west virginia department of environmental protection

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MEMORANDUM

To: Underground Storage Tank (UST) Owners, Operators, and Class B Certified Workers

From: West Virginia Department of Environmental Protection
Division of Water & Waste Management/EE
Tanks Prevention & Corrective Action Units

Date: Revised December 20, 2024

Subject: UST/LUST Closure Guidance Memo

PLEASE READ ALL DIRECTIONS CAREFULLY. FAILURE TO COMPLY WITH THE LAWS AND/OR REGULATIONS MAY RESULT IN ENFORCEMENT ACTION. AN INDIVIDUAL HOLDING A WVDEP CLASS B CERTIFICATION MUST BE ON SITE PERFORMING OR SUPERVISING THE CLOSURE OR CHANGE-IN-SERVICE. In accordance with 33CSR30 Section 3.2, the Class B certified worker is responsible for ensuring that the closure in conducted in accordance with all applicable rules, regulations, and policies established by the Secretary. 40CFR280 Subpart G must be complied with fully for closures or change-in-service.

I. REPORTING CONTAMINATION

If evidence (visual, olfactory, field screening, analytical data, etc.) of a release is found in the form of contaminated soils, contaminated groundwater, or free product as a liquid or vapor, it is the responsibility of the tank owner/operator to report the release immediately. **ALL RELEASES** (i.e. any product found outside of the UST system represents a release) must be reported, even if it will be immediately remediated as part of the closure.

Release shall be immediately reported to the WVDEP spill line at **1-800-642-3074**. Additionally, during DEP office hours, the Tanks Corrective Action Unit shall be notified of a confirmed release by calling 304-926-0499, ext. 49737. Ultimately, the tank owner/operator is responsible for reporting releases; however, the release can be called in by the Class B certified worker or other designee of the owner/operator.

Failure to report a release is a violation of federal and state regulations and may result in enforcement action.

II. CLOSURE PLANNING

Since the possibility of encountering contamination at a closure is high, UST owners/operators shall develop plans for handling contaminated soils and/or water prior to beginning the actual closure. The Tanks Corrective Action Unit (TCAU) strongly recommends that owners/operators submit proposed bio-pile treatment plans or make arrangements for disposal of contaminated soil at an appropriate landfill prior to beginning tank closure activities in order to minimize delays and work stoppages if contamination is encountered.

Excavated backfill material generated during the removal of the tank(s) and/or piping shall be placed on, and covered, with plastic. The use of 6-mil plastic for short term storage (72 hours or less) for placement of tanks for cleaning or contaminated soil prior to disposal is acceptable. Measures shall be taken to prevent any surface runoff from entering or washing away the excavated backfill material (e.g., berms, straw bales, etc.). It some cases it may be advantageous to separate excavated soil based on visual observations or field screening into non-impacted and impacted piles.

In accordance with the Solid Waste rules, petroleum contaminated soils are considered a "special waste" and must be handled as such. **Be advised, petroleum contaminated soils (whether removed from the ground or lying loose within the excavation) must be properly handled and disposed of at an approved landfill.** Alternatively, the material may be placed in a bio-pile in accordance with section XIII of this guidance. Field screening with a properly calibrated photoionization detector may be utilized for determining if soil is by definition a petroleum contaminated soil (i.e. 100 ppm petroleum hydrocarbons) or not. Alternatively, stockpile samples may be collected and sent to a laboratory for analysis. If material is placed back into the excavation, documentation showing that the material does not meet the definition of petroleum contaminated soil shall be included in the closure report. Closure sampling data must be reflective of contamination remaining at the site.

Additionally, **any accumulated water with a sheen observed within the excavation zone** at the time of closure **must be removed, containerized, treated and properly disposed** to protect groundwater. The excavation should be observed to determine whether groundwater recharge occurs during the remainder of the permanent closure process. Any water removed shall be properly containerized, treated, and disposed in accordance with applicable regulatory requirements. The tank owner/operator has the option of on-site treatment after obtaining a NPDES permit for the treatment and discharge of the contaminated water. Alternatively, the owner/operator may have the contaminated water transported to an appropriate permitted facility for treatment/disposal.

Any permit, receipt, or letter documenting the disposal or treatment of contaminated water shall include the amount of water disposed of and/or treated, the assigned leak number for the site, and any analytical results required for the NPDES permit or by the permitted facility.

After removal of the tanks and piping, **it is highly recommended that the excavation be backfilled with soil**, not gravel or sand. The Tier 2 and Tier 3 soil action levels which offer greater flexibility on corrective action take into consideration the depth of

contamination and the presence of an appropriate soil covering. There must be a minimum of 5-foot of vertical separation between contamination and a receptor (i.e. person, house, etc.) utilizing a soil like silt loam or one with less hydraulic conductivity than silt loam to utilize the Tier 2 or Tier 3 standard for certain volatiles without having to perform mitigation. It is highly recommended that any excavation area is backfilled with soil that is a **SILT LOAM** or a soil type like silt loam or one with less soil saturated hydraulic conductivity. The use of gravel or sand as backfill material may lead to further need for soil remediation than would be necessary if the excavation was backfilled with soil.

III. FEEs

All fees must be paid before the closure may begin. Exceptions may be allowed for later payment if the tank owner/operator is under a WVDEP administrative order or under court order for the tank removal.

IV. NOTIFICATION

At least thirty (30) days before beginning either permanent closures or change-in-service the owner or operator must complete and submit an "Intent to Close" form to DEP.AST@wv.gov to schedule the date the closure will begin. A waiver of the thirty (30) day notification period may be granted for good cause shown.

V. HANDLING OF TANK CONTENTS, LIQUID CONTENTS/TANK BOTTOMS

a. The Division of Water & Waste Management strongly advocates the reuse or recycling of the contents. Legitimate recycling is reuse as a fuel and/or returned to a product tank. Mixtures of gasoline and minimal* amounts of water, destined to be used as is or used to produce a fuel, are not wastes.

   *NOTE: Minimal, for the sake of this document, shall be defined as a quantity of water in a container of less than or equal to 110 gallons not exceeding 20% of the total fuel/water mixture (20% water/80% fuel). A container with the capacity of greater than 110 gallons may contain a quantity of water not to exceed 10% of the total fuel/water mixture (10% water/90% fuel). Waste mixtures of fuel and water that exceed the 10% or 20% water/fuel limits may be phase separated, at the site of generation, to remove the water phase. The water phase would then be evaluated on its own merit (i.e. waste characterization and disposal).

b. Claims that gasoline is reusable as a fuel must be supported by the following:
   i. Gasoline to be reused must be managed in a product-like manner, in good containers that are environmentally protective. Management in poor condition and/or leaking containers is an indication that the fuels are wastes instead of product. The container holding the material shall be properly labeled as to its contents.
   ii. The BTU value of the gasoline shall be at least 5000 BTUs.
   iii. The generator must have a known market for the material.
   iv. The generator must maintain records of the disposition of the gasoline.
   v. Shipments of the materials must meet all DOT rules and regulations, including proper labeling, placarding and transport vehicle requirements.

vi. Gasoline or gasoline/water mixtures that are claimed to be product cannot contain tank bottoms.

c. If the tank contents are not being reused as product or fuel as outlined in (A) above, appropriate testing must be performed on the material to determine if the material is a hazardous waste (the material may be declared a hazardous waste without testing at the owner's discretion):
    i. Wastes determined to be hazardous wastes must be managed as such in accordance with 40 CFR 262 (i.e. proper containers, labeled as hazardous waste, dated, limited storage times, etc.).

d. Hazardous Waste EPA Identification Number: Each site in West Virginia where hazardous wastes are generated must have an EPA identification number. If the site does not already have a number, a temporary number can be obtained by calling the Division of Water & Waste Management, Office of Waste Management at (304) 926-0495. This number is required to properly ship hazardous waste off-site. Please have the following information before you call:
    i. Tank owner's name
    ii. Location of the tank(s)
    iii. Amount of waste
    iv. Waste type (benzene, lead, ignitable, etc.)
    v. Contractor name and phone number
    vi. Transporter's EPA Identification Number
    vii. Name of disposal facility
    viii. Disposal facility's EPA Identification Number
e. Industrial Waste (lab analysis proves the waste is not a hazardous waste):
    i. This waste must be disposed of at a facility permitted to accept non-hazardous industrial wastes.

VI. TANK SYSTEM EMPTIED

The Regulations provide that the American Petroleum Institute Practices 1604 and 2016 may be used to comply with the closure requirements. All relevant and applicable OSHA and NIOSH Safety Standards must be followed while performing closure activities.

The tank and piping must be emptied. The UST system is empty when all materials have been removed using commonly accepted practices. Observe the precautions in API 1604 (Section 4 Permanent Closure and Change in Service). The liquids and tank bottom residues must be removed from the tank by using explosion-proof or air driven pumps. Piping shall be drained into the tank. It may be necessary to remove the last few inches of liquid from the bottom of the tank with a hand pump or vacuum truck. Safety precautions must be followed (See API 1604).

VII. PURGING OF VAPORS

The tank must be purged of flammable vapors or inerted. This shall be done by following API 1604 Permanent Closure and Change in Service. It is important to recognize that the tank may continue to be a source of flammable vapors even after following the vapor freeing procedures. For this reason, caution must be used when working around the tank. Follow API 1604 Section 4. Continued vapor monitoring and safe handling and storage procedures must be applied to the tank to protect human health and the environment (See

API 1604). A tank closure shall not be started unless the Class B certified worker has equipment present on site to perform these activities.

VIII. CLEANING

The tank system must be cleaned by removing all liquids and accumulated tank bottom sludge. Personnel cleaning the tank system shall be adequately trained, outfitted, and familiar with the safety precautions necessary when performing this work (see API 2016). For tanks that have contained leaded gasoline it is essential that tank bottoms removal be performed with precautions specified in API 2016. Tank bottoms may be removed by various methods depending on the tank. The simplest method is to wash, brush or sweep the tank bottoms into piles; shovel the tank bottoms into buckets or wheelbarrows; sweep and wash down the tank with a water hose stream; and remove the remaining moisture by using an absorbent. Vacuum trucks may also be used. Any waste material (tank bottoms or absorbent material) must be disposed of properly (see Section V). Care must be taken during tank bottoms removal to minimize the release of vapors from the tank bottoms. After tank cleaning, it is recommended that the tank be processed for scrap metal.

IX. TANK REMOVAL PROCEDURES

For tank removal follow the removal procedure in API 1604.

X. SITE ASSESSMENT

Site assessments must be performed according to Section 280.72. Sampling must be performed to measure for the presence of a release where contamination is most likely to be present. If there is obvious contamination from a release (e.g. stained soils) a sample must be collected from this area. All samples shall be collected from native soil, sampling of non-soil like backfill material is not acceptable. Sample depths to the nearest foot and soil type must be documented and included in the closure report. If sampling depths are not documented, all data will be compared against the more conservative Tier 1 action level. Closure sampling data must be reflective of the soils remaining in the pit. At a minimum, samples shall be collected as:

- One (1) sample in the native soil below each tank;
- One (1) discrete sample in native soil from each of the four (4) pit walls from the tank pit;
- One (1) from under each dispenser in native soil; and
- One (1) sample from native soil every 15 feet along the product piping.

To get maximum flexibility out of the tiered standard, collection of additional closure samples at varying depths is highly recommended. During a piping closure, sometimes the piping may be pulled through the piping chase. This should first be discussed with the UST inspector for the facility. Closure of piping in this manner does not relieve the tank owner/operator from the requirement to sample in the native soil every 15 foot along the piping run. The Class B certified worker performing the tank and/or piping closure shall perform or oversee all the closure sampling.

Any **accumulated water with a sheen observed within the excavation zone at the time of closure must be removed** to protect groundwater. The excavation should be observed to determine whether groundwater recharge occurs during the remainder of the permanent closure process. Any water removed shall be properly disposed, recycled, or

treated as appropriate. The tank owner/operator has the option of on-site treatment after obtaining a NPDES permit for the treatment and discharge of the contaminated water. Alternatively, the owner/operator may have the contaminated water transported to an appropriate permitted facility for treatment/disposal. If the excavation recharges with water, a water sample shall be collected in lieu of a floor soil sample. If the water does not recharge, then floor samples of the soil shall be collected as described above.

If accumulated water in the excavation zone does not have a sheen or other obvious signs of contamination, removal of the water may not be necessary. A pit water sample may be taken in lieu of a floor sample. However, if the pit is completely filled with water, the pit will need to be dewatered in order to collect wall samples. It is not acceptable to only collect a pit water sample for the floor and walls. The walls must be sampled. Additionally, you must collect piping and/or dispenser samples. If you have sampling questions, please don't hesitate to contact the Tanks Inspector for the county where the closure is occurring.

Further analysis may be required if a release is confirmed. A site sketch of the facility showing the locations of the sample collection points is to be submitted with the closure documentation. **Soil sampling protocol for volatile organics (such as BTEX, MTBE, and TBA) must follow the requirements of SW846 Method 5035 utilizing vials with preservatives for collection of VOCs.** For assessment all soil and/or groundwater must be analyzed for:

a. **GASOLINE** (leaded gasoline, unleaded gasoline, aviation gasoline, jet fuel, racing fuel, etc.)
    i. BTEX using SW846 8260
    ii. Tertiary butyl alcohol (TBA) using SW846 8260
    iii. Methyl tertiary butyl ether (MTBE) using SW846 8260
    iv. Lead (as applicable) using SW846 6010

    Note: Samples must be analyzed for lead if the gasoline is a leaded gasoline such as commonly found in some aviation and racing fuels.

b. **DIESEL** (diesel, kerosene, fuel/heating oil, lubricating oils, and used oils)
    i. BTEX using SW846 8260
    ii. Polyaromatic hydrocarbons (PAHs) using SW846 8270
    iii. RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using SW846 6010, as applicable

    Note: For used oil, metals must be analyzed in addition to the other parameters listed above. Ethylene glycol or a chlorinated solvent scan may be required if the possibility that these compounds have been added to a use oil tank.

For all samples, the method's detection levels must be less than or equal to the groundwater standards and soil action levels, as appropriate. The samples must constantly be kept cool at 42 degrees F (6 degrees C) and shall be analyzed within 14 days. A properly completed chain of custody form must accompany the sample to the laboratory. The laboratory performing the analysis must be certified by the WVDEP Division of Water & Waste Management. When an analytical method is referenced, the most recently promulgated method must be followed.

XI. REPORTS

The WVDEP UST Closure Report form shall be used for submitting all tank and piping closure reports. All sections of the report are to be completed in their entirety and all applicable attachments submitted with the report. The Closure Report should be sent electronically to DEP.AST@wv.gov where it will be distributed to the appropriate staff. UST closure sampling shall be performed as soon as possible after the tank closure activities have begun. Sampling must be commenced within 48 hours of starting closure activities. Closure reports are due within sixty (60) days of the closure sampling.

The closure report at a minimum shall contain the following items: notification form, tank closure form templates for the tanks and piping, tank contents disposal and/or reuse/recycling records, tank system (including piping) disposal receipts, copies of lab analysis results and chain of custody form.

a. ANALTICAL DATA must be put into the templated tables and show at a minimum the following: sample description, sample depth, analytical parameter, units, sample concentration, and the action level. USE the appropriate DEP Analytical Table for reporting closure sample data.

XII. MAINTAINING RECORDS

Tank owners/operators must maintain the closure record in accordance with Part 280.34(b)(5) that can demonstrate compliance with these closure requirements. The results of the excavation zone assessment must be maintained by you for at least three (3) years after completion of the permanent closure or may be mailed to the West Virginia Department of Environmental Protection, Division of Water & Waste Management, Office of Environmental Enforcement, Tanks Unit if they cannot be maintained at the closed facility.

XIII. MANAGING PETROLEUM CONTAMINATION

Hazardous Waste Exemption for Contaminated Media outside the UST

In accordance with 40 CFR 261.4(b)(10) Petroleum Contaminated Media & Debris from Underground Storage Tanks, exempts "Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of Sec. 261.24 (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under part 280 of this chapter.

a. The media in question that is being considered for exemption must be contaminated with petroleum (which is indicative of a release).
b. Media and debris does not apply to the material inside the tanks, which is discussed in Section V of this memo. If water enters a tank, it is considered hazardous unless hazardous waste characterization testing shows it is not. When testing liquid in a UST, any obvious separate phases must be sampled and characterized as the discrete separated phase.
c. The 261.4(b)(10) exemption is only for the waste characterization codes D018 through D043; therefore, it covers BTEX components but does not include flashpoint which is a D001 waste.

d. Pursuant to 2614(b)(10), the petroleum contaminated media must be "subject to the corrective action regulations under part 280." As explained below, this means that corrective action pursuant to a release must be occurring for the petroleum contaminated material to be exempt.

    i. 40CFR280 Subpart F is the corrective action section of the rule. This subpart starts with 40CFR280.60 which states "Owners and operators of petroleum or hazardous substance UST systems must, in response to a confirmed release from the UST system, comply with the requirements of this subpart." This means that for the petroleum exemption under the Hazardous Waste rules to be applicable, that a confirmed release from the UST system must have occurred AND corrective action is being taken pursuant to Subpart F (40CFR280) is occurring.
    ii. Tank closure is out of the Subpart G, sections 280.71 and 280.72; therefore, a simple tank closure is not part of the Subpart F corrective action section of 280 unless a release is detected at the time of closure (or there is a previous open release) which would then trigger corrective action requirements under Subpart F.

<u>Waste Characterization for the Exemption</u>

Once properly applying the exemption (i.e. you must be taking corrective action in accordance with 40CFR280 Subpart F which is triggered when there is a "confirmed release." Also, noting that any material that may have a flashpoint that would make it a hazardous waste is not exempt by 261.4(b)(10). After properly applying the exemption to the specific site conditions, if you have a material that is considered a petroleum exempted waste, you will still have to perform whatever analytical that is required by the disposal facility for proper disposal of the material. If a disposal facility is willing to waive analytical and allow you to profile based upon generator knowledge, that is a determination to be made by the disposal facility and is not covered by the UST rules.

<u>Fast Track Remediation</u>

In accordance with requirement of 40CFR280.66 (d)), owners and operators may, in the interest of minimizing environmental petroleum contamination and promoting more effective cleanup, begin cleanup before a corrective action plan is requested or approved provided they:

a. Notify the implementing agency of their intention to being cleanup;
b. Comply with any conditions imposed by the implementing agency, including halting cleanup or mitigating adverse consequences from cleanup activities; and
c. Incorporate these self-initiated cleanup measures in the corrective action plan that is submitted to the implementing agency for approval.
d. If the owner/operator has received preapproval at an appropriate landfill for contaminated soil, they may proceed with over excavation and proper disposal of contaminated soils even if the amount exceeds eighteen (18) cubic yards.

The Tanks Corrective Action Unit encourages the tank owner/operator to begin remediation immediately upon the discovery of a release. As such, low impact sites may

utilize FastTrack to facilitate a speedy remediation by limiting the amount of paperwork necessary to go from a release occurred to the issuance of a No Further Action (NFA) letter. Refer to the Corrective Action Guidance Document for more information on FastTrack.

When minor soil contamination is found, an amount that does not exceed 18 cubic yards (or cover an area of 18 feet x 18 feet x 1.5-2 feet) may be over-excavated and treated on site in an aboveground bio-pile treatment cell (though off-site disposal is preferred), so long as the following requirements are strictly adhered to.

a. The bio-pile shall be constructed and located in an area that will prevent impacts to surface and groundwater resources, and not cause nuisance complaints from neighbors.
b. The soils shall be placed on a minimum of 40 mil black plastic to prevent infiltration into the existing ground.
c. The soils shall be placed such that no area exceeds 1.5-2 feet in depth.
d. The soils shall be securely covered always with a minimum of 40-mil black plastic, to prevent precipitation infiltration and to maintain appropriate moisture content.
e. After 6 months from the date of the release, the bio-pile shall be evaluated; if the soil does not exhibit obvious petroleum contamination as determined through olfactory, and recording PID readings, or other screening methods, a representative sample shall be obtained from near the bottom of the center area of the bio-pile, (from approximately 6 inches above the plastic liner) and submitted to a West Virginia certified laboratory for analysis per the parameters outlined in Section X Site Assessment of this document. If the bio-pile still shows evidence of contamination through the screening or sample analysis, then the treatment cell shall remain in effect. At the end of the of a second six (6) month period, the soils must be evaluated and analyzed as noted above. No bio-pile shall remain in place for longer than eighteen (18) months.
f. A copy of the results of the soils analyses shall be forwarded to the designated CAU Project Manager for the county where the facility is located. The submitted analyses reports shall be identified by the name of the facility; the tank owner/operator; the leak number; the West Virginia Facility ID number; and the closure number.
g. If space for treating the contaminated soils cannot be found on site or the quantity of contaminated soils exceeds 18 cubic yards, additional excavation may not proceed until a Corrective Action Plan (CAP) with site-specific details is submitted to the CAU PM. The CAP for off-site landfarming must include:
    i. Estimated volume of soil be stockpiled off site;
    ii. Proposed method of treatment;
    iii. Copy of a topographic map specifying the bio-pile location;
    iv. Diagram of the soil's treatment area;
    v. Acknowledgement and agreement signed by the property owner on which the bio-pile is proposed to be located
    vi. **In all instances**, if groundwater is encountered, the appropriate CAU Project Manager must be contacted as soon as possible, and a groundwater investigation will be required.

XIV. CORRECTIVE ACTION PLANS

The Tank owner/operator must prepare and submit a Corrective Action Plan (CAP) within one hundred twenty (120) days of a release when requested by WVDEP. Not all confirmed releases will require submittal of a CAP. In some cases, the contamination at a site may be minor and would not require the submittal of a CAP (i.e. FastTrack) and in other cases the tank owner/operator may choose to use a presumptive remedy instead of submitting a CAP, if appropriate. A "presumptive remedy" refers to a technology or technique where experience has shown the remedy to be a proven solution for specific types of sites and/or contaminant classes. Refer to the Corrective Action Guidance Document for more information on presumptive remedies.

The Agency encourages the use of presumptive remedies. The use of these remedies streamlines the selection of clean up technologies and shifts the time and resources to the actual corrective action process, it improves consistency, reduces costs, and increases the speed at which sites are remediated.

NOTICE

Failure to abide by these instructions may result in the initiation of enforcement actions against the owner, operator, Class B certified worker, and/or anyone who perform closure work for which they are not certified. Failure to adhere to these instructions may be grounds for the suspension or revocation of a certified worker's license