

ANALYSIS OF TRENDS IN THE REPLACEMENT OF UNDERGROUND STORAGE TANKS AT SPCC-REGULATED FACILITIES

1. EXECUTIVE SUMMARY

This analysis examines SPCC-regulated facilities to identify trends in the replacement of underground storage tanks (USTs). This analysis is based on the results of EPA's 1995 Survey of Oil Storage Facilities (1995 SPCC Survey), which collected information from more than 2,600 oil-storing facilities in 23 different industries, and provided information on facility and tank characteristics, spill incidents, and facility operations. The analysis provides estimates of the number of SPCC-regulated facilities storing oil in USTs for the past two years, and the number of USTs that have been replaced by either aboveground storage tanks (ASTs) or with other USTs. The results indicate that at SPCC-regulated facilities, there is a trend toward replacing USTs with ASTs. The analysis also shows that fewer ASTs are replacing a greater number of USTs, suggesting that the newer tanks have larger tank storage capacities, or that facilities are reducing their storage capacities overall.

2. APPROACH

EPA analyzed trends in the replacement of USTs at both the facility level and the tank level. EPA first estimated the total number of SPCC-regulated facilities that stored oil in USTs within the past two years and, of these, calculated the number of facilities that have replaced at least one of their USTs. Then, EPA estimated the total number of USTs that have been replaced within the past two years. Of these, EPA calculated the number of USTs that were replaced with ASTs and the number that were replaced with other USTs.

To develop national totals, EPA first estimated the sample totals for these figures based on survey responses received from all industry strata.¹ EPA then used an inflation estimator for two-stage cluster sampling to generate estimates. Specifically, the first stage of a two-stage cluster sample used in this analysis involved randomly selecting primary sampling units (PSUs) that are representative of the entire survey population. For this analysis, the selected PSUs were single counties or contiguous groups of counties that are representative of all counties in the U.S. The second stage involved randomly sampling individual facilities from each PSU that are representative of all of the other facilities within that PSU. By doing this, EPA could extrapolate the number of facilities to the PSU, or county level, and then extrapolate PSU-level estimates to the contiguous United States.

¹ The analysis characterizes trends in UST replacements across all industries surveyed; it does not attempt show these trends for each industry stratum.

This analysis is applicable only to those USTs that are present at SPCC-regulated facilities, and does not necessarily apply to USTs at facilities not regulated by the SPCC program.² Specifically, EPA estimates that there are 60,446 SPCC-regulated facilities that have stored oil in USTs within the past two years. By multiplying the total number of SPCC-regulated facilities with USTs by the average number of USTs per facility, there are an estimated 327,918 (+/- 11,345) USTs at SPCC-regulated facilities. Because there are an estimated 1,093,105 USTs in the U.S., this analysis applies only to approximately 30 percent of USTs located in the U.S.³

3. RESULTS

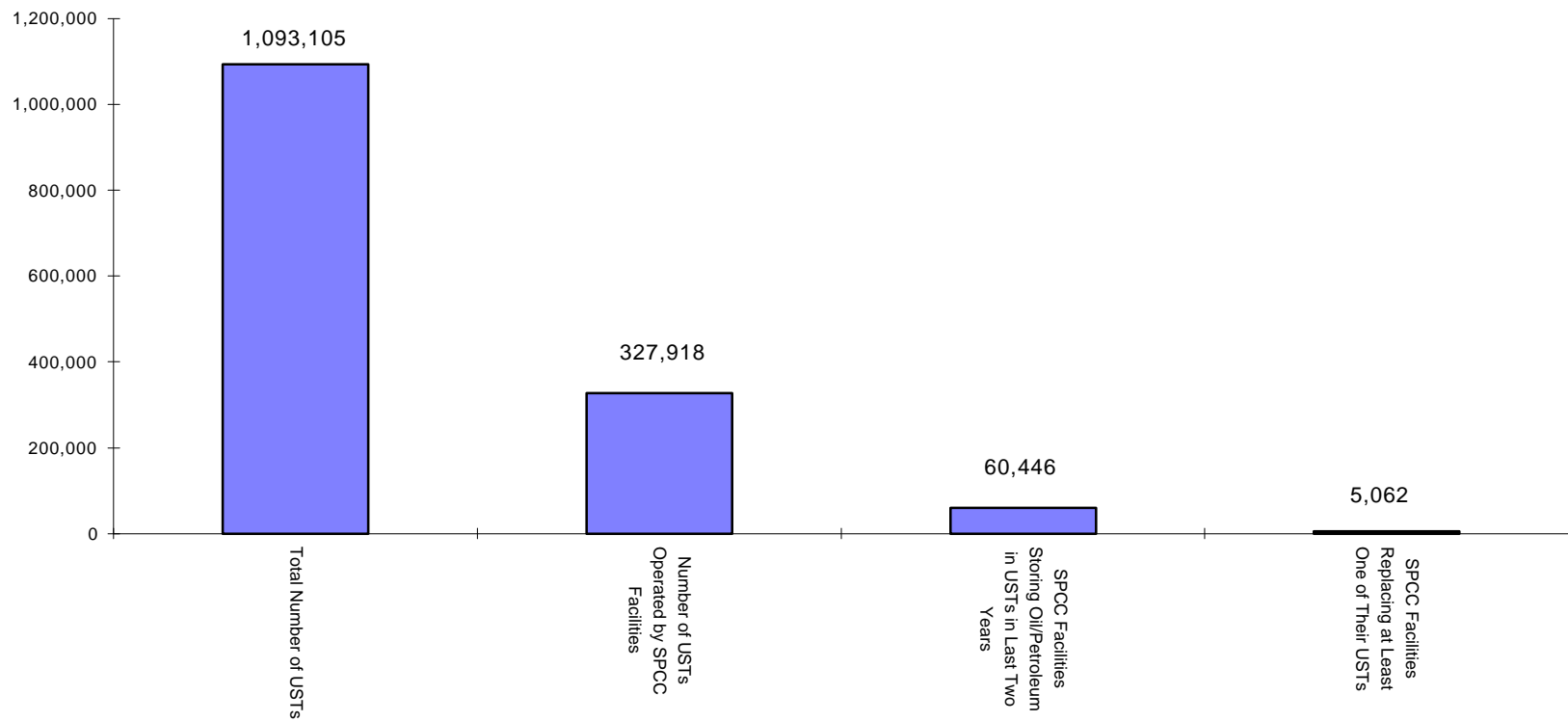
Analysis of the 1995 SPCC Survey data indicates that when a facility replaces an UST , the trend is toward replacing the UST with an AST. Specifically, the analysis shows that there are approximately 60,446 SPCC-regulated facilities in the country that have stored oil in USTs within the past two years. Of these facilities, approximately 8 percent, or 5,062 facilities, have replaced a total of 27,462 USTs during this same time period. The 27,462 USTs were replaced by 17,195 tanks, of which 56 percent (9,634 tanks) were ASTs and 44 percent (7,561) were USTs. Exhibits 1 and 2 graphically present these results.

The analysis also indicates that fewer tanks are being used to replace USTs. Specifically, only 27,462 pre-existing USTs were replaced with 17,195 USTs and ASTs, resulting in a decline of 10,267 storage tanks. There are two possible explanations for this occurrence. If we assume that the amount of oil stored is unchanged, then this data indicates that the majority of USTs that are being replaced are turning to ASTs with greater storage capacity. Therefore, while the same volume of oil or more may be stored at a facility, the number of tanks has been reduced. Another explanation is that the amount of oil stored has decreased and that the USTs that were removed will not be replaced.

² Most USTs are only regulated by EPA under Subtitle I of the Resource Conservation and Recovery Act (RCRA), which covers all underground tank systems (defined as having a volume that is at least 10 percent underground), except for certain facilities such as farm tanks, home heating oil tanks, etc. EPA did not examine these USTs in this analysis. USTs that are larger than 42,000 gallons are regulated under both RCRA and the SPCC programs and were examined in this analysis. USTs of any size that are located at facilities with ASTs or other USTs storing oil in excess of the SPCC regulatory thresholds also would be examined in this analysis.

³ According to EPA's Office of Underground Storage Tank's *LUST Trustfund End of Year Report, Fiscal Year 1995*, there were approximately 1,093,105 USTs in the U.S. through the fourth quarter of 1995.

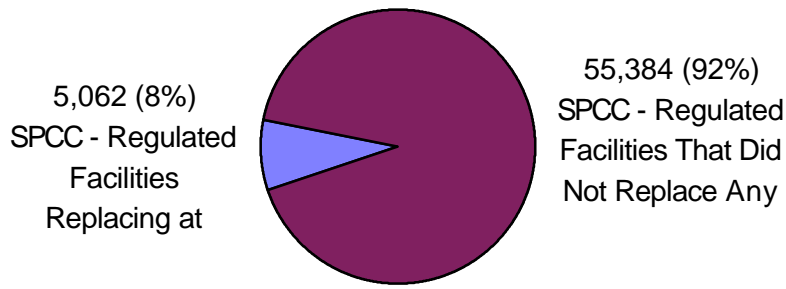
**Exhibit 1:
Underground Storage Tanks Operated by Facilities
Meeting the SPCC Storage Criteria**



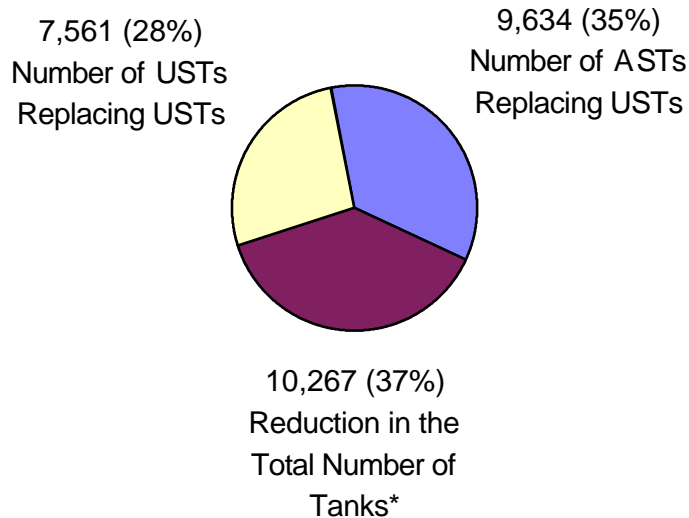
Results of 1995 Survey of Oil Storage Facilities (July 1996)
United States Environmental Protection Agency

**Exhibit 2:
Underground Storage Tanks Replaced at SPCC-Regulated Facilities**

Total SPCC-Regulated Facilities With USTs = 60,446



Total Number of USTs Replaced in the Last Two Years = 27,462
(at 5,062 Facilities)



* This is likely due to the replacement of smaller tanks with larger ones. It could also be due to an overall reduction in storage volume at these facilities.

Results of 1995 Survey of Oil Storage Facilities (July 1996)
United States Environmental Protection Agency