

Utility Solid Waste Activities Group

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U S W A G

May 25, 2006

By E-Mail

Mr. R. Craig Matthiessen, P.E.
Director, Regulation & Policy Development Division
Office of Emergency Management
U.S. Environmental Protection Agency
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Dear Mr. Matthiessen:

In February 2004, we submitted to your predecessor a detailed proposal for addressing the unfortunate multi-agency regulation of emergency diesel generator ("EDG") tanks at nuclear power plants. *See* Letter to David Evans from James R. Roewer dated February 18, 2004. These EDG tanks have been comprehensively regulated by the Nuclear Regulatory Commission ("NRC") under 10 C.F.R. Part 50 for many years, and when EPA developed regulations in 1988 for its Part 280 underground storage tank ("UST") program, EPA deferred adopting regulations applicable to these tanks pending further study to determine whether an additional layer of EPA regulation of these tanks is necessary. 40 C.F.R. § 280.10(c)(3); *see* 53 Fed. Reg. 37082, 37113 (Sept. 23, 1988). This deferral was due in part to USWAG identifying the issue in comments submitted to EPA in 1987 on the proposed Part 280 rules. We found a copy of those comments in our files earlier this week and thought it would be helpful to your office to make available the analysis of the NRC program that persuaded the Office of Underground Storage Tanks to defer regulation of the EDG tanks. We also think it important to point out that EPA has proposed no UST regulations applicable to these tanks since the promulgation of the 1988 final UST rules.

Our present concern about multi-agency regulation of the EDG tanks stems from the July 2002 amendments to the SPCC rules, which, to avoid dual regulation of tanks regulated by EPA under both the UST and SPCC programs, excluded from SPCC regulation completely buried tanks subject to all the technical requirements in Part 280 of EPA's underground storage tank rules or to authorized state UST programs under Part 281. 40 C.F.R. § 112.1(d)(2)&(4). EPA quite correctly recognized that underground storage tanks regulated under EPA's UST program aim to achieve the same goals as the SPCC program. *See* 67 Fed. Reg. 47042, 47064 (July 17, 2002). But by limiting the exclusion to

tanks subject to all the technical requirements of Part 280 and not to requirements of other agencies such as the NRC, EPA subjected these tanks both to SPCC regulations and the strict NRC regulatory regime.

Last July, Dominion Virginia Power, the operator of the North Anna Nuclear Power Station and a USWAG member company, hosted a visit to the North Anna facility by Troy Swackhammer of your staff to observe the operations of the EDG tanks. We believe that the North Anna operation demonstrated the effectiveness of the current NRC regulatory regime without the need for a second layer of regulation by EPA.

We have recommended to EPA that an amendment to section 112.1(d) excluding NRC-regulated EDG tanks from Part 112 regulation be adopted at the earliest opportunity. We understand that the "loose ends" rulemaking, scheduled for early in 2007, is the next opportunity for proposing such an amendment, and we strongly urge EPA to include this amendment in the "loose ends" proposed rule.

In the past month, USWAG was contacted by a Department of Energy ("DOE") national laboratory to answer their questions concerning the impact of the SPCC rules on the EDG tanks and, in particular, how compliance with both SPCC and NRC regulation would affect the operations of nuclear power plants and reliability of energy delivery from these plants. We have had the benefit of guidance from a USWAG company professional engineer whose experience not only includes preparing and certifying SPCC plans but also working at a nuclear power plant and on-the-scene familiarity with the EDG tanks and compliance with NRC requirements. We would like to provide EPA with the information recently given to the DOE laboratory in response to their inquiry.

This utility is located in the Midwestern section of the United States and owns multiple nuclear plants. The EDG fuel systems at this company's plants are very complex and involve an extensive, interconnected network of underground and above ground tanks and piping. These EDG systems are custom-designed, custom-built systems that take into account plant needs as well as subsurface soil conditions.

At each of its nuclear power plants, fuel for the EDG systems is stored primarily in underground tanks and moved via underground piping. There are also some short piping segments and above-ground components, such as small indoor aboveground storage tanks (typically 100-600 gallon capacity and these units are referred to as day tanks) located in close proximity to the EDGs to provide a short term emergency fuel reserve and surge capacity for operation of the larger integrated system. The underground portions of the EDG systems (tanks and piping) are single-wall, asphalt coated, cathodically-protected steel construction. No means of secondary containment is currently provided for the underground components.

The EDG system at one of the company's nuclear power plants includes one very large (60,000 gallon) underground tank that almost certainly was field constructed. A

second plant uses a large number of interconnected mid-size (20,000 gallon) USTs to provide the needed storage capacity. These tanks were probably shop-built.

To bring these tanks into compliance with SPCC bulk container secondary containment requirements would be an enormous undertaking. It would be very difficult to retrofit existing underground components (especially large field-constructed USTs) with secondary containment. A possible solution may be to excavate, remove and replace existing components with double-walled tanks and piping. But neither plant has enough space to install a completely new system without first taking out the old system, thus increasing the cost, time, and impracticality of this work.

Although the company has not fully analyzed the scope and cost of any necessary retrofitting of these tanks, its initial assessment indicates that NRC operating license conditions and nuclear safety considerations would require the plants to be taken off-line and placed in a cold-shutdown condition for virtually the entire duration of the EDG fuel system work. It is also possible a full core off-load would be needed for safety reasons. The work could easily take several months to complete, much longer than a normal refueling outage. Having the EDGs out of service would also interfere with other critical refueling outage activities and it should not be assumed the EDG tank and piping work could be done concurrently with a normal plant outage.

Given the cold climate conditions in much of the Midwest, it may also be necessary to do the work during the spring/summer construction season to allow for excavation and retrofit/ replacement of underground components. This is a time when baseload nuclear plant output is needed most to support peak demand.

The consequences of SPCC regulation of the nuclear facility EDG tank systems go beyond installation of secondary containment. Leak testing would also present a considerable problem. There are nuclear safety and operation considerations that preclude installation of "off the shelf" leak monitoring systems such as those designed for the corner gas station. In addition, the EDG fuel systems are far too large and complex for commercially available automatic tank gauging ("ATG") and piping system monitors. Pressure testing is seldom a viable option because EDG fuel system piping configurations, valve designs, system isolation points, etc. were designed for system safety and operational reliability, not for ease of testing. Pressure testing of these systems requires valves to be locked down and piping blank flanged for extended periods of time, rendering portions of the EDG fuel system inoperable. In most cases, performance of these tests would also require the plant to be off-line or at least under a Limiting Condition of Operation ("LCO"), which the NRC views as a degraded safety condition. Other options such as chemical tracer additives have been evaluated and rejected due to possible adverse impacts to the EDGs or other system components in an emergency.

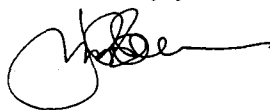
We very much appreciate the attention you and your staff have given to this vitally important issue of concern to the nuclear segment of our industry. If one thing is evident from our examination of the NRC program, both when the issue first surfaced in 1987

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during the UST rulemaking and more recently since the 2002 SPCC amendments, the NRC has the regulation of the EDG tanks very much under control with no evidence of significant lapses in the management of these tanks. We have carefully considered a range of possible solutions to the problems resulting from dual SPCC and NRC regulation of these tanks and have concluded that only a regulatory amendment to Part 112 providing for an exclusion from SPCC regulation will resolve the issue. This is not a case where equivalency deviations under 40 C.F.R § 112.7(a)(2) will achieve the desired result because the containment provisions in §§ 112.7(c) and 112.8(c)(2) are expressly excluded from eligibility for an equivalency deviation. Adding a separate layer of regulation by EPA to the existing NRC regulatory program is wasteful and disruptive. We again urge EPA to include our proposed resolution of this issue in the "loose ends" rulemaking.

As always, we welcome the opportunity to respond to any questions you or your staff might have.

Sincerely yours,



James R. Roewer
Executive Director

cc: Troy Swackhammer

Attachment