flue gas emission control wastes.

We intend to address the first of these concerns in our future development of special requirements applicable to hazardous wastes that are beneficially used or legitimately recycled. In §261.6 of our May 19, 1980 regulations, we currently exempt from regulatory coverage hazardous wastes that are beneficially used or legitimately recycled, except that, where these wastes are listed as hazardous wastes or sludges, their storage or transportation prior to use or recycle is subject to our regulations. We clearly explained in the preamble to Part 261 of our May 19 regulations that we fully intend to eventually regulate the use and recycling of hazardous wastes and, in doing so, would probably, in most cases, develop special requirements that provide adequate protection of human health and the environment without unwarranted discouragement of resource conservation. Consequently, although the burning of hazardous waste as a fuel (a beneficial use assuming that the waste has a positive fuel value) is not now subject to our regulations (except as note above) it may well be subject to our regulation in the future.

Our second concern with combustion of fuel mixtures is the one at focus in this interpretation. It must first be noted that we do not intend for §261.6 to provide an exemption from regulation for combustion wastes resulting from the burning of hazardous wastes in combination with fossil fuels; it only provides an exemption for the actual burning of hazardous wastes for recovery of fuel value. Thus, if these combustion wastes are exempted from our regulation, such exemption must be found through interpretation of §261.4(b) (4). Secondly, we note that although the pertinent language in Section 7 of the Solid Waste Disposal Act Amendments of 1980 and the related legislative history on this matter speak of allowing the burning of alternative fuel without precisely defining or delineating the types of alternative fuel, the only examples of alternative fuels used in the legislative history are refuse derived fuels. herefore, a literal reading of the legislative history might enable us to interpret the exclusion to include combustion wastes resulting from the burning of fossil fuels and other fuels, including hazardous wastes. However, since each of these

legislative comments was made in the context of refuse derived fuels or other non-hazardous alternate fuels, we do not believe the Congressional intent compels us to make such an interpretation if we have reason to believe that such combustion wastes are hazardous.

Presently, we have little data on whether or to what extent combustion wastes are "contaminated" by the burning of fossil fuel/hazardous waste mixtures. The data we do have (e.g., burning of waste oils) suggests that the hazardous waste could contribute toxic heavy metal contaminants to such combustion wastes. When coal is the primary fuel, the amount of resulting contamination is probably in amounts that are not significantly different than the metals that would be contributed by the fossil fuel component of the fuel mixture. This may not be the case with oil and gas, where huge volumes of waste are not available to provide a dilution effect. We suspect that the other hazardous constituents of the hazardous wastes that typically would be burned as a fuel are either thermally destroyed or are emitted in the flue gas (and therefore are part of our first concern as discussed above). If these data and this presumption are true, then combustion wastes resulting from the burning of coal/hazardous waste mixtures should not be significantly different in composition than combustion wastes generated by the burning of coal alone. Because the Congress has seen fit to exclude the latter wastes from Subtitle C, pending more study, we feel compelled to provide the same exclusion to the former wastes.

Accordingly, we will interpret the exclusion of §261.4(b) (4) to include fly ash, bottom ash, boiler slag and flue gas emission control wastes generated in the combustion of coal/hazardous waste mixtures provided that coal makes up more than 50 percent of the fuel mixture.

We offer this interpretation with great reluctance and with the clear understanding it is subject to change, if and when data indicate that combustion wastes are significantly contaminated by the burning of hazardous wastes as fuel. We also offer this interpretation with the understanding, as discussed at our meeting of November 21, that the utility industry will work with us over the next several months to improve our data on this matter. We believe it is essential that we make a more informed judgement and possible reconsideration of our interpretation of

the exclusion as soon as possible and before completion of our longer-term study of utility waste which is proceeding. Accordingly, we would like you to provide to us all available data on the following questions by August 1, 1981:

1. What types of hazardous wastes are commonly burned as fuels in utility boilers? In what quantity? In what ration to fossil fuels? How often? what is their BTU content?

2. Does the burning of these wastes contribute hazardous constituents (see Appendix VIII of Part 261 of our regulations) to any of the combustion wastes? If so, what constituents, and in what amounts? How does the composition of combustion wastes change when hazardous wastes are burned?

Co-disposal and Co-treatment

The second issue raised in your letter was whether the exclusion extends to wastes produced in conjunction with the burning of fossil fuels which are co-disposed or co-treated with fly ash, bottom ash, boiler slag and flue gas emission control wastes. As examples of such wastes, you specifically mention boiler cleaning solutions, boiler blowdown, demineralizer regenerant, pyrites, cooling tower blowdown, or any "wastes of power plan origin whose co-treatment with fly ash, bottom ash, slag and flue gas emission control sludges is regulated under State-or-EPA-sanctioned management or treatment plans."

The legislative history on this matter clearly indicates that the Congress intended that these other wastes be exempted from Subtitle C regulation provided that they are mixed with and co-disposed or co-treated with the combustion wastes and further provided that "there is no evidence of any substantial environmental danger from these mixtures." (See Congressional Record, February 20, 1980, p. H 1102, remarks of Congressman Bevill; also see remarks of Congressman Rahall, Congressional Records, February 20, 1980, p H1104.)

We have very little data on the composition, character and quantity of these other associated wastes (those cited above), but the data we do have suggest that they are generated in small quantities relative to combustion wastes, at least when coal is

the fuel, and that they primarily contain the same heavy metal contaminants as the combustion wastes, although they may have a significantly different pH than the combustion wastes. These limited data therefore suggest that, when these other wastes are mixed with and co-disposed or co-treated with the much larger quantities of combustion wastes, their composition and character are "masked" by the combustion and character of the combustion wastes; that is, they do not significantly alter the hazardous character, if any, of the combustion wastes.

Given this information base and given the absence of definitive information indicating that these other wastes do pose a "substantial danger" to human health or the environment, we believe it is appropriate, in the light of Congressional intent, to interpret the §261.4(b) (4) exclusion to include other wastes that are generated in conjunction with the burning of fossil fuels and mixed with and co-disposed or co-treated with fly ash, bottom ash, boiler slag and flue gas emission control wastes. We offer this interpretation with some reluctance because it is made in the absence of definitive information about the hazardous properties of these other wastes or their mixtures with combustion wastes. We therefore believe it is imperative that we proceed to collect all available data on this matter within the next several months and reconsider this interpretation when these data are assessed. Toward that end and consistent with the discussion at our meeting of November 21, we are asking that you assist us in collecting these data. Specifically, we ask that ou collect and submit by August 1, 1981, any available data on the following questions:

1. What are the "other" wastes which are commonly mixed with and co-disposed or co-treated with fly ash, bottom ash, boiler slag or flue gas emission control wastes? What are their physical (e.g., sludge or liquid) and chemical properties? Are they hazardous wastes in accordance with Part 261?

2. What are the co-disposal or co-treatment methods employed?

3. How often are these wastes generated? In what quantities are they generated? Are they commonly treated in any way before being co-disposed?

4. Does the industry possess any data on the environmental effects of co-disposing of these wastes? Groundwater monitoring data? What are the results?

The interpretation on other associated wastes provided in this letter is limited to wastes that are generated in conjunction with the burning of fossil fuels. We do not intend to exempt hazardous wastes that are generated by activities that are not directly associated with fossil fuel combustion, steam generation or water cooling processes. Thus, for example, the §261.4(b) (4) exclusion does not cover pesticides or herbicide wastes; spent solvents, waste oils or other wastes that might be generated in construction or maintenance activities typically carried out at utility and industrial plants; or any of the commercial chemicals listed in §261.33 which are discarded or intended to be discarded and therefore are hazardous wastes. Further, the exclusion does not cover any of the hazardous wastes listed in §§261.31 or 261.32 of our regulations. None of these listed wastes were mentioned in your letter or our discussions.

The interpretation on other wastes is also limited to wastes that traditionally have been and which actually are mixed with and co-disposed or co-treated with combustion wastes. If any of these other wastes (e.g., boiler cleaning solutions, boiler blowdown, demineralizer regenerant, pyrites and cooling tower blowdown) are segregated and disposed of or treated separately from combustion wastes and they are hazardous wastes, they are not covered by the exclusion. In the same vein, the exclusion does not cover other wastes where there are not combustion wastes (or relatively small amounts of combustion wastes) with which they might be mixed and co-disposed or co-treated--a situation which might prevail where natural gas or oil is the principal fossil fuel being used. Therefore, this interpretation of the exclusion applies only where coal is the primary fuel. We feel this is a legitimate interpretation of Congressional intent, wherein the argument of little potential environmental hazard, primarily due to the dilution factor, is clearly based upon co-disposal or co-treatment with the huge volumes of wastes generated during coal combustion.

EPA Utility Waste Study

The groups of questions raised above bring us to the subject which you address concerning the study of utility waste

management which EPA is conducting. We agree that the study, as currently being conducted, does not focus on the matters discussed in this letter. We would, however, like to address these matters and include them in our report to Congress, to the extent possible. To accomplish this, we plan to meet in the very near future with our contractor, Arthur D. Little, Inc., to discuss what studies may need to be carried out in addition to their currently planned activities under the contract. The inputs of your organization could be quite useful in this effort. It may be impossible, however, to modify our present study to include a detailed investigation of all of the issues discussed above.

Notwithstanding, we would like to address the matters discussed in this letter within a shorter time frame--during the next six months. Based on our meeting of November 21, it is my understanding that the utility industry, working closely with EPA, is willing to develop data on the questions put forth above. We agreed that, as a first step, USWAG will prepare a study outline designed to obtain these data. EPA staff and industry representatives designated by your organization will then mutually review the information needs. The data collection effort will then follow. Finally, data and analyses will be presented to EPA for review. This will enable us to reconsider the interpretation provided in this letter and make any changes deemed necessary. Therefore, I would appreciate it if you would designate a technical representative as USWAG's contact person for this coordinated data collection effort.

In the meantime, and pending completion of this effort, EPA will interpret 40 CFR §261.4(b) (4) to mean that the following solid wastes are not hazardous wastes:

(a) Fly ash, bottom ash, boiler slag and flue gas emission control wastes resulting from (1) the combustion solely of coal, oil, or natural gas, (2) the combustion of any mixture of these fossil fuels, or (3) the combustion of any mixture of coal and other fuels, up to a 50 percent mixture of such other fuels.

(b) Wastes produced in conjunction with the combustion of fossil fuels, which are necessarily associated with the production of energy, and which traditionally have been, and which actually are, mixed with and co-

disposed or co-treated with fly ash, bottom ash, boiler slag, or flue gas emission control wastes from coal combustion.

This provision includes, but is not limited to the following wastes:

(1) boiler cleaning solutions,

(2) boiler blowdown,

(3) demineralizer regenerant,

(4) pyrites, and

(5) cooling tower blowdown.

I am hopeful that our future research activities together will prove fruitful and that these issues can be rapidly resolved. I have designated Ms. Penelope Hansen of my staff as the EPA point of contact for this effort. You may reach her at (202) 755-9206.

Sincerely yours,

Gary N. Dietrich
Associate Deputy Assistant Administrator
for Solid Waste