SECTION 4

SPILLS AND OVERFILLS AND SUSPECTED RELEASES

4.1 General Discussion

The State UST regulations require owners and operators to take specific steps to respond to spills and overfills, and to investigate suspected releases from a UST. These requirements are specified in HAR 11-281, Subchapter 6. A decision tree is provided in Figure 4.1 which identifies the actions that must be taken in response to spills and overfills. The requirements for responding to suspected releases are presented in Figure 4.2. This section addresses only spills and overfills of petroleum, and suspected petroleum releases from USTs. For spills, overfills or suspected releases of hazardous substances from USTs, owners and operators should contact the Solid and Hazardous Waste Branch, Underground Storage Tank Section at 808-586-4226 for the guidance on the appropriate procedures for release investigation and cleanup.

4.2 Spills and Overfills

Spills and overfills are caused by improper transfer of petroleum from a tanker delivery truck to USTs and are considered releases into the environment. Spills occur most often when the delivery truck's hose is disconnected, usually releasing only a few gallons. Overfills occur less frequently, but usually release much larger volumes. When a UST is overfilled, large volumes can be released through loose fittings on the top of the UST or vent pipe. The tightness of these fittings normally is not a problem as long as the UST is not filled beyond its capacity.

Owners and operators must take immediate actions to respond to all spills and overfills regardless of the quantity of substance that has been released. Additional

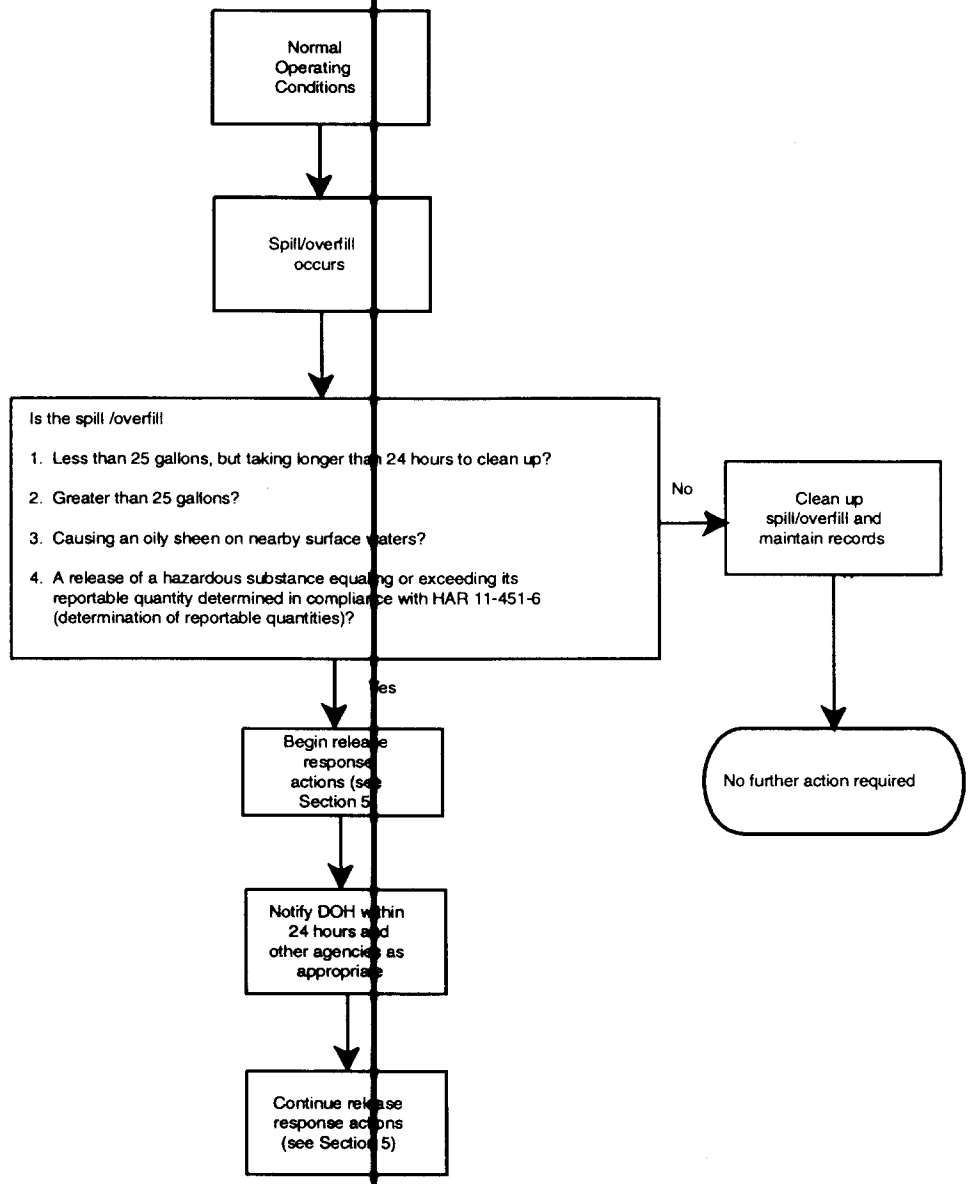

FIGURE 4.1 DECISION TREE FOR SPILL AND OVERFILL RESPONSE

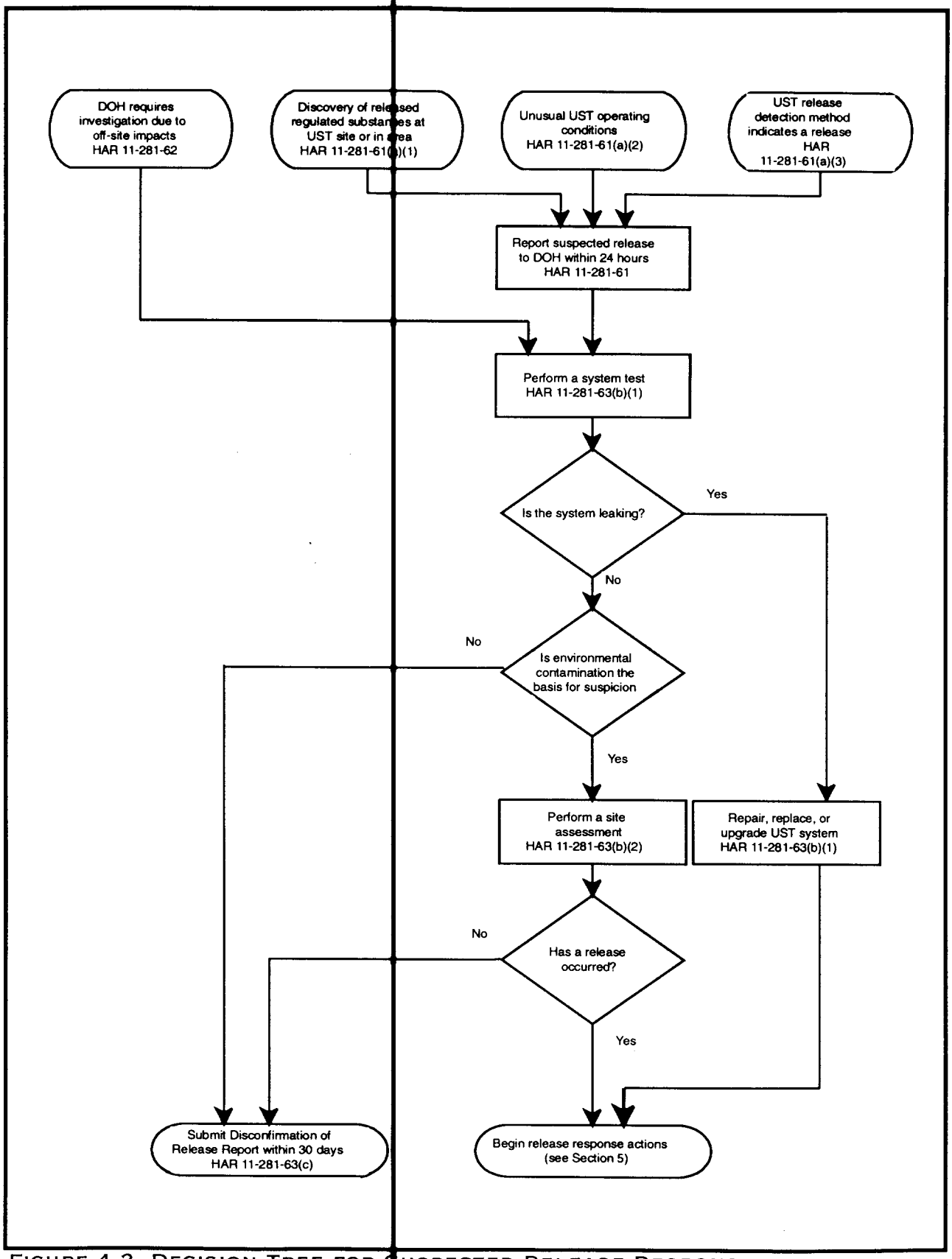

FIGURE 4.2 DECISION TREE FOR SUSPECTED RELEASE RESPONSE

requirements can be imposed on spills and overfills which exceed 25 gallons of petroleum or reportable quantity for a hazardous substance. If 25 gallons or more of petroleum or reportable quantity for a hazardous substance are spilled or overfilled, or if spills or overfills of less than 25 gallons of petroleum or reportable quantity for a hazardous substance cannot be contained and cleaned up within 24 hours, owners and operators must report the spill or overfill to DOH immediately. After spills and overfills are reported, the owners and operators should begin release response actions as per Section 5 of this manual due to the more serious nature of these releases and submit a written report to DOH within 90 days of the actions taken to date. Owners and operators may also be required to report spills and overfills to various other Federal, State, and County agencies depending on the degree of impact of spills or overfills to the environment.

4.3 Suspected Releases

Several events at UST sites require owners and operators to conduct an investigation when a release is suspected. Owners and operators must begin release investigations when any one or more of the following conditions exist:

1. Contamination at the UST site or in the surrounding area is discovered by the owners or operators or others;

2. Unusual UST operating conditions are noted (e.g., erratic behavior of product dispensing equipment or an unexplained presence of water in a UST) -- unless the UST equipment is found to be defective (but not leaking) and is immediately repaired or replaced;

3. Monitoring results from a release detection method indicate that a release may have occurred (such as a failed UST tightness test, exceedence of monthly standard for inventory control, exceedence of weekly or monthly standards in manual tank gauging, etc.); or

4. DOH specifically requests that the owners and operators determine whether the UST is the source of offsite impacts (such as the presence of free product or vapors in soils, basements, sewer and utility lines or nearby surface water).

In instances where release detection monitoring results indicate a suspected release, no further action is required if: (1) the monitoring device is found to be defective and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result or, (2) in the case of inventory control, a second month of data does not confirm the initial result.

4.3.1 Basic Steps for Suspected Release Response

The basic steps to investigate a suspected release include the following:

1. Report the suspected release to DOH within 24 hours of discovery.

2. Conduct a UST tightness test within 7 days of suspecting the release.

3. Conduct a site assessment within 7 days of suspecting the release (Note: This requirement applies only to those instances where the UST passed the tightness test and environmental contamination is the reason for suspecting the release).

4. Report the results of all actions taken to investigate a suspected release to DOH. If a release is indicated by failure of the UST tightness testing or is discovered during the site assessment, report the release to DOH within 24 hours of release confirmation and promptly begin release response actions as per Section 5 of this manual. Otherwise, provide a

Suspected Release Disconfirmation Report to DOH which describes all actions taken and summarizes the results of such actions within 30 days from the date when the suspected release was first reported.

4.3.1.1 Reporting Suspected Releases to DOH

Suspected releases should be reported to DOH within 24 hours of discovery. Owners and operators should provide this initial notice to DOH by telephone (808-586-4226), or fax (808-586-7509).

4.3.1.2 Conducting UST Tightness Tests

After notifying DOH of the suspected release, owners and operators are required to conduct a UST tightness test within 7 days of suspecting a release. It is advantageous for owners and operators to have a basic understanding of the method being used to conduct the UST tightness test. Furthermore, it is essential that they at least know what types of technical information these companies should be providing to the owner and operator after conducting the test. Obtaining necessary documentation on the performance claims of a particular UST tightness testing method is a key part of documenting that the UST tightness test was conducted in accordance with the State UST regulations. A testing company should provide the owner and operator with a third party certification of the method for this purpose. An example format for a third party certification is included in Appendix 4-A.

UST tightness testing methods can be performed on all or part of the UST to determine whether the UST is tight (i.e., the tank or the piping can be tested separately or together). There are basically two types of tightness tests: volumetric and non-volumetric. In Hawaii, most UST tightness tests are volumetric methods. (Non-volumetric methods are also available but are used less frequently, and thus are not discussed further in this manual. Information on non-volumetric UST tightness tests can be obtained by contacting DOH). Volumetric methods measure the change

in product volume or level over time to determine if there is a leak. For example, when a leak occurs, a loss of product causes a decrease in the volume or level of product in the UST. Using an overfill method, this leak would be indicated by a decrease in the product level in a standpipe inserted above the fillpipe. However, leaks can also be indicated by a rise in the level in the standpipe if the UST is immersed in ground water. More detailed information on volumetric UST tightness testing methods can be obtained from technical references cited in Section 9.

Owners and operators should be aware that conditions under which the UST tightness test is conducted are directly related to test results. For example, the procedures to conduct a tightness test on the UST must account for such conditions as temperature of the product in the UST, vapor pockets, UST deformation, evaporation or condensation, and forces which may be exerted on the UST due to the presence of ground water. If such conditions are not taken into account, the tightness test results could give false indications of whether a UST is leaking or not leaking.

As required by the State UST regulations, UST tightness testing methods (as well as any other release detection method) must be able to detect releases as small as 0.1 gallons per hour with a probability of detection of 95% and a probability of false alarm of 5%. All tank and line tightness tests used to detect releases from USTs must meet the State and Federal mandated performance criteria and provide documentation of the claim. A third party certification can be used to verify the performance criteria claims. It is ultimately the responsibility of the owner and operator to demonstrate that the UST tightness testing method meets EPA's performance criteria under HAR 11-281, Subchapter 5, Release Detection by providing the necessary documentation to DOH along with test results upon inspection or when requested. As such, the owner and operator must obtain a copy of the third party certification or other documentation claims from the company providing the UST tightness testing services.

It should be noted that DOH does not specifically issue approval or certification for any UST tightness test method or company or any other UST release detection method or company. However, DOH does maintain an informational directory of companies (and their qualifications and credentials) that provide UST tightness testing services.

Once a UST tightness test is completed, the testing company should provide owners and operators with a data report which details the procedures which were used to conduct the test as well as the final results of the test. This report should also specify the conditions under which the test was conducted (specifically including any adjustments or deviations made to the standard testing protocol), and the report should provide an interpretive conclusion based on the data. The owner and operator must keep and maintain this data report, along with any third party certification, or other documentation of claims, for at least three years in order to fulfill recordkeeping requirements and demonstrate compliance. For liability and informational reasons, the reports should be retained as long as possible.

In cases where UST tightness test results indicate that a release has occurred, owners and operators must report the release confirmation to DOH within 24 hours by telephone or fax and promptly begin release response actions as per Section 5 of this manual. The UST tightness test data report should be included as part of the reporting requirements for release response (see Subsection 5.3 on the release response process for additional information).

In cases where UST tightness test results do not indicate a release, the owner and operator may resume normal operation of the UST provided that evidence of environmental contamination was not the reason for suspecting a release. In those cases, a site assessment must be conducted.

4.3.1.3 Conducting a Site Assessment

Contamination at or near a UST site may be evident as an oily sheen or free product on nearby surface water, or as petroleum hydrocarbon vapors discovered in nearby buildings or sewer lines. If the UST passes the required tightness test and environmental contamination is evident, then a site assessment of the UST is required to determine if the contamination is caused by a release from the UST. Measurements for the presence of release where contamination is most likely to be present at the UST site is required. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the depth and flow of groundwater, and other factors as appropriate for identifying the presence of a release.

If neither visual observations, olfactory indications, nor field measurements confirm a release, then soil and/or water samples must be taken and laboratory-analyzed in order to confirm that a release from the UST has not occurred. To conduct soil and water sampling, owners and operators should follow the guidance provided in Section 3.4.6 "Evaluation of the Excavation for Releases" to comply with the site assessment requirements.

4.3.1.4 Reporting and Recordkeeping

If a release is confirmed by failure of a UST tightness test or discovery of contamination through the site assessment, owners and operators must report this release to DOH by telephone or fax within 24 hours of confirmation. The tightness test data report and site assessment information are included as part of the reporting requirements for release response (see Subsection 5.3).

In cases **where UST tightness testing or the site assessment did not indicate a release,** owners and operators must report the results of the investigation in writing to DOH within 30 days following discovery of the suspected release. The Suspected Release Disconfirmation Report should include the applicable system tests and site assessment

performed as part of the suspected release investigation. In addition, the report should include the performance claims for the methods of release detection used for the tanks and piping at the subject system. Other information as appropriate should be included in the Suspected Release Disconfirmation Report.