



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

JUN 8 1994

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

Mr. John D. Barnes  
Manager, Government and Public Affairs  
Steel Tank Institute  
570 Oakwood Road  
Lake Zurich, IL 60047

Dear Mr. Barnes:

In late April 1994, the Steel Tank Institute (STI) notified the Environmental Protection Agency (EPA) of its desire to withdraw its request for EPA to relax the mandated frequency for monitoring the cathodic protection of federally regulated sti-P3® underground storage tanks (USTs). By return letter the Agency honored STI's request. The purpose of this letter is to respond to your letter of May 12, 1994 to Administrator Browner (copy enclosed) by which STI notified EPA of its desire to continue to seek relaxation of the federal requirement for monitoring cathodic protection systems on sti-P3® USTs. This letter also provides information on the Federal Register Notice of Data Availability, which solicited public comments on this issue and on the Tillinghast study. Enclosed are copies of the Federal Register notice and EPA's Comment-Response document.

Your May 12th letter states "The Notice of Data Availability (NDA) process was suggested to STI by the EPA Office of Underground Storage Tanks (OUST) as a way to accomplish the amendment of the monitoring mandate...." This statement is misleading. In response to STI's request for relaxation of the monitoring requirement, EPA voluntarily chose to publish a NDA as a mechanism to obtain public comment and a broader perspective on the technical issue under consideration, and as one of several sources of information to be used in the Agency's deliberative process. At no time was there a presumption that publishing the NDA would mean that the Agency intended to relax the requirement or that it was a necessary precondition to making such a change should the Agency decide to do so.

We have carefully reviewed STI's arguments, the Tillinghast study and all other information submitted to the docket as of the end of January, 1994. The Agency has decided not to take any action at this time to relax the frequency requirement for cathodic protection monitoring of sti-P3® tanks.

#### BACKGROUND

In 1992, STI and its members requested that EPA relax the frequency requirement for ongoing cathodic protection monitoring of certain regulated USTs. This requirement, found at 40 CFR 280.31(b)(1), requires 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...." STI requested that EPA, as an implementing agency, alter the required frequency for sti-P3® tanks to be at the time of installation and subsequently only after any disturbance of the excavation into which the tank had been placed. EPA indicated that it did not have data sufficient to support relaxing the requirement at that time.

STI then contracted with Tillinghast, a Towers Perrin Company, to perform a study of the issue and provide a report of the findings. EPA, after informing STI of its intentions to do so, made the report, titled "Evaluation Of The Potential For External Corrosion And Review Of Cathodic Protection Monitoring Associated With sti-P3® Underground Storage Tanks," available to the public. Although not required to, on October 25, 1993, EPA published a Notice of Data Availability in the Federal Register and requested public comments on the report. The comment summaries and EPA's responses provided in the enclosed document.

#### DISCUSSION

STI and its members asserted that the required frequency for cathodic protection monitoring of sti-P3® tanks should be relaxed for the following reasons:

- o sti-P3®'s excellent performance record;
- o Cathodic protection monitoring duplicates the effort of the required monthly leak detection checks;
- o Regulatory inequity between existing steel tanks without corrosion protection, which are not subject to the requirement, and sti-P3® tanks;
- o Periodic deflection monitoring for fiberglass-reinforced plastic (FRP) tanks is not required;

- o Tendency for the monitoring requirement to affect UST buyers' choices;
- o Industry's high cost of compliance; and
- o Lack of regulatory enforcement efforts directed at cathodic protection and its monitoring.

EPA's responses are summarized below. For additional discussion, see the enclosed Comment-Response document.

#### sti-P3®'s performance record

The information provided to EPA from STI and other sources shows that, to date, sti-P3® tanks appear to have a very good record of not failing due to external corrosion. However, there are several reasons why the data presented by STI are not compelling enough to warrant relaxation of the monitoring requirement at this time. The first is the youth of the installed sti-P3® tanks relative to their expected service life. No sti-P3® tank has been in the ground for a period of time equal to the current 30-year warranty period. The vast majority of the more than 200,000 sti-P3® tanks installed are less than nine years old. Though the Tillinghast report provided some information on older tanks (registered 1970-75), the information in the report is largely from the more common younger tanks. Indeed, compelling data may not exist at this time, due to the relative youth of the sti-P3® population. Secondly, and importantly, cathodic protection monitoring data show that eight percent or more of tanks tested cannot be shown with certainty to meet the industry standard for cathodic protection. This does not mean that these tanks are corroding, but it does mean that, for whatever reason, there is not certainty that they are not. Finally, as the Tillinghast report and many commenters pointed out, problems with sti-P3® tanks due to external corrosion have been documented.

#### Cathodic protection monitoring and the required monthly leak detection checks

The cathodic protection monitoring requirement, while it shares some similarities with the leak detection monitoring requirements, serves a fundamentally different purpose, and therefore does not duplicate the leak detection effort. Cathodic protection systems and the requirements for monitoring them are designed to reduce the likelihood that any release from an UST will occur and is, therefore, a method of pollution prevention. Leak detection monitoring helps reduce the chances that a leak

will become significant, but in general is not designed to reduce the likelihood of a leak.

Regulatory requirements for existing steel tanks without corrosion protection and for cathodically protected USTs

While it is true that the UST regulations do not require monitoring of existing steel tanks without corrosion protection ("bare steel tanks") and that they can continue in service until 1998, this does not warrant relaxation of the requirements for cathodically protected steel tanks. EPA still believes, as it did when the final technical rule was promulgated in 1988, that even though bare steel tanks pose a significant environmental threat, a compliance period of less than 10 years for replacing or upgrading these tanks was not feasible due to the large universe of unprotected tanks. The same considerations did not, and still do not, apply to cathodically protected tanks. No one contends that there are not enough testers available to meet the required frequency, and as discussed below, once a tank is cathodically protected, complying with the monitoring requirements does not pose an undue burden on the regulated community. Meanwhile, it is important for cathodically protected tanks to be monitored, to ensure that they are indeed protected, and to ensure that they do not add to the threat already posed by existing bare steel tanks. EPA also would like to note that any apparent inequity caused by the monitoring requirement is diminished by the fact that bare steel tanks must be replaced, upgraded, or closed by 1998, at significant expense to the owner or operator, while sti-P3® tanks (with spill and overflow equipment) need not be.

Deflection monitoring for fiberglass-reinforced plastic (FRP) tanks

While it is true that FRP tanks are not subject to ongoing tank wall deflection monitoring to ensure protection against structural failure, the Agency believes that this is not a valid reason to eliminate or reduce the cathodic protection monitoring requirement for sti-P3® tanks. Tank wall deflection in FRP tanks is a fundamentally different physical phenomenon from external corrosion of steel tanks. Because each tank technology is different, EPA imposed technical standards which require testing methods and frequencies specific to the technology used. Therefore, such comparisons are not persuasive.

### The monitoring requirement and UST buyers' choices

In response to concerns that the cathodic protection monitoring requirement affects buyers' choices, this influence may occur, but EPA believes it is only one of several factors that have led to changes in the market shares for various tank technologies over the past few years. EPA believes that all the technologies allowed in the final technical rule (40 CFR 280.20), when operated in accordance with EPA regulations, are protective of human health and the environment. As for cathodically protected steel tanks, STI's proposal implicitly recognizes (i.e., by supporting monitoring when conditions suggest that the system may be compromised), that the sti-P3@ tank is fully protective only if the cathodic protection system is operating properly. For the reasons set out in this letter and the Comment-Response document, EPA believes that monitoring every three years is a reasonable, and not particularly burdensome, way to ensure that the system is fully protective. In addition, monitoring can be viewed as a benefit to potential customers, because it ensures that an owner's equipment is performing as it should.

### Industry's cost of compliance

As stated in the preamble to the final UST technical rules, EPA recognizes that the UST community in large part is composed of small businesses with limited resources and that, wherever possible, EPA's rules should accommodate this fact. See 53 Fed. Reg. 37084 (Sept. 23, 1988). The Agency believes that the present monitoring requirement does not contravene this operating principle, because the information before EPA demonstrates that cathodic protection monitoring is easy to perform and inexpensive relative to other costs of operating USTs, and especially relative to costs of pollution remediation. Regarding ease of use, problems commonly reported with monitoring often can be rectified by relatively simple means. Regarding costs, the information EPA received shows that cathodic protection monitoring costs generally range from \$95 up to a few hundred dollars for a typical location with three tanks. This cost, incurred every three years, is insignificant relative to many other expenses involved in installing and operating USTs. In addition, monitoring is very inexpensive in terms of both time and money relative to the costs of cleaning up a leak. EPA believes that the effort and costs of monitoring are reasonable, do not pose an unnecessary burden, and may save owners and operators from significant expenses in the long run.

Regulatory enforcement efforts directed at cathodic protection and its monitoring

Enforcement priorities for UST systems may differ state by state. However, the extent of current enforcement activity does not determine the need for cathodic protection monitoring. In many states, enforcement of the leak detection requirements has priority over the cathodic protection monitoring requirements, partly because of the earlier deadlines for all tanks to be in compliance with the leak detection requirements. However, with the upcoming 1998 compliance deadline for corrosion protection of all regulated USTs, the emphasis likely will shift to include more vigorous enforcement of the cathodic protection monitoring requirements. EPA believes that cathodic protection monitoring is an important component of pollution prevention for USTs.

CONCLUSION

In addition to the fact that the Agency is unpersuaded by STI's arguments addressed above, it is important to note that STI seeks a relaxation of the monitoring frequency despite the fact that the Tillinghast report was not able to come to any conclusion regarding an appropriate frequency. STI's position that post-installation monitoring should be limited to instances of disturbance of the excavation, without supporting data and/or analyses, is unpersuasive. This is because site conditions which can affect the performance of the anodes can occur or change without the owner or operator's knowledge (e.g., stray currents that may overpower anodes). Therefore, absent data that would alleviate this concern, the Agency cannot say that STI's proposed frequency would be, as EPA determined in promulgating the current 3-year monitoring frequency, "sufficient to detect any damage or failure of the system and to take remedial action in time to prevent structural failures due to corrosion" (see, 53 FR 37137).

Furthermore, EPA's decision not to relax the cathodic protection monitoring requirement also is strongly supported by the fact that several national standards, from both industry and government, place stricter requirements on cathodic protection monitoring than do EPA's UST regulations. Please see the enclosed table comparing several national standards' cathodic protection monitoring requirements.

In short, EPA believes that the information before it is not compelling enough to warrant relaxation of the cathodic protection monitoring requirement at this time. EPA continues to believe that steel tanks, protected from corrosion according to

both industry standards and Agency regulations, remain protective of human health and the environment. The fact that cathodic protection monitoring of sti-P3® tanks is possible and required means that owners and operators are likely to make sure that the environment - and their investment - remains protected.

A copy of this letter and of EPA's Comment-Response document will be sent to all those who have expressed interest in this issue, including those who submitted written comments.

Sincerely yours,

David W. Ziegele, Director  
Office of Underground Storage Tanks

Enclosures:

1. May 12, 1994 letter from John Barnes, STI
2. Federal Register Notice of Data Availability
3. EPA Comment-Response document
4. Table of Standards for Cathodic Protection Monitoring

cc: State UST Program Managers (without Encl. 3)  
UST/LUST Regional Program Managers  
UST/LUST Regional Branch Chiefs (without Encl. 2 and 3)  
Dawn Messier, OGC  
Susan O'Keefe, OECA/RCRA  
OUST Management Team (without enclosures)

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