US DEPARTMENT OF VETERANS AFFAIRS
OFFICE OF INSPECTOR GENERAL

Office of Audits and Evaluations

VETERANS HEALTH ADMINISTRATION

VHA Should Improve Monitoring of Underground Storage Tanks to Minimize Environmental and Health Risks at VA Medical Facilities

Audit | **24-00295-49** | **April 3, 2025**

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Executive Summary

To provide care to veterans in the largest integrated healthcare system in the United States, the Veterans Health Administration (VHA) maintains about 1,300 healthcare facilities nationwide. Underground storage tanks (USTs) are a critical part of these healthcare facilities. USTs store fuel necessary to power boilers and backup generators that are essential to operations, especially during power failures caused by adverse conditions, emergencies, and natural disasters.

If USTs are not properly installed and maintained, any chemicals they may contain can be released into the environment, posing significant health and safety risks.[1] These risks include cancer and other adverse effects for reproductive, nervous, cardiovascular, and respiratory system health.[2] VA facilities provide care for many older and immunosuppressed veterans, such as those who are receiving cancer treatments or organ transplants. These subpopulations are at increased risk of adverse effects from exposure to substances held inside USTs.[3] Therefore, it is important for facilities to ensure USTs are maintained so they do not contaminate soil, groundwater, or indoor air.

Federal law allows state programs approved by the US Environmental Protection Agency (EPA) to ensure VA complies with UST regulations.[4] VHA's Green Environmental Management System (GEMS) also has guidance for establishing, administering, and maintaining a UST

[1] Most regulated underground storage tanks contain petroleum. "Learn About Underground Storage Tanks (USTs)" (web page), US Environmental Protection Agency (EPA), accessed November 5, 2023, https://www.epa.gov/ust/learn-about-underground-storage-tanks-usts. Petroleum products, such as gasoline, naturally contain benzene. International Agency for Research on Cancer, "Exposure Data," chap. 1 in *Monographs on the Evaluation of Carcinogenic Risks to Humans, No. 120* (2018), https://www.ncbi.nlm.nih.gov/books/NBK550161/. Benzene may cause cancer. "Facts About Benzene" (web page), Centers for Disease Control and Prevention, accessed November 7, 2023, https://emergency.cdc.gov/agent/benzene/basics/facts.asp.

[2] US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, Division of Toxicology/Toxicology Information Branch, Toxicological Profile for Fuel Oils, June 1995; "Facts About Benzene" (web page), Centers for Disease Control and Prevention.

[3] US EPA, Leaking Underground Storage Tanks and Health, EPA/530/UST-91/018, January 1992; EPA, Report to Congress: EPA Studies on Sensitive Subpopulations and Drinking Water Contaminants, EPA 815-R-00-015, December 2000. About 70 percent of veterans cared for at VA facilities are aged 50 years or older. "Veteran Population, Population Tables" (web page), VA National Center for Veterans Analysis and Statistics, accessed April 27, 2024, https://www.va.gov/vetdata/Veteran_Population.asp.

[4] 42 U.S.C § 6991c; 40 C.F.R. Part 281 (April 2024). See appendix A of this report for detailed information about the responsibilities of UST programs and federal requirements.

program that complies with state and federal requirements.[5] Furthermore, VHA Directives 1811 and 7707 contain requirements that apply to underground storage tanks.[6]

The VA Office of Inspector General (OIG) conducted this audit to determine whether VA is managing USTs according to identified federally established regulations to prevent corrosion, spillage and overfill, and releases of substances into the environment.

What the Audit Found

The OIG reviewed 44 regulated VA-owned and VA-operated USTs at eight VA medical facilities and found that seven facilities, which had 42 of these 44 USTs, failed to comply with relevant UST requirements from October 1, 2022, through September 30, 2023. These requirements included VA policy, federal laws related to the reporting of real property assets, and regulatory requirements in Part 280 of Title 40 of the Code of Federal Regulations.[7] The OIG found no instances of releases from the reviewed USTs during the scope of this audit. However, the OIG identified

- inaccurate records of USTs or related monitoring equipment,
- prolonged responses to and correction of automatic tank gauge alarms, and
- inconsistent reporting of regulatory inspections and results.

Inaccurate Records of Underground Storage Tanks or Related Monitoring Equipment

In 2006, VA gave the EPA a compliance strategy report containing a list of all VA-owned and VA-operated USTs to comply with the Energy Policy Act of 2005.[8] According to VHA leaders, the compliance strategy report was based on a onetime federal requirement requesting the data; therefore, this list has not been maintained or updated by VHA since it was sent to EPA.

[5] Green Environmental Management System Tank Management Operations Guide. The VA GEMS Tank Management Operations Guide is an internal VA document, not available for public viewing.

[6] VHA Directive 1811, *VHA Healthcare Engineering Program Requirements*, April 10, 2023; VHA Directive 7707, *VHA Green Environmental Management System and Governing Environmental Policy*, April 1, 2021.

[7] The OIG also reviewed all required inspections conducted to meet federal or state requirements that did not fall into the frequency of fiscal year 2023, such as triennial inspections. See appendix B of this report for information regarding the audit's scope and methodology.

[8] Energy Policy Act of 2005, Pub. L. No. 109-58, § 1528, 119 Stat. 594, 1100, codified at 42 U.S.C. § 6991f. The Energy Policy Act required each federal agency that owns or operates an underground storage tank, or that manages land where such a tank is located, to submit a compliance strategy report to the administrator of the EPA, the US House Committee on Energy and Commerce, and the US Senate Committee on the Environment and Public Works, no later than 12 months after August 8, 2005. This compliance strategy report included the location and owner of each underground storage tank.

Therefore, using an EPA tool and state and county resources, in August 2023, the OIG team identified 624 active, VA-owned, and VA-operated USTs.[9]

Federal law requires executive agencies, including VA, to maintain adequate inventory controls and accountability systems for property under their control.[10] Additionally, on an annual basis and subject to the guidance of the Office of Management and Budget Federal Real Property Council, executive agencies are required to conduct and provide the Federal Real Property Council and the General Services Administration an inventory of real property.[11] Federal Real Property Council guidance identifies storage tanks, underground vaults, and petroleum, oil, and lubricant storage tanks as real property structures that are required to be reported by all executive agencies.[12] According to Part 280 of Title 40 of the Code of Federal Regulations, owners of underground storage tanks must also notify the governing authority for all UST systems and maintain these records at either the facility or a readily available alternative site.[13] The OIG determined that all reviewed facilities kept inventory records of their active underground storage tanks. However, the OIG team reviewed VA's fiscal year 2023 annual structures report to the Federal Real Property Council and found inaccuracies related to categorization and inconsistent terminology used to distinguish entries as USTs. The team also found that seven of eight reviewed facilities had discrepancies in inventory reporting between on-site inventory records and the information reported by VA in the fiscal year 2023 report to the Federal Real Property Council and the 2006 comprehensive strategy report to EPA.

[9] The OIG team's purpose in identifying the total number of VA-owned and VA-operated USTs was not to determine the accuracy of that amount but rather to provide an updated perspective on the potential number compared to 2006. The VA's 2006 inventory listed 782 federally regulated USTs at 136 medical centers and five National Cemetery Administration facilities. The OIG cannot confirm the total accuracy of the 624 VA-owned and VA-operated USTs identified by the team with the method used to obtain these data. With no VHA-maintained UST inventory at the time of this review, the OIG team separately created this inventory using the addresses of facilities that reported UST inventory to the EPA in 2006, as well as primarily relied on EPA systems with data during 2018–2019. Additionally, the OIG identified at least four VA facilities with VA-owned USTs with installation dates that predated 2005–2006 that were not reported to the EPA as required by the Energy Policy Act of 2005, further complicating the reliability of outdated data reported to the EPA in 2006, as well as searches for updated data.

[10] 40 U.S.C. § 524(a).

[11] Federal Property Management Reform Act of 2016, P.L. 114-318, § 6, 130 Stat. 1608, 1615, codified at 40 U.S.C. § 524(a). The Federal Real Property Council was created to ensure management accountability of federal property.

[12] The Federal Real Property Council lists storage tanks, underground vaults, and petroleum, oil, and lubricant storage tanks under "structure (40)," use code "storage (other than buildings) (40)." General Services Administration (GSA), Federal Real Property Council 2023 Guidance for Real Property Inventory Reporting, version 2, September 2023.

[13] 40 C.F.R. §§ 280.34(a)(1) and 280.34(c)(1)–(2).

Additionally, the VA-wide capital asset management policy requires capital assets to be reported in the Capital Asset Inventory, VA's capital asset portfolio.[14] USTs are categorized in VA Capital Asset Inventory guidance as capital asset real property structures.[15] Despite this requirement, the OIG found that only about 36 percent VA-owned and VA-operated USTs were properly recorded. Additionally, the OIG team determined about 28 percent were not assigned under the correct predominant use code.[16]

Last, the audit team examined VHA's oversight of UST automatic tank gauging systems at eight medical facilities and found issues with local managers keeping accurate equipment inventories, maintaining equipment, and responding to system alarms.[17] The OIG also found VHA lacks accurate equipment inventory records for automatic tank gauging systems. As of June 2024, only two of the eight facilities the OIG team visited had recorded their UST automatic tank gauging system inventory in a VHA management system or centralized database.

Prolonged Responses to Automatic Tank Gauge Alarms

Accurately detecting leaks helps prevent potential environmental contamination and ensures compliance with federal and state UST regulations.[18] Therefore, if automatic tank gauging systems are used to meet regulatory release detection requirements, resolving alarms is especially important. For the USTs selected for this audit, the OIG reviewed each medical facility's automatic tank gauge alarm history reports and monthly inspections for fiscal

[14] VA Directive 4085, *Capital Asset Management*, December 2020. This directive establishes a uniform framework for VA's capital asset policies and applies to all VA capital assets, including land, buildings, and structures. The directive uses the Office of Management and Budget's definition of a capital asset: "land, structures, equipment and intellectual property, including software and services that have an estimated useful life of two or more years."

[15] GSA, Federal Real Property Council 2023 Guidance for Real Property Inventory Reporting, version 2, September 2023; VA, 2023 Capital Asset Inventory (CAI) Supplemental User Guide, 2023. The VA Capital Asset Inventory Supplemental User Guide is an internal VA document, not available for public viewing.

[16] GSA categorizes assets by their primary use and assigns a unique two-digit identifier code, otherwise known as a GSA predominant use code; this is required for all assets recorded in the VA Capital Asset Inventory. The team considered entries incorrect if facilities did not properly follow Capital Asset Inventory and GSA guidance to use the designated real property predominant use code for underground storage tanks: code 40, "storage (other than buildings)."

[17] Automatic tank gauging systems use an in-tank inventory probe inside the UST to electronically monitor product level and inventory control, as well as temperature and changes in product volume that can indicate a leaking tank. These systems also provide monitoring for the containment sump and the area between the primary tank wall and the outer barrier wall. "Release Detection for Underground Storage Tanks (USTs) - Internal Methods" (web page), EPA, accessed June 4, 2024, https://www.epa.gov/ust/release-detection-underground-storage-tanks-usts-internal-methods.

[18] EPA state-approved programs must have requirements that are no less stringent than the corresponding federal EPA requirements. 40 C.F.R. § 281.11(b).

year 2023 and found that four facilities had alarms that remained active on consecutive reports or inspections.[19]

Additionally, the OIG identified three of eight facilities where unresolved automatic tank gauge alarms resulted in failed inspections. Prolonged failures and issues relating to alarms that are not addressed in a timely manner can result in noncompliance with an associated state agency. In total, the OIG identified 63 failed tests at six of the eight facilities reviewed involving secondary containment, overfill prevention and release detection equipment, and alarms across monthly, annual, or triennial inspections in fiscal year 2023.

The OIG determined that, at one facility, alarm response times were affected by local contracts that prevented VA staff from performing any maintenance on USTs or related monitoring equipment. In some cases, necessary repairs required separate contracts or work orders to be issued before corrections could be made, further delaying the medical facility's corrective actions. Poor communication with contractors also contributed to delayed alarm responses.

Absent any requirement to track unplanned corrective maintenance for issues such as equipment failures, persistent unresolved alarms, or deficiencies identified in routine inspections, VHA leaders may not have awareness of prolonged issues that may result in noncompliance if not addressed in a timely manner.[20] Therefore, it is necessary for VHA to have procedures to track unplanned corrective UST maintenance, including equipment failures or deficiencies for USTs that are identified through routine inspections.

Delayed Responses to Underground Storage Tank Violations

Six of the eight facilities reviewed by the OIG were issued violation notices related to their USTs from October 1, 2022, through September 30, 2023. In total, 29 violations were identified. As of August 2024, 25 of the 29 violations had been corrected, which took an average of about 142 days to resolve.[21] These violations fell into three primary categories: missing records; equipment issues, including failed tests; and missing tests.[22]

The OIG team reviewed all cited violations for USTs at the eight VA medical centers and determined five violations were related to alarm deficiencies, one of which was noted as an issue

[19] 40 C.F.R. § 280.36(a)(1)(i)(B) requires certain USTs to be inspected every 30 days to make sure the release detection equipment is operating with no alarms and no other unusual operating conditions are present.

[20] Corrective maintenance can be defined as identifying a problem with machines, systems, or tools and correcting the problem, thereby allowing these elements to return to working efficiently. Mohammad M. Hamasha et al., "Strategical selection of maintenance type under different conditions," *Scientific Reports* 13 no. 1 (2023): 15560, https://pmc.ncbi.nlm.nih.gov/articles/PMC10511507/#CR59.

[21] Five of six facilities that were issued violation or warning notices from state authorities or the EPA were required to submit proof they had corrected any stated violations or deficiencies within 30 days of the issued notice of violation, correction letter, or warning letter. The sixth facility was required to provide proof of corrective action for all cited violations within 30 days of the cited summary of violations and notice to comply.

[22] The OIG team found no instances of releases from USTs reviewed during the scope of this audit.

in multiple past inspections. Violations may disrupt services, prevent fuel deliveries, and result in monetary fines for medical facilities.

Without assurance that VA medical facilities are adequately reviewing and addressing noncompliance findings, VHA senior officials may lack awareness of UST violation notices or whether facility responses are adequate.

Inconsistent Reporting of Regulatory Inspections and Results

The eight facilities reviewed generally complied with requirements for routine regulatory inspections of regulated USTs. They conducted 99.1 percent of triennial inspections, 97.7 percent of the annual inspections, and 99.8 percent of the required walk-through inspections during the scope of the OIG's audit. However, the OIG found that four of the eight medical facilities reviewed did not provide issue briefs for regulatory inspections to the Veterans Integrated Service Network (VISN) and VHA oversight officials, as required by VHA Directive 7707.[23]

The OIG team found that only five of the 10 federal or state inspections conducted by external regulatory agencies to satisfy federal and state UST requirements were reported in the VHA issue brief tracker (50 percent). Additionally, two of those five inspections contained deficiencies or failed tests that should have been reported and updated in the issue brief tracker until resolved. The OIG determined this occurred because some medical facility officials misunderstood VHA Directive 7707's requirement to report all inspections conducted by external regulatory agencies or the guidance on issue briefs released from the deputy under secretary for health for operations.

What the OIG Recommended

The OIG recommended the executive director of the Office of Asset Enterprise Management, as part of the annual certification process of the Capital Asset Inventory, provide guidance on underground storage tank entries to ensure these assets are recorded with consistent identifying terminology in asset identification fields and with the appropriate real property predominant use code. The OIG also made the following six recommendations to the under secretary for health:[24]

- Ensure VISN officials fulfill oversight responsibilities found in VHA Directive 1811 so that VA medical facilities keep a current inventory of underground storage tanks, including associated equipment and component levels.

[23] VHA divides the United States into 18 regional networks, known as VISNs, which manage day-to-day functions of medical centers and provide administrative and clinical oversight. "Veterans Integrated Services Networks (VISNs)" (web page), VHA, accessed October 2, 2024, https://www.va.gov/HEALTH/visns.asp.

[24] The recommendations addressed to the under secretary for health are directed to anyone in an acting status or performing the delegable duties of the position.

- Ensure the assistant under secretary for health for support updates the responsibility section in VHA Directive 7707 to ensure the responsibilities of VA medical facility directors include appropriate designation of staff and training for environmental regulatory requirements.
- Ensure VISNs are fulfilling responsibilities in VHA Directive 1811 to ensure facilities comply with federal, state, and local codes, laws, and regulations, including monitoring and addressing UST alarms promptly to confirm a release has not occurred.
- Ensure VISNs are fulfilling responsibilities in VHA Directive 1811 for work order (unplanned corrective maintenance) tracking from creation through completion in the approved maintenance management system—to include underground storage tank and associated equipment component-level failures or deficiencies identified in regulatory agencies' inspections.
- Confirm VA medical facility directors and VISN directors are fulfilling responsibilities in VHA Directive 7707 to ensure regulatory compliance deficiencies are promptly reviewed, corrective actions are developed, and issues are tracked through completion.
- Confirm VA medical facility directors and VISN directors are fulfilling their oversight responsibilities found in VHA Directive 7707 to ensure all required regulatory agencies' inspections of underground storage tanks are recorded in the VHA issue brief tracking system.

VA Management Comments and OIG Response

The executive director of the Office of Asset Enterprise Management concurred with recommendation 1. The acting under secretary for health concurred with recommendations 2–7. Both officials submitted responsive action plans for the recommendations directed to their respective offices. Appendixes C and D provide the full text of their comments. Overall, the proposed corrective measures in the action plans submitted by the acting under secretary for health and the executive director of the Office of Asset Enterprise Management are responsive to the recommendations. The OIG will monitor execution of planned actions and will close the recommendations when VA provides sufficient evidence demonstrating progress addressing the issues identified.

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Contents

Abbreviations

AEMS/MERS	Automated Engineering Management System/Medical Equipment Reporting System
EPA	Environmental Protection Agency
GEMS	Green Environmental Management System
GSA	General Services Administration
OIG	Office of Inspector General
OMB	Office of Management and Budget
UST	underground storage tank
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network

Introduction

The Veterans Health Administration (VHA) is the largest integrated healthcare system in the United States and provides care for veterans at about 1,300 healthcare facilities nationwide. Underground storage tanks (USTs) are fundamental to the operation of VA healthcare facilities, which must provide care regardless of adverse conditions, emergencies, and natural disasters. VA medical facilities use USTs to house the fuel needed to power boilers and backup generators.

USTs are large containers, typically made of steel, fiberglass-reinforced plastic, or a combination of materials. They are buried underground to hold petroleum, chemicals, or hazardous substances and are often connected to fueling service stations, boilers and steam generators, or emergency generators. Storing petroleum products and other liquids underground can save space, improve fire safety, and protect a tank's contents from the elements. VA policy requires medical facilities to have enough diesel fuel on hand to run generators for at least 96 hours of emergency operation.[25] Additionally, VA medical facilities must have enough boiler fuel on-site to continue operating for 10 calendar days under the most extreme weather conditions, unless otherwise specified in VA policy.[26]

The VA Office of Inspector General (OIG) found no instances of releases from USTs at the reviewed VA medical facilities from October 1, 2022 through September 30, 2023. However, if not installed and maintained properly, these tanks can be susceptible to releases, such as leaks, that can contaminate soil, groundwater, or indoor air and pose significant risks to people and the environment.[27] The US Department of Health and Human Services has recognized that chemicals from fuel oil that are exposed because of spills or leaks from underground tanks may remain in the environment for more than a decade.[28] Potentially exposing veterans and VA employees to chemicals stored in USTs at VA medical facilities increases their risk of developing cancer and having adverse health impacts to their reproductive, nervous,

[25] VA, *Physical Security Design Manual for VA Mission Critical Facilities*, January 2015.

[26] VA medical facilities that use oil or coal as fuel must keep a sufficient supply of fuel to meet the normal demands of continuous operation for 15 calendar days under the most extreme weather conditions. VHA Directive 1810, *Boiler and Boiler Plant Operations*, January 2023. Underground storage tanks storing heating oil used exclusively to fuel boilers are exempt under 40 C.F.R. Part 280 and therefore were not included in the scope of this audit. However, those underground storage tanks used for dual fueling emergency generators and boilers with fuel oil are in some instances governed by federal regulations and were accordingly included in the scope of the audit. "Frequent Questions About Underground Storage Tanks" (web page), US Environmental Protection Agency (EPA), accessed July 16, 2024, https://www.epa.gov/ust/frequent-questions-about-underground-storage-tanks.

[27] "Release means any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from an UST into groundwater, surface water, or subsurface soils." 40 C.F.R. § 280.12.

[28] US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, Division of Toxicology/Toxicology Information Branch, Toxicological Profile for Fuel Oils, June 1995.

cardiovascular, and respiratory systems.[29] Furthermore, the US Environmental Protection Agency (EPA) reports that those who are older, sick, or have weakened immune systems are at higher risk for adverse effects following exposure to substances and chemicals held inside USTs.[30] VA facilities treat many veterans aged 50 years or older (about 70 percent) and veterans who are immunosuppressed, such as those receiving cancer care or organ transplants.[31]

The OIG conducted this audit to determine whether VA is managing USTs according to identified federally established regulations to prevent corrosion, spillage and overfill, and releases of substances into the environment.

Underground Storage Tanks

USTs are defined as "any one or 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 underground pipes connected thereto) is 10 percent or more beneath the surface of the ground."[32] Underground storage tank size can range from 110 to 50,000 gallons.[33] The capacities of the tanks the OIG team reviewed were between 550 and 30,000 gallons. For reference and to illustrate different tank capacities, figure 1 shows two new non-VA underground storage tanks being installed: one estimated to be a 12,000-gallon tank (left) and the other a dual compartment tank with a total capacity of 22,000 gallons (right).

[29] US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, Division of Toxicology/Toxicology Information Branch, Toxicological Profile for Fuel Oils, June 1995. Petroleum products, such as gasoline, naturally contain benzene. International Agency for Research on Cancer, "Exposure Data," chap. 1 in Monographs on the Evaluation of Carcinogenic Risks to Humans, No. 120 (2018), https://www.ncbi.nlm.nih.gov/books/NBK550161/. Benzene may cause cancer. "Facts About Benzene" (web page), Centers for Disease Control and Prevention, accessed November 7, 2023, https://emergency.cdc.gov/agent/benzene/basics/facts.asp.

[30] US EPA, Leaking Underground Storage Tanks and Health, EPA/530/UST-91/018, January 1992; EPA, Report to Congress: EPA Studies on Sensitive Subpopulations and Drinking Water Contaminants, EPA 815-R-00-015, December 2000.

[31] "Veteran Population, Population Tables" (web page), VA National Center for Veterans Analysis and Statistics, accessed April 27, 2024, https://www.va.gov/vetdata/Veteran_Population.asp.

[32] 40 C.F.R. § 280.12.

[33] "USTs and UST System Components" (web page), The National Institute for Storage Tank Management, accessed July 18, 2024, https://www.nistm.org/PDF/OH14-Publish/Mott-Smith-UST%20System%20Components-0930.pdf.

Figure 1. *Two new storage tanks being installed.*
Source: EPA, Release Prevention Division, Office of Underground Storage Tanks, August 21, 2024.

Underground storage tank systems include the underground tank, connected piping, ancillary equipment, and any containment system.[34] Stored substances in USTs can include gasoline, diesel, heating oil, and other liquid petroleum products. VA-owned and VA-operated USTs commonly store substances such as gasoline, diesel, heating oil, biodiesel, and blended substances like ethanol and gasoline. Of these substances, federal UST regulations apply only to stored petroleum, petroleum blended with biofuels, and certain other hazardous substances.[35]

Because these tanks are buried, releases, such as leaks, can go undetected and contaminate soil and groundwater. Any contaminated soil and groundwater can then threaten drinking water and contaminate indoor air spaces with toxic vapors. As of March 2024, there had been over 575,000 confirmed releases from all federally regulated underground storage tanks since the Federal UST Program began in November 1984, with about 56,000 of these releases still not

[34] Ancillary equipment includes "piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from a UST." 40 C.F.R. § 280.12.

[35] US EPA, Musts for USTs, EPA 510-K-15-001, November 2015. Underground storage tanks used for dual fueling emergency generators and boilers with fuel oil are in some instances governed by federal UST regulations. "Frequent Questions About Underground Storage Tanks" (web page), EPA, accessed July 16, 2024, https://www.epa.gov/ust/frequent-questions-about-underground-storage-tanks. For VA-owned and VA-operated USTs, relevant federal regulations reviewed for the purposes of this audit are summarized in appendix A.

remediated.[36] Figure 2 shows some of the potential areas at risk for spills and releases from an underground storage tank.

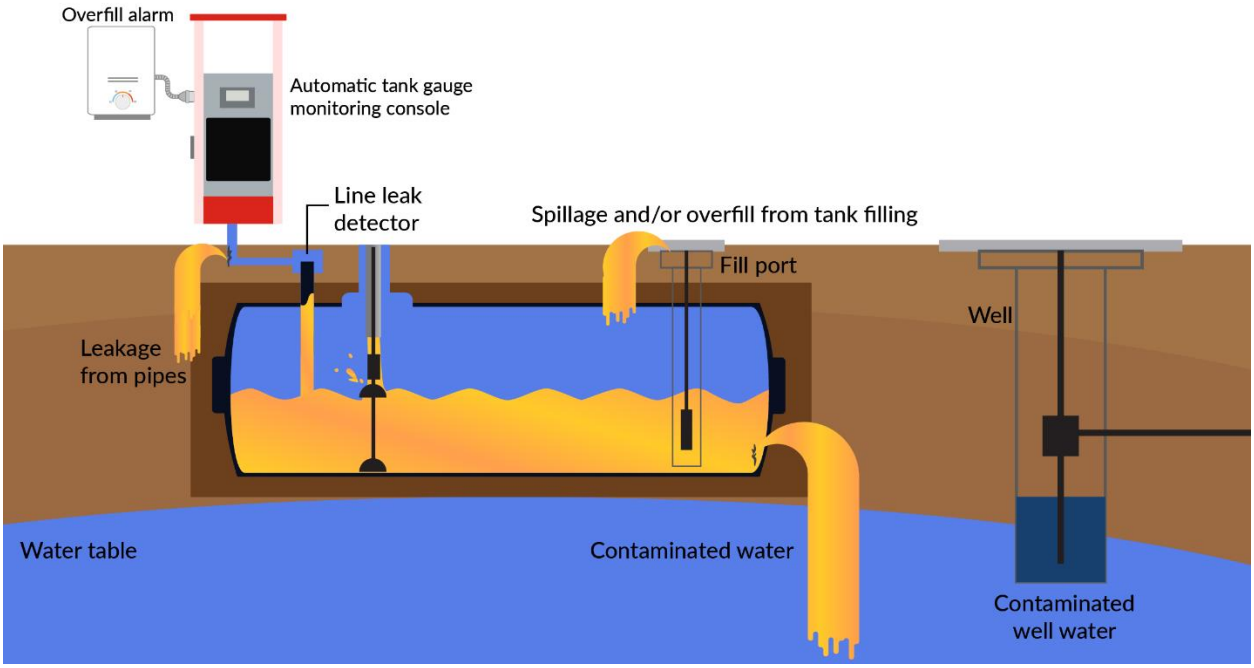

Figure 2. *Potential hazards from a leaking underground storage tank.*

Sources: VA OIG interpretation based on "Release Prevention for Underground Storage Tanks (USTs)" (web page), EPA, accessed November 5, 2023, https://www.epa.gov/ust/release-prevention-underground-storage-tanks-usts; "Suspected Release Investigation, Confirmation of Releases (Prevention Program Activities), and Closure" (web page), EPA, accessed November 25, 2024, https://www.epa.gov/ust/suspected-release-investigation-confirmation-releases-prevention-program-activities-and-closure; EPA, Operating and Maintaining Underground Storage Tank Systems booklet, EPA 510-K-16-001, February 2016.

Federal Law and Regulations

In 1984, Congress formed the Federal Underground Storage Tank Program under the Solid Waste Disposal Act to protect the public from storage tank petroleum releases.[37] In 1988, the EPA issued UST regulations, which covered technical requirements, state program approval

[36] "Underground Storage Tank Program Facts" (web page), EPA, accessed July 18, 2024, https://www.epa.gov/system/files/documents/2024-05/ust-programfacts-may2024.pdf. The data did not specify locations to determine how many of these may have been at VA medical centers. Due to scope constraints, the OIG team did not pursue these data.

[37] The Federal Underground Storage Tank Program was established in November 1984 when the Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act were approved. "Milestones in the Underground Storage Tank Program's History" (web page), EPA, accessed July 18, 2024, https://www.epa.gov/ust/milestones-underground-storage-tank-programs-history. A complete version of the law that governs underground storage tanks (USTs) is available in the US Code, Title 42, chap. 82, subchap. IX. "Underground Storage Tanks (USTs) Laws and Regulations" (web page), EPA, accessed July 18, 2024, https://www.epa.gov/ust/underground-storage-tanks-usts-laws-and-regulations.

objectives, and financial responsibility.[38] The technical requirements for USTs containing petroleum or hazardous substances included regulations and standards for correct installation and design, reporting, compatibility, corrective action, release response, and tank closures.[39] Regulations also included technical and inspection requirements specific to spill and overfill prevention, corrosion protection, and release detection.

In 2015, the EPA published its first major revision to the UST regulations, placing increased emphasis on properly operating and maintaining UST equipment and on preventing and detecting releases.[40] The revision updated requirements for areas including tank installation, tank monitoring and operability, triennial equipment testing, monthly and annual walk-through inspections, post-repair testing, and responsibilities and training for UST operators.[41]

Additionally, the Federal Property Management Reform Act of 2016 requires executive agencies (including VA) to maintain adequate inventory controls and accountability systems for property under their control. On an annual basis and subject to the guidance of the Office of Management and Budget's (OMB) Federal Real Property Council, VA must assess real property under its control and provide an inventory of its real property to the Federal Real Property Council and the General Services Administration (GSA).[42]

State Government Authority

The EPA allows states to submit a UST program for review and approval so that state agencies can operate in place of the federal program to conduct activities such as compliance inspections, monitoring, testing, investigation of records and reports, and enforcement of compliance through assessing civil penalties or prohibiting delivery, deposit, or acceptance of a regulated substance

[38] For USTs installed before this date, owners were given 10 years, until December 22, 1998, to either upgrade existing UST systems according to requirements outlined in 40 C.F.R. § 280.21(b) through (d), including such component upgrades as internally lining or cathodically protecting steel tanks, cathodically protecting metal piping, and upgrading spill and overfill prevention equipment to comply with 40 C.F.R. § 280.20(c); or properly drain and close tanks that had been installed before the new standards were adopted. 40 C.F.R. § 280.21 (1988).

[39] 40 C.F.R. Part 280 (1988).

[40] "Revising Underground Storage Tank Regulation – Revisions to Existing Requirements and New Requirements for Secondary Containment and Operator Training; Final Rule" (web page), EPA, accessed November 5, 2023, https://www.epa.gov/ust/revising-underground-storage-tank-regulation-revisions-existing-requirements-and-new; "Milestones In The Underground Storage Tank Program's History (Text Version)" (web page), EPA, accessed November 5, 2023, https://www.epa.gov/ust/milestones-underground-storage-tank-programs-history-text-version.

[41] See appendix A of this report for relevant federal requirements in 40 C.F.R. Part 280, current as of July 2024.

[42] Federal Property Management Reform Act of 2016, Pub. L. No. 114-318, § 6, 130 Stat. 1608, 1615, codified at 40 U.S.C. § 524(a).

into a UST.[43] For EPA approval, these state programs must be at least as stringent as the federal EPA requirements and able to enforce compliance.[44] Once approved, state programs take the lead in enforcing applicable UST regulations. For states without federally-approved state UST programs, EPA and state officials work together to enforce UST regulations.

VA Requirements

VA has several policies and directives with requirements that apply to USTs.[45] For this audit, the OIG team reviewed the following:

- VA Directive 4085, *Capital Asset Management*[46]
- VHA Directive 1811, *VHA Healthcare Engineering Program Requirements*[47]
- VHA Directive 7707, *VHA Green Environmental Management System and Governing Environmental Policy*[48]
- The VHA Green Environmental Management System (GEMS) Tank Management Operations Guide[49]

Roles and Responsibilities

Figure 3 shows the individuals who have defined roles related to managing VA's underground storage tanks and their primary responsibilities according to VHA Directive 7707, VHA Directive 1811, the GEMS Tank Management Operations Guide, and VA underground storage tank contracts.

[43] 40 C.F.R. § 281.11(c). According to this regulation, "[s]tates with programs approved under this part are authorized to administer the state program in lieu of the federal program and will have primary enforcement responsibility with respect to the requirements of the approved program. EPA retains authority to take enforcement action in approved states as necessary and will notify the designated lead state agency of any such intended action." The requirements for EPA approval of state UST programs are contained in 40 C.F.R. Part 281 (April 2024) and 42 U.S.C § 6991c. Currently approved state programs are listed in 40 C.F.R. §§ 282.50–282.102.

[44] To obtain final approval, "the state must demonstrate that its requirements under each state program element for existing and new UST systems are no less stringent than the corresponding federal requirements as set forth in subpart C of this part. The state must also demonstrate that it has a program that provides adequate enforcement of compliance with these requirements." 40 C.F.R. § 281.11(b).

[45] See appendix A of this report for detailed information about related VA policies and directives.

[46] VA Directive 4085, *Capital Asset Management*, December 2020.

[47] VHA Directive 1811, *VHA Healthcare Engineering Program Requirements*, April 10, 2023.

[48] VHA Directive 7707, *VHA Green Environmental Management System and Governing Environmental Policy*, April 1, 2021.

[49] This guide provides VHA with all necessary elements to establish, administer, and maintain a comprehensive UST program that complies with state and federal regulatory requirements. The VA GEMS Tank Management Operations Guide is an internal VA document, not available for public viewing.

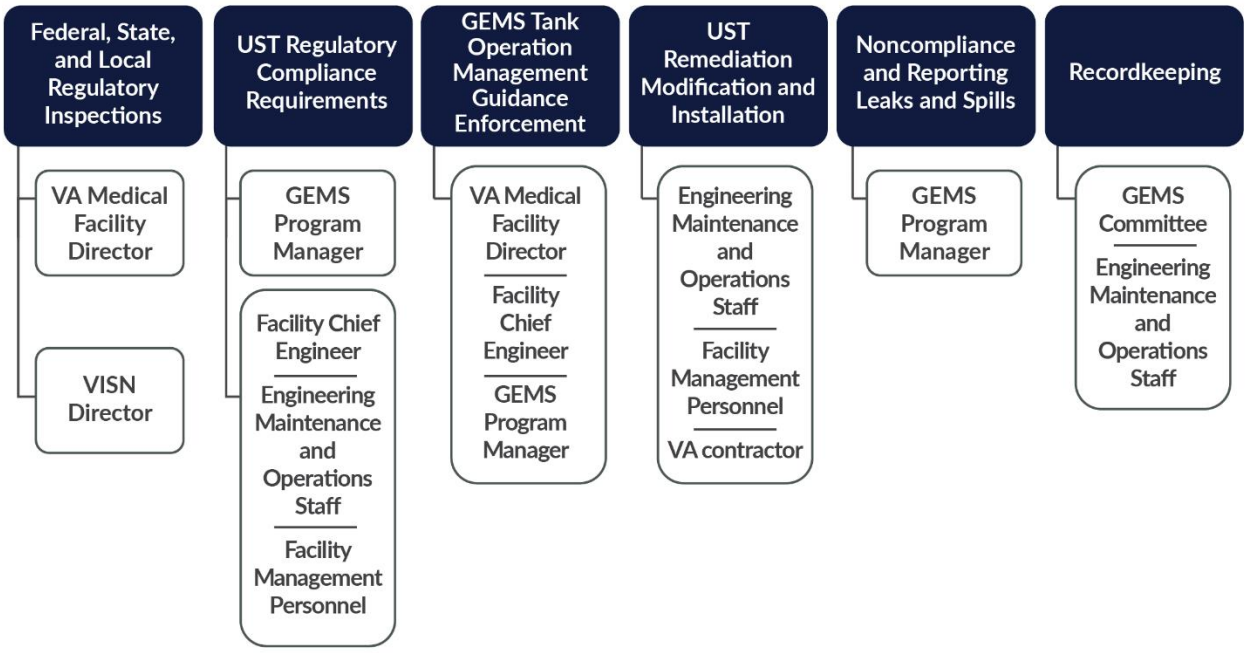

Figure 3. *Individuals and offices involved in the reporting, compliance, maintenance, and repair of underground storage tanks.*

Source: OIG review of GEMS Tank Management Operations Guide, VHA Directive 7707, VHA Directive 1811, and VA UST contracts.

Roles and responsibilities of individuals are discussed in more detail below:

- **VA medical center directors** are responsible for ensuring standard operating procedures include all requirements. VA medical center directors and **Veterans Integrated Service Network (VISN) directors** are responsible for reporting all federal, state, and local regulatory inspections to the VA central office using the issue brief format.[50] Facilities submit issue briefs to leaders through an automated issue brief tracker.
- **The chief of facilities and engineering service** and the **GEMS program manager** are responsible for implementing GEMS underground tank guidance. The chief is responsible for ensuring all tanks meet current federal and state UST regulations.

[50] VHA divides the United States into 18 regional networks, known as VISNs, which manage day-to-day functions of medical centers and provide administrative and clinical oversight. "Veterans Integrated Services Networks (VISNs)" (web page), VHA, accessed October 2, 2024, https://www.va.gov/HEALTH/visns.asp.

- **Engineering maintenance and operations or facilities management personnel** are responsible for regulated UST compliance requirements, including recordkeeping, routine maintenance, and inspections.[51]
- **Engineering staff** are responsible for modifying existing tanks and piping, installing replacement tanks and piping, and installing additional tanks and piping in accordance with federal and state UST regulations. Staff must also develop, update, communicate, and verify compliance with VA medical facilities' healthcare engineering standards and procedures to ensure operations are consistent and verifiable.
- **GEMS program managers** are responsible for monitoring UST compliance with federal, state, and local environmental laws and regulations. GEMS program managers work with engineering services and medical facility leaders to ensure environmental compliance for underground tanks, operational controls, and procedures and other related environmental requirements, executive orders, and VA and VHA policies. The responsibilities of the GEMS program manager were further clarified by the VHA national GEMS program manager for operations to include these individuals being independently responsible, with limited guidance, for the interpretation and implementation of the many complex and intricate federal and applicable state environmental requirements associated with all applicable environmental compliance programs. The GEMS program manager works with local and regional EPA offices as well as other federal, state, and local government entities and is responsible for reporting all suspected or confirmed leaks or spills to the appropriate authorities.
- **GEMS Committee members** track recordkeeping requirements and consult on corrective actions to system failures. They also monitor action plans to completion.

For overarching governance, the **under secretary for health** is responsible for ensuring overall compliance with VHA directives 7707 and 1811, and the **assistant under secretary for health for support** is responsible for establishing policy and providing guidance and oversight as necessary for these directives to ensure timely and successful implementation. The **executive director of the Office of Asset Enterprise Management** oversees capital asset activities to ensure a consistent and cohesive departmental approach to capital asset portfolio management.

[51] In this report, VA medical facilities may refer to engineering staff who have UST responsibilities as maintenance and operations or facilities management personnel.

Results and Recommendations

Finding: VHA Needs to Improve Its Monitoring of Underground Storage Tanks to Ensure Regulatory Compliance and Reduce the Risk of Exposing Veterans and VA Employees to Hazardous Materials

The OIG team examined elements of VA's UST management to determine whether the department is appropriately overseeing tank systems to prevent corrosion, spills and overfilling, and releases. Seven of eight VA facilities the OIG reviewed, which had 42 of the 44 reviewed underground storage tanks, failed to ensure underground storage tanks complied with relevant regulatory requirements from October 1, 2022, through September 30, 2023.[52] Some of the facilities did not consistently record UST equipment, immediately investigate persistent alarms on automatic tank gauging systems, or respond to notices of noncompliance or violations by established deadlines.

VHA senior leaders need to improve how they monitor UST management to ensure compliance with regulations. Specifically, medical facilities need to maintain accurate inventory records for USTs and related monitoring equipment and promptly follow up on deficiencies identified during inspections. Until VHA addresses these needs, there is a potential risk that veterans, VA employees, and the public may be exposed to toxic substances from potential leaks in underground storage tanks at medical facilities.

This finding is based on the following determinations:

- VHA does not reliably maintain or report accurate inventory records of USTs and related monitoring equipment.
- Medical facilities' prolonged responses to automatic tank gauge alarms increase the risk of environmental damage, exposure, violations, and fines.
- Several medical facilities did not inform VHA senior leaders of inspections conducted by federal, state, and local regulatory agencies.

[52] The OIG team also reviewed all required inspections conducted to meet federal or state requirements that did not fall into the frequency of fiscal year 2023, such as triennial inspections.

What the OIG Did

The OIG team compiled a list of active VA-owned and VA-operated USTs from various resources, including the EPA UST Finder tool and state and county records.[53] The team then used a risk-based approach to judgmentally select eight facilities based on the following high-risk parameters:

- Location relative to a flood zone
- A count of active leaking underground storage tanks and the sum of active and temporarily out-of-service underground storage tanks per kilometer near a VA facility[54]
- Proximity to waterways, such as rivers, streams, and ponds
- Proximity to well water
- Tank capacity and age
- Soil moisture content
- Previous violations and deficiencies

The selected eight facilities had a total of 44 regulated VA-owned and VA-operated USTs.[55] These tanks all stored either petroleum or petroleum blended with biofuels and had capacities that ranged from 550 gallons to 30,000 gallons. For full details on this audit's scope and methodology, see appendix B.

VHA Does Not Reliably Maintain or Report Accurate Inventory Records of Underground Storage Tanks and Related Monitoring Equipment

In compliance with the Energy Policy Act, VA's 2006 comprehensive strategy report to the EPA identified an inventory of 782 regulated underground storage tanks at 136 medical centers and

[53] The EPA UST Finder is an online map application with comprehensive data on underground storage tanks and releases nationwide, including the locations of active and closed USTs and UST facilities. The application combines data sourced from states and territories and EPA data for tribal lands. "UST Finder" (web page), EPA, accessed May 24, 2024, https://www.epa.gov/ust/ust-finder.

[54] The OIG found no instances of releases from USTs at the reviewed VA medical facilities from October 1, 2022, through September 30, 2023.

[55] The eight VA facilities were Hampton VA Medical Center in Virginia; Birmingham VA Medical Center in Alabama; Overton Brooks VA Medical Center in Shreveport, Louisiana; Oklahoma City VA Medical Center in Oklahoma; Tibor Rubin VA Medical Center in Long Beach, California; the Palo Alto Healthcare System in California, which includes the Palo Alto and Menlo Park campuses; Baltimore VA Medical Center in Maryland; and Chillicothe VA Medical Center in Ohio.

five National Cemetery Administration facilities across 47 states.[56] The prior VHA national GEMS program manager for operations stated the reported inventory was based on a onetime request for data from VA facilities. VHA National GEMS and Healthcare Environment and Facilities Program leaders further explained that these data were not pulled from an existing VA inventory or data system. Since that 2006 report, VHA has not kept inventory records of VA-owned and VA-operated underground storage tanks. In the opinions of the leaders of VHA National GEMS and Healthcare Environment and Facilities Program, no federal requirement mandates federal agencies to keep such records. Instead, these leaders take the position that such requirements are delegated to the individual state authority where each underground storage tank is located and registered.[57]

Although VHA leaders said there is no federal requirement for VA to maintain an inventory of its USTs, the OIG found relevant VA policy requiring facilities to record real property assets and federal requirements mandating inventory controls that include USTs. The VA-wide capital asset management policy requires medical center staff to contribute to VA's capital asset portfolio—otherwise known as the Capital Asset Inventory—by recording and updating records for all land, building, and structures to ensure VA can account for its inventory of capital assets.[58] VA Capital Asset Inventory system guidance categorizes underground storage tanks as capital asset structures.[59] However, UST inventories have not been consistently or accurately reported in VA's Capital Asset Inventory.

The OIG also identified federal requirements for executive agencies (including VA) to maintain adequate inventory controls and accountability systems for property under their control. On an annual basis and subject to the guidance of the OMB Federal Real Property Council, VA must

[56] Energy Policy Act of 2005, Pub. L. No. 109-58, § 1528, 119 Stat. 594, 1100, codified at 42 U.S.C. § 6991f. The Energy Policy Act required each federal agency that owns or operates an underground storage tank, or that manages land where such a tank is located, to submit a compliance strategy report to the administrator of the EPA, the US House Committee on Energy and Commerce, and the US Senate Committee on the Environment and Public Works, no later than 12 months after August 8, 2005. This compliance strategy report included the location and owner of each underground storage tank.

[57] After initiation of this OIG report, VHA leaders approached the Office of General Counsel to discuss federal inventory requirements for underground storage tanks. On December 19, 2024, the Office of General Counsel provided an email response to VHA leaders that, aside from the onetime requirement of 42 U.S.C. § 6991(f) for federal agencies to submit an inventory of its underground storage tanks by August 8, 2006, there is no federal requirement for an owner or operator to maintain an inventory of its underground storage tanks. However, the OIG notes that this response did not include discussion of real property inventory requirements affecting federal agencies, including VA.

[58] VHA Directive 4085, *Capital Asset Management*, December 2020.

[59] "Storage tanks and underground vaults (or VA's USTs) are also considered structures by the [Federal Real Property Council]." VA, 2023 Capital Asset Inventory Supplemental User Guide, 2023. The VA Capital Asset Inventory Supplemental User Guide is an internal VA document, not available for public viewing.

provide an inventory of its real property to the Federal Real Property Council and to the GSA.[60] Federal Real Property Council guidance issued in 2023 identified assets and data elements that must be captured, reported, and certified annually by executive agencies—this included storage tanks, underground vaults, and petroleum, oil, and lubricant storage tanks being counted as real property and being classified as structures.[61] Additionally, according to Part 280 of Title 40 of the Code of Federal Regulations, underground storage tank owners must also notify the governing authority for all underground storage tank systems and maintain these records at either the facility or a readily available alternative site.[62] Based on federal law, VA policy, and the Federal Real Property Council real property inventory reporting guidance, the OIG concluded that for VA's inventory to be accurately represented in internal and external databases, the department must ensure accurate information on its USTs is maintained and reported.

Underground Storage Tank Inventories Are Not Consistently or Accurately Reported in VA's Capital Asset Inventory System

VA policy requires medical facilities to document capital assets in VA's Capital Asset Inventory portfolio so that all land, buildings, and structures are properly managed and reported to external agencies.[63] Capital Asset Inventory guidance says utility systems—such as storage tanks and underground vaults—are considered real property structures by the OMB Federal Real Property Council.[64] Within the Capital Asset Inventory, assets are assigned a unique two-digit identifier code known as a GSA predominant use code that falls under one of the following categories: land predominant use, building predominant use, or structure predominant use.[65] USTs should be recorded as structures and entered with GSA predominant use code 40: "storage (other than buildings)."[66]

[60] Federal Property Management Reform Act of 2016, P.L. 114-318, § 6, 130 Stat. 1608, 1615, codified at 40 U.S.C. § 524(a). The Federal Real Property Council was enacted to ensure management accountability of federal property. GSA, Federal Real Property Council 2023 Guidance for Real Property Inventory Reporting, version 2, September 2023.

[61] The Federal Real Property Council lists storage tanks, underground vaults, and petroleum, oil, and lubricant storage tanks under "structure (40)," use code "storage (other than buildings) (40)." GSA, Federal Real Property Council 2023 Guidance for Real Property Inventory Reporting, version 2, September 2023.

[62] 40 C.F.R. §§ 280.34(a)(1) and 280.34(c)(1)–(2).

[63] VHA Directive 4085.

[64] VA, 2023 Capital Asset Inventory Supplemental User Guide, 2023. The VA Capital Asset Inventory Supplemental User Guide is an internal VA documents, not available for public viewing.

[65] The Federal Real Property Council defines "predominant use" as the greatest use of the real property asset (whether land, building, or structure). GSA, Federal Real Property Council 2023 Guidance for Real Property Inventory Reporting, version 2, September 2023.

[66] GSA, Federal Real Property Council 2023 Guidance for Real Property Inventory Reporting, version 2, September 2023.

In August 2023, the audit team used the EPA UST Finder tool as well as state and county resources to identify 624 active VA-owned and VA-operated underground storage tanks. Then, in May 2024, the OIG team searched VA's Capital Asset Inventory for all VA-owned and VA-operated underground storage tanks recorded in the database, finding 222 potential USTs in the inventory.[67] Based on the 624 underground storage tanks the OIG team identified, the 222 tanks listed in VA's Capital Asset Inventory indicate that VA had recorded only about 36 percent of its USTs.

Additionally, the OIG found that medical facilities were not consistently entering these tanks in the Capital Asset Inventory with the same identifying terminology to distinguish them as underground storage tanks, such as "UST" or "underground storage tank." Of the 222 reported potential USTs in the Capital Asset Inventory, 54 (about 24 percent) were labeled with nomenclature such as "storage tank," "diesel storage," "fuel oil storage tank," or "gasoline storage" but were not specifically labeled as underground storage tanks in the database's asset identification fields.[68]

Further, VA often did not use correct GSA predominant use codes to identify the USTs. The OIG reviewed the real property codes for the 222 USTs in VA's Capital Asset Inventory and concluded that 63 (about 28 percent) were not recorded with the correct GSA predominant use code.[69] The OIG team identified four incorrect use codes associated with USTs in the inventory. Table 1 presents a summary of the UST identifying terminology and GSA use codes for the USTs OIG identified in the VA Capital Asset Inventory.

Table 1. Summary of Identifying Terminology and GSA Use Codes for Underground Storage Tanks in the VA Capital Asset Inventory

GSA predominant use code	Total UST entries identified by OIG in Capital Asset Inventory	Entries incorrectly coded by VA	Total entries not specifically labeled by VA as USTs in asset identification fields
Storage (other than buildings) (code 40)	159	0	35
Utility systems (code 71)	48	48	18

[67] Identified tanks were not always labeled consistently as underground storage tanks in the Capital Asset Inventory database's asset identification fields. Therefore, the OIG cannot confirm the total accuracy of the of the 222 potential USTs found in the inventory or whether these identified storage tanks included aboveground storage tanks.

[68] The Capital Asset Inventory database allows users to manually enter information in asset identification fields. Therefore, the 222 USTs identified by the OIG team may not include all USTs entered in the system or may include other storage tanks, such as aboveground storage tanks.

[69] The OIG team considered entries incorrect if facilities did not properly follow Capital Asset Inventory and GSA guidance to use the designated real property predominant use codes for underground storage tanks: code 40, "storage (other than buildings)."

GSA predominant use code	Total UST entries identified by OIG in Capital Asset Inventory	Entries incorrectly coded by VA	Total entries not specifically labeled by VA as USTs in asset identification fields
Industrial (other than buildings) (code 50)	11	11	0
Service (other than buildings) (code 60)	2	2	0
All other (code 80)	2	2	1
Total	**222**	**63**	**54**
Total percentage		**28%**	**24%**

Source: VA OIG analysis of Capital Asset Inventory UST entries.

Note: Percentages in this table have been rounded to the nearest whole number.

Inadequate Inventory Practices Affect the Accuracy of External Reporting

The Federal Property Management Reform Act requires VA to submit an annual report to the OMB Federal Real Property Council with information on the nature, extent, and use of VA's real property assets.[70] The data in the annual report is provided by VA administrations and staff offices in response to the Office of Asset Enterprise Management's annual Capital Asset Inventory data call. The OIG found that, because VA uses Capital Asset Inventory data for this annual report—and the USTs reported in the Capital Asset Inventory were not consistently or correctly recorded—VA's USTs were not accurately captured in the fiscal year 2023 Federal Real Property Profile Structure Report.

VA, EPA, and Federal Real Property Council Underground Storage Tank Inventory Records Did Not Match

The OIG team compared physical records for the eight reviewed VA medical facilities' underground storage tanks to EPA's UST Finder tool, the 2023 Federal Real Property Profile Structure Report, and VA's 2006 report to EPA. The OIG determined all reviewed facilities maintained inventory records of active underground storage tanks at the facility.[71] However, the OIG found that all but one facility had discrepancies in its inventory reporting across one or more of the databases—including two facilities with closed underground storage tanks reported

[70] Federal Property Management Reform Act of 2016, Pub. L. No. 114-318, § 6, 130 Stat. 1608, 1615, codified at 40 U.S.C. § 524(a).

[71] Underground storage tank owners must notify the governing authority for all underground storage tank systems and maintain these records at either the facility or a readily available alternative site. 40 C.F.R. §§ 280.34(a)(1) and 280.34(c)(1)–(2).

as active at the time of this review. Additionally, all but one facility had occurrences of unreported active tanks.

For example, the OIG team identified inventory discrepancies among all databases at the Palo Alto Healthcare System's Menlo Park Campus, including closed underground storage tanks reported as active, unreported active tanks, and tanks recorded that never existed. Table 2 summarizes these discrepancies, highlighting which structures were inaccurately reported and where the inaccurate reporting occurred with shading and parentheses.

Table 2. Summary of Palo Alto Healthcare System's Menlo Park Campus Underground Storage Tank Inventory from Medical Facility and External Agency Records

Tank location	Reported to EPA in 2006	Included in EPA UST Finder tool (2023)	Included in Federal Real Property Profile Structure Report (2023)	Included in medical facility inventory (as of OIG review)	Status as of OIG review
Building 13	Yes	Yes	Yes	Yes	Active
Building 114	Yes	Yes	Yes	Yes	Active
Building 114	Yes	Yes	(No)‡	Yes	Active
Building 137	Yes	(Yes)	No	No	Closed-*2006*
Building 321	Yes	Yes	Yes	Yes	Active
Building 323	Yes	(Yes)	(Yes)	No	Closed-*2015*
Building 324	Yes	No	(Yes)	No	Closed-*2012*
Building 353	Yes	Yes	Yes	Yes	Active
Building 329	Yes	(Yes)	(Yes)	No	Closed-*2012*
Building 331	(Yes)*	No	No	No	Closed-*2000*
Building 347	(Yes)*	(Yes)	(Yes)	No	Closed-*2013*
CA10444864-004_A Stand-alone Tank_1	No	(Yes)	No	No	Never existed

Tank location	Reported to EPA in 2006	Included in EPA UST Finder tool (2023)	Included in Federal Real Property Profile Structure Report (2023)	Included in medical facility inventory (as of OIG review)	Status as of OIG review
CA10444864-005_A Stand-alone Tank_1	No	(Yes)	No	No	Never existed
Total "Yes"	**11**	**11**	**8**	**5**	

Source: VA OIG analysis of underground storage tank inventory recorded in VA medical facility records, data in the EPA UST Finder tool, the fiscal year 2023 Federal Real Property Profile Structure Report, and the 2006 report to EPA for the Energy Policy Act of 2005.

** VA reported the underground storage tanks in buildings 331 and 347 as one tank to EPA in 2006. Historical records support these are two distinct USTs; however, because the OIG could not confirm further details of the EPA 2006 report, the audit team considers both USTs as reported to EPA.*

‡ VA's Capital Asset Inventory contained one entry for the two underground storage tanks in building 114. The data accessible in the fiscal year 2023 Federal Real Property Profile Structure Report did not contain asset description fields; therefore, the OIG team was unable to confirm whether the single entry for building 114 contained two underground storage tanks.

The Government Accountability Office's internal control standards recommend reports used by an entity, its stakeholders, or other external parties should contain reliable information to support sound decision-making.[72] In addition to the discrepancies noted above, at one facility reviewed, the OIG identified incorrect UST installation dates reported in the state environmental reporting system and the EPA UST Finder tool. The installation date was also incorrect in internal inventory records.[73] These examples demonstrate the need for VA facility staff to accurately account for UST assets in the database VA uses as its authoritative record for VA's real property portfolio.

Recommendation 1 calls on the executive director of the Office of Asset Enterprise Management, as a part of the annual certification process of the Capital Asset Inventory, to provide guidance on underground storage tank entries to ensure these assets are recorded with consistent identifying terminology in asset identification fields and with the appropriate real property predominant use code: code 40, "storage (other than buildings)."

[72] Government Accountability Office (GAO), *Standards for Internal Control in the Federal Government*, GAO-14-704G, September 2014.

[73] According to a staff member in the EPA's Office of Underground Storage Tanks headquarters, correct installation date records are important for various reasons, including the use of the date to determine applicability of various monitoring and testing requirements. This includes equipment requirements as well as monitoring requirements. Additionally, a few state implementing agencies have requirements to remove or replace USTs or UST systems when they reach a certain age or upon the termination of the warranty period.

Underground Storage Tank Monitoring Equipment Is Not Consistently Recorded in VA's Maintenance Management System

VA medical facilities are required by VHA Directive 1811 to keep a complete, current inventory in the approved maintenance management system of all structures, and this inventory must include information on equipment and components.[74] According to the director of healthcare engineering, VA uses two systems to track this inventory: the legacy Automated Engineering Management System/Medical Equipment Reporting System (AEMS/MERS) and Maximo.[75] Both systems have capabilities for equipment inventory, preventive maintenance scheduling, work orders, and equipment history records.

VHA Directive 1811 also requires facilities to maintain a utility system management program that addresses the installation, operation, and maintenance of utility system equipment, inclusive of associated automation and controls systems. USTs are classified by VA Capital Asset Inventory guidance as utility system structures.[76] According to the director of healthcare engineering, because underground storage tanks supply fuel, they are a critical utility and part of a critical utility system. He added that Directive 1811 requires VA medical facilities to maintain a current inventory of all USTs, including associated equipment and component levels, which would include the leak detection system.[77] When these systems malfunction, they can potentially put VA facilities at risk for fuel discharges that can interrupt medical operations, pose health risks, and result in fines and costly cleanup efforts.

The OIG examined automatic tank gauging systems for the eight reviewed facilities and found lapses in accountability for UST systems' equipment. Across the eight facilities, 24 automatic tank gauging systems monitored 44 USTs. As of May 2024, only two of the eight facilities had recorded their automatic tank gauging systems in either AEMS/MERS or Maximo, the two VHA management systems or centralized databases used to track inventory. The director of healthcare

[74] UST components include the tank, underground connected piping, underground ancillary equipment, and any containment system, to include containment sumps, pumping equipment, release detection equipment, spill prevention equipment, and overfill prevention equipment. 40 C.F.R. § 280.12; 40 C.F.R.§ 280.32.

[75] VA, *Maximo NX Tech Training Participant Guide*, March 2016. The Maximo Asset Management system is used to track physical assets (equipment) and manage assets throughout their life cycle from acquisition to disposition. "VistA Non-EHR Modules" (web page), WorldVista, accessed July 18, 2024, https://worldvista.org/AboutVistA/vista-non-ehr-modules. AEMS/MERS is the software system used to manage equipment inventory and preventive maintenance, work orders, repair histories for medical and nonmedical equipment, and identification of building features related to space and facility management.

[76] VA, 2023 Capital Asset Inventory Supplemental User Guide, 2023. The VA Capital Asset Inventory Supplemental User Guide is an internal VA document, not available for public viewing.

[77] Leak detection systems, such as automatic tank gauges, automatically monitor the level of product in an underground storage tank and calculate changes in volume that can indicate a leaking tank, emphasizing the importance and critical nature of this equipment. "Release Detection for Underground Storage Tanks (USTs) - Internal Methods" (web page), EPA, accessed June 4, 2024, https://www.epa.gov/ust/release-detection-underground-storage-tanks-usts-internal-methods.

engineering said the use of two VA maintenance management systems adds a layer of difficulty in providing oversight of the UST equipment inventory, compounded by the antiquated system capabilities of AEMS/MERS. Despite the challenges VA's inventory systems may present, accurate recordkeeping of UST monitoring equipment is essential to ensure VA has awareness of how many automatic tank gauging systems are monitoring underground storage tanks, the operational status of the equipment, and that aging devices are replaced at the end of their lifespans.

Recommendation 2 calls on the under secretary for health to ensure that VISN officials fulfill their oversight responsibilities found in VHA Directive 1811 requiring that VA medical facilities maintain a current inventory of underground storage tanks, inclusive of all associated equipment and component levels.

Medical Facilities' Prolonged Responses to Automatic Tank Gauge Alarms Increase the Risk of Environmental Damage, Exposure, Failed Tests, Violations, and Fines

Automatic tank gauge alarms on USTs indicate a potentially dangerous situation may have occurred; therefore, alarms must be assessed as soon as possible.[78] Federal regulations require facilities to check release detection equipment every 30 days to ensure the equipment operates with no alarms or other unusual activity.[79] Furthermore, the EPA recommends UST owners immediately respond to and investigate any audible alarms or flashing lights.[80] The EPA points out that releases have gone undetected when alarms are either ignored or the automatic tank gauge is turned off to stop flashing lights or beeps.[81] Accurate detection of leaks is important to prevent contamination and ensure compliance with federal and state UST regulations.[82] Even a minimal amount of petroleum released from underground storage tanks can lead to environmental hazards such as groundwater contamination. Therefore, if automatic tank gauging systems are used to meet regulatory release detection requirements, alarm resolution is especially important.

The OIG reviewed fiscal year 2023 automatic tank gauge alarm history reports and monthly inspections for the eight reviewed VA medical facilities' USTs and found four facilities had alarms that remained active on consecutive reports or inspections. Table 3 illustrates the number

[78] Veeder-Root Operator's Quick Help for TLS-3XX Series Consoles, Manual No: 576013-939, p. 15.

[79] 40 C.F.R. § 280.36(a)(1)(i)(B).

[80] EPA Office of Underground Storage Tanks, *Best Management Practices for Your Underground Storage Tank*, August 2013.

[81] EPA Office of Underground Storage Tanks, *Best Management Practices for Your Underground Storage Tank*.

[82] EPA state-approved programs must have requirements that are no less stringent than the corresponding federal EPA requirements. 40 C.F.R. § 281.11(b).

of alarms for the four facilities and the average days to resolve them from October 1, 2022, through September 30, 2023.[83]

Table 3. Average Days to Resolve Alarms at Reviewed Facilities

Facility	Number of alarms reported	Reported average number of days alarms took to resolve*
Tibor Rubin VA Medical Center	8	126
VA Palo Alto Healthcare System	5	233
Overton Brooks VA Medical Center	1	77
Birmingham VA Medical Center	1	227

Source: VA OIG analysis of underground storage tank alarm histories and monthly inspection reports at facilities reviewed.

** Numbers in this table have been rounded.*

All reviewed facilities relied on contracted maintenance and repairs to supplement VA facility staff. But at one facility, engineering and safety staff said they were told by the contractor that, due to contract restrictions, engineering and safety staff did not have the authority to maintain or touch the automatic tank gauging system or the ability to carry out any inspections, maintenance, or repairs. The facility said that because of these restrictions, VA medical center staff were not trained to conduct these operations and, therefore, contracted out all repairs or maintenance needed to address issues that caused alarms. Additionally, the contract for underground storage tank inspections and monitoring at this facility stated that repairs of any identified issues were not included in the scope of work and, therefore, required separate purchase order contracts. The OIG confirmed that the same contractor who performed inspections also often performed the repair of these identified issues once a separate purchase order contract was obtained. This further delayed the process of correcting the issue. The following example illustrates how these contracting delays can affect a medical facility's ability to monitor USTs.

Example 1

The Tibor Rubin VA Medical Center had one automatic tank gauging system malfunction after heavy rainfall, despite the monitoring console being covered in a secured room. The OIG team observed the system malfunction during a facility tour on February 26, 2024—noting the system console had multiple visual alarms flashing. After further discussion with the team, the VA facility's engineering staff

[83] The OIG team reviewed all fiscal year 2023 alarm history reports and monthly inspections for the eight reviewed VA medical facilities' underground storage tanks. Total alarms reported in table 3 include only fiscal year 2023 alarms that were reported as remaining active for longer than one month in either alarm history reports or monthly inspections. The number of alarms reported for each facility represent a sum of unique alarms that each remained active on consecutive reports or inspections.

confirmed the alarms on the console were first identified on February 5, 2024. According to work orders, contractors noted liquid and vapor sensor alarms displayed on February 8, 2024. Because the initial repair contract was limited, a separate work order was required for further repair work. This delay affected engineering staff's ability to proceed timely with repairs. The repair contract was not approved until May 16, 2024. On May 24, 2024—over three months after the alarm was identified—the tank gauge was repaired. Work orders reviewed confirmed alarms were active until the day of the repair.

The malfunctioning of the automatic tank gauging system from February 5 to May 24 caused the console to inaccurately communicate the status of the UST, including not displaying alarms that could indicate issues or releases or posting potentially incorrect warning or alarm conditions. Figure 4 shows the automatic tank gauge console with illuminated warning and alarm statuses.

Figure 4. *The Tibor Rubin VA Medical Center's Veeder-Root TLS-350 system console shows a status bar display with active alarms and warnings. The alarm displayed in the photo could indicate fuel vapor or liquid has been detected.*
Source: VA OIG, February 26, 2024.

In other instances, lack of communication contributed to prolonged responses, as was the case in example 2.

Example 2

The Palo Alto Healthcare System's Palo Alto campus had pressure line leak detection failures and sudden fuel loss alarms (which could indicate leaks) from

March 2022 through August 2022.[84] *The facility maintenance control manager stated that the subcontractor noted these failures and alarms in the inspections but did not relay them to the contractor or the VA medical facility. Neither the contractor nor the facility knew about these ongoing deficiencies.*

The Code of Federal Regulations requires a designated UST operator to have the knowledge and skills to take appropriate action to respond to emergencies or alarms caused by spills or releases.[85] The prolonged responses the OIG observed are further complicated by the fact that, although VHA Directive 7707 requires all VHA facilities to comply with all environmental laws at a federal, state, and local level, the directive does not specify whether VA medical facilities should have on-site employees trained to respond to emergencies, automatic tank gauge alarms, spills, and overfills associated with operating a UST system. Consequently, the OIG team observed staff at the reviewed facilities who had limited knowledge of the automatic tank gauging systems. Until delayed or prolonged responses and limited knowledge are addressed, VA risks catastrophic events going undetected.

Recommendation 3 calls on the under secretary for health to ensure the assistant under secretary for health for support updates the responsibility section in VHA Directive 7707 to ensure that the responsibilities of VA medical facility directors include appropriate designation of staff and training for environmental regulatory requirements.

Prolonged Responses to Persistent Alarms Contributed to Failed Tests and Inspections

The OIG found that unresolved automatic tank gauging system alarms resulted in failed inspections at three of eight facilities. Prolonged failures and issues relating to alarm sensors, when not addressed in a timely manner, can result in noncompliance with an associated state agency. Six of the eight reviewed facilities had 63 failed tests including secondary containment, overfill prevention and release detection equipment, and alarms in monthly, annual, or triennial inspections in fiscal year 2023. Example 3 shows how a fuel alarm on a facility automatic tank gauging system led to multiple monthly release detection tests and eventually a warning of noncompliance issued from the state authority.

Example 3

The Birmingham VA Medical Center's UST automatic tank gauge indicated a sensor fuel alarm on November 28, 2022, during monthly release detection monitoring. The state issued a letter of warning of noncompliance on

[84] The County of Santa Clara Notice of Inspection, dated December 12, 2022, identified this issue but did not indicate that any leaks had occurred.

[85] 40 C.F.R. § 280.242.

January 18, 2023. The letter warned that, "Due to the above noted noncompliance, this facility may be considered ineligible for coverage under the Alabama Underground Storage Tank Trust Fund should a release of contaminants occur.[86] *Failure to respond to this letter may also result in this facility being prohibited from receiving delivery of product."*[87] *The facility was granted an extension on March 23, 2023, by the Alabama state authority to remedy the issue. However, it was not until April 20, 2023, that a VA medical center contractor was able to complete the test showing all sensors working properly. Despite the passing test results in April 2023, the GEMS manager stated the sensor continued to have an unresolved alarm for the same issue, which lasted until the facility had to shut the sensor down and replace it with an unused sensor to return all sensors to normal. As of July 31, 2023, the facility returned to compliant status.*

Meanwhile, example 4 shows that a facility had persistent unresolved alarms noted on multiple monthly tests, which eventually led to the facility receiving an out-of-compliance notice from a city inspection.

Example 4

Tibor Rubin VA Medical Center in California had multiple unresolved alarms, which were noted as compliance issues on monthly visual inspections of release detection equipment between October 2022 and September 2023. Some of these alarms were noted on the visual inspections for seven months in a row. In the City of Long Beach's inspection of the facility's USTs, dated January 23, 2023, the city declared the facility out of compliance due to the visual inspections not meeting all requirements. Specifically, the city observed that visual inspections lacked information documenting actions taken or to be taken for compliance items identified on the visual inspection reports.

Delaying the correction of tank monitoring system equipment or the resolution of monitoring system alarms could lead to a slow response to a discharge, resulting in a larger environmental impact and greater potential exposure to veterans and employees. Additionally, though VHA Directive 1811 requires VA medical facilities to establish a written preventive maintenance and work order program that ensures procedures are in place for the execution of maintenance activities for all equipment and systems, there is no requirement to account for unplanned

[86] For a discussion of Alabama's State-Administered Program, see generally 40 C.F.R. § 282.50.

[87] The facility responded to the initial warning letter from the compliance inspection conducted by the Alabama state authority on January 20, 2023. The facility GEMS program manager confirmed on January 10, 2024, that no other notices from the Alabama state authority for this specific noncompliance issue have been reissued.

corrective maintenance.[88] Absent any requirement to track unplanned corrective maintenance for issues such as equipment failures, persistent unresolved alarms, or deficiencies identified in routine inspections, VHA leaders may not have awareness of prolonged issues that may result in noncompliance if not addressed in a timely manner.

Recommendation 4 requests the under secretary for health ensure that VISNs are fulfilling responsibilities in VHA Directive 1811 to ensure facilities comply with federal, state, and local codes, laws, and regulations, including monitoring and addressing underground storage tank alarms promptly to confirm a release has not occurred.

Recommendation 5 calls on the under secretary for health to ensure VISNs are fulfilling responsibilities in VHA Directive 1811 for work order (unplanned corrective maintenance) tracking from creation through completion in the approved maintenance management system—to include underground storage tank and associated component-level equipment failures or deficiencies identified in regulatory agencies' inspections.

Delayed Action on Underground Storage Tank Violations Risks Fines and Other Penalties

The Energy Policy Act of 2005 requires EPA or state agencies to conduct inspections of each underground storage tank at least once every three years.[89] The OIG reviewed the results of all regulatory state and federal inspections and found that six of the eight facilities reviewed were issued notices of violations, corrections letters, notices to comply, or warning letters containing identified violations from October 1, 2022, through September 30, 2023. As of December 2024, 25 of the 29 violations had been corrected, which took an average of about 142 days to resolve.[90] Of the six facilities issued violation, correction letter, or warning notices from state regulatory authorities or the EPA, five were required to submit proof they had corrected any cited violations within 30 days. The remaining facility was issued a summary of violations and a notice to comply that required proof of corrective action for all cited violations be submitted within 30 days. But the OIG noted that all six facilities had at least one violation that took 60 days or more to resolve, only one of which was granted an extension by a state regulatory authority. For three of these violations, one facility took 193 days to resolve issues related to testing and operator compliance. Another facility, due to a failure to conduct required annual UST under-dispenser containment monitoring and stand-alone sensor testing, took 376 days to resolve an

[88] Corrective maintenance can be defined as identifying a problem with machines, systems, or tools and correcting the problem, thereby allowing these elements to return to working efficiently. Mohammad M. Hamasha et al., "Strategical selection of maintenance type under different conditions," *Scientific Reports* 13 no.1 (2023): 15560, https://pmc.ncbi.nlm.nih.gov/articles/PMC10511507/#CR59.

[89] Energy Policy Act of 2005, Pub. L. No. 109-58, § 1523, 119 Stat. 594, 1094, codified at 42 U.S.C. § 6991d.

[90] The required timeline for resolving issues is specified by each state authority or the EPA in the notice of violation letters, notice of corrections letters, or warning letters.

issue related to completion of required testing. As of October 2024, the other four violations had not been resolved and had been open for an average of 657 days.[91]

In March 2019, the EPA Office of Land and Emergency Management released a compliance advisory for all facilities required to comply with the EPA's UST regulation, emphasizing the need to complete inspections on time.[92] The EPA has also noted that broken automatic tank gauges, disregarded alarms, and missing records are common issues that often result in penalties and fines. The OIG found that of the six reviewed facilities with cited violations for underground storage tanks, most fell in three primary categories: missing records; equipment issues, including failed tests; and missing tests.

For violations at the four reviewed facilities outside the state of California, the OIG examined the 2023 EPA guidance for fines and penalties and found that base penalty fines can range from $300 to $3,828 per violation. For the two facilities in California with identified violations, officials with the Certified Unified Program Agency confirmed that monetary penalties can range from $500 to $5,000 per tank per day per violation. Table 4 summarizes the violations identified at the six facilities from October 1, 2022, through September 30, 2023.

[91] When the medical facility could not provide documentary evidence that violation resolution had occurred, the OIG coordinated with the state governing authority to receive confirmation and documentation of unresolved status for these violations.

[92] "Compliance Advisory: Underground Storage Tank Regulation," EPA Office of Land and Emergency Management, March 2019.

Table 4. Identified Violations

Facilities	Fiscal year 2023 violations	Missing records	Equipment issues or failed tests	Tests not performed	All other violations
Birmingham VA Medical Center	5	5	0	0	0
Oklahoma City VA Medical Center	4	0	0	3	1
Tibor Rubin VA Medical Center	6	3	2*	0	1
VA Palo Alto Healthcare System	7	2*	2*	1*	2*
Baltimore VA Medical Center	3	0	3	0	0
Chillicothe VA Medical Center	4	2	0	2	0
Total	**29**	**12**	**7**	**6**	**4**
Total percentage		**41%**	**24%**	**21%**	**14%**

Source: VA OIG analysis of notices of violations and corrections letters, or warning letters, from state authorities or the EPA.

** Includes at least one violation related to alarm deficiencies.*

Note: Percentages in this table have been rounded to the nearest whole number.

VHA Directive 7707 requires a VA medical facility's GEMS program manager to work with VA medical facility leaders to correct environmental findings and ensure VA medical facility programs satisfactorily address compliance.[93] The National GEMS Program Manager for Policy and oversight confirmed that environmental findings, as stated in the directive, would include any UST violations. The directive also requires the VA medical facility's GEMS Committee to review noncompliance findings to identify corrective actions and track these through completion. The OIG team reviewed the violations to determine whether they were due to recurring problems the facilities had not previously addressed. The OIG found five violations were related to alarm deficiencies—with one of those identified as an alarm issue noted in multiple past inspections.

Based on the review of notices of violations and corrections letters, or warning letters, issued to VA medical centers from state authorities or the EPA from October 1, 2022, through September 30, 2023, the OIG determined consequences relating to noncompliance for cited violations could include disruption of services, prevention of fuel deliveries, or monetary fines. Of the six facilities issued violation documentation, one facility entered into a settlement agreement with the EPA that required a proof of correction and payment of fines totaling $2,445.

Without assurance that VA medical facilities are adequately reviewing and addressing noncompliance findings, VHA leaders may not have awareness of whether VA facilities

[93] VHA Directive 7707, *VHA Green Environmental Management System and Governing Environmental Policy*, April 2021.

satisfactorily addressed issued notices of violations, or whether facilities have incurred any associated penalties. Recommendation 6 calls on the under secretary for health to confirm VA medical facility directors and VISN directors are fulfilling responsibilities in VHA Directive 7707 to ensure regulatory compliance deficiencies are promptly reviewed, corrective actions are developed, and issues are tracked through completion to satisfactorily address environmental compliance.

Some Medical Facilities Did Not Inform VHA Senior Leaders About Regulatory Inspections and Results

VHA Directive 7707 requires VA medical facilities and VISN directors to report all federal, state, and local regulatory agency inspections at VISN facilities to the VA central office using the issue brief format, submitted to leaders through an automated issue brief tracker.[94]

VHA issue brief guidance from the deputy under secretary for health for operations and management explains that the issue brief tracker is used by the Office of Network Support to review, analyze, and track trends in issues reported by the VISNs and medical centers, including significant deficiencies and findings from program office reviews, audits, and site visits conducted by oversight bodies.[95] In situations where deficiencies reported from federal, state, and local regulatory agencies' inspections have yet to be resolved, medical center staff should continue to provide updates to the issue brief entry as new information develops. GEMS managers also stated they expect facilities to create an issue brief for any notice of violation they receive for USTs. In October 2024, VHA released additional guidance on issue brief reporting requirements, monitoring, and reviews of reportable incidents—including site visits conducted by oversight bodies and significant deficiencies and findings from reviews, audits, and site visits.[96]

The OIG reviewed VHA's issue brief tracker entries for the eight selected facilities from October 1, 2022, through September 30, 2023, and entries in the applicable fiscal years of any required inspections that were conducted by external regulatory agencies to meet federal or state requirements but did not fall into the frequency of fiscal year 2023. The OIG team determined that four of the eight facilities did not provide issue briefs for regulatory inspections, with only five of the 10 inspections conducted by external regulatory agencies reported in the VHA issue brief tracker (50 percent).

Additionally, of those five inspections, two had deficiencies or failed tests that should have been reported and updated in the issue brief tracker until they were resolved. The OIG determined

[94] VA Directive 7707.

[95] "10N Guide to VHA Issue Briefs," deputy secretary for health for operations and management, March 29, 2018. The 10N Guide to VHA Issue Briefs is an internal VA document, not available for public viewing.

[96] "Enterprise Issue Reporting System Guide to VHA Issue Briefs," VHA, October 24, 2024. The system guide is an internal VA document, not available to the public.

medical facilities did not enter in all required inspections because some facility staff did not understand VHA Directive 7707's reporting requirements or the guidance on issue briefs from the deputy under secretary for health for operations and management.

The OIG found that the eight facilities generally complied with routine regulatory inspection requirements for USTs. They conducted 99.1 percent of triennial inspections that were required during the scope of the OIG's review, as well as 97.7 percent of the annual inspections and 99.8 percent of the required walk-through inspections.[97] However, because inspections and deficiencies were not consistently entered into the VHA issue brief system, VHA officials did not have access to this information, including any applicable missing inspections. Accurate accounts of these inspections in VA systems, as required, are needed for VHA leaders to appropriately review, analyze, and track trends on issues—as well as to ensure corrective actions, where needed, are implemented appropriately. Additionally, the OIG concluded that any issues identified in these inspections may not be elevated in a timely manner at some locations.

Recommendation 7 calls on the under secretary for health to confirm VA medical facility directors and VISN directors are fulfilling their oversight responsibilities found in VHA Directive 7707 to ensure all required federal, state, and local regulatory agencies' inspections of underground storage tank inspections are recorded in the VHA issue brief tracking system.

Conclusion

VHA needs increased oversight over VA-owned and VA-operated underground storage tanks. Without maintaining a current, accurate internal inventory of USTs and associated equipment, VHA cannot verify the number of underground storage tanks on medical center campuses to external government oversight bodies or ensure equipment is properly maintained to detect leaks. Similarly, the lack of oversight of the VHA issue brief tracker affects VHA senior leaders' awareness of potential problems and hinders the agency's response to violations identified by external oversight agencies. Local medical facilities' inability to address automatic tank gauge alarms or inspection deficiencies in a timely manner puts VA at risk for disruptions to operations and monetary fines. By addressing these concerns, VA can reduce the risk of potential releases that pose significant environmental and health risks to veterans and employees at VA medical facilities.

[97] For the purposes of quantifying inspections completed, the OIG team included the Birmingham VA Medical Center as compliant for conducting the required fiscal year 2023 annual inspection for the facility's one regulated UST. However, the OIG notes that, although the Birmingham VA Medical Center conducted this required annual inspection, it was not compliant in testing one of the five components required to test the proper operation of the release detection method.

Recommendations 1–7

The OIG made one recommendation to the Office of Asset Enterprise Management executive director:

1. As a part of the annual certification process of the Capital Asset Inventory, the executive director of the Office of Asset Enterprise Management should provide guidance on underground storage tank entries to ensure these assets are recorded with consistent identifying terminology in asset identification fields and with the appropriate real property predominant use code: code 40, "storage (other than buildings)."

The OIG made six recommendations to the under secretary for health:[98]

2. Ensure Veterans Integrated Service Network officials fulfill their oversight responsibilities found in Veterans Health Administration Directive 1811 requiring VA medical facilities maintain a current inventory of underground storage tanks, inclusive of all associated equipment and component levels.
3. Ensure the assistant under secretary for health for support updates the responsibility section in Veterans Health Administration Directive 7707 to ensure that the responsibilities of VA medical facility directors include appropriate designation of staff and training for environmental regulatory requirements.
4. Ensure Veterans Integrated Service Networks are fulfilling responsibilities in Veterans Health Administration Directive 1811 to ensure facility compliance with federal, state, and local codes, laws, and regulations—including monitoring and addressing underground storage tank alarms promptly to confirm a release has not occurred.
5. Ensure Veterans Integrated Service Networks are fulfilling responsibilities in Veterans Health Administration Directive 1811 for work order (unplanned corrective maintenance) tracking from creation through completion in the approved maintenance management system—to include underground storage tank and associated component-level equipment failures or deficiencies identified in regulatory agencies' inspections.
6. Confirm VA medical facility directors and Veterans Integrated Service Network directors are fulfilling responsibilities in Veterans Health Administration Directive 7707 to ensure regulatory compliance deficiencies are promptly reviewed,

[98] The recommendations addressed to the under secretary for health are directed to anyone in an acting status or performing the delegable duties of the position.

corrective actions are developed, and issues are tracked through completion to satisfactorily address environmental compliance.

7. Confirm VA medical facility directors and Veterans Integrated Service Network directors are fulfilling their oversight responsibilities found in Veterans Health Administration Directive 7707 to ensure all required federal, state, and local regulatory agencies' inspections of underground storage tanks are recorded in the Veterans Health Administration issue brief tracking system.

VA Management Comments

The executive director, Office of Asset Enterprise Management, concurred with recommendation 1 and provided an action plan to address this recommendation. Appendix C includes the full text of the Office of Asset Enterprise Management comments. In response to recommendation 1, the Office of Asset Enterprise Management will incorporate guidance and training in the annual Capital Asset Inventory call memo to record underground storage tanks correctly as the predominant use code of code: 40 "storage (other than buildings)."

The acting under secretary for health concurred with recommendations 2 through 7 and submitted an action plan for each. Appendix D includes the full text of the acting under secretary for health comments. In response to recommendations 2, 4, and 5, VHA will conduct training and institute a compliance verification process for VISN directors requiring that, prior to certifying medical center compliance to the Office of Healthcare Engineering per VHA Directive 1811, VISN directors verify medical centers maintained a current inventory, performed required monitoring and maintenance, and used required preventive and corrective maintenance systems for storage tanks and their associated equipment. In response to recommendation 3, VHA Directive 7707 will be updated to clarify VA medical facility directors' duties regarding directive verification, which includes designation and required training for staff with environmental regulatory requirements.

Regarding recommendation 6, VISN directors will receive training to reinforce the requirements and responsibilities of the VISN. Furthermore, program and compliance deficiencies will continue to be reviewed and tracked. VISNs will also review and highlight areas of regulatory compliance deficiencies in their VISN External Green Environmental Management System report.

For recommendation 7, training will be provided to the VISN directors to reinforce VISN requirements and responsibilities. Clarification will be provided to GEMS field staff regarding triennial external inspections completed by the state or EPA and formal notices of violations, which must be reported through the issue brief system. VHA will verify use of issue briefs through the annual environmental survey.

All action plans are targeted for completion by September 2025. Appendixes C and D provide the full text of the acting under secretary for health and the executive director of the Office of Asset Enterprise Management comments and planned actions.

OIG Response

The comments and planned corrective actions submitted by the acting under secretary for health and the executive director of the Office of Asset Enterprise Management are responsive to the intent of the recommendations. The OIG will monitor execution of planned actions and will close the recommendations when VA provides evidence demonstrating progress addressing the issues identified.

Appendix A: Background

An underground storage tank (UST) system is "any one or 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 underground pipes connected thereto) is 10 percent or more beneath the surface of the ground."[99] The federal UST regulations apply only to stored petroleum, petroleum blended with biofuels, and certain other hazardous substances.[100] The OIG reviewed only underground storage tanks that stored petroleum or a mixture of petroleum with quantities of other regulated substances.

According to the US Environmental Protection Agency (EPA), until the mid-1980s, most USTs were made of bare steel, which is likely to corrode over time and allow contents to leak into the environment.[101] Faulty installation or inadequate operating and maintenance procedures can also cause these tanks to release their contents into the environment.

Responsibilities of Underground Storage Tank Programs

The EPA has empowered state governments to oversee USTs. Subtitle I of the Solid Waste Disposal Act allows state UST programs approved by the EPA to operate in place of the federal program, as long as the state regulations are at least as stringent as the corresponding federal regulations.[102]

Federal Law and Regulations

Table A.1, taken from Title 40 of the Code of Federal Regulations, Part 280, includes general summary descriptions of the relevant federal regulation provisions reviewed by the OIG team in the scope of the audit, and not complete summaries of all applicable rules and exceptions.

[99] 40 C.F.R. § 280.12.

[100] US Environmental Protection Agency (EPA), Musts for USTs, EPA 510-K-15-001, November 2015. Most regulated underground storage tanks contain petroleum. "Learn About Underground Storage Tanks (USTs)" (web page), EPA, accessed November 5, 2023, https://www.epa.gov/ust/learn-about-underground-storage-tanks-usts.

[101] "Learn About Underground Storage Tanks (USTs)" (web page), EPA, accessed November 5, 2023, https://www.epa.gov/ust/learn-about-underground-storage-tanks-usts.

[102] "States with programs approved under this part are authorized to administer the state program in lieu of the federal program and will have primary enforcement responsibility with respect to the requirements of the approved program. EPA retains authority to take enforcement action in approved states as necessary and will notify the designated lead state agency of any such intended action." 40 C.F.R. § 281.11(c). The requirements for EPA approval of state UST programs are contained in 40 C.F.R. Part 281 and 42 U.S.C § 6991c. Currently approved state programs are listed in 40 C.F.R. §§ 282.50–282.102.

Table A.1. Relevant Provisions of the Code of Federal Regulations

C.F.R.	Descriptions
40 C.F.R. § 280.20	Performance standards for new UST systems, including but not limited to requirements for secondary containment and interstitial monitoring; the design, construction, and protection of tanks and piping from corrosion; spill and overfill prevention equipment and testing, such as spill buckets, automatic shutoff devices, or overfill alarms; underground storage tank installation and certification; and dispenser systems, including any applicable necessary associated equipment.
40 C.F.R. § 280.22	Notification requirements for submitting notice of an underground storage tank system's existence to the implementing agency.
40 C.F.R. § 280.33	UST system repair requirements, including but not limited to tightness testing requirements and timelines for different types of tanks and piping; cathodic protection systems; spill or overfill prevention equipment; and recordkeeping maintenance.
40 C.F.R. § 280.35	Periodic testing and associated recordkeeping requirements of spill prevention equipment, containment sumps used for interstitial monitoring of piping, and overfill prevention equipment.
40 C.F.R. § 280.36	Periodic operation and maintenance walk-through inspection requirements, including but not limited to annual inspections for containment sumps and handheld release detection equipment; 30-day inspections for spill prevention equipment and release detection equipment, along with ensuring equipment is operating with no alarms or other unusual operating conditions present; and associated recordkeeping provisions.
40 C.F.R. § 280.40	General requirements for all underground storage tank systems, including but not limited to providing a method, or combination of methods, of release detection that can detect a release from any portion of the tank and the connected underground piping that routinely contains product; installation; and annual release detection equipment proper operability testing.
40 C.F.R. § 280.41	Requirements for petroleum UST systems, including but not limited to release detection monitoring and testing requirements for tanks and piping.
40 C.F.R. § 280.43	Requirements for methods of release detection for tanks, including but not limited to inventory control; manual tank gauging; tank tightness testing; automatic tank gauging; vapor monitoring; groundwater monitoring; interstitial monitoring; statistical inventory reconciliation; and other methods of release detection.
40 C.F.R. § 280.45	Requirements for release detection recordkeeping in accordance with 40 C.F.R. § 280.34, including but not limited to records for written performance claims; results of any sampling, testing, or monitoring; and written documentation of all calibration, maintenance, and repair of release detection equipment.
40 C.F.R. § 280.61	Required initial response actions within 24 hours of a confirmed release.

C.F.R.	Descriptions
40 C.F.R. § 280.242	Requirements for operator training, including but not limited to training, knowledge and skill evaluation, and comparable examination requirements for class A, B, and C operators. Class A operators have primary responsibility to operate and maintain the underground tank system in accordance with applicable requirements established by the implementing agency. Class B operators have day-to-day responsibility for implementing applicable regulatory requirements established by the implementing agency. Class C operators are responsible for initially addressing emergencies presented by a spill or release from an underground tank.

Source: VA OIG summary of relevant provisions of Title 40 of the Code of Federal Regulations.

In addition to the above federal regulations, the Federal Property Management Reform Act of 2016 requires executive agencies (including VA) to maintain adequate inventory controls and accountability systems for property under their control. On an annual basis and subject to the guidance of the Office of Management and Budget's Federal Real Property Council, VA must assess real property under its control and provide an inventory of its real property to the Federal Real Property Council and the General Services Administration.[103]

VA Requirements

VA Directive 4085

The *Capital Asset Management* directive, December 2020, establishes a uniform framework for VA's capital asset policies and applies to all VA capital assets, including land, buildings, and structures. The Capital Asset Inventory, managed by the Capital Asset Management Service, is VA's authoritative data source for real property. It is used to capture and report on capital assets and agreements. The directive uses the Office of Management and Budget's definition of a capital asset: "land, structures, equipment and intellectual property, including software and services that have an estimated useful life of two or more years." Directive 4085 requires administrations and staff offices to contribute to the Capital Asset Inventory database for all real property—including buildings, land, structures, and the leases and agreements. It also requires the Office of Asset Enterprise Management to maintain this database.

VHA Directive 1811

Directive 1811 establishes policy, qualifications, and responsibilities for VHA healthcare engineering programs. This directive highlights compliance with federal, state, and local requirements to ensure department operations for underground storage tanks and associated components and systems are consistent and verifiable. VA medical facilities are required to keep

[103] Federal Property Management Reform Act of 2016, Pub. L. No. 114-318, § 6, 130 Stat. 1608, 1615, codified at 40 U.S.C. § 524(a).

a complete, current inventory in the approved maintenance management system of all buildings, structures, site improvements, building systems (including automation and controls), and utility systems, including underground storage tanks and associated components, at both the equipment and component levels.

VHA Directive 7707

In December 2015, VHA Directive 7707 established the VHA GEMS and Governing Environmental policy. This policy established the VHA GEMS office as VHA's primary point of contact to address environmental compliance and conformance practices for federal, state, and local regulations, including Title 40 of the Code of Federal Regulations, which covers USTs. Directive 7707 includes the requirement for VA medical facilities and Veterans Integrated Service Networks (VISNs) to report all federal, state, and local regulatory agencies' inspections to oversight officials in the VA central office through VA's issue briefing system.

GEMS Tank Management Operations Guide

VHA GEMS created the Tank Management Operations Guide in 2022 to ensure each facility installs, monitors, reports, and records the necessary elements for underground storage tank safety. Federal underground and aboveground storage tank requirements are referenced in this guide to help facilities in deviating from requirements that could otherwise result in injury, contamination, or notices of violations or fines.

The Tank Management Operations Guide provides an overview of the requirements, suggested roles and responsibilities, operational control templates, and quality assurance methods. It recommends medical centers develop a facility-level standard operating procedure that identifies specific responsibilities and requirements for the operation, maintenance, testing, and inspection of each underground storage tank system. At a minimum, a facility's standard operating procedure should provide an inventory of UST systems and designate the parties responsible for daily, monthly, and annual inspections, testing, and maintenance of each system; staff training; spill response procedures; and state regulatory inspection requirements.

Automatic Tank Gauge Monitoring

Automatic tank gauging systems monitor product levels and detect leaks in underground storage tanks. Given the potential health implications that may result from leaking underground storage tanks, implementing control measures such as conducting routine inspections, monitoring automatic tank gauge notifications and alarms, ensuring sufficient training, and establishing safeguards for spill and release prevention can reduce the risk of exposure to harmful contaminants through potential UST releases.

Automatic tank gauging systems use an in-tank inventory probe inside the underground storage tank to electronically monitor product level and inventory control, as well as temperature and

changes in product volume that can indicate a leaking tank. Automatic tank gauging systems are permanently installed in underground storage tanks and are connected to a monitoring console in a nearby building to record and display probe readings. The in-tank inventory probe has a long rod with several floats and sensors placed along the probe to alert the automatic tank gauge console how much fuel and water are present. The automatic tank gauging systems can also provide monitoring for the containment sump and the area between the primary tank wall and the outer barrier wall, otherwise known as the interstitial space. Additionally, automatic tank gauging systems can detect line leaks. This detection triggers visual or audible alarms at the tank gauge console whenever liquid is detected.

Figure A.1 illustrates an automatic tank gauging system.

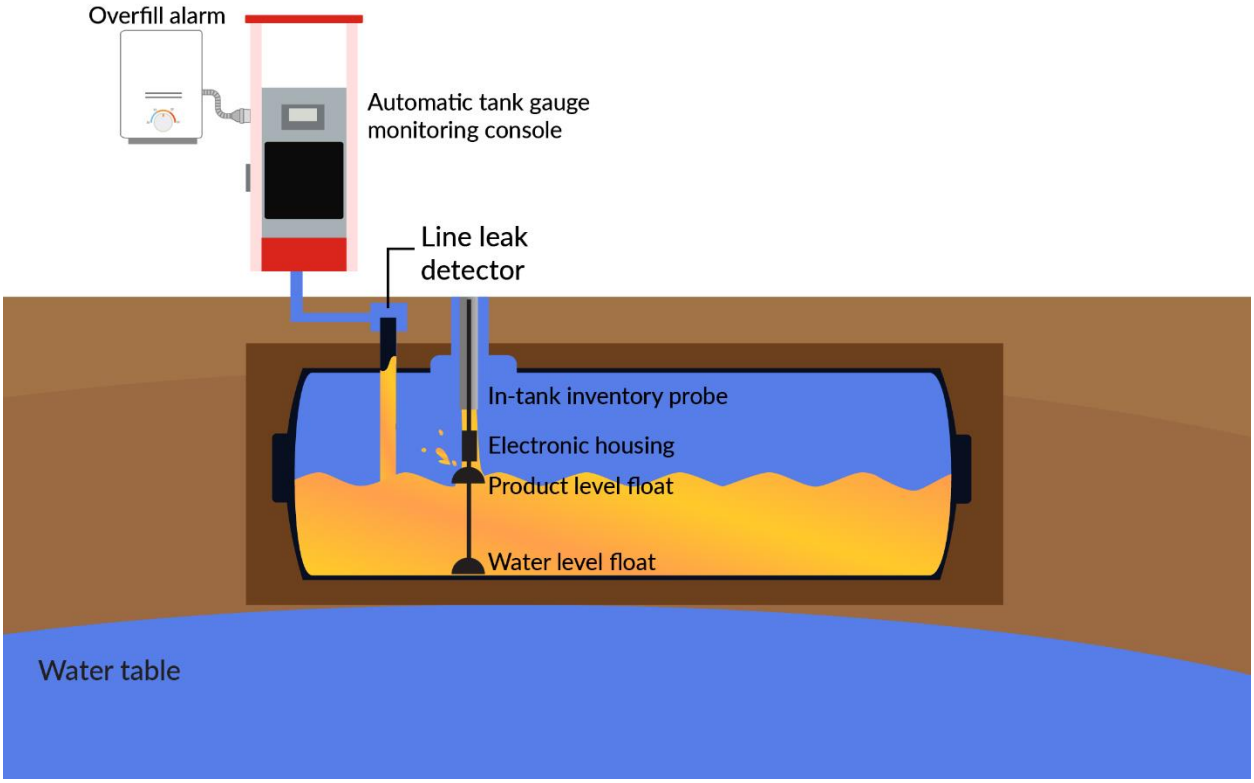

Figure A.1. *VA OIG presentation of an underground storage tank automatic tank gauging system.*

Source: VA OIG interpretation based on "Release Detection for Underground Storage Tanks and Piping: Straight Talk on Tanks," EPA, August 2020; "Operating and Maintaining Underground Storage Tank Systems," EPA, February 2016.

Appendix B: Scope and Methodology

Scope

The Office of Inspector General (OIG) team conducted its work from November 2023 through January 2025. The team selected eight facilities for site visits—VA medical centers in Hampton VA Medical Center in Virginia; Birmingham VA Medical Center in Alabama; Overton Brooks VA Medical Center in Shreveport, Louisiana; Oklahoma City VA Medical Center in Oklahoma; Tibor Rubin VA Medical Center in Long Beach, California; the Palo Alto Healthcare System in California, which includes the Palo Alto and Menlo Park campuses; Baltimore VA Medical Center in Maryland; and Chillicothe VA Medical Center in Ohio—to determine whether VA was managing underground storage tanks (USTs) according to identified federally established regulations during the audit period from October 1, 2022, through September 30, 2023.

Methodology

To achieve the objective, the OIG team reviewed VA and VHA directives, policies, procedures, and other applicable guidance related to the management of USTs. The OIG team requested medical facilities' standard operating procedures; spill prevention control and countermeasure plans; EPA reviews of underground storage tanks; and inspection reports for corrosion protection tests, spill equipment, containment sumps, overfill prevention equipment, and release detection monitoring. The OIG team also requested documentation of all active, closed, or temporarily closed underground storage tanks and worked with state governing authorities, including Certified Unified Program Agencies as relevant, to request records of UST inventories, inspection reports, notices of violations, noncompliance, and any leaks or releases related to the selected facilities.[104]

The OIG team reviewed the information that VA reported to the US Environmental Protection Agency (EPA) in August 2006 to fulfill a requirement in the Energy Policy Act of 2005. VA reported an inventory of 782 underground storage tanks at 136 medical centers and five cemeteries across 47 states. For the purposes of this audit's scope, the team removed any underground storage tanks from the list that were reported by National Cemetery Administration; this resulted in 770 VA medical center USTs in the reviewed population.

Considering the outdated nature of the data VA reported to the EPA in 2006, the OIG team attempted to compile an updated VA UST inventory using the EPA UST Finder tool and state

[104] In California, the state governing authority is a "Certified Unified Program Agency," which is a local agency certified by the California Environmental Protection Agency to implement and enforce six state hazardous waste and hazardous materials regulatory management programs. "What is a CUPA" (web page), California CUPA Forum, accessed October 18, 2024, https://calcupa.org/about/mission.html.

and county records.[105] The team used the same VA facility addresses as reported in the 2006 report to the EPA in the search parameters of each resource and identified 624 total active VA-owned and -operated USTs.[106] These data were used to judgmentally select facilities for review and used again later in an analysis conducted by the OIG team to determine the accuracy of inventory data records kept by VA medical centers and reported to external regulatory authorities.

The OIG team also interviewed VA facility staff, including the medical facility directors, associate directors, chief engineers, chiefs of safety and safety managers and specialists, Green Environmental Management System (GEMS) program managers or coordinators, quality management directors, and facilities maintenance and operations staff who were involved in monitoring or overseeing any aspects of facility USTs. The team also interviewed Veterans Integrated Service Network (VISN) capital asset managers, and VISN GEMS managers. In addition, the team interviewed leaders from the Veterans Health Administration's (VHA) Office of Healthcare Engineering and National Green Environmental Management. Last, the OIG team coordinated with the EPA's Office of Underground Storage Tanks to obtain subject-matter expertise around a variety of technical regulations and subject-related background.

Internal Controls

The OIG team assessed the internal controls significant to the audit objective. This included an assessment of the five internal control components: control environment, risk assessment, control activities, information and communication, and monitoring.[107] In addition, the team reviewed the principles of internal controls as associated with the objective. The team identified four components and 10 principles as significant to the objective. The team identified internal control weaknesses during this audit and proposed recommendations to address the following control deficiencies:

[105] The EPA UST Finder is an online map application with comprehensive data on underground storage tanks and releases nationwide, including the locations of active and closed USTs and UST facilities. The application combines data sourced from states and territories and EPA data for tribal lands. "UST Finder" (web page), EPA, accessed May 23, 2024, https://www.epa.gov/ust/ust-finder.

[106] The OIG team's purpose in identifying the total number of VA-owned and VA-operated USTs is not to determine the accuracy of that amount but rather to provide a more updated perspective on the potential number compared to 2006. The OIG cannot confirm in totality the accuracy of the 624 VA-owned and VA-operated USTs identified by the team with the method used to obtain these data. With no VHA-maintained UST inventory at the time of this audit, the OIG team separately identified this inventory using the addresses of facilities that reported UST inventory to the EPA in 2006, as well as primarily relied on EPA systems with data from 2018 through 2019. Additionally, the OIG determined at least four VA facilities with VA-owned USTs with installation dates that predated 2005–2006 were not reported to the EPA as required by the Energy Policy Act of 2005, further complicating reliance on the data reported to the EPA in 2006, as well as searches for updated data.

[107] Government Accountability Office (GAO), *Standards for Internal Control in the Federal Government*, GAO-14-704G, September 2014.

- Component: Control Environment
    - Principle 2: Exercise Oversight Responsibility
    - Principle 3: Establish Structure, Responsibility, and Authority
    - Principle 5: Enforce Accountability
- Component: Risk Assessment
    - Principle 6: Define Objectives and Risk Tolerances
    - Principle 7: Identify, Analyze, and Respond to Risks
- Component: Control Activities
    - Principle 10: Design Control Activities
    - Principle 11: Design Activities for the Information System
    - Principle 12: Implement Control Activities
- Component: Information and Communication
    - Principle 13: Use Quality Information
    - Principle 15: Communicate Externally

Data Reliability

The OIG team tested the reliability and completeness of the data systems used to obtain initial UST data to draw sample sites for the audit universe, which primarily came from the EPA UST Finder tool, as well as state and county records. To verify reliability of the data, the team compared key fields (such as facility name, address, tank status, installation date, capacity, and substances) on the EPA, state, and county records to the inventory records received from VA facilities, as well as inspection reports and facility policies.

The team compared 354 data elements from EPA to facility data and found 17 inconsistencies—about 5 percent, which is a minimal overall percentage of inconsistency. Therefore, the team concluded the data were sufficiently reliable to meet the audit's objective.

Government Standards

The OIG conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that the OIG plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the findings and conclusions based on audit objectives. The OIG believes the evidence obtained provides a reasonable basis for the findings and conclusions based on the audit objectives.

Appendix C: VA Management Comments, Office of Asset Enterprise Management

Department of Veterans Affairs Memorandum

Date: March 3, 2025

From: Executive Director, Office of Asset Enterprise Management (OAEM) (044)

Subj: Response to Office of Inspector General (OIG) Audit of VA Owned and Operated Underground Storage Tanks, Project #2024-00295-AE-0008

To: US Department of Veterans Affairs, OIG

1. The OIG requested a response to the draft audit VHA Should Improve Monitoring of Underground Storage Tanks to Minimize Environmental and Health Risks at VA Medical Facilities.
2. The Office of Asset Enterprise Management concurs with the draft recommendation number 1 to "ensure underground storage tanks are recorded with consistent identifying terminology in the Capital Asset Inventory" and has included our action plan in the attachment.

The OIG removed point of contact information prior to publication.

(Original signed by)

C. Brett Simms

Attachment

VHA Should Improve Monitoring of Underground Storage Tanks to Minimize Environmental and Health Risks at VA Medical Facilities Draft Report

Recommendation 1:	
OIG Comment:	As a part of the annual certification process of the Capital Asset Inventory, the executive director of the Office of Asset Enterprise Management should provide guidance on underground storage tank entries to ensure these assets are recorded with consistent identifying terminology in asset identification fields and with the appropriate real property predominant use code: code 40 “storage (other than buildings).”
VA Response:	**Concur:** OAEM will incorporate such guidance and training to record underground storage tanks correctly as the predominant use code of code: 40 “storage (other than buildings).” We will provide this guidance and training associated with the annual Capital Asset Inventory call memo in late FY 2025.
Supporting Documentation:	N/A
Status:	Implementation in progress

For accessibility, the original format of this appendix has been modified to comply with Section 508 of the Rehabilitation Act of 1973, as amended

Appendix D: VA Management Comments, Acting Under Secretary for Health

Department of Veterans Affairs Memorandum

Date: February 25, 2025

From: Acting Under Secretary for Health (10)

Subj: Office of Inspector General (OIG) Draft Report, VHA Should Improve Monitoring of Underground Storage Tanks to Minimize Environmental and Health Risks at VA Medical Facilities (VIEWS 12747022)

To: Director, Assistant Inspector General for Audits and Evaluations (52)

1. Thank you for the opportunity to review and comment on the OIG draft report. The Veterans Health Administration (VHA) concurs with recommendations two through seven made to the Under Secretary for Health and provides an action plan in the attachment. Recommendation one was made to the Office of Asset Enterprise Management.
2. VHA appreciates the work performed by the OIG. The continued partnership with the OIG supports efforts in maintaining underground storage tanks and complying with established regulations. I was glad to see that the OIG found no instances of releases, such as leaks, at any of the Department of Veterans Affairs medical facilities reviewed.

The OIG removed point of contact information prior to publication.

(Original signed by)

Steven L. Lieberman, M.D., MBA, FACHE

Attachment

VETERANS HEALTH ADMINISTRATION (VHA)

Action Plan

OIG Draft Report – VHA Should Improve Monitoring of Underground Storage Tanks to Minimize Environmental and Health Risks at VA Medical Facilities (2024-00295-AE-0008)

Recommendation 2: Ensure Veterans Integrated Service Network officials fulfill their oversight responsibilities found in Veterans Health Administration Directive 1811 requiring VA medical facilities maintain a current inventory of underground storage tanks, inclusive of all associated equipment and component levels.

VHA Comments: Concur. Training will be conducted for Veterans Integrated Service Network (VISN) Directors to reinforce the requirements and responsibilities of the VISN related to maintaining a current inventory of all equipment including storage tanks and their associated equipment. VISN Directors will be reminded of their responsibility to verify that medical centers comply with this requirement and that, before the VISN certifies compliance to the Office of Healthcare Engineering (OHE) per the directive, they verify compliance.

Target Completion Date: June 2025

Recommendation 3: Ensure the assistant under secretary for health for support updates the responsibility section in Veterans Health Administration Directive 7707 to ensure that the responsibilities of VA medical facility directors include appropriate designation of staff and training for environmental regulatory requirements.

VHA Comments: Concur. Directive 7707 Section 5.k. will be updated to clarify VA Medical Facility Directors duties include verification of section 6 of the directive, which specifies designation and required training for staff with environmental regulatory requirements.

Target Completion Date: September 2025

Recommendation 4: Ensure Veterans Integrated Service Networks are fulfilling responsibilities in Veterans Health Administration Directive 1811 to ensure facility compliance with federal, state, and local codes, laws, and regulations—including monitoring and addressing underground storage tank alarms promptly to confirm a release has not occurred.

VHA Comments: Concur. Training will be conducted for VISN Directors to reinforce the requirements and responsibilities of the VISN related to monitoring and maintaining storage tanks and their associated equipment as defined in the directive. VISN Directors will be reminded of their responsibility to verify that medical centers comply with this requirement and that, before the VISN certifies compliance to the OHE per the directive, they verify compliance.

Target Completion Date: June 2025

Recommendation 5: Ensure Veterans Integrated Service Networks are fulfilling responsibilities in Veterans Health Administration Directive 1811 for work order (unplanned corrective maintenance) tracking from creation through completion in the approved maintenance management system—to include underground storage tank and associated component-level equipment failures or deficiencies identified in regulatory agencies' inspections.

VHA Comments: Concur. Training will be conducted for VISN Directors to reinforce the requirements and responsibilities of the VISN related to the use of preventive maintenance and corrective maintenance systems for all equipment including storage tanks and their associated equipment. VISN Directors will be reminded of their responsibility to verify that medical centers comply with this requirement and that, before the VISN certifies compliance to the OHE per the directive, they verify compliance.

Target Completion Date: June 2025

Recommendation 6: Confirm VA medical facility directors and Veterans Integrated Service Network directors are fulfilling responsibilities in Veterans Health Administration Directive 7707 to ensure regulatory compliance deficiencies are promptly reviewed, corrective actions are developed, and issues are tracked through completion to satisfactorily address environmental compliance.

VHA Comments: Concur. Training will be conducted for VISN Directors to reinforce the requirements and responsibilities of the VISN. Program and compliance deficiencies will continue to be reviewed and tracked through VISN External Green Environmental Management System Audits (VEGA) and third-party external audits and the utilization of a modernization of United States Army Corps of Engineers Compliance and Processes Tracking Application (CPTrack). In October 2024, the VHA GEMS program initiated a fiscal year (FY) 2025 focus area for underground and aboveground storage tanks. VISNs are required to enter focus area findings in CPTrack and this data will be reviewed by VHA GEMS office at the end of the FY. Additionally, under VHA Directive 7707, annual reports are required to be completed and provided to VA Medical Center Directors and must highlight areas of regulatory compliance deficiencies. The VISN is required to review these and highlight areas of nonconformance in their VEGA Report.

Target Completion Date: June 2025

Recommendation 7: Confirm VA medical facility directors and Veterans Integrated Service Network directors are fulfilling their oversight responsibilities found in Veterans Health Administration Directive 7707 to ensure all required federal, state, and local regulatory agencies' inspections of underground storage tanks are recorded in the Veterans Health Administration issue brief tracking system.

VHA Comments: Concur. Training will be conducted for VISN Directors to reinforce the requirements and responsibilities of the VISN. VHA National GEMS program office will clarify the reporting requirement to the GEMS field to state that triennial external inspections completed by the state or Environmental Protection Agency (EPA) and Formal Notices of Violations (NOVs) received must be reported through the Issue Brief system. Verification of use of issue briefs will be made through the annual environmental survey.

Target Completion Date: August 2025

For accessibility, the original format of this appendix has been modified to comply with Section 508 of the Rehabilitation Act of 1973, as amended.

OIG Contact and Staff Acknowledgments

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