



# **Underground Storage Tank Technical Compendium References: Applicability, Definitions and Notification**

**U.S. EPA Office of Underground Storage Tanks**

The compendium contains interpretations and guidance letters sent out by the Office of Underground Storage Tanks. These references are cited within the underground storage tanks technical compendium at <http://www2.epa.gov/ust/underground-storage-tank-technical-compendium>.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Mr. Larry Hunt, P.E. President  
Hunt & Hunt Engineering  
P.O. Box 771294  
Houston, Texas 77215

Dear Mr. Hunt:

This responds to your letter of December 2, 1988 to Mr. Mike Scoggins of our EPA Region VI office in which you requested information regarding the applicability of EPA's final underground storage tank (UST) regulations (40 CFR Part 280) to process waste traps (oil-water separators) located at various Schlumberger manufacturing and metal finishing facilities. The UST technical standards went into effect on December 22, 1988 and the financial responsibility requirements on January 24, 1989. As we were responsible for promulgating these rules, Mr. Scoggins has asked us to respond to you directly.

Some UST systems are excluded from subtitle I regulation in the statute (For example, septic tanks and storm water or waste water collection system tanks). The statute does not include a specific exclusion of oil-water separator tanks, however. The final EPA technical standards provide further regulatory definition of the various exclusions and also contain regulatory exclusions and deferrals (from most Subtitle I regulatory coverage) of various UST systems. In general, oil water separator systems are either excluded or deferred from the regulation. The relevant regulatory exclusions and deferrals are briefly discussed below.

Waste water treatment tank systems that are part of a waste water treatment facility and are subject to regulation under either section 402 or 307 (b) of the clean Water Act (CWA) are excluded from all Subtitle I regulation. All publicly owned treatment works and many private treatment facilities are subject to the CWA and therefore excluded from subtitle I regulation. Facilities regulated under the CWA are required to be permitted in order to discharge treated water to any U.S. surface waters. Because of this, EPA has decided that

additional regulation under subtitle I is unnecessary to protect human health and the environment. The separators that you described in your letter are connected directly to a city sanitary service (i.e., a POTW). Because your oil water separators are discharging to a POTW and thus must meet treatment standards under 307 (b), your oil water separators are excluded from regulation under subtitle I. (see further discussion page 37108 of the preamble to the September 23, 1988 regulations).

Tank systems that treat waste water or storm water, but are not subject to Section 402 or 307(b) of the CWA are deferred from having to meet the requirements of subparts B through E and G. Such tanks include oil-water separators that do not discharge to a POTW or have an National Pollution Discharge Elimination System (NPDES) permit (or subject to a zero discharge effluent guideline). Tanks that pretreat and hold waste water that is periodically removed and hauled by truck to a treatment facility may be in this category. Under this regulatory deferral, such tanks would still have to comply with corrective action (should a release occur) and financial responsibility requirements of Subpart H. A discussion of this deferral is found on pages 37109-37110 of the September 23 preamble to the regulations.

Similarly, field-constructed tanks are deferred from the requirements in 40 On Part 280, subparts B through E and G of the final UST regulations. Generally these tanks are made of concrete or constructed at the site (for example, concrete poured into forms or otherwise fabricated in the field). EPA has deferred the application of the regulations (except for corrective action and financial responsibility requirements). see page 37110 of the September 23 preamble for a discussion of why field constructed UST systems have been deferred.

In summary, based on the information provided with your letter of December 2, EPA believes the oil-water separators you described are exempt from the final subtitle I regulations because the separators discharge to a POTW. If they are not subject to regulation under the CWA and thus excluded, they are deferred from most of the provisions of subtitle I regulation under the waste water treatment tank or field constructed tank system deferrals.

I hope this response provides the clarifications you need.

Sincerely,

/s/

Thomas Schruben  
Environmental Engineer  
Office of Underground Storage Tanks

cc: Kirsten Engle, EPA Office of General Counsel  
Michael R. Scoggins, LUST Program, EPA Region 6  
Dwight Russell, Texas Water Commission



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Mr. Elmer Street  
Drawer N  
Oakwood, Virginia 24631

Dear Mr. Street:

You wrote to us with the request to identify who is responsible for underground storage tanks you own but are rented and subleased to other parties. You said that four underground storage tanks (USTs) are going to be closed at this site.

The new technical standards for USTs include requirements for properly closing tanks, inspecting the site for contamination, and taking corrective action if needed. The new EPA regulations for USTs are generally applicable to "owners and operators" to make sure that at least one of these parties is held legally responsible. However, the regulations do not clearly specify in those instances where there is both an "owner" and "operator" whether it is the "owner" or the "operator" who must take corrective action or is liable for pollution costs. The regulations hold both the owner and operator of the UST responsible. Thus, in your case, EPA could hold all three parties responsible for assuring compliance with the closure regulations. These legal matters may also depend on how "owner" and "operator" are defined in your State UST program. One thing is certain: owners and operators need to discuss these issues and decide among themselves who is going to assure that the requirements are met. These decisions will also need to be made if you continue to have operating USTs and therefore have to meet the general technical and financial responsibility requirements.

Cases such as yours underscore the complexity involved with multiple owners and operators. We will look to all three parties in your instance to decide and agree who will assure the required actions are taken. All three parties could be subject to enforcement action should noncompliance be discovered.

For your information, I am enclosing copies of two new brochures

-- "Musts for USTs" and "Dollars and Sense." These brochures provide clear summaries of the regulations in "plain English."

I hope this information is helpful.

Sincerely yours,

/s/

Jim McCormick, Director  
Policy and Standards Division  
Office of Underground Storage Tanks





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

September 8, 1990

Mr. R.G. MacDiarmid  
Goetting & Associates  
Suite 500  
Renaissance Plaza  
San Antonio, Texas 78216

Dear Mr. MacDiarmid:

Thank you for your letter in which you requested clarification of several points concerning the underground storage tank regulations as they appeared in the Federal Register (Volume 53, No. 185, September 23, 1988). The responses below are numbered to correspond with the questions you have asked.

1. "Deferred" means that these tanks are currently subject to some parts of the regulations, as described in the subsections on pages 37109-37113 of the Federal Register. Because the Agency has not yet decided in what way these tanks should be subject to additional parts of the regulations, it is continuing to evaluate the applicability of the full regulations to these tanks. For example, the emergency generator tank deferral, which appears to be of particular interest to you, temporarily defers only Subpart D of the regulations, which concern release detection: "EPA is deferring Subpart D requirements for these tanks to allow time to develop workable release detection requirements for these tank Systems" (FR 37113).

2. A. You are correct in assuming that the reference to "Subtitle D." should read "Subpart D" in the sentence you have quoted from FR 37109.

B. The deferral for UST systems associated with emergency generators, as it appears on FR 37113, makes no distinction as to the location of the emergency generator. Although the discussion in the regulations focuses on remote utility sites, the deferral would apply to any UST system that serves an emergency generator.

I hope this information is useful to you and responds fully to your

questions. If I can be of further assistance. please do not  
hesitate to contact me.

Sincerely yours,

/s/

Ronald Brand, Director  
Office of Underground Storage Tanks



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 25, 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

MEMORANDUM

SUBJECT: Whether a Concrete Vaulted UST System is Subject to the  
Underground Areas Exclusion

FROM: David O'Brien, Chief /s/  
Standards Branch, OUST (OS-410)

TO: Wayne S.. Naylor, Chief  
Underground Storage Tank Section (3HW31)

This is in response to your July request from Virginia as to whether a precast Concrete vaulted tank system housing a tank below grade is exempt from 40 CFR part 280 requirements. The answer to this request is yes, "if the tank sits upon or above the surface of the floor and there is sufficient space to enable physical inspection of the tank bottom." (53 FR 37121). As explained in the preamble, such tanks, although technically underground, are no different than above ground tanks and are therefore included in the Law's underground areas exclusion.

For your information, we have no authority to withhold this interpretation (which is already provided in the final rule's preamble) from the Virginia Water Control Board contingent upon receiving a certification from a professional engineer to ensure the accuracy of the proposed design's structural integrity. Therefore, we did not review the structural calculations that were provided.

It may be worth pointing that such concrete vaulted system would appear to have to satisfy Virginia Building Codes, aboveground tank fire safety codes (e.g., NFPA 30), and if applicable, SPCC aboveground tank regulations currently under consideration for revision within EPA.

cc: Jim McCormick



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

December 3, 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Mr. James E. Wisuri  
Manager of Communications  
Steel Tank Institute  
728 Anthony Trail  
Northwood, Illinois 60062

Dear Mr. Wisuri:

This in response to your inquiry dated July 14, 1989, to Mr. Richard Wilson concerning the regulatory status of methanol and methanol-blend fuels.

Methanol is listed under section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, and, therefore, must be stored in a hazardous substance UST system. In addition, M85 must also be stored in a hazardous substance UST system because it contains 85% of a CERCLA-listed substance. Gasohols containing lesser amounts of methanol (generally, 2.5% to 5%) may be stored in petroleum UST systems.

Methanol and M85 can be stored in new petroleum UST systems, if the owner or operator demonstrates that their method of release detection meets the requirements for release detection for petroleum UST systems. In addition, the owner or operator must provide information to the implementing agency about corrective action technologies, site characteristics, and properties of the stored substance. Variances may be obtained on a case-by-case basis from the implementing agency where they allow them.

Under the federal rules, Methanol and M85 can be stored in existing, single-wall UST systems until December 1998, if the regulatory requirements for release detection are met. A variance is not required in this situation. Attached is a recent issue paper that was provided to the EPA Regions and States on the above matter.

Please be advised that some States and local governments require secondary containment of all UST systems (e.g., California, New York, New Hampshire, and Austin, Texas) and the Federal law specifically allows them to be more stringent than EPA's requirements if they choose.

I hope this responds to your need for clarification in this area.

Sincerely,

/s/

David O'Brien, Chief  
Standards Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OCT 6, 1989

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Honorable Howell Heflin  
United States Senate  
Washington, D.C. 20510

Dear Senator Heflin:

Thank you for your referral (dated September 19, 1989) of a letter from your constituent, Rev. Aloysius Plaisance, who sought information about EPA's new regulations for underground storage tanks (USTs).

Rev. Plaisance wondered if the monastery's USTS would not be subject to the UST regulations. Your constituent is correct in assuming that the monastery can be considered the residence of the monks who live there. Therefore, the monastery's two 500-gallon USTs do not need to meet the UST regulatory requirements, as long as they store motor fuel that is noncommercially used only by the monastery's residents. (The regulatory exclusion is for farm and residential Lists of 1,100 gallons or less storing motor fuel used for noncommercial purposes.)

Nevertheless, the safe operation and maintenance of the USTs should be of concern to your constituent. Residents of the monastery should be watchful for any signs that their USTs may be leaking. Some of these signs are unexplained gasoline odors, oil sheens on nearby surface water, or dead vegetation near the UST. They should respond quickly to such signs by calling their local fire department and taking action to correct the problem.

Since your constituent's USTs are not subject to the UST regulations, I assume he would not need a copy of the regulations, as he had originally requested. If there is a need for a copy please let me know and we'll have one sent right away. Please do not hesitate to contact me if I can be of any further assistance.

Sincerely yours,

/s/

Ronald Brand, director  
Office of Underground Storage Tanks



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JAN 19, 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Alan C. Campbell  
Dow, Lohnes & Albertson  
1255 Twenty-third Street, N.W.  
Washington, D.C. 20037

Dear Mr. Campbell:

This is in response to your December 27, 1989 letter forwarding an earlier letter request by Jane Oglesby for an advisory opinion from the Environmental Protection Agency's office of General Counsel. I do not have any record of the first request. In any case, I apologize for any delay that may have occurred.

According to Ms Oglesby's letter, your firm is interested in determining the allocation of responsibility between the owner and operator of an underground storage tank ("UST") under the technical and financial responsibility regulations promulgated by the EPA on September 23, 1988 and October 26, 1988. The fact situation posed by Ms. Oglesby concerned an UST leased to and operated by a private corporation solely for the purpose of powering an auxiliary generator, while actual title to the UST is held by the Federal Communications Commission.

The answer described paragraph 1 of Ms. Oglesby's letter concerning compliance with the UST financial responsibility regulations appears to be accurate, though the reasoning is incomplete. Section 280.90(c) of the financial responsibility regulations read, "State and Federal government entities whose debts and liabilities are the debts and liabilities of a state or the United States are exempt from the requirements of this subpart." This provision exempts the State or Federal government entity from compliance with the financial responsibility regulations where the State or Federal government entity is an owner or an operator of an UST. According to the preamble to the final financial responsibility regulation, EPA determined that it was not necessary to require that such entities demonstrate financial assurance as EPA assumed that they have the requisite financial strength and stability to pay for corrective action and third party liability costs arising from UST releases. 53 Fed. Reg. 43322, 43328 (1988). EPA interprets the regulations to mean that government entities covered by Section



280.90(c) have demonstrated financial responsibility. Under §280.90(e). the regulations read that, if the owner or operator of a tank are separate persons, only one person is required to demonstrate financial responsibility. Thus. the operator of an UST that is owned by the federal government is not required to demonstrate compliance with the financial responsibility regulations. However, you should note that 280.90(e) also states that both the owner and the operator are liable in the event of noncompliance with the financial responsibility requirements in general.

The discussion in paragraph 2 of Ms. Oglesby's letter does not appear to be correct. According to the letter, the Hotline stated that the operator of the UST is primarily responsible for ensuring compliance with the notification, reporting and record-keeping requirements under 40 CFR 280.22 and 280.34.

The individual, subsections of § 280.34 specifically state that 'owners and operators' must comply with the reporting and recordkeeping requirements. While it may be easier for the operator of an UST to comply with these requirements. the regulations do not distinguish between owners and operators and thus do not establish that the operator is "primarily responsible" for ensuring compliance with these provisions.

The provisions of 230.24 impose some requirements on owners exclusively and some on both owners and operators. A careful reading of this section is necessary to determine whether only one or both parties may be liable in the event of noncompliance. Nothing in the language of this section would suggest, however. that compliance with the notification requirement is "primarily" the responsibility of the UST operator.

Finally, Ms. Oglesby's letter requested that EPA provide an advisory opinion stating that the owner of an UST will be held primarily responsible for ensuring compliance with the upgrading requirements under 40 CFR 280.21. Section 280.21 states that, not later than December 22, 1998, all existing USTs must comply with that provision's tank upgrading requirements. The language of 280.21 does not specifically assign this responsibility to the UST owner. operator, or both parties. However, section 280.10, the applicability provision for the technical regulations, states in relevant part that, "[t]he requirements of this part apply to all owners and operators of an UST system." Thus the requirements under §230.21 apply to both the owner and the operator of an UST system. Again, the regulations do not provide that the owner will be held "primarily" responsible for complying with this requirement.

I hope this letter provides your firm with useful guidance. If you have any further questions concerning these inquiries, feel free to contact me at (202) 382-7706.

Sincerely,

/s/

Kirsten Engel

cc: Jim McCormick  
Sammy Ng  
Dave O'Brien  
Office of Underground Storage Tanks



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

March 20, 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Ms. Frances E. Phillips  
Gardere & Wayne  
Suite 1500  
717 North Harwood Street  
Dallas, Texas 75201

Dear Ms. Phillips:

This responds to your January 30 letter about the exclusion of storage tanks located in an underground area such as a basement, vault or tunnel from the underground storage tank requirements of Subtitle I of the Resource Conservation and Recovery Act. Specifically, you wanted to know if language in the UST rule's preamble about the underground area exclusion was intended to imply that tanks in vaults are no different than above-ground tanks and should be regulated as such.

The preamble's reference to tanks in vaults as being, in a practical sense, no different from above-ground tanks was simply meant to contrast vaulted systems as basically free from the problems that attend underground storage tanks and cause them to leak. External galvanic point corrosion, improper backfill support, and installation, hidden-from-view piping failures, and spills and over-fills into the environment are the main problems addressed by the UST regulations. In contrast, vaulted tanks are thicker tanks subject to different manufacturing codes than USTs, are not subject to accelerated point corrosion, do not have backfill support and installation problems, are fully able to be visually inspected (Unlike USTs), and should contain spills and overfills from leaking into the environment. Thus, it is really unnecessary to apply the UST requirements to vaulted tanks systems. The Agency focused on the ability to physically inspect vaulted tank systems as the distinguishing factor that is easily used by EPA to establish if any particular tank system is within the law's underground area exclusion.

Our preamble discussion was not intended to imply that vaulted systems should be regulated the same as above-ground tanks, (to the extent there may be federal, state, or local above-ground tank requirements now or in the future). Your typical above-ground tank is not in an enclosed space that is completely contained by a

concrete barrier. Thus, the application of above-ground tanks Standards to the relatively new design concept of vaulted tank Systems may not be technical appropriate. For example, some major American corporations who are very concerned with environmental liability issues (such as IBM) have decided to have exclusively use vaulted tank systems because they are believed to be a relatively protective storage approach, and perhaps even more fault-free than above-ground storage tank operations that most often rest on top of the ground and are surrounded by a man-made berm.

I hope this removes your confusion and clarifies why we mentioned above-ground tanks in the UST regulation preamble discussion of the underground Area exclusion and its applicability to vaulted tanks. In summary, it was simply meant to point out that above-ground tanks and vaulted tanks are similarly inspectable and therefore not subject to the common failure modes of UST systems.

Sincerely,

/s/

Ronald Brand, Director  
Office of Underground Storage Tanks



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APRIL 19, 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

MEMORANDUM

SUBJECT: Interpretation Request

FROM: David O'Brien, Chief Standards Branch /s/

TO: Gerald. Phillips, Chief  
Office of UST/LUST, Region V

This is in response to your request of March 26, 1990, regarding the underground storage of 3 products (Alkylate H-230H, Aristol 360, and, Aristol 400) comprised of a mixture of the C14-C30 alkyl derivatives of benzene.

These substances are not regulated under 40 CFR Part 280.

These substances are not listed under section 101(14) CERCLA. Benzene is present in trace or de minimus quantities, which does not effect their status as non-regulated substances.

These substances do not belong in one of the general categories of petroleum -- motor fuel, jet fuel, distillate fuel oil, residual fuel, oil, lubricant, petroleum solvent, or used oil; are not a fraction of petroleum or crude oil; and are not derived from crude oil through processes of separation, conversion, upgrading, and finishing,

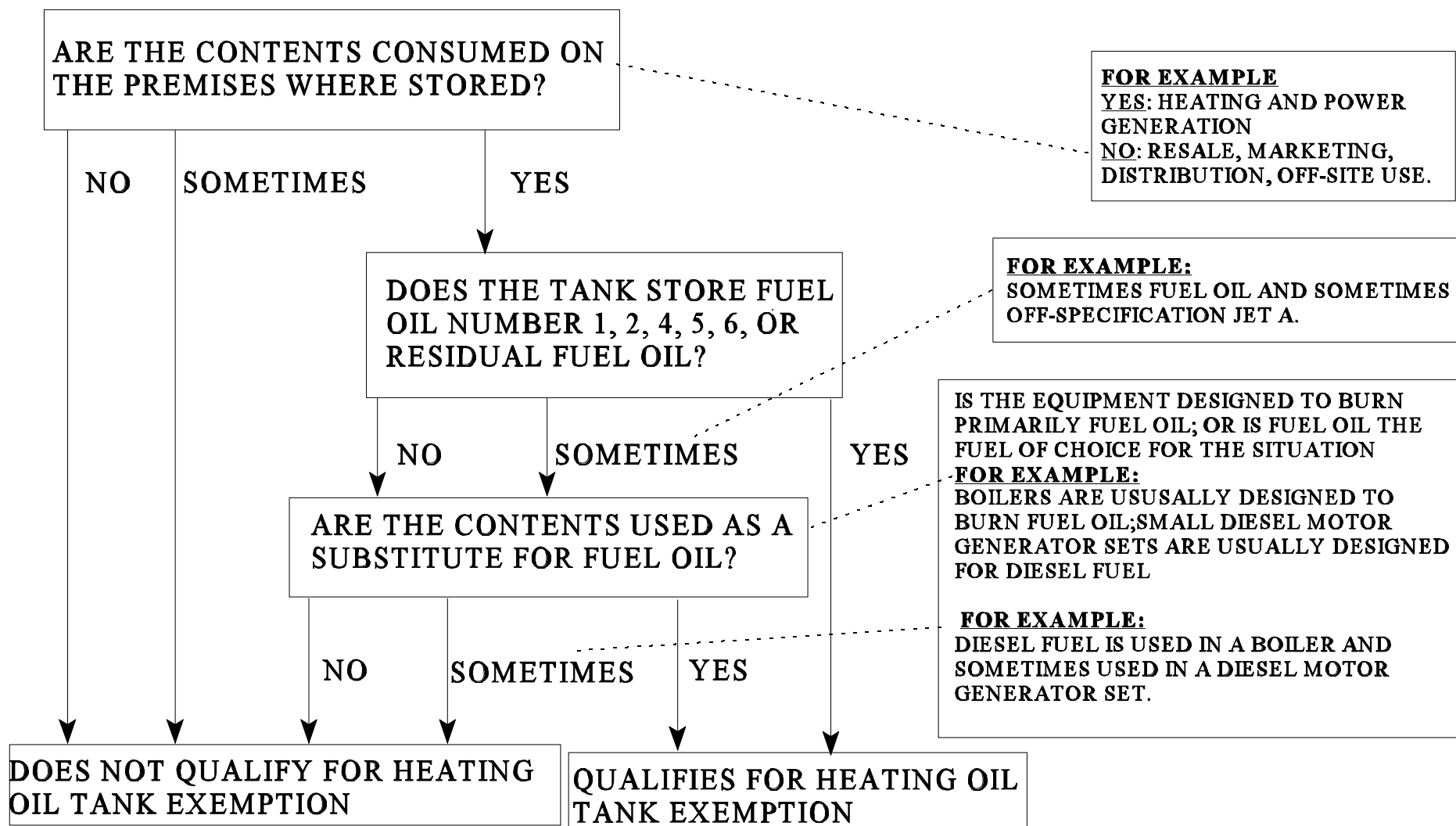
These substances are called "petroleum oil" for freight purposes because of their petroleum-like properties -- they are viscous, oily, less dense than water, and practically insoluble in water. They are also non-flammable and are used in the manufacture of detergents.

If you have any further questions please contact Mike Kalinoski 8-382-4759.

# Does my tank qualify for the heating oil tank exemption?

## DECISION TREE

## NOTES



Fiberglass Petroleum  
Tank + Pipe Institute  
One Seagate, Suite 1001  
Toledo, Ohio 43604-1560  
419-247-5412  
Fax 419-247-5421

May 29, 1990

Ronald Brand, Director  
Office of Underground Storage Tanks  
Environmental Protection Agency  
401 M Street Southwest  
Mail Code OS 410  
Washington, DC 20460

SUBJECT: TANK SELLERS NOTIFICATION OBLIGATIONS

Dear Ron:

Since October 24, 1988 EPA has required that "... any person who sells a tank to be used an underground storage tank must notify the purchaser of such tank of the owners notification obligation under 40 C.F.R. paragraph 280.22 (a). The form provided in Appendix III of this part may be used to comply with this requirement."

The suggested language in Appendix III is dated. We request your review and approval of the following statement to be used in lieu of the Appendix III language.

"EPA regulations (40 C.F.R. Section 280.22 (a)) require owners of certain, new underground storage tanks to notify designated State or local agencies of the existence of such tanks within 30 days of bringing such tank into use. Consult these regulations to determine if you are affected by this notification requirement"

This is to request a written opinion from EPA approving use of this statement, or your suggestions for modification.

Very truly yours,

/s/

E. C. Nieshoff  
Executive Director  
Fiberglass Petroleum  
Tank and Pipe Institute

ECN/cas

cc: Fiberglass Petroleum Tank and Pipe Institute Members



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JULY 11, 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

E.C. Nieshoff  
Executive Director  
Fiberglass Petroleum Tank and Pipe Institute  
One Sea Gate, Suite 1001  
Toledo, Ohio 43604-1560

Dear Ed:

The wording quoted on your May 29 letter to me appears to be appropriate for informing the purchaser of a new underground storage tank of his responsibility to notify the implementing Agency. As you know, sellers of UST systems must so inform tank purchasers under the statute's provisions in section 9002(a)(6). Admittedly, the wording in Appendix III to Part 280 is somewhat dated and I believe your suggested wording conveys the intent of that earlier guidance. Thus, it may also be used to Comply with the seller's requirements contained in 40 CFR 280.22(a).

I hope this clarification is sufficient for your needs.

Sincerely,

/s/

Ron Brand, Director  
Office of Underground Storage Tanks





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

November 1990

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Mr. David England  
Council President  
Stewartstown Borough  
P.O. BOX 415  
Stewartstown, PA 17363

Dear Mr. England:

The Environmental Protection Agency (EPA) has been requested by Senator Arlen Specter to respond directly to your September 25, 1990 letter to him concerning the EPA's underground storage tank (UST) regulations and your question of why municipalities were not exempt from them. The Agency's Office of Underground Storage Tanks completed the UST regulations over two years ago, and therefore is in the best position to respond to your letter.

Let me first confirm that there is an exemption in the EPA regulations for USTs storing less than 1100 gallons of motor fuel for "non-commercial" purposes. This farm and residential small tanks exclusion comes directly out of the Federal statute (the Resource conservation and Recovery Act, as amended, section 9001(1)(A)). However, this exemption did not extend to small underground storage tanks owned by municipalities and EPA determined there was no technical basis to broaden in the regulations the law's specific exemption in this area.

For your information the EPA regulations do not apply to above ground tanks of any size. Thus, in your letter you may be referring to tank requirements that have been passed by the State of Pennsylvania. Of course the State can be different or even more stringent than EPA's regulations in this area. For further information about possible Pennsylvania requirements we suggest you contact the following person:

Mr. Foster Diodato  
PA Dept. of Environmental Resources  
Bureau of Water Quality Management  
Storage Tank Section



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

August 12, 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Mr. Thomas F. West  
Executive Director  
National Association of Texaco Wholesalers, Inc.  
6551 Loisdale Court, Suite 100  
Springfield, VA 22150

Dear Mr. West:

This responds to your May 14, 1991 request for clarification from EPA's Office of Underground Storage Tanks (OUST) as to whether compartmentalized underground storage tanks (USTs) are considered one tank for purposes of regulation under subtitle I of the Resource Conservation and Recovery Act, as amended (RCRA).

Please be informed that OUST considers an underground tank vessel with compartments to be a single tank system for purposes of the 40 CFR Part 280 regulations. A compartmentalized tank vessel is manufactured in essentially the same way as all other single tanks. It is also transported, installed, and protected from external corrosion as a single unit. Thus, dividing such tanks internally into compartments does not change its single tank status under the regulations. In sum, a compartmentalized UST and the underground piping connected to it are considered a single tank system by the EPA.

Of course, under section 9008 of RCRA, state or local UST programs are allowed to "adopt or enforce any regulation, requirement or standard of performance respecting underground storage tanks that is more stringent" than federal requirements. Thus, states and local governments are free to interpret this question of compartmentalized tanks differently for purposes of state regulation or local ordinances, including their notification and financial responsibility requirements. We advise you to check with those officials directly to assure you understand state and local policies on this matter in their respective jurisdictions.

I hope the above information provides the clarification you seek on this matter.

Sincerely,

/s/

David W. Ziegele, Acting Director  
Office of Underground Storage Tanks



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Honorable Jim Jontz  
United States House of Representatives  
302 East Lincolnway  
Valparaiso, Indiana 46383

Dear Congressman Jontz:

Thank you for your May 16, 1991 letter to the Environmental Protection Agency (EPA) concerning whether an underground storage tank (UST) owned by one of your constituents, Mr. John Womer, is exempt from EPA regulations addressing USTs under Subtitle I of the Resource Conservation and Recovery Act (RCRA). Apparently Mr. Womer owns a 550 gallon UST storing gasoline that is used to support his nursery and landscaping business in Porter County, Indiana.

The exclusion referred to by Mr. Womer is found in the Federal statutory definition of underground storage tank, which does not include any "farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes". Generally, this "farm tank" exclusion applies to such USTs located at nurseries where the products for retail stores, garden centers, or landscaping businesses are grown and the fuel is used for that agricultural purpose. Mr. Womer's letter provides an assurance that the fuel is not sold commercially. Thus, the tank described in his January 12, 1991 letter appears to be a farm tank and not subject to EPA's UST regulations.

It is unfortunate that Mr. Womer's initial letter was lost. Apparently, he sent it to a publications office at a separate address and it was never forwarded to the Office of Underground Storage Tanks. I hope this response satisfies his concerns.

Sincerely,

/s/

David W. Ziegele, Acting Director  
Office of Underground Storage Tanks



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Ms. Laura H. Thomas  
Marketing Manager  
York International  
P.O. Box 1592  
York, Pennsylvania 17405-1592

Dear Ms. Thomas:

This responds to your August 5, 1991 request for clarification as to whether the York Iceball Thermal Storage system is subject to regulation under subtitle I of the Resource Conservation and Recovery Act, as amended. Your letter described a process whereby a 25% ethylene glycol 75% water solution is circulated underground between the iceball storage tanks and chillers for the purpose of air conditioning a building during daylight hours.

It would seem that the iceball cooling storage system you have described is exempt from the 40 CFR Part 280 underground storage tank requirements under the exclusion found at 280.10 (b) (3) for "equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks."

In sum, the primary purpose of the iceball tank is a heat exchanger for cooling purposes. If there was a leak in the tank containment vessel or attached piping the primary purpose of the tank would be quickly defeated. This is the same situation as for hydraulic lift and electrical equipment tanks. Thus, the "operational tanks" regulatory exclusion applies to the York iceball tank system.

I hope the above provides the clarification you seek.

Sincerely,

/s/

David O'Brien, Branch Chief  
Technical Standards Branch



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

August 26, 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Mr. William G. Nowman, President  
Halissco, Inc.  
6601 North Black Canyon Highway  
Phoenix, Arizona 85015

Dear Mr. Nowman:

This responds to your August 21, 1991 letter to Administrator Reilly about your need for clarification of a portion of the Environmental protection Agency's (EPA) underground storage tank (UST) regulations that were promulgated under Subtitle I of the Resource Conservation and Recovery Act as amended. Your question pertains to the way the 40 CFR Part 280 regulations address vaulted tank systems buried in the ground.

Your letter suggests there is a lack of clarity in the UST regulations about how much space is necessary between the tank vessel and the surrounding open vault to allow for physical inspection. This question is important because tanks that can be physically inspected for leaks are considered to be the same as aboveground tanks, and thereby excluded from the UST rules under the "underground areas exclusion" provided in the statutory definition of underground storage tanks. Your general concern is that there are some vaulted tank systems for sale in the market that do not allow complete physical inspection of all sides of the tank vessel because the tank shell is located too close to the side walls of the vault.

In your letter you provided a specific example of a tank that is within six inches of the vault's walls on three sides, but is, set back far enough along the fourth side of the tank to allow room for human entry and inspection. Such a tank system would be considered to be physically inspectable by EPA, and therefore not subject to the Agency's UST regulations under the "underground areas exclusion", if the access provided on the fourth side of the vaulted is sufficient to enable a person to observe evidence of a leak from anywhere on the tank vessel. Thus, if the tank is in a saddle and the bottom of the vault can be viewed. in order to check for evidence of a leak then the tank is considered to be inspectable.

It is our belief that the underground areas exclusion in the statute was intended by Congress to exempt from the UST rules those tank systems that area: (1) out in the open and not surrounded by backfill (and therefore not subject to the primary failure mode of existing USTs: external corrosion); (2) not hidden from visual inspection for leaks (the same as above-ground tanks); and (3) built and installed according to the above-ground tank consensus codes of practice. Thus, meeting the physical

inspectability criterion that is discussed in the preamble to the rule. (45 FR 37121 September 23, 1989) is determined by whether inspector can access the tank system sufficiently to assure it is not supported by backfill, can be visually checked for evidence of leaks, and is built to an above-ground tank code. Such a tank system is not subject to EPA'S underground tank regulations.

I hope the above information provides the clarifications you seek. If you have further questions on this issue please contact me.

Sincerely,

/s/

David Ziegele, Acting Director  
Office of Underground Storage Tanks

(OS-410(WF) :DO'brien:bmt:308-8853:9/23/91:DISC#c::memo.bmt)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

October 7, 1991

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Mr. James J. Hamula  
Kimball and Curry, P.C.  
2600 North Central Avenue  
Suite 1600  
Phoenix, Arizona 85004

Dear Mr. Hamula:

This responds to your August 28, 1991 letter on behalf of a major Arizona Utility to Dave O'Brien of this office in which you request EPA's opinion on the applicability of the "emergency spill or overfill containment" exemption in 40 CFR Section 280.10(b)(6) to sumps used to contain diesel fuel discharges from electric power generation turbines. These sumps are designed to receive the diesel fuel discharges from the turbine in the event of a false start.

Your letter describes the sumps in question as constructed of non-earthen materials (e.g., concrete or steel), with a volume of no more than 350 gallons, and connected to the turbines by way of an enclosed conduit (e.g., pipes). You admit false starts do occur from time to time and that on those occasions small amounts of fuel are discharged directly from the turbine into the sump (about 20 gallons). Immediately after the false start occurs, you report that utility personnel remove the diesel fuel from the sump.

Excluded from the 40 CFR Part 280 regulations under section 280.10 (b)(6) are "any emergency spill or overflow containment UST system that is expeditiously emptied after use." As stated on p3709 of the September 23, 1988 preamble, "by including this exclusion in the final rule, the Agency believes that any potential confusion regarding the need for secondary barriers (containment) for secondary barriers (containment) systems has now been eliminated." The sump collection/storage system described in your letter in no way resembles a secondary containment barrier. It is described (by you) as simply a storage tank into which your client periodically discharges (for temporary storage) unburned fuel from their turbines when they false start. Also the event you describe is not an emergency spill, leak or other unplanned occurrence. The very fact that the sump is connected by conduit to the turbine indicates that your client expects false starts to occur from time to time. Accordingly, EPA believes these sumps are not the same as emergency spill tanks which allow an appropriate immediate response to emergency situations which threaten immediate releases into the environment.

The above conclusion is further supported in the September 23, 1988 preamble discussion

where on page 37109 it says "sumps designed to store petroleum or hazardous substances during periodic cleaning or maintenance of machinery or equipment are not included in this exclusion. An example of this type of sump is turbine oil sumps that are used during maintenance of electric power generation turbines. The act of occasionally draining out a false-starting turbine so that it can ignite is also considered by EPA to be a planned maintenance activity. It is not the type of unplanned-for-leak-threatening emergency situation that requires immediate and temporary storage in an emergency spill or overfill tank.

In sum, it is our conclusion that the false start sumps described in your letter are subject to the 40 CFR Part 280 requirements. Therefore, the views of the person named in your letter, Martha Zeichner, do not represent the position of EPA's Office of Underground Storage Tanks on the question of false-start sumps.

I hope the above sufficiently clarifies OUST's position on this matter for your needs.

Sincerely,

/s/

David W. Ziegele, Director  
Office of Underground Storage Tanks

(os-410(WF) :DOBrien:bmt.IO/7/91.DISC#c:hamula.ltr)





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

November 19, 1992

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Ms. Jean Riley, Executive Director  
Petroleum Tank Release Compensation Board  
1740 N. Montana  
Helena, Montana 59620

Dear Ms. Riley:

I am writing to confirm the conclusions we reached in our earlier telephone conversation regarding the definition of "farm tank" under subtitle I of the Resource Conservation and Recovery Act (RCRA), and the applicability of the farm-tank exclusion to the tank(s) located at the livestock exchange that you described.

A "farm tank" is defined in the federal underground storage tank (UST) regulations (40 CFR 280.12) as; "a tank located on a tract of land devoted to the production of crops or raising of animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. "Farm" includes fish hatcheries, rangeland and nurseries with growing operations." [emphasis added]

Although the preamble to the regulation does not deal specifically with livestock exchanges, it clearly excludes from the definition of farm tank retail stores and nursery centers where agricultural products are "marketed, but not produced." A similar situation exists with livestock exchanges where livestock is solely marketed, but not raised. Thus, the mere fact that a tank is somehow associated with agricultural operations does not, by itself, allow the tank to be defined as a "farm" tank for purposes of the farm-tank exclusion under subtitle I of RCRA.

The livestock exchange that you described in our conversation and your letter (attached) is evidently devoted to marketing rather than raising of animals, and is not located on a farm or rangeland. Therefore, it appears that a tank located at such a facility would not qualify for the farm-tank exclusion under the federal UST regulations. Unless it is exempted for some other reason that we are unaware of, it would be considered a regulated tank under Subtitle I of RCRA.

I hope this letter meets your needs and apologize for the delay in getting it to you. Please feel free to contact me at (703) 308-8881 if I can be of any further assistance.

Sincerely,

/s/

John M. Heffelfinger  
Office of Underground Storage Tanks

Attachment

cc: UST Regional Program Managers  
Dick Blodnick



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

June 4, 1993

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Robert C. Galbraith  
Assistant Attorney General  
General Counsel, UST Fund Board  
Iowa Department of Justice  
Hoover Building  
Des Moines, Iowa 50319

Dear Mr. Galbraith:

I am writing in response to your letter dated May 27, 1993, in which you asked whether the U.S. Environmental Protection Agency (EPA) currently requires underground storage tanks (USTs) containing pure toluene to maintain proof of financial responsibility. As discussed below, under the federal regulatory program for USTs, EPA does not currently require owners and operators of USTs containing pure toluene to maintain evidence of financial responsibility for taking corrective action or compensating third parties for releases from those USTs.

EPA's authority for regulating USTs is found in subtitle I of the Resource Conservation and Recovery Act. Under Subtitle I, EPA has promulgated final financial responsibility regulations for owners and operators of petroleum underground storage tanks only. See 40 CFR Part 280.90 through 280.112, enclosed. USTs containing "hazardous substances" (as opposed to petroleum) are not subject to the financial responsibility regulations, by virtue of their absence from Part 280.90 -- Applicability.

For regulatory purposes under subtitle I, an UST storing pure toluene is considered to be a "hazardous substance UST system," which EPA defines in the comprehensive federal UST regulations in Part 280.12 as follows:

"Hazardous substance UST system" means an underground storage tank system that contains a hazardous substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) ... or any mixture of such substances and petroleum, and which is not a petroleum UST system.

Toluene is a hazardous substance as defined under section 101(14) of CERCLA. It is listed in 40 CFR Part 302, Table 302.4 -- List of Hazardous Substances and Reportable Quantities. I have enclosed the relevant pages from that list.

EPA issued an Advanced Notice of Proposed Rulemaking on financial responsibility requirements for USTs containing hazardous substances in the Federal Register on February 9, 1988 (see 53 FR 3818). Thus, while EPA has the statutory authority to require financial responsibility for hazardous substance USTs such as those containing toluene, EPA has not yet formally proposed nor finalized such a rule.

I hope the information I have provided satisfies your request. Please contact me if I can be of any further assistance.

Sincerely,

/s/

John M. Heffelfinger  
Special Assistant to the Director  
Office of Underground Storage Tanks

Enclosures

cc: Lee Daniels, U.S. EPA, Region 7

(seal)

**STATE OF MISSISSIPPI**

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER JR.  
EXECUTIVE DIRECTOR

January 8, 1993

Mr. John K. Mason  
Environmental Protection Agency  
345 Courtland St. NE  
Atlanta, GA 30365

Dear Mr. Mason

**RE: Defining "Annual" for Release  
Detection**

Our office requests that the term "annual" be defined since there seems to be some discrepancy as to the interpretation of this term when a tank owner is evaluated for compliance with the release detection method of annual precision tank tightness testing in combination with inventory control and reconciliation.

Our understanding of this definition is that "annual" is a period of twelve months. So, if a tank owner chooses to precision test on February 1 of the phase-in year required for release detection, the tank owner must test the tanks again by February 1 of the following year in order to satisfy the requirements of "annual" precision tank tightness testing.

However, one tank owner believes that as long as a facility is tested each year by the phase-in period of December 22, he is in compliance with "annual" precision testing, since the tanks are tested each calendar year by the phase-in deadline of December 22. We believe that this interpretation is incorrect, and two analogies for our reasoning are as follows:

1. If this interpretation is correct, a tank owner could theoretically test the tanks on December 22 of one year, test them on January 1 of the following year, and December 22 of the following year. Thus, only 10 days would elapse from one "annual" testing and over 24 months would elapse from the next "annual" testing. We believe that the regulations were not written so that precision tank tightness testing would occur at such extreme time intervals to satisfy release detection requirements.

2. If "monthly" monitoring is interpreted as "every thirty days", then "annual" must either mean "every twelve months" or "every 365 days".

Please submit clarification on the definition of "annual" so that we can properly determine the compliance status of facilities that use annual precision testing in conjunction with inventory control and reconciliation as a release detection method. For your information we have included a copy of the tank owner's response. We would appreciate an answer by January 29, 1993 so that we can expedite our release detection compliance efforts.

Thank you for your attention into this matter.

/s/

Walter Huff, P.E.  
Mississippi UST Technical Coordinator

Enclosure  
WJ:dj



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

March 7, 1993

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

MEMORANDUM

SUBJECT: Regulatory Interpretation;  
Definition of "Annual" As It Applies to Tightness Tests

FROM: David W. Ziegele, Director, /s/  
Office of Underground storage Tanks

TO: UST/LUST Regional Program Managers

This is to respond to a request from Region IV for clarification of the definition of "annual" as it pertains to tank and line tightness testing.

280.41(a)(2) states "UST systems that do not meet the performance standards in § 280.20 or § 280.21 may use monthly inventory controls ... and annual tank tightness testing until December 22, 1998 ..." Similarly, 280.41(b)(1)(ii) requires that pressurized piping "have an annual line tightness test conducted in accordance with § 280.44(b) or have monthly monitoring conducted..."

"Annual" as used in these two cites means on or before the same date of the following year. Other interpretations cannot be supported by the letter or intent of the regulations. Note that, per 280.40(c), "... all UST systems must comply with the release detection requirements of this subpart by December 22 of the year listed ..." Therefore, for compliance, a tightness test must first be conducted within the annual time period before the compliance date, and again on or before the test date the year following the test.

For example, if a tank was due for leak detection by December 22, 1990 and was tested back on January 1, 1990, it was in compliance on its deadline, but had to be retested by January 1, 1991, only a few days thereafter.

Similarly, the phrase "every 5 years" means on or before the same date five years later, as the phrase is used in 280.41(a)(1). This cite reads "UST systems that meet the performance standards in § 280.20 or § 280.21, and the monthly inventory requirements ... may use tank tightness testing ... at least every 5 years until December 22, 1998, or until 10 years after the tank is installed or upgraded ... whichever is later."

As you know, States may have imposed more stringent requirements than EPA's, and before

State Program Approval both sets of requirements would be in effect. If you have any questions on leak detection, please contact David Wiley of my staff at (703)308-8877.

cc: UST/LUST Regional Branch Chiefs  
OUST Management Team  
Shonee Clark, OUST (compendium)  
Dawn Messier, OGC  
Mimi Newton, OE  
Barbara Simcoe, ASTSWMO  
David Wiley, OUST



## **Regulatory Interpretation: Definition of “Annual” With Regards to Tightness Testing**

### Background

280.41(a)(2) states “UST systems that do not meet the performance standards in § 280.20 or § 280.21 may use monthly inventory controls ... and annual tank tightness testing until December 22, 1998 when the tank must be upgraded under § 280.21 or permanently closed under § 280.71...” Similarly, 280.41(b)(1)(ii) requires that pressurized piping “have an annual line tightness test conducted in accordance with § 280.44(b) or have monthly monitoring conducted ...”

Similarly, 280.41(a)(1) reads, “UST systems that meet the performance standards in § 280.20 or § 280.21, and the monthly inventory requirements ... may use tank tightness testing ... at least every 5 years until December 22, 1998, or until 10 years after the tank is installed or upgraded ..., whichever is later.”

Note that, per 280.40(c), “... all UST systems must comply with the release detection requirements of this subpart by December 22 of the year listed ...”

Mississippi requested clarification from Region IV with regards to an enforcement action: Region IV requested clarification from HQ OUST.

### Discussion

Given that leak detection, including tightness testing, must be provided by the applicable compliance date, there are three possible interpretations of the annual requirement:

- 1) On or before the same date of the following year;
- 2) same as 1), except tanks in compliance with the first compliance date have one full year from that compliance date to retest; or
- 3) anytime during the following year, measured either by the calendar, by the December 22 schedule for phase-in, or by the last test date.

The first interpretation above is consistent with the regulations and their intent. For example, if a tank was due to provide leak detection by December 22, 1990 and was tested on January 1, 1990, it had to be retested by January 1, 1991, only a few days after its deadline. Under 2) or 3) above, this same tank could go until December 22 or December 31 of 1991 almost two years since the last test.

The same logic also applies to the phrase “every 5 years,” as applied to tightness testing on new and upgraded tanks. “Every 5 years” means on or before the same date five years later.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MARCH 9, 1995

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

MEMORANDUM

SUBJECT: Regulatory Interpretation:  
Tank Lining Inspection Frequency Requirement

FROM: Lisa C. Lund, Acting Director /s/  
Office of Underground Storage Tanks

TO: Patricia Tan, Chief  
Underground Storage Tank Section (3HW63)  
Region 3

This memorandum responds to an inquiry from the Virginia Department of Environmental Quality (VDEQ; copy attached) requesting clarification of the initiation date for the 10-year inspection and subsequent 5-year inspections of an underground storage tank (UST) properly lined before the December 22, 1988 effective date of the UST technical regulations. Specifically, VDEQ asked whether the 10-year period referenced at 40 CFR 280.21 (b)(1)(ii) begins when the tank was first properly lined or on the effective date of the regulations.

An existing UST owner/operator may comply with 40 CFR 280.21's upgrading requirements (which must take place no later than December 22, 1998) using the interior lining option (combined with the piping and spill and overflow upgrade requirements) if "**within 10 years after lining, and every 5 years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications**" (40 CFR 280.21 (b)(1)(ii) with emphasis added). By use of the words "after lining," the regulations clearly require that in order to be considered properly upgraded all such tanks, whether lined prior to or following the effective date of the regulations, must be inspected within the initial 10-year period after lining, followed by subsequent inspections at 5-year intervals. A lining which is not inspected in accordance with these requirements will not meet the requirements for upgrading existing systems.

For example, a tank properly lined in accordance with an existing industry standard or code of practice (such as API 1631 or NLPA 631) in May 1985, will require inspection on or before the same date of May 1995. Within five years of the initial 10-year inspection, the next inspection is due, followed by subsequent inspections within five years of each previous inspection. This upgrade may be used in conjunction with piping, spill and overflow upgrade requirements as long as the internal lining inspections indicate that the lining continues to perform in accordance with original design specifications.

According to the preamble of 40 CFR 280, interior lining, when used as the sole method of corrosion protection, is not considered a permanent upgrade. However, it is adequate as long as the lining continues to meet original design specifications as determined by periodic inspections. Therefore, it is technically necessary to inspect the lining according to the previously mentioned timetable regardless of whether the tank was lined before or after December 22, 1988. This technical position is consistent with NLPA Standard 631 (Entry, Cleaning, Interior Inspection, Repair, and Lining of Underground Storage Tanks), which requires an initial inspection within 10 years of tank lining followed by subsequent inspections not exceeding every 5 years.

If there are additional questions, please call Paul Miller of my staff at (703) 308-7242.

#### Attachment

cc: ASTSWMO UST Task Force  
OUST Management Team  
UST/LUST Regional Program Managers  
Frank Ciaviattieri, Region 1  
Conrad Simon, Region 2  
Robert Greaves, Region 3  
Mary Kay Lynch, Region 4  
Norman Niedergang, Region 5  
Guanita Reiter, Region 6  
Lynn Harrington, Region 7  
Robert L. Duprey, Region 8  
Laura Yoshii, Region 9  
Ken Feigner, Region 10  
Dawn Messier, OGC  
Tony Rieck, National Leak Prevention Association  
Joan Olmstead, OECA  
Shonee Clark, OUST (Compendium)  
Paul Miller, OUST



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

March 31, 2011

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

**MEMORANDUM**

**SUBJECT:** Update to the Regulatory Interpretation Request:  
Clarification of “Corrosion Expert” and “Cathodic Protection Tester”

**FROM:** Carolyn Hoskinson, Director  
Office of Underground Storage Tanks

A handwritten signature in black ink, appearing to read "C. Hoskinson", is written over the printed name and title.

**TO:** EPA UST/LUST Regional Program Managers  
State UST Managers

This memorandum updates the Office of Underground Storage Tank’s (OUST) April 16, 2001 memorandum titled *Update to the Regulatory Interpretation Request: Clarification of “Corrosion Expert” and “Cathodic Protection Tester.”* Since OUST issued that memorandum, NACE International changed their certification categories. In particular, they added a new certification category, cathodic protection technologist.

The Environmental Protection Agency (EPA) believes the new certification category fits EPA’s definition of cathodic protection tester (§ 280.12) but does not meet EPA’s definition of corrosion expert (§ 280.12). We believe cathodic protection technologist does not meet the definition of corrosion expert because the skill assessment description contained in the NACE International literature requires only the design and installation of simplistic forms of galvanic and impressed current cathodic protection facilities. EPA believes cathodic protection systems at underground storage tank (UST) facilities can be complex and therefore, to be considered a corrosion expert, certifications must include skills to design complex cathodic protection systems. The attached table lists the NACE International certifications and shows where each certification fits into EPA’s corrosion expert and cathodic protection tester definitions. This table updates the table provided in the April 16, 2001 memorandum which is available on EPA’s website at: [www.epa.gov/oust/compend/adn.htm](http://www.epa.gov/oust/compend/adn.htm) (question 30).

As always, state agencies may impose requirements that are more stringent than the federal regulation. Owners and operators of UST facilities and members of the contracting community should confer with their state UST program offices to determine whether they interpret corrosion expert and cathodic protection tester definitions differently.

If you have any questions on this issue, please contact Paul Miller (703-603-7165 or [miller.paul@epa.gov](mailto:miller.paul@epa.gov)) of my staff. For information on NACE International's accreditation programs and descriptions of each certification category, please contact NACE International at (281) 228-6200 or visit their website at: [www.nace.org](http://www.nace.org).

Attachment

cc: Kim Ray, NACE International  
Kathy Nam, OGC  
OUST Regional Liaisons

**Attachment: NACE International Certification Levels That Meet EPA’s Definitions Of Corrosion Expert And Cathodic Protection Tester**

<i>EPA Definition (40 CFR Part 280.12)</i>	<i>NACE Certification</i>
<p><b>CORROSION EXPERT</b></p> <p>EPA’s definition requires NACE certification unless the person is a registered professional engineer (PE) with certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks. <b>Please check with state and local authorities to determine if their requirements are more stringent.</b></p>	<p>Corrosion Specialist</p> <hr/> <p>Cathodic Protection Specialist</p>
<p><b>CATHODIC PROTECTION TESTER</b></p> <p>EPA’s definition of cathodic protection tester does not require any specific certification; however, it does require education and experience in various corrosion areas. Persons holding these NACE certification levels are viewed by EPA as fully meeting regulatory requirements. <b>Please check with state and local authorities to determine if their requirements are more stringent.</b></p> <p>Note: Persons meeting EPA’s definition of corrosion expert would also be considered as meeting EPA’s definition of cathodic protection tester.</p>	<p>Cathodic Protection Technologist</p> <hr/> <p>Cathodic Protection Technician</p> <hr/> <p>Cathodic Protection Tester</p> <hr/> <p>Senior Corrosion Technologist</p> <hr/> <p>Corrosion Technologist</p> <hr/> <p>Corrosion Technician*</p>

\*Please note that NACE requires a *Corrosion Technician* performing as a CATHODIC PROTECTION TESTER be directly supervised by a *Corrosion Technologist, Senior Corrosion Technologist, Cathodic Protection Specialist, or Corrosion Specialist.*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

4/16/2001

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

**MEMORANDUM**

**SUBJECT:** Update to the Regulatory Interpretation Request:  
Clarification of "Corrosion Expert" and "Cathodic Protection Tester"

**FROM:** Cliff Rothenstein, Director /s/  
Office of Underground Storage Tanks

**TO:** EPA UST/LUST Regional Program Managers  
State UST Managers

This memorandum provides an update to the memorandum titled *Regulatory Interpretation Request: Clarification of "Corrosion Expert" and "Cathodic Protection Tester"* dated September 24, 1994. Since the original memorandum was issued, NACE International has made changes to their certification categories. In particular, they have added two new categories, cathodic protection tester and cathodic protection technician, and have changed some of the requirements for cathodic protection specialist. EPA believes that both of the new certification categories fit under the definition of cathodic protection tester. However, we believe that neither of the new certifications meets EPA's definition of corrosion expert. Attached is an update to the table provided in the September 24, 1994 memorandum. This table describes the various NACE International certifications and shows how each certification fits into EPA's corrosion expert and cathodic protection tester definitions and supercedes the table provided in the September 24, 1994 memorandum.

As always, state agencies may impose requirements that are more stringent than the federal regulations. Owners and operators of UST facilities and members of the contracting community should confer with their state UST program offices to determine whether they interpret corrosion expert and cathodic protection tester definitions differently.

If you have any questions on this issue, please contact Paul Miller of my staff by phone at (703) 603-7165 or by email at miller.paul@epa.gov. For information on NACE International's accreditation programs, please contact NACE International at (281) 228-6200 or visit their website at [www.nace.org](http://www.nace.org).

Attachment

cc: Cliff Johnson, NACE International  
Kathy Nam, OGC  
OUST Desk Officers

**ATTACHMENT: NACE CERTIFICATION LEVELS THAT MEET EPA’S DEFINITIONS OF CORROSION EXPERT AND CATHODIC PROTECTION TESTER**

<i>EPA Definition (40 CFR §280.12)</i>	<i>NACE Certification</i>	<i>Expertise/qualifications in corrosion control of USTs</i>
<p><b>CORROSION EXPERT</b></p> <p>(The EPA definition requires NACE certification unless the person is a registered PE with certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks. <b>Please check with state and local authorities to determine if their requirements are more stringent.</b>)</p>	Corrosion Specialist	<ul style="list-style-type: none"> <li>• Cathodic protection (includes all areas of expertise under Cathodic Protection Specialist)</li> <li>• Coatings and linings</li> <li>• Metallurgy</li> <li>• Plastics (non-metallic materials)</li> <li>• Inhibitors (environmental treatment)</li> <li>• Corrosion assessment</li> <li>• Stray current or cathodic interference testing and analysis</li> <li>• Corrosion site surveys</li> <li>• Corrosion control designs and recommendations</li> <li>• Work/education experience is the same as for Cathodic Protection Specialist plus a Specialty Area Certification.</li> </ul>
	Level 3 - Cathodic Protection (CP) Specialist	<ul style="list-style-type: none"> <li>• System design and specifications</li> <li>• Installation supervision</li> <li>• System testing/commissioning</li> <li>• Stray current/cathodic interference testing and analysis</li> <li>• System maintenance</li> <li>• Cathodic protection assessment</li> <li>• Cathodic protection recommendations</li> <li>• Analysis of cathodic protection feasibility</li> <li>• Cathodic protection installation permits/licenses</li> <li>• 4 years CP work experience in responsible charge plus CP level 2 certification or equivalent training plus one of the following:               <ul style="list-style-type: none"> <li>• 8 additional years CP work experience plus 2 years post-high school training in math or science from an approved technical/trade school</li> <li>• 2 additional years CP work experience plus 4-year engineering or physical science degree</li> <li>• Engineer-in-training (EIT) registration or equivalent.</li> <li>• Professional engineer (PE or P. Eng) or equivalent registration.</li> <li>• Bachelor’s degree in engineering or physical sciences and an advanced degree in engineering or physical science that required a qualification exam.</li> </ul> </li> </ul>

Continued on the next page



<i>EPA Definition (40 CFR §280.12)</i>	<i>NACE Certification</i>	<i>Expertise/qualifications in corrosion control of USTs</i>
<p><b>CATHODIC PROTECTION TESTER</b></p> <p>(The EPA definition of cathodic protection tester does not require any certification; however, persons holding these NACE certification levels are viewed by EPA as fully meeting regulatory requirements. <b>Please check with state and local authorities to determine if their requirements are more stringent.</b>)</p>	<p>Level 2 - Cathodic Protection Technician</p>	<ul style="list-style-type: none"> <li>• Perform advanced field tests and evaluate the results</li> <li>• Verify stray current interference</li> <li>• Understand AC voltage and its mitigation</li> <li>• Maintain advanced documentation and records, including data plotting</li> <li>• Conduct and understand the importance of periodical surveys, including IR Free readings and polarization decay tests</li> <li>• Install, repair, modify and test rectifiers and component parts such as circuits</li> <li>• Collect data on ER probes</li> <li>• 3 years CP work experience plus high school diploma or GED plus CP level 1 certification or equivalent training</li> <li>–or–</li> <li>1 year CP work experience plus 4-year physical science or engineering degree plus CP level 1 certification or equivalent training</li> <li>–or–</li> <li>2 years CP work experience plus 2-year post high school training from an approved math or science technical/trade school plus CP level 1 certification or equivalent training</li> </ul>
	<p>Level 1 - Cathodic Protection Tester</p>	<ul style="list-style-type: none"> <li>• Perform atmospheric corrosion inspections</li> <li>• Understand the basics of corrosion and cathodic protection theory</li> <li>• Conduct insulator tests and identify shorts in CP systems</li> <li>• Use test instruments to perform a variety of field tests and take rectifier readings</li> <li>• Install galvanic anodes and test</li> <li>• Read shunts and understand their use in rectifiers, bonds, and anodes</li> <li>• Perform the periodic surveys such as structure to soil, soil resistivity, coupon tests, offshore platform and riser surveys, rectifier readings, and surveys of bonds and diodes</li> <li>• Knowledge of reference cells and their installation, testing and safety requirements</li> <li>• Basic location mapping, report preparation and record keeping</li> <li>• 6 months cathodic protection work experience plus high school diploma or GED</li> </ul>

Continued on the next page

<i>EPA Definition (40 CFR §280.12)</i>	<i>NACE Certification</i>	<i>Expertise/qualifications in corrosion control of USTs</i>
<b>CATHODIC PROTECTION TESTER (continued)</b>  (The EPA definition of cathodic protection tester does not require any certification; however, persons holding these NACE certification levels are viewed by EPA as fully meeting regulatory requirements. <b>Please check with state and local authorities to determine if their requirements are more stringent.</b> )	Senior Corrosion Technologist	<ul style="list-style-type: none"> <li>• Installation supervision</li> <li>• System testing and commissioning</li> <li>• System maintenance</li> <li>• Evaluation of system performance</li> <li>• Eight years corrosion work experience, including four years in responsible charge,</li> <li style="text-align: center;">–or–</li> <li>• Bachelor’s degree in physical sciences or engineering plus four years corrosion work experience in responsible charge.</li> </ul>
	Corrosion Technologist	<ul style="list-style-type: none"> <li>• Installation supervision</li> <li>• System testing</li> <li>• System maintenance</li> <li>• Installation work</li> <li>• Routine inspections</li> <li>• Preliminary data analysis</li> <li>• Minimum of four years corrosion work experience</li> </ul>
	Corrosion Technician*	<ul style="list-style-type: none"> <li>• Routine system testing</li> <li>• System maintenance</li> <li>• Routine inspections</li> <li>• Installation work</li> <li>• Minimum of two years corrosion work experience</li> </ul>

\*Please note that NACE requires a *Corrosion Technician* performing as a CATHODIC PROTECTION TESTER be directly supervised by a *Corrosion Technologist, Senior Corrosion Technologist, Cathodic Protection Specialist, or Corrosion Specialist*.

Note: NACE International Certification requires a combination of fulfillment of formal education and work experience requirements as well as successfully passing a certification examination pertinent to the category of certification. All applicants must provide documented proof of acceptable work experience in the field of corrosion causes and mechanisms.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

September 27, 1994

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

MEMORANDUM

SUBJECT: Regulatory Interpretation Request:  
Clarification of "Corrosion Expert" and "Cathodic  
Protection Tester"

FROM: Lisa Lund, Acting Director /s/  
Office of Underground Storage Tanks

TO: State UST Managers  
UST/LUST Regional Program Managers  
UST/LUST Regional Counsels

This memorandum has been prepared in response to requests we have received to offer further guidance on the qualifications of "Corrosion Expert" and "Cathodic Protection Tester" as they are set forth in 40 CFR §280.12. As the 1998 deadline approaches, State and Regional staff have become increasingly concerned that underqualified persons may be taking part in the installation and testing of cathodic protection equipment for underground storage tanks (USTs). This concern has recently been echoed by NACE International (appended without attachment), a nationally recognized organization that specializes in corrosion control.

A Corrosion Expert, as defined in the regulations, must demonstrate the education and training needed to qualify in the practice of corrosion control on buried metal piping systems and tanks. Proof of qualification under 40 CFR §280.12 can take one of two forms: (1) a person must be a registered professional engineer with certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and tanks, or (2) "a person must be accredited or certified as being qualified by the National Association of Corrosion Engineers" [now known as NACE International].

There has been some confusion associated with the latter. Regulators and the regulated community are generally unfamiliar with which NACE certification levels are appropriate and adequate for work related to USTs. NACE International has responded by providing clarification. NACE recognizes only persons certified as

either *Corrosion Specialists* or *Cathodic Protection Specialists* as being qualified on the basis of training and work experience to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. The attached table highlights the areas of expertise, education, and training commanded by each level of NACE certification. Any person who is certified as either fulfills the regulatory requirements for Corrosion Expert. Verification of the certification level of any individual can be obtained from NACE International.

Unlike Corrosion Expert, being a professional engineer or holding NACE certification is not a requirement under the regulations for a Cathodic Protection Tester. There are several levels of NACE certification, however, that meet the minimum requirements for Cathodic Protection Tester education and experience set out in 40 CFR §280.12. Specifically, any person who has been NACE certified as a *Senior Corrosion Technologist* or *Corrosion Technologist* is recognized by OUST as demonstrating an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. In addition, a person who has been NACE certified as a *Corrosion Technician* can serve as a Cathodic Protection Tester, with the stipulation that the technician perform system testing under the direct oversight of a Corrosion Specialist, Cathodic Protection Specialist, Senior Corrosion Technologist, or Corrosion Technologist, as required by NACE. The three NACE certification levels are detailed in the accompanying table.

As always, states are at liberty to impose requirements more stringent than the federal regulations. Owners and operators of UST facilities and members of the contracting community should confer with their state UST program offices to determine whether there are any differences between the state and federal regulations.

If you have any questions on this issue, please contact Bill Faggart of my staff at (703) 308-8897. For information on NACE International 's accreditation programs, please contact NACE International at (713) 492-0535.

Attachments (2)

cc: Kevin C. Garrity, NACE International  
Shelley Nadel, NACE International  
UST/LUST Regional Branch Chiefs  
OUST Management Team  
Shonee Clark, OUST (Compendium)  
Dawn Messier, OGC  
Joan Olmstead, OECA/RCRA  
Barbara Simcoe, ASTSWMO

Bill Faggart, OUST  
David Wiley, OUST  
Randy Nelson, Region VII

## CERTIFICATION LEVELS FOR UST CORROSION PROTECTION

<i>EPA Definition (40 CFR §280.12)</i>	<i>NACE Certification</i>	<i>Expertise/qualifications in corrosion control of USTs</i>
<p><b>CORROSION EXPERT</b></p> <p>(NACE certification is <i>required</i> unless person is a registered PE with certification or licensing in corrosion control of buried metal pipes and tanks.)</p>	Corrosion Specialist	<ul style="list-style-type: none"> <li>• Cathodic protection (includes all areas of expertise under Cathodic Protection Specialist)</li> <li>• Coatings and linings</li> <li>• Metallurgy</li> <li>• Plastics (non-metallic materials)</li> <li>• Inhibitors (environmental treatment)</li> <li>• Corrosion assessment</li> <li>• Stray current or cathodic interference testing and analysis</li> <li>• Corrosion site surveys</li> <li>• Corrosion control designs and recommendations</li> <li>• Work/education experience is the same as for Cathodic Protection Specialist plus a Specialty Area Certification.</li> </ul>
	Cathodic Protection Specialist	<ul style="list-style-type: none"> <li>• System design and specifications</li> <li>• Installation supervision</li> <li>• System testing/commissioning</li> <li>• Stray current/cathodic interference testing and analysis</li> <li>• System maintenance</li> <li>• Cathodic protection assessment</li> <li>• Cathodic protection recommendations</li> <li>• Analysis of cathodic protection feasibility</li> <li>• Cathodic protection installation permits/licenses</li> <li>• Eight years corrosion work experience, including four years in responsible charge plus Senior Corrosion Technologist Exam</li> <li style="text-align: center;">–or–</li> <li>• Four years corrosion work experience in responsible charge plus one of the following:               <ul style="list-style-type: none"> <li>• Engineer-in-Training (EIT) registration or equivalent.</li> <li>• Professional Engineer (PE or P. Eng) or equivalent registration.</li> <li>• Bachelor’s degree in Engineering or Physical Sciences plus a Ph.D. in Engineering or Physical Sciences that required a qualifications exam.</li> </ul> </li> </ul>

(continued)

<i>EPA Definition (40 CFR §280.12)</i>	<i>NACE Certification</i>	<i>Expertise/qualifications in corrosion control of USTs</i>
<b>CATHODIC PROTECTION TESTER</b>  (NACE certification is <i>not</i> required; however, persons holding these NACE certification levels are viewed by OUST as fully meeting regulatory requirements.)	Senior Corrosion Technologist	<ul style="list-style-type: none"> <li>• Installation supervision</li> <li>• System testing and commissioning</li> <li>• System maintenance</li> <li>• Evaluation of system performance</li> <li>• Eight years corrosion work experience, including four years in responsible charge,</li> <li style="text-align: center;">–or–</li> <li>• Bachelor’s degree in Physical Sciences or Engineering plus four years corrosion work experience in responsible charge.</li> </ul>
	Corrosion Technologist	<ul style="list-style-type: none"> <li>• Installation supervision</li> <li>• System testing</li> <li>• System maintenance</li> <li>• Installation work</li> <li>• Routine inspections</li> <li>• Preliminary data analysis</li> <li>• Minimum of four years corrosion work experience</li> </ul>
	Corrosion Technician *	<ul style="list-style-type: none"> <li>• Routine system testing</li> <li>• System maintenance</li> <li>• Routine inspections</li> <li>• Installation work</li> <li>• Minimum of two years corrosion work experience</li> </ul>

\*NACE requires that a *Corrosion Technician* performing as a CATHODIC PROTECTION TESTER must be directly supervised by a *Corrosion Technologist, Senior Corrosion Technologist, Cathodic Protection Specialist, or Corrosion Specialist.*

Note: NACE International Certification requires a combination of fulfillment of formal education and work experience requirements as well as successfully passing a certification examination pertinent to the category of certification. All applicants must provide documented proof of acceptable work experience in the field of corrosion causes and mechanisms.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

February 24, 1997

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

**Memorandum**

**SUBJECT:** Regulatory Interpretation on the Applicability of Subtitle I of the Resource Conservation and Recovery Act to Regulate Water Covered Storage Tanks

**FROM:** Anna Hopkins Virbick, Acting Director /s/  
Office of Underground Storage Tanks

**TO:** John K. Mason, Chief  
Underground Storage Tank Section, Region 4

This memorandum is in response to your request for a regulatory interpretation concerning the applicability of Subtitle I of RCRA to certain water covered tanks containing carbon disulfide. As you are aware, we have considered four possible interpretations. We have circulated these possible interpretations to all EPA UST Regional Program Managers and to the Office of General Counsel.

After fully considering all possible interpretations and the comments we received from EPA Regional Offices and the Office of General Counsel, we have concluded that the tanks in question are not regulated because they are not underground and do not meet the definition of an underground storage tank. Both the statute and EPA's regulations (40 CFR 280.12) define the term "underground storage tank" to mean: "any one or a combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is 10 percent or more beneath the surface of the ground." (emphasis added)

The term "underground" is not defined in the law or in the regulations. The term, "beneath the surface of the ground," however, is defined at 40 CFR 280.12 to mean: "beneath the ground surface or otherwise covered with earthen materials." The tanks in question are below grade but are not "beneath the ground surface or otherwise covered with earthen materials." The tanks are covered with water which is not an earthen material. Therefore, the tanks are not "beneath the surface of the ground" and are not regulated.

A brief review of the way the Agency has considered below grade tanks to be regulated further confirms the conclusion that the tanks in question are not regulated. On April 7, 1986, the Agency issued a guidance document that indicated that tanks which were 10 percent or more below grade were regulated even if not covered by ground material. The April 1986 guidance would have



the tanks in question regulated under Subtitle I of RCRA.

The 1987 proposed rule, however, changed the treatment of below grade tanks such as the tanks in question. The April 17, 1987 proposed rule states in 40 CFR 280.12 that beneath the surface of the ground "means beneath the ground surface or otherwise covered with materials so that physical inspection is precluded." The preamble to the proposed rules (p. 12690) explains that this means that: "A tank whose volume is less than 10 percent beneath the surface of the ground and that is below grade but not covered with ground material, such as a tank in a ditch or natural depression, is not included in today's proposal because it is not substantially different from an above ground tank." Thus, the proposed rules changed the April 1986 guidance by removing tanks from Subtitle I jurisdiction that are below grade, not covered with ground materials and whose volume is less than 10 percent beneath the surface of the ground. Tanks covered with water are not considered to be covered with ground materials and, therefore, would not be regulated.

While the language in the proposed rules leads to the conclusion that the tanks in question are not regulated, changes found in the final rule make this explicitly clear. The final regulation in 40 CFR 280.12 changed the definition of "beneath the surface of the ground" in two ways. First, it added the word "earthen" to the phrase "or otherwise covered by materials" to read "or otherwise covered by earthen materials." Second, it dropped the phrase "so that physical inspection is precluded" at the end of the definition. Thus, it is clear in the final rule that below grade tanks not covered by earthen material are not regulated, even if physical inspection is precluded because the tanks are covered by a non-earthen material. The water, in this case, does not preclude physical inspection. Even if it did, however, the regulations would not apply to the tanks in question.

As mentioned above, we have discussed this issue with staff in the Office of General Counsel who concurs with our interpretation. If you have any questions or would like to discuss this issue further, please call John Heffelfinger (703 603-7157) or Bill Lienesch (703 603-7162).

cc: UST/LUST Regional Program Managers  
Katherine Nam, Office of General Counsel  
OUST Program Directions Team  
OUST Desk Officers



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

SEPTEMBER 20, 1999

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Ms. Dorcee Lauen  
Williams & Company/PSTIF  
P.O. Box 8100  
Sioux City, IA 51102-8100

Dear Ms. Lauen:

Thank you for your electronic mail message dated July 7, 1999, to Paul Miller of my staff regarding the 3-year cathodic protection testing requirement for cathodically protected underground storage tanks (USTs). In your message, you asked the Office of Underground Storage Tanks (OUST) to clarify the term "every 3 years" with regards to the cathodic protection testing requirement in the federal regulations. The regulations at 40 CFR 280.31(b)(1) state that:

"All cathodic protection systems must be tested within 6 months of installation and at least every 3 years thereafter or according to another reasonable time frame established by the implementing agency."

OUST interprets this statement to mean that a cathodic protection test must be conducted on or before the same day of the third year after the previous cathodic protection test has occurred. Please note that the Federal regulations allow implementing agencies to establish another reasonable time frame.

Please contact Paul Miller of my staff via e-mail at [miller.paul@epa.gov](mailto:miller.paul@epa.gov), via phone at 703/603-7165, or via FAX at 703/603-9163 if you have further questions.

Sincerely,

/s/

Sammy Ng, Acting Director  
Office of Underground Storage Tanks

cc: State UST Program Managers  
EPA Regional Program Managers  
Wayne Geyer, Steel Tank Institute  
Kathy Nam, OGC  
Shonee Clark (compendium)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

NOV 27 2007

**MEMORANDUM**

SUBJECT: Regulatory Interpretation;  
Regulatory Status of E85 Tanks

OFFICE OF  
SOLID WASTE AND  
EMERGENCY RESPONSE

FROM: Cliff Rothenstein, Director  
Office of Underground Storage Tanks

A handwritten signature in black ink, appearing to read "Cliff Rothenstein", written over the printed name.

TO: EPA UST/LUST Regional Program Managers  
State UST Program Managers

This memorandum responds to questions from states on the regulatory status of underground storage tanks (USTs) containing E85. E85 is a blend of approximately 85% ethanol and 15% gasoline, though the actual percentage may vary due to different blending techniques and seasonal blends.

An underground storage tank is defined, in part, as, "any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances." Pure ethanol is not a regulated substance; however, gasoline is a petroleum product, and petroleum is a regulated substance. An UST storing E85 is thus storing an accumulation of regulated substances and is a regulated UST subject to 40 CFR Part 280 unless it meets one of the exclusions in §280.10(b) or exemptions in the definition of UST in §280.12.

One common exclusion is for a small-capacity UST system defined as, "[a]ny UST system whose capacity is 110 gallons or less" (§280.10(b)(4)). This exclusion refers to total tank capacity and was chosen primarily to reduce the regulatory burden on implementing agencies. An UST system storing E85 would be excluded by §280.10(b)(4) only if the total capacity of the UST system were 110 gallons or less.

Another common exclusion addresses "[a]ny UST system that contains a *de minimis* concentration of regulated substances" (§280.10(b)(5)). Examples given in the preamble to the regulation include substances with very small concentrations, such as chlorine in drinking water and swimming pools (generally a few parts per million) (53 Fed. Reg. 37108 - 37109 (1988)). The petroleum fraction in E85 is orders of magnitude greater than the examples of *de minimis* concentrations referenced in the preamble. Therefore, an UST storing E85 contains more than a *de minimis* concentration of petroleum and does not qualify for the *de minimis* exclusion. Implementing agencies should use the examples given in the preamble as a guide to determine whether USTs storing other fuel blends qualify for the *de minimis* concentration exclusion.

If you have any questions about this clarification or any other issues relating to regulation of UST systems storing alternative fuels, please contact Andrea Barbery at [barbery.andrea@epa.gov](mailto:barbery.andrea@epa.gov) or 703/603-7137.

cc: Susan Bodine, OSWER  
Barry Breen, OSWER  
Scott Sherman, OSWER  
Regional UST Branch Chiefs  
OUST Management  
Mary Kay Lynch, OGC  
Earl Salo, OGC  
Kathy Nam, OGC  
Brigid Lowery, OSWER  
Ellyn Fine, OSWER  
Sherri Clark, OSWER  
OUST Regional Liaisons



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

September 22, 2009

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

**MEMORANDUM**

SUBJECT: Regulatory Status of Underground Diesel Exhaust Fluid Tanks

FROM: Carolyn Hoskinson, Director  
Office of Underground Storage Tanks

A handwritten signature in black ink, appearing to read "Carolyn Hoskinson", is written over the printed name and title of the sender.

TO: EPA UST/LUST Regional Program Managers  
State UST Program Managers

This memorandum responds to questions from states on the regulatory status of underground storage tanks (USTs) containing diesel exhaust fluid (DEF). Specifically, states have asked whether EPA regulates USTs containing DEF under the federal UST regulations in 40 CFR Part 280. According to these regulations, an UST is regulated if it contains petroleum or hazardous substances; however, a number of UST systems are excluded from the Part 280 requirements. One of the exclusions applies to “[a]ny UST system that contains a *de minimis* concentration of regulated substances” (§280.10(b)(5)). The regulations do not specify a *de minimis* quantity, but do allow the implementing agency to determine *de minimis* concentrations on a case-by-case basis.

DEF is a 32.5 percent aqueous solution of urea used in Selective Catalytic Reduction (SCR) technology as one way to reduce nitrogen oxide emissions from heavy-duty diesel engines, as required by EPA’s “2007 Heavy-Duty Highway Rule.” Although aqueous urea is neither petroleum nor a hazardous substance, the DEF solution may contain a small amount of ammonia, which is a regulated substance. According to DEF manufacturers, any amount of ammonia present in DEF is considered to be a contaminant. To address this contamination concern, the industry has set a very strict limit on the maximum amount of ammonia allowed in solution. The international standard for DEF allows no more than 0.2 percent by weight of alkalinity, measured as ammonia, to be present in solution. Although 0.2 percent is the maximum allowed limit according to the international standard, manufacturers indicate that the actual amount of ammonia in solution should be much less than 0.2 percent, and ideally there should be no ammonia in solution. Since EPA expects that the presence of ammonia in a DEF UST will be minimal, it is EPA’s view that DEF USTs meet the *de minimis* exclusion and thus are not regulated as hazardous substance USTs under the federal UST regulations.

In addition, EPA expects USTs storing DEF will be both compatible and secondarily contained. International standards for DEF set strict requirements for compatibility in order to avoid product contamination caused by materials in the storage tank system degrading into the DEF and also to prevent releases due to corrosion. Further, manufacturers recommend that underground DEF tank systems use secondary containment technologies with interstitial monitoring. EPA expects that owners and operators of DEF USTs will generally follow these industry, manufacturer, and international standards for the storage of DEF in USTs.

If in the future EPA finds that ammonia released from DEF USTs endangers human health and the environment, EPA may revisit the *de minimis* exclusion analysis contained in this memorandum. It is important to note that some states may choose to be more stringent than federal regulations and require DEF USTs to fully comply with state UST regulations.

If you have any questions about this interpretation, please contact Andrea Barbery at [barbery.andrea@epa.gov](mailto:barbery.andrea@epa.gov) or 703/603-7137.

cc: OUST Management  
OUST Regional Liaisons  
Kathy Nam, OGC