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QUANTUM TECH PLASMA ARC UNIT - REGULATORY CLASSIFICATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SEP 30 1991

SUBJECT: Response to Region VI Inquiry on Regulatory
Classification of Quantum Tech Plasma Arc Unit

FROM: Sylvia K. Lowrance, Director
Office of Solid Waste

TO: Allyn M. Davis, Director
Region VI Hazardous Waste Management Division

This memorandum is in response to your August 14, 1991, memorandum requesting guidance on whether the Quantum Tech plasma arc unit falls within the February 21, 1991, revised definition of incinerator, even though the unit has no afterburner.

The language of the February 21 revised definition of incinerator unintentionally includes all plasma arc and infrared units, rather than just those with afterburners. However, the regulatory status of such devices does not immediately change in authorized States. Thus, at present, the state would make a determination on the regulatory classification of this device based on the definitions currently in effect in the state. To prevent problems in the future, we plan to make a technical correction to the revised definition of incinerator. Following is a more detailed description of our interpretation and planned follow-up.

Classification under Subpart 0 vs. Subpart X

On February 21, 1991, along with the BIF (boiler and industrial furnace) rule, EPA published modifications to the definition of incinerator. One modification specifically added plasma arc and infrared devices to the definition. The reasons for this modification were, as stated at 56 FR 7204, that "(1) although these devices use nonflame sources of thermal energy to treat waste in the primary chamber, they invariably employ controlled flame afterburners to combust hydrocarbons..." (emphasis added); and "(2) the incinerator standards are workable and protective for these units."

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EPA was unaware at the time the definition was being developed, and commenters on the proposed rule did not indicate, that there were plasma arc units without afterburners, as indicated by the above preamble language. Therefore, the presence of an afterburner was not specifically included as a criterion in the new definition. Under revised §260.10, plasma arc incinerator is defined as "any enclosed device using a high intensity electrical discharge or arc as a source of heat and which is not listed as an industrial furnace." Since there is no mention of afterburners in either the plasma arc incinerator or incinerator definitions, the revised definition of incinerator does not exclude plasma arc units which do not have afterburners. This is also the case for infrared units.

Since the Regions are now aware of two such devices without afterburners, we plan to make a technical correction to the February 21 rule to only include plasma arc and infrared units with afterburners in the definition of incinerator. Considering a plasma arc or infrared device without an afterburner as an incinerator is clearly not consistent with the intent of the regulation. In addition, the types of operating conditions and other performance requirements for incinerators may not make technical sense to apply to a non-combustion device. For example, carbon monoxide is a measure of combustion efficiency and therefore may not be a meaningful operating parameter for a non-combustion device.

Permitting these devices under Subpart X will allow more flexibility to address the specific operating and emissions characteristics of the units. Parts of Subpart 0 which do "fit" these devices can still be applied under Subpart X.

Rule Does Not Impact Authorized States Immediately

The revision to the incinerator definition is a non-HSWA rule and therefore does not take effect in an authorized state until the state becomes authorized for the rule change. Thus, assuming that plasma arc (and infrared) units have not been considered in the past to be incinerators under the authorized Texas program, they will continue to be outside the incinerator definition until Texas adopts the February 21 provisions. Our goal is to complete the technical correction well before authorized states adopt the new rule.

Recycling Exemption

You also requested clarification on whether the Quantum Tech unit may be an exempt recycling device. While incinerators (and boilers and industrial furnaces) cannot be considered exempt recycling units, other recycling devices can potentially be considered for the recycling exemption. Since plasma arc units would not presently be classified as incinerators in authorized states, Texas will need to make a determination on whether the Quantum Tech unit is a recycling unit. If Texas determines that the unit is not an exempt recycling device, then we agree that it would be subject to permitting under Subpart X for miscellaneous units. Attached is a memorandum which provides criteria for determining whether a unit is engaged in recycling. You may wish to provide this to Texas to assist them in this effort.

Summary

In summary, plasma arc (and infrared) units without afterburners were unintentionally included in the revised definition of incinerator. Our goal is to make a technical correction to the rule before this provision is adopted by authorized states. In the meantime, the February 21 rule would not affect the regulatory status of these devices in authorized states, and Texas will need to determine whether the Quantum Tech unit is an exempt recycler.

We would like to remind you that if the facility has other units which will be receiving a RCRA permit, the plasma arc unit will be subject to the air emissions standards under Part 264, Subpart BB, even if it is determined to be a recycling device. It may also potentially be subject to the Phase II air emissions rule proposed on July 22, 1991, when this rule is promulgated.

We will keep you informed through the Incinerator and Subpart X Permit Writers' Workgroups of the progress on the technical correction. If your staff have any further questions, they may feel free to contact Sonya Sasseville at FTS 260-3132.

Attachment

cc: Devereaux Barnes
Elizabeth Cotsworth
Incinerator Permit Writers' Workgroup
Subpart X Permit Writers' Workgroup