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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 12 1988

Mr. Larry Drake
Manager, HWST Programs
ENSR Constructors
3000 Richmond Avenue
Houston, TX 77098

Dear Mr. Drake:

This is in response to your letter of October 4, 1988, to Bill Kline of my staff, requesting clarifications of the regulations addressing secondary containment systems. I will address each of the five questions you raised in the same order as presented in your letter.

In your first question, you ask if secondary containment systems for new tank systems must be certified by an independent, qualified, registered, professional engineer (IQRPE). As you will note, 40 CFR 264(5).192(a) of the revised hazardous waste tank system standards does require that an IQRPE review and certify a written assessment for each new tank system and component. This requirement likewise applies to secondary containment systems because the term "tank system", as defined in 40 CFR 260.10, includes the containment system. It is EPA's intent that all new primary containment as well as secondary containment systems to properly designed and installed (and certified as such) prior to the use of the structure.

Similarly, new secondary containment systems for existing tank systems must be certified by an IQRPE. The Agency's position of ensuring the complete containment of hazardous wastes managed in storage/treatment tank systems requires assurance that such structures have proper structural integrity, compatibility with the waste to be managed, corrosion protection (if necessary), etc. The certification of such by the IQRPE serves this need. The requirement for IQRPE certification, in fact, extends to all new tank system components.

You also asked if a secondary containment system must be designed to prevent lateral migration of the waste in the event of catastrophic failure of the tank or ancillary equipment. That is, for example, should a secondary containment system be designed and constructed with a capability to withstand and contain the impact of an overland tidal-like wave of waste resulting from a spontaneous worse-case failure of a tank wall, similar to that experienced in the collapse of the Ashland Oil Company tank on January 2, 1987? Simply, the answer is no, but let me elaborate on this matter.

In the process of developing the revised hazardous waste tank system standards, EPA identified the causes of tank system failure. Thus, the revised standards are designed to address these causes of releases and thereby prevent the introduction of hazardous waste into the environment. For example, much emphasis is placed on the proper design and installation of tank systems, including secondary containment systems. We believe that if the owner or operator complies with these regulations and likewise adheres to proper operation and maintenance of the tank system, the secondary containment system will rarely, if ever, be needed. Also, the regulations require that special consideration be given to the design of tank systems located in areas that pose risks of seismic activity or flooding. In addition to being able to contain at least 100% of the volume of the largest tank within the containment structure, many secondary containment structures may, to some degree, be able to handle a catastrophic failure due to the requirement that such structures must be designed to handle the precipitation resulting from a 25 year, 24 hour storm.

The bottom line is that we are confident that the standards for hazardous waste tank systems are completely adequate for fully protecting the environment under all but the rarest of circumstances. Although compliance with the regulations should eliminate most catastrophic failures, the Agency recognizes that no system can provide an absolute zero risk. Because of the type and frequency of catastrophic failures that could still occur (e.g., airplane crash), the Agency does not believe it necessary to mandate that secondary containment systems be designed and constructed in anticipation of such catastrophes.

Another question you raised regards the required reactionary capability and effectiveness of an automatic shut-off device as mentioned in 40 CFR 264(5).193(f)(4). This is an issue that EPA perhaps needs to more definitively address with regard to hazardous waste tank systems. We have to some extent addresses this issue in a recent Federal Register notice (53 FR 34084, September 2, 1988). As you know, it is EPA's intent to prevent the migration of hazardous waste into the environment.

Therefore, a device that is designed to automatically shut-off the flow in a pipe should a failure occur in the piping must ensure that a minimum of waste is released. Of course, the greater the quantity of waste released, the greater is the facility's potential clean-up costs. In lieu of specifying that automatic shut-off devices be capable of restricting a release to a defined quantity, we have allowed the permitting authorities the discretion to approve the use of these devices, in accordance with those constraints provided by the facility's piping system, e.g., pipe size, amount of piping, and pressure. The acceptance of a particular automatic shut-off device is predicated on its demonstrated capability to meet the underlying intent to minimize, to the extent feasible, the quantity of waste that might be released in a failure of the piping system. Subsequent to promulgation of the hazardous waste tank system standards, the Agency has developed specific requirements for automatic shut-off devices used on Subtitle I underground storage tank system (see 53 FR 37082, September 1988).

The data in this notice reflects EPA's most recent thoughts on this issue. As you will notice, §280.44(a) of these regulations requires that such devices be capable of detecting leaks of three gallons per house at 10 pounds per square inch line pressure within 1 hour. We are considering whether to apply those same criteria to automatic shut-off devices on hazardous waste tank systems.

The final question in your letter seeks clarification of the term "pressurized" as applied to aboveground piping in 40 CFR 264(5).193(f)(4). EPA has not assigned a specific numerical value to distinguish pressurized from non-pressurized piping. Many aboveground tanks use a pipe located at or near the bottom of the tank to transfer waste from the tank. Such piping, due to the inherent static head provided by the level to which the waste is stored in the tank, could technically be referred to as "pressurized" piping. However, the Agency's intent in using this term in 40 CFR 264(5).193(f)(4) is that only aboveground piping through which waste is transferred via a pump (not including suction pumps) be referred to as being pressurized. It is intended that aboveground pressurized piping when used in conjunction with an automatic shut-off device represent a situation whereby such a device is used with a known positive "constant" pipeline pressure as provided by a pump.

If you have any further questions on these or other issues related to the technical standards for hazardous waste tank systems, please call Bill Kline at (202) 382-7917.

Sincerely,

Original Document signed
"R. Donetti for"

David Bussard
Acting Director
Waste Management Division

cc: Bill Kline, WTB

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