



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2.0

**EMERGENCY RESPONSE AND THE SITE DISCOVERY, INVESTIGATION, AND
CLEANUP PROCESS UNDER HAWAI'I ADMINISTRATIVE RULES CHAPTER 11-451,
THE STATE CONTINGENCY PLAN**

SECTION 2

**EMERGENCY RESPONSE AND THE SITE DISCOVERY,
INVESTIGATION, AND CLEANUP PROCESS UNDER HAWAI'I
ADMINISTRATIVE RULES CHAPTER 11-451, THE STATE
CONTINGENCY PLAN**

Interim Final-November 12, 2008

**State of Hawai'i
Department of Health
Office of Hazard Evaluation and Emergency Response
919 Ala Moana Boulevard, Room 206
Honolulu, Hawai'i 96814**

Interim Final-November 12, 2008



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2

CONTENTS

SECTION 2 CONTENTS

Acronyms and Abbreviations

2.0 Emergency Response and the Site Discovery, Investigation, and Cleanup Process

2.1 State Contingency Plan

2.2 Site Discovery

2.3 Emergency Response

2.3.1 Emergency Response Actions

2.3.1.1 Release Notification

2.3.1.2 When and How to Notify on Releases of Hazardous Substances

2.3.1.3 Reportable Quantities of Hazardous Substances

2.3.1.4 Releases of Mixtures or Solutions of Hazardous Substances

2.3.1.5 Releases of Hazardous Waste

2.3.1.6 Exemptions for Release Notification

2.4 Non-Emergency Environmental Cleanups

2.4.1 Site Discovery for Environmental Cleanups

2.4.2 Site Listing

2.4.3 Site Prioritization

2.4.4 Site Assessment

2.4.5 Response Actions

2.4.5.1 Response Action Determination and Response Options

2.4.5.2 Removal Actions

2.4.5.3 Remedial Actions

2.4.6 Public Participation

2.4.6.1 Public Notices

2.4.6.2 Public Meetings

2.4.6.3 Response to Public Comments

2.5 Site Closure

References

Appendices

2-A Hazardous Substance Release Notification and Inventory Guideline

2-B Hazardous Substance Release Notification Guideline

2-C Reportable Quantities (Sorted by Chemical Abstract Number)

2-D Reportable Quantities (Sorted by Chemical Name)

Figures

2-1 Overview of the Site Discovery, Investigation and Cleanup Process for Non-emergency Environmental Cleanups

- 2-2 Differences in Required Documentation for Response Action Options
- 2-3 Differences in Public Participation for Response Action Options



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2

ACRONYMS AND ABBREVIATIONS

SECTION 2 ACRONYMS AND ABBREVIATIONS

CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act (also known as the Federal Superfund Law)
Draft RAM	Draft Response Action Memorandum
EAL	Environmental Action Level
EHE	Environmental Hazard Evaluation
EP&R	HEER Office Emergency Preparedness and Response Section
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
Final RAM	Final Response Action Memorandum
HAR	Hawai'i Administrative Rules
Hawai'i SCP	Hawai'i State Contingency Plan (HAR, Title 11, Chapter 451)
HDOH	Hawai'i Department of Health
HEER Office	Hazard Evaluation and Emergency Response Office
HRS	Hawai'i Revised Statutes
LEPC	Local Emergency Planning Committees
LOC	Letter of Completion
NFA	No Further Action
NRC	National Response Center
OEQC	HDOH Office of Environmental Quality Control
RAA	Remedial alternatives analysis
RAR	Removal Action Report
RI	Remedial Investigation
SDAR	HEER Office Site Discovery, Assessment and Remediation Section
TCLP	Toxicity characteristic leaching procedure
USEPA	United States Environmental Protection Agency
VRP	HEER Office Voluntary Response Program



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2.0

EMERGENCY RESPONSE AND THE SITE DISCOVERY, INVESTIGATION, AND CLEANUP PROCESS

2.0 EMERGENCY RESPONSE AND THE SITE DISCOVERY, INVESTIGATION, AND CLEANUP PROCESS

This section provides details of the state rules and processes used by the Hawai'i Department of Health (HDOH) Office of Hazard Evaluation and Emergency Response (HEER Office) to address both Emergency Responses and longer term Environmental Cleanups of hazardous substance releases (or threats of releases) under Hawai'i Administrative Rules – Chapter 11-451 the State Contingency Plan. Steps in this process include initial discovery of sites followed by immediate action to address and close most Emergency Response scenarios. For longer term Environmental Cleanups, steps also typically include listing and prioritizing a site, followed by site assessment, response actions and public participation (as appropriate), and finally site closure.



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2.1

STATE CONTINGENCY PLAN

2.1 STATE CONTINGENCY PLAN

The process for environmental cleanup or remediation of hazardous substance releases in Hawai'i is guided by a set of administrative rules adopted and periodically revised by HDOH. These administrative rules, which became effective in August 1995, are referred to as the Hawai'i State Contingency Plan (Hawai'i SCP) or Hawai'i Administrative Rules (HAR), Title 11, Chapter 451 ([HAR, 1995](#)). The Hawai'i SCP was written to implement, administer, and enforce Chapter 128D of the Hawai'i Revised Statutes (HRS), also called the Hawai'i Environmental Response Law, which was established by the Hawai'i Legislature effective June 1991 ([HRS 128D](#)).

A hazardous substance release is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of any hazardous substance, pollutant, or contaminant into the environment. Note: seven specific exclusions from the definition of a release are provided in [HAR 11-451-3](#). Sources that identify many specific hazardous substances are provided in the Hawai'i SCP. The Hawai'i SCP establishes regulatory authorities, responsibilities and guidelines for the discovery, investigation, and cleanup of hazardous substances in Hawai'i. Cleanup of a variety of waste, accidentally spilled substances, abandoned materials, soil, groundwater, surface water, air, and leaking underground tanks may be addressed through the Hawai'i SCP.

In some cases, such as during emergency responses and responses to contaminated surface water, drinking water, outdoor air, soil vapor, or leaking underground tanks, the HEER Office may refer cases to or work closely with other HDOH branches within the Environmental Health Administration (or other state, county, or federal personnel for emergency responses) to ensure appropriate assessment and cleanup is accomplished.



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2.2

SITE DISCOVERY

2.2 SITE DISCOVERY

The HEER Office becomes aware of a site where a hazardous substance release has or may have occurred through the process of site discovery. Sites may be discovered through a number of means, such as:

- Calls from county or state agencies regarding emergencies
- Notification required for a release of a hazardous substance that meets or exceeds a "reportable quantity" as specified under the Hawai'i SCP (see [Section 2.3.1.1](#), Release Notification, below))
- Investigations by other government agencies, universities, private and non-profit organizations
- State-led site discovery efforts
- Reports of contaminants in environmental assessments conducted by consultants for private or public parties (e.g. Phase I or Phase II Environmental Site Assessments)
- Sites where owners/operators are participating in voluntary investigation and/or cleanup programs such as Fast Track Cleanup (see [Section 15](#)) or the Voluntary Response Program (see [Section 20](#))
- Public observations or complaints

Once the HEER Office is aware of a hazardous substance release or potential release site, all situations determined to be emergency responses are acted upon immediately or as appropriate by the Emergency Preparedness and Response Section (EP&R) staff of the HEER Office. These are typically "recent" hazardous substance releases or recent discoveries of abandoned containers that may present a significant threat of release. Hazardous substance releases or suspected releases judged not to require emergency response are assigned to the Site Discovery, Assessment, and Remediation Section (SDAR) of the HEER Office for evaluation and action. These non-emergency releases are typically "historic" hazardous substance releases, or releases where an initial emergency response action has been completed.



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2.3

EMERGENCY RESPONSE

2.3 EMERGENCY RESPONSE

The HEER Office EP&R is responsible for planning, preparing for, and responding to hazardous substance releases that may cause immediate and substantial threats to human health or the environment. The EP&R Section has authority given in the Environmental Response Law (HRS 128D) and the State Contingency Plan (HAR 11-451) to provide for or coordinate timely and effective hazardous substance release response. Emergency preparedness training exercises for emergency response actions are also a primary focus of the HEER Office EP&R Section. The EP&R Section works closely with individual county hazmat, fire, and police personnel as well as other federal, state, and county agencies to help strengthen the state's ability to respond to hazardous substance release emergencies.

The EP&R staff cover calls related to hazardous substance releases 24 hours a day, and initiate actions to provide appropriate state resources for emergency response actions. The EP&R staff can be contacted at the numbers below:

Telephone (Business Hours): (808) 586-4249
Telephone (After Hours): (808) 247-2191
Facsimile: ((808) 586-7537

This may involve referrals and support to county, state and federal agencies involved in emergency response actions, as well as assignments to a private contractor to assist in emergency response cleanups.

An emergency situation exists if there is a release, or threat of a release, of a hazardous substance that may pose an imminent and substantial danger to human health and the environment. Most commonly, the HEER Office and/or County Hazmat/Fire Department will determine if an emergency situation exists; however, in some cases, such as sites under federal jurisdiction, other agencies (e.g., U.S. Coast Guard, U.S. Department of Defense) will make the determination that an emergency exists.

County first responders may transfer a site to the HEER Office EP&R Section after the emergency situation is stabilized, if necessary for further evaluation and action.

Due to the nature of emergency responses and importance of expedient actions, procedures for handling these releases are quite different from procedures used for non-emergency environmental cleanups (see [Section 2.4](#)). Emergency response implies immediate evaluation and appropriate action (including Removal Action); sufficient time is typically not available to allow for detailed site assessment activities, multiple site reports, and public participation activities generally conducted for non-emergency environmental cleanups.

EP&R staff may issue responsible parties (or potentially responsible parties) for hazardous substance releases one or more of several types of letters as part of the response process to help ensure appropriate cleanup is accomplished, necessary reports are provided, and/or to establish responsibility for cost recovery of state resources expended in the cleanup. These letters include:

- Failure to Notify - for a reportable quantity release
- Notice of Interest in a Release or Threatened Release - used to request follow-up information or action on a specific site.
- Notice of Improper Response Action in a Release or Threatened Release - used to inform responsible party that appropriate action has not yet been completed, and to request action be completed.
- Notice of Undertaking in a Release or Threatened Release - used to inform the responsible party the state is conducting or involved in the response action due to the urgency of the situation or lack of previous appropriate response, and as applicable, cost recovery for the state's actions will be sought.

In some cases, the potentially responsible party may already be conducting an emergency response at the time of release notification. In some cases the emergency response cleanup is performed without delay, perhaps at state expense, and details of responsibility and cost reimbursement are worked out after the incident has been appropriately handled or stabilized.

A "Removal Action Report" (RAR) is typically required to document the emergency response cleanup at a site. The RAR may require confirmation sampling to demonstrate that the actions taken were responsive to the emergency condition(s) and there is

no longer an immediate danger to human health or the environment (see [Sections 14](#) and [18](#) for more information on Removal Actions and report contents, respectively).

If the emergency response can be shown to have addressed all threats posed by the hazardous substance release, then EP&R may make a "No Further Action" determination for the entire release. However, if the emergency response has addressed only the immediate threats posed by the release and significant long-term threats may remain at the site, EP&R would make an "emergency response resolved" determination and transfer oversight of the release to the Site Discovery, Assessment, and Remediation Section (SDAR) Section for a non-emergency environmental cleanup (see [Section 2.4](#) below). This includes identifying and transferring all documentation and reports generated by the release, and providing rationale for the transfer of oversight.

2.3.1 EMERGENCY RESPONSE ACTIONS

Specific actions that must be taken during an emergency response are outlined in this section. Emergency response is activated when there is a release or threat of release that may pose an immediate threat of exposure to hazardous substances. These are generally recent spills/releases of hazardous substances, or the discovery of abandoned containers of suspected hazardous substances that may have leaked or have the potential to leak into the environment. The EP&R Section staff has oversight for emergency response actions.

The following are examples of hazardous substance releases or threats of release requiring emergency response

- Release notification
- Discovery and report of abandoned drums of suspected hazardous materials
- A potential public health threat, such as a report of people being sickened or affected by exposure to noxious fumes or contaminants, whether or not the source has been identified
- A hazardous substance reported to be spilled/released as a result of operator error during transfer (e.g., oil product)
- Hazardous substances observed being improperly disposed into the soil
- A report of a hazardous substance release to the environment due to an equipment malfunction at an industrial or commercial facility
- Abandoned gas cylinder (unlabelled) washing ashore

Hazardous substance release notification requirements mandated under the Hawai'i Environmental Response Law (HRS 128D) and the Hawai'i SCP are intended to ensure discovery of recent hazardous substance releases into the environment, and to initiate emergency responses, as appropriate, to prevent exposures to hazardous substances that could be harmful.

2.3.1.1 RELEASE NOTIFICATION

Immediate notification to the HEER Office, your County Fire Department, your local County Emergency Planning Committee (LEPC), and the National Response Center (NRC) is required by the Hawai'i SCP if spills or releases of hazardous substances exceed a threshold quantity referred to as the "reportable quantity" (see [Appendix 2A](#), [Appendix 2B](#), [Appendix 2C](#), and [Appendix 2D](#)).

Failure to report a hazardous substance release exceeding the applicable reportable quantity to the HEER Office immediately upon knowledge of the release may result in a civil penalty in an amount up to \$10,000 for each day of failure to report (HRS 128D-3c).

The purpose of the notification (and penalty for not reporting) is to ensure quick evaluation of the release by local, state, or federal government personnel, and to determine appropriate response actions. Evaluating these releases often involves the collaboration of local and state government emergency response personnel, with the federal government providing support as requested. Releases discovered through notification are typically recent hazardous substance releases. All notifications are evaluated by the EP&R of the HEER Office to determine if response action is warranted.

2.3.1.2 WHEN AND HOW TO NOTIFY ON RELEASES OF HAZARDOUS SUBSTANCES

Any person in charge of a facility or vessel is required to phone the HEER Office, their local Fire Department, their County Local Emergency Planning Committee, and the National Response Center (NRC) immediately to notify them regarding a hazardous substance release that is equal to or exceeds the reportable quantity criteria (see [section 2.3.1.3](#)) in any 24-hour period. However, notification to NRC is not required for releases of oil or for releases of trichloropropane, which are not Comprehensive Environmental Response, Compensation & Liability Act (CERCLA) hazardous substances. For releases of oil and trichloropropane, only the Hawai'i state/county reporting requirements apply. Phone and addresses for the agency contacts are provided in [Appendix 2A](#).

When you provide initial notice of a hazardous substance release, specific information is requested to help those evaluating the release identify:

- Chemical information
- Incident information
- Contact information
- Health information

A list of the information requested in the initial (immediate) phone notices of hazardous substance releases is provided in [Appendix 2B](#).

A written follow-up notice regarding the release is also required to be sent to the state/county contacts noted above, postmarked no later than 30 days after initial discovery of the release. A written follow-up report is not required to be sent to the NRC. The information request form in [Appendix 2B](#) can be used to provide the written follow-up notice.

2.3.1.3 REPORTABLE QUANTITIES OF HAZARDOUS SUBSTANCES

Sources that list many hazardous substances and their corresponding reportable quantities are provided in the [Hawai'i SCP](#). Most of these sources were last updated in July 1993. The reportable quantities list [numerical order by Chemical Abstract Number (CAS)] can be found in [Appendix 2C](#), while [Appendix 2D](#) presents an alphabetical list by chemical name).

Oil is considered a hazardous substance in the Hawai'i rules, but has some more specific criteria for notification:

- Any amount of oil causing a sheen to appear on surface water or any navigable water of the State (sheens resulting from discharge of oil from a properly functioning vessel engine are exempt)
- Any free product that appears on groundwater
- Any amount of oil greater than 25 gallons released to the environment
- Any amount of oil less than 25 gallons released to the environment and not contained and remediated within 72 hours.

Note: Incidental drips of oil/fuel from properly maintained vehicles and oil-containing equipment would not require release notification. Also see exemptions listed in [Subsection 2.3.1.6](#).

2.3.1.4 RELEASES OF MIXTURES OR SOLUTIONS OF HAZARDOUS SUBSTANCES

Notification for releases of mixtures or solutions containing a hazardous substance or substances are required only when a component hazardous substance of the mixture or solution is released in a quantity equal to or greater than its reportable quantity. However, if the exact concentration of all the hazardous substance components in the mixture or solution is not known, notification is required if the entire amount of the mixture or solution released equals or exceeds the reportable quantity of any of the hazardous substances it contains.

2.3.1.5 RELEASES OF HAZARDOUS WASTE

Hazardous waste may also be considered a hazardous substance if it exhibits any of the characteristics of ignitability, corrosivity, reactivity, or toxicity (include these terms in definitions). Notification for hazardous waste release is required as follows:

- Hazardous waste does not exhibit toxicity characteristics when tested with the Toxicity Characteristic Leaching Procedure (TCLP) test, but exhibits ignitability, corrosivity, or reactivity characteristics: reportable quantity is 100 pounds.
- Hazardous waste does exhibit toxicity characteristics in the TCLP test: reportable quantities are listed in Appendices 2-C or 2-D.
- Hazardous waste exhibits toxicity characteristics of more than one hazardous substance in the TCLP test: reportable quantity is the lowest quantity listed in Appendices 2-C or 2-D, for those hazardous substances on which the toxicity characteristic is based.
- Hazardous waste exhibits toxicity characteristics and the waste has one or more of the other hazard characteristics (ignitability, corrosivity, or reactivity): reportable quantity will be the lowest of the applicable reportable quantities (the reportable quantity for hazardous waste exhibiting ignitability, corrosivity, or reactivity characteristics is 100 pounds)..

Note: The reportable quantities for hazardous waste described above apply to the weight of the entire amount of waste material released, not just to the hazardous substance component of the waste.

The EPA has determined that some specific wastes are hazardous by definition. These wastes are incorporated into [lists](#) published by the EPA. Listed hazardous wastes are organized into three categories:

- The F-list (non-specific source wastes). This list identifies wastes from common manufacturing and industrial processes, such as solvents that have been used in cleaning or degreasing operations.
- The K-list (source-specific wastes). This list includes certain wastes from specific industries, such as petroleum refining or pesticide manufacturing.
- The P-list and the U-list (discarded commercial chemical products). These lists include specific commercial chemical products in an unused form.

All listed wastes (codes F, K, U, and P) are considered hazardous wastes.

2.3.1.6 EXEMPTIONS FOR RELEASE NOTIFICATION

The following types of releases are exempt from notification:

- Releases of hazardous substances from bituminous pavement, landscaping materials, or building materials that are in good repair and serving their original intended use
- Releases of gasoline or diesel fuel that result from the rupture of the fuel tank of a passenger vehicle as a result of an accident
- Sheens resulting from discharges of oil from a properly functioning vessel engine
- Releases of radionuclides regulated by United States Environmental Protection Agency (USEPA)
- Releases of hazardous substances that are discharged or emitted from an outfall, stack, or other point source, or as fugitive emissions, if regulated under a valid permit, license, or approval, and/or operating under a valid registration, order, or guideline issued under a federal or state statute or regulation (unless the release exceeds the permitted/allowed amount or may pose a substantial endangerment to public health or the environment).



TGM for the Implementation of the Hawai'i State Contingency Plan Section 2.4 NON-EMERGENCY ENVIRONMENTAL CLEANUPS

2.4 NON-EMERGENCY ENVIRONMENTAL CLEANUPS

In contrast to Emergency Responses, non-emergency Environmental Cleanup actions generally occur over a longer time frame, allowing for detailed site assessments to help determine whether and to what extent sites are contaminated, identify environmental hazards, and determine if response actions are necessary to remediate hazardous substances. In some cases complex environmental cleanups involving multiple contaminants and both soil and groundwater contamination can involve years of effort before the site is adequately cleaned up and closed.

Environmental cleanups conducted for non-emergency hazardous substance releases are often responding to historic or suspect past releases rather than to observable recent evidence, such as leaking containers, spilled materials, or other obvious sources of contamination at the site. Examples of historic releases include:

- Containers of leaking hazardous substances and stained surface soils are discovered and removed during an emergency response, but some sub-soil or groundwater contamination still remains
- Groundwater contamination discovered in a non-drinking groundwater aquifer located below a former gasoline service station
- A Phase II Environmental Site Assessment required by a financial institution reveals soil or groundwater contaminated with a hazardous substance above HEER Office Environmental Action Levels
- Soil pesticide residue above HEER Office Environmental Action Levels is documented in a former agricultural field.
Note: where owners/operators can document that pesticides were legally applied under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), an exemption from the definition of a release may apply (i.e., HRS 128D-1, definition of a "release"); however, the HEER Office would still be interested to ensure the potential risk was evaluated to determine if any response action is appropriate to protect public health or the environment.

Historic releases generally do not present immediate threats needing an emergency response, because they have typically aged, weathered, absorbed, or dispersed into the soil, or diluted in groundwater to the point that the contamination present does not pose a significant short-term hazard. However, they may commonly represent long-term hazards to human health or the environment. The SDAR staff of the HEER Office oversees these types of releases. A hazardous substance release could start out as an emergency response cleanup action under the oversight of the EP&R Section, and then be transferred over to the SDAR Section for follow through on cleanup of contamination that was not addressed in the emergency response cleanup. Examples of these "non-historic" releases resulting in longer-term environmental cleanups include;

- Sub-surface soil contamination from a diesel line rupture (after EP&R provided oversight of the surface soil removal)
- A release from an above-ground storage tank resulting in both surface and subsurface soil contamination
- Drums of hazardous chemicals and surface soil are removed under EP&R oversight, but where soil staining or sampling data indicated the potential for remaining subsurface or groundwater contamination

An overview of the discovery, assessment, and cleanup steps for non-emergency hazardous substance releases established under the Hawai'i SCP is provided in [Figure 2-1](#), and described below.

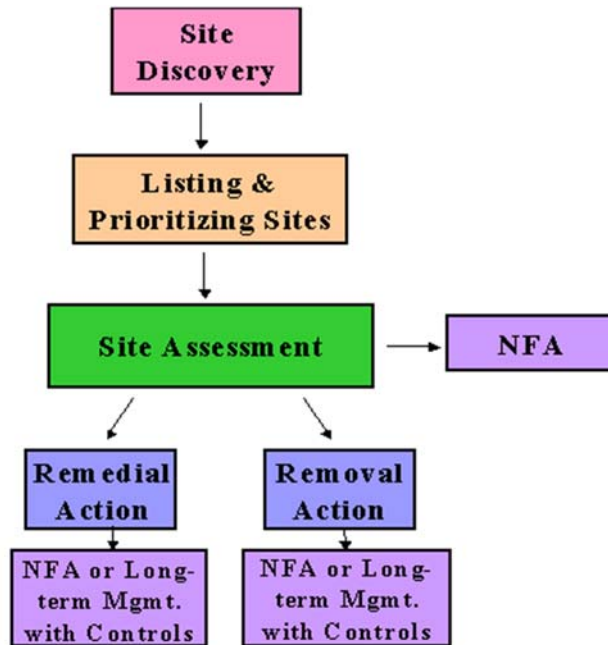


Figure 2-1. Overview of the Site Discovery, Investigation and Cleanup Process for Non-emergency Environmental Cleanups

2.4.1 SITE DISCOVERY FOR ENVIRONMENTAL CLEANUPS

The SDAR Section discovers sites that need evaluation or environmental cleanups through the following means:

- Reports of contaminants in environmental assessments conducted by environmental consultants for private or public parties (e.g., Phase I or II Environmental Site Assessments)
- State-led site discovery efforts
- Referrals from the HEER Office EP&R Section for follow through on cleanup of contamination that was not addressed in an initial emergency response cleanup
- Investigations by other government agencies, universities, private and non-profit organizations
- Observations or complaints provided by the public

It is common for banks or lending institutions to require environmental assessments of properties before they may be considered as security for a loan, as well as to seek written assurance from the HEER Office that sites have been evaluated appropriately and found free from human health or environmental hazards.

The HEER Office considers sites where environmental contaminant concentrations exceed relevant HDOH HEER Office [Tier 1 Environmental Action Levels](#) (EALs) to be sites where hazardous substances may present an unacceptable risk or substantial endangerment to health or the environment.

Exceedances of the Tier 1 EALs do not automatically mean that unacceptable risks exist. Tier 1 EAL exceedances do mean a site needs to be evaluated further to determine if the level of risk at the site is acceptable or unacceptable, and if cleanup actions are appropriate. Historic releases are usually identified when environmental samples (typically soil and/or groundwater) are collected at a site, and sample analysis shows Tier 1 EAL exceedances. These exceedances are an indicator that a health or environmental threat may exist and should be addressed or evaluated further (e.g., additional site investigation or site-specific risk assessment).

2.4.2 SITE LISTING

The HEER Office maintains a list of sites that have been identified for attention under the Hawai'i SCP. [The site list](#) is updated on a regular basis, and is available to the public for review. The HEER Office site listing includes sites that have been discovered through a variety of means, including mandatory release notification (emergency responses are included in the site listing database), HEER Office site discovery actions, and voluntary reporting. The list includes sites where a responsible party may or may not have been identified, sites in compliance with enforceable agreements or those in compliance through voluntary actions, as well as sites where hazardous substances have not been adequately characterized yet.

Sites are placed on the HEER Office site list based on information regarding actual or probable environmental hazards from hazardous substance releases, including actual or probable releases to:

- Groundwater that is a drinking water supply
- Surface water that is a drinking water supply
- Groundwater or surface water that is not a drinking water supply
- Air that poses a threat to public health
- Soil that may pose a direct exposure or other hazard

In addition, sites may be listed for other actual or probable concerns, including:

- Uncontrolled hazardous substances, such as leaking containers or impoundments
- Soil, soil gas, indoor air, groundwater, or surface water that has contamination levels exceeding HDOH Tier 1 EALs
- Adverse impacts to natural resources
- Imminent danger of fire or explosion
- A determination by the Director of a substantial endangerment to public health or the environment

2.4.3 SITE PRIORITIZATION

Sites that are not considered emergencies (e.g., historic releases) and sites that may have been stabilized but not entirely cleaned up following emergency response actions are prioritized by the HEER Office SDAR Section for evaluation and/or response action (HAR 11-451-9(d)). The priority categories include:

1. High priority sites
2. Medium priority sites
3. Low priority sites

Sites are categorized based on the number and/or severity of any potential environmental hazard concerns listed in [Section 2.4.2](#), as well as other relevant factors identified through site assessment activities. New or additional site assessment data may result in a re-evaluation and re-categorization of the site priority for future response action. Review of site assessment data may also result in a site being identified/categorized as a "no further action" (NFA) site (see [Section 2.5](#)).

2.4.4 SITE ASSESSMENT

Site Assessment is broadly defined in the Hawai'i SCP as activities that involve the collection of environmental data for decision-making purposes. The goal of a site assessment is to identify and remediate contaminated soil and groundwater that poses unacceptable environmental hazards, either under current site conditions or under uncontrolled, future conditions. The site assessment process can be divided into three stages:

1. Site Investigation - determine the extent and magnitude of contamination
2. Environmental Hazard Evaluation - determine the presence or absence of potential environmental hazards
3. Response Action - determine appropriate actions to address the identified hazards

The purpose of the Site Investigation is to determine if the site is contaminated and, if so, the extent and magnitude of contamination above levels of potential concern. The investigation is carried out by the collection and analysis of samples of soil, groundwater, soil gas, surface water, sediment, air and/or other media as needed (see Sections 4 through 11). The HDOH [Tier 1 EALs](#) may be used to identify contamination "above levels of potential concern." The investigation of contamination below the EALs is generally not necessary.

The presence of a contaminant at concentrations above the Tier 1 EALs indicates a potential environmental hazard. The nature and magnitude of tentatively identified hazards are described in the Environmental Hazard Evaluation (EHE) (see [Section 13](#)). In a very basic EHE, the presence or absence of potential hazards may simply be identified and the contaminated soil or groundwater quickly remediated without further assessment. In cases where remedial costs could be significant or the contamination cannot otherwise be easily remediated, a more advanced evaluation of specific environmental hazards (e.g., more detailed site-specific action level calculations) may be desired or even necessary (see [Section 13](#) and Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater, [HDOH, 2016](#)). This will help make the final EHE more site-specific and ensure that the resulting response actions are as efficient and effective as possible.

HEER Office SDAR staff review the Site Investigation and EHE reports to make one of the following decisions:

- The site does not pose a substantial threat to public health or the environment, and a No Further Action (NFA) letter will be issued
- The site needs additional assessment to provide reliable data to make a decision whether a threat exists
- The site poses a substantial threat to public health or the environment and response is necessary (either removal action or remedial action)

The Site Investigation and EHE reports are important decision-making documents and typically provide recommendations for additional actions. It is recommended that environmental consultants conducting site investigation and hazard evaluation activities work closely with HEER Office SDAR staff, as necessary, when developing site objectives and sampling plans, to review draft documents, and/or to consult on critical planning or implementation details. Good coordination between environmental consultants and SDAR staff providing oversight of the site activities may significantly improve the quality and timeliness of the site assessment actions.

The nature of any Response Action is generally very site-specific (see Sections 14, 15, and 16). For sites where the extent of contamination is very limited and/or time is of the essence, aggressive remediation of the contamination may be most cost-beneficial (e.g., excavation and disposal of contaminated soil). In other cases, it may be appropriate to aggressively remediate contamination that is causing immediate environmental hazards (e.g., free product discharging into a surface water body or vapor intrusion into a building) and prepare an Environmental Hazard Management Plan to address long-term management of contamination that must be left in place. See Section 19 for a discussion of implications of the various types of site closure.

The investigation, evaluation and response action process is iterative, with the need for additional data and closer evaluation of identified hazards continually re-evaluated as a better understanding of site conditions is gained. Understanding how the three stages of the site assessment process are linked and interdependent is crucial for ensuring that the project proceeds smoothly. As discussed in Section 3, the use of systematic planning in preparation and implementation of the site-investigation stage of the process is the first step.

2.4.5 RESPONSE ACTIONS

If a hazardous substance release poses a substantial endangerment to public health or the environment, an appropriate response action is required.

The Hawai'i SCP defines two response action processes: the removal action process and the remedial action process. Due to the urgency of the threats posed and the need for prompt action, emergency responses are typically conducted under the removal action process, which is also used for most responses to historic releases. However, in a smaller number of cases, where the HEER Office determines that a more intensive level of review and scrutiny is needed or removal actions may be impractical, the remedial action process is used.

2.4.5.1 RESPONSE ACTION DETERMINATION AND RESPONSE OPTIONS

The HEER Office SDAR Section determines or approves whether a response action for environmental cleanups will be conducted as a removal action or a remedial action based on data provided in the site investigation and environmental hazard evaluation reports or additional assessment that may have been required.

Removal and remedial actions are not clearly distinguishable based on specific on-site activities. However, there are very real differences in the Hawai'i SCP requirements associated with these two response action options – these requirements are summarized below in Figures 2-2 and 2-3:

Differences in Required Documentation for Response Action Options	
Removal Action	Remedial Action
Removal Action Report	Remedial Investigation Report
	Remedial Alternatives Analysis Report (RAA)
	Draft Response Action Memorandum (Draft RAM)
	Final Response Action Memorandum (Final RAM)
	Remedial Design/Remedial Action Workplan
	Remedial Design/Remedial Action Report

Figure 2-2. Differences in Required Documentation for Response Action Options

Differences in Required Public Participation for Response Action Options	
Removal Action	Remedial Action
Public notice and comment only required if: <ul style="list-style-type: none"> • Significant concern expressed/likely • HEER Office decides in public interest • HDOH-lead and >\$25,000 spent 	Public Notice and Comment Always Required
Must be published no later than 60 days after initiation of on-site removal activity	Must be published at least 30 days prior to final remedial action selection

Figure 2-3. Differences in Public Participation for Response Action Options

Note: Voluntary Response Program (VRP) sites must follow the public participation steps of the remedial action process – see [Section 20.3](#).

The Hawai'i SCP established two separate response action processes in order to provide site-specific flexibility in balancing two distinct needs in the release response process. In deciding when and how to respond to a particular hazardous substance release, the HEER Office must balance the need to act quickly against the need to require more detailed evaluation, analysis, and public participation.

Fires, explosions, acute exposures, and other situations that pose an imminent and substantial threat require quick response to prevent, minimize, and mitigate the damage being caused or threatened by hazardous substance release. Removal actions provide a streamlined process to quickly address these time-sensitive releases. Removal actions are also typically effective where site assessment activities have clearly documented that significant contamination in soil is limited in extent, and within the reach of common excavation equipment.

In other situations, where the relative effectiveness, technological and administrative feasibility, and cost of different cleanup methods may be less clear, a remedial action option may be more appropriate. Remedial actions may depend on the collection and analysis of site-specific and release-specific information that is complex, difficult or time-consuming to obtain, and subject to uncertainty and variation in interpretation. In addition, there may be significant community impacts and/or community concerns associated with more complex cleanups. In these cases, remedial actions offer a methodical, explicitly documented, step-by-step approach, including public notice and comment, to ensure that relevant questions and issues are identified and addressed prior to the selection of a final cleanup approach.

The Hawai'i SCP states that in deciding whether a response action should be a removal action or a remedial action, HDOH may consider factors including but not limited to:

- Immediacy of the threat
- Planning time
- Implementation time
- Risk to public health and the environment
- Cost
- Community interest
- Site complexity
- Availability of other response mechanisms
- Other situations or factors that may pose an imminent and substantial endangerment

2.4.5.2 REMOVAL ACTIONS

The Hawai'i SCP notes that removal actions are intended to:

- Address all immediate threats
- Permanently and completely address threats posed by entire site
- Contribute to efficient performance of any anticipated remedial action that also may be necessary at the site

The HEER Office will determine if sufficient data is available in the site investigation and environmental hazard evaluation reports or additional site investigation documents to warrant a removal action decision. If inadequate data exists for this decision, additional site investigation will be required.

Removal actions are documented in a Removal Action Report (RAR) containing the following minimum elements:

- Location of release or threat
- Cause of release or threat
- Site history
- General site geology, hydrology, groundwater status, adjacent land uses
- Distance to surface water bodies
- Situation preceding decision to conduct removal
- Efforts by Dept. to obtain response by other parties, if appropriate
- The removal action and alternatives considered
- Resources expended
- Sampling methods and data on confirmation testing of removal action
- Description of hazardous substances remaining on site

Where practical, the RAR is completed before initiation of the removal action. Typically, completion is practical before initiation of a removal action selected for environmental cleanups, but not in the case of emergency responses. In the case of removal actions selected for environmental cleanups, the "resources expended" and "description of hazardous substances remaining on site" report elements are added after the cleanup has been completed. For emergency responses, the RAR may be required after the emergency response has been completed. A very important component of any RAR includes a summary and analysis of confirmation testing conducted to demonstrate the removal action has been successful.

When a removal action option has been selected for environmental cleanups, the HEER Office has the option to require a public notice to be issued as well as a public comment period to allow review and comment on the response selection. The HEER Office initiates this notice and public comment if significant public concern has been expressed or is likely to be expressed, or it is decided to be in the public's interest. In these cases, any public comment received would be carefully considered and addressed before making a final decision on the appropriate response action.

See [Section 14](#) for details on Removal Response Actions and [Section 15](#) for details on Fast Track Cleanup, a voluntary program for expedited investigation and cleanup for removal responses.

2.4.5.3 REMEDIAL ACTIONS

Remedial response actions are intended to:

- Eliminate, reduce, prevent, minimize, mitigate or control risks to public health or environment
- Provide for efficient, cost effective, and long-term reliable solutions, which are protective

The HEER Office will review the existing site investigation, environmental hazard evaluation report, and any other relevant site investigation reports to determine if adequate data exists to support selection of a remedial action option and to develop the required reports under the remedial action option.

Because remedial response actions are typically more complex than removal response actions, it is not uncommon for additional site investigation to be required to support appropriate decisions in the following required reports:

- Remedial Investigation and Environmental Hazard Evaluation
- Remedial Alternatives Analysis (RAA)
- Draft Response Action Memorandum (DRAFT RAM)

Additional site investigation might focus on more sampling to further delineate contaminant distribution on the site, identify likely remedial action options and applicable technologies (including presumptive remedies - remedies demonstrated to work well in other similar circumstances), or fill other data gaps related to remedial alternatives that are important for decision-making. This additional site investigation for remedial action responses is generally included in a Remedial Investigation (RI) Report.

The RAA Report provides a comparison of various remedial strategies to clean up contamination on the site. Typically, at least 5 different strategies (one of which is a "no action" strategy) are initially selected and analyzed, with at least 3 of the strategies judged most appropriate then presented and compared in detail in the RAA report. Primary considerations in weighing the strengths and weaknesses of remedial alternatives include:

- Effectiveness
- Technological and administrative feasibility
- Cost

Based on these considerations, comparisons, and associated information a preferred or preliminary remedial alternative is selected for the site and documented in the RAA Report.

The Draft RAM is a concise summary of site investigation and environmental hazard data, supplemental remedial investigation data (if obtained), the remedial alternatives analysis, and the preliminary remedial alternative selected for the site. The Draft RAM is intended for review and public comment. A public notice regarding availability of the Draft RAM, and a minimum 30-day comment period are provided for review. In most cases additional public scoping actions such as providing fact sheets and mailings are conducted, and in some cases public meetings are held to encourage review and comment on the Draft RAM (see [Section 2.4.6](#), Public Participation).

A Final RAM, documenting the final site remedial alternative approved by the HEER Office is provided after completion of the public comment period on the Draft RAM. All public comments received are taken into consideration and addressed in the Response Summary section of the Final RAM. Review and consideration of public comments may result in a different remedial alternative being selected, or additional details on a remedial alternative being specified. The Final RAM is also made available for public review.

A remedial design/remedial action work plan is typically required for the site to ensure that the selected remedial alternative will be appropriately implemented and evaluated for effectiveness. A Remedial Design/Remedial Action Report documents the implementation and final evaluation of the selected remedial alternative (on complex sites this may be a series of reports over time).

See [Section 16](#) for details on Remedial Response Actions.

2.4.6 PUBLIC PARTICIPATION

Significant differences in public participation requirements for removal or remedial action options specified in the Hawai'i SCP were discussed in [Section 2.4.5.1](#), Response Action Determination and Response Options. In general, public participation activities for removal response actions are at the discretion of the HEER Office, except for the unusual circumstance of a state-funded removal action anticipated to cost in excess of \$25,000. In addition, the public notice and comment period (at least 30 days) for removal action activities, if provided at the discretion of the HEER Office, is not required to be completed prior to implementation of the removal action itself, but within 60 days of initiation of the on-site removal activity.

For remedial response actions, public notice and a minimum 30-day public comment period to review the Draft RAM and associated documents and provide comment are required under the Hawai'i SCP. This public notice and comment period must be completed prior to adopting the Final RAM and implementing the selected remedial alternative. A public meeting may also be held to review and discuss the Draft RAM, at the discretion of the HEER Office. Voluntary Response Program (VRP) sites must follow the public participation steps of the remedial action process (see [Section 20.3](#), VRP).

See [Sections 14](#) and [16](#) for additional detail on Public Participation requirements for Removal and Remedial Response Actions, respectively.

2.4.6.1 PUBLIC NOTICES

Public notices, where required or provided at the discretion of the HEER Office, primarily advertise the availability of the administrative record for a particular site, the proposed response action, and the opportunity to review the record and submit public comment on the proposed response action within a specified comment period (at least 30 days). When a decision has been made by the HEER Office to hold a public meeting regarding the proposed response action, the meeting is also advertised in the public notice. Generally, public notices would provide the following type of information:

- Location and size of site
- Hazardous substances and media being addressed

- Availability of key site documents such as the Draft RAR for a proposed removal action or a Draft RAM for a remedial response action - these key documents are made available in a local library, on the HEER Office website, and/or at the HEER Office in Honolulu
- Availability of the full administrative record for the site in the Honolulu HEER Office
- Availability of a "fact sheet" or an executive summary document containing concise summary information on the site and response action proposed, with contact number/e-mail to request
- Solicitation of written or oral comments on the proposed response action within the specified public comment period of at least 30 days, the address and e-mail to send comments; who to call for questions
- If a public meeting scheduled - date, time, and location of the meeting

Note: Publication date of the public notice is the official start of the public comment period (at least 30 calendar days).

Public notices are typically posted for one or two days in the "Public Notices" section of a general circulation newspaper in the county affected by the response action.

The HEER Office project manager for the site will also send a copy of the public notice to the HDOH Office of Environmental Quality Control (OEQC) bulletin editor for publication in [The Environmental Notice](#). The OEQC publishes this bulletin every two weeks to inform the public of all projects being proposed in the State that are subject to public review and comment

In some cases, the HEER Office project manager may also elect to send or request notice information be sent via direct mail or e-mail to inform known interested parties directly about the proposed response action, and to solicit their review and input. If this approach is taken, a letter is typically sent from the HEER Office that contains information similar to what is published in the public notice, and a brief fact sheet or executive summary from the Draft RAM or Draft RAR as an enclosure/attachment. The letter or e-mail would then be sent to target groups or individuals such as:

- Known community groups in the site area (e.g. community/neighborhood associations or councils)
- Property owners surrounding the site
- Political representatives of the site area (i.e. City or County Council member(s), Legislative Senator/Representative from the site area)
- Public interest groups, if known and likely to have interest
- Other interested parties, if known

2.4.6.2 PUBLIC MEETINGS

If the HEER Office determines there is sufficient public interest, a public meeting is scheduled to provide information about and seek comment on a proposed response action at a particular site. Public meetings are typically set up with the following provisions:

- The meeting is typically held in the evening on a weekday at a well known public location near the site, and/or coordinated with local community group meetings
- The public meeting is scheduled to be held in about the middle of the public comment period to allow time for interested parties to review materials before the meeting, and to provide time for comments sometime after the public meeting is held
- The meeting is conducted by the HEER office (often with the participation of the site owner and/or their environmental consultant), a sign in sheet is provided to document attendance, and minutes or a transcript of the meeting is required (these minutes are made part of site file and available for review on request)
- Site maps, photos, or other relevant information can be posted on walls of meeting room for review by public
- Copies of a site fact sheet and/or the Draft RAM or Draft RAR are on hand for distribution at the public meeting
- The HEER Office project manager and/or site environmental consultant generally provides an opening presentation summarizing the site, nature of contamination, remedial options considered, and the preliminary remedial option selected for public review (e.g. briefly summarize information contained in the Draft RAM or Draft RAR)
- The HEER Office project manager, risk assessor, and site environmental consultants should be available to answer questions during and/or after the presentation on the site
- Public comment on the proposed response action is solicited during the meeting and documented. The HEER Office reiterates the dates that public comment will be accepted and notes that all public comment will be addressed during development of the Final RAM or Final RAR (i.e. final response plan could change as a result of public comment)
- Comment "forms" can be provided to those at the public meeting to fill out and leave at end of meeting or to mail in during the public comment period

2.4.6.3 RESPONSE TO PUBLIC COMMENTS

Based on public comments received during the comment period on the Draft RAM or the Draft RAR, the HEER Office project manager will reassess appropriateness of the preliminary response action, make a final decision on the remedial or removal action, and document the decision in the record. The Final RAM or Final RAR, which addresses public comments received and provides supporting analysis, is made available for public inspection and copying in the affected county prior to start of the response action.

The HEER Office will generally consider comments submitted by interested persons after the close of the public comment period only to the extent the comments contain significant information not contained elsewhere in the record which could not have been submitted during the public comment period and which substantially supports the need to significantly alter the response action.

If new information is made available before the Draft RAM or Draft RAR is finalized that fundamentally changes the response action from the original proposal, the HEER Office will seek additional public comment on a revised Draft RAM or Draft RAR that explains the fundamental changes from the original, or will provide a discussion in the Final RAM/Final RAR of the fundamental changes if the HEER Office determines such changes could be reasonably anticipated by the public based on the alternatives and other information in the record.

After a response action decision document has been finalized, the following record requirements apply:

- The HEER Office may add documents to the administrative record after the decision document has been finalized - if the documents concern a portion of the response action decision that the decision document does not address or defers to be decided at a later date
- The HEER Office may hold additional public comment periods or extend the time of comment on any issues concerning selection of the response action after the decision document has been finalized



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2.5

SITE CLOSURE

2.5 SITE CLOSURE

Sites are no longer subject to response actions under the Hawai'i SCP when the HEER Office determines no further action (NFA) is necessary based on a review of all information that is available in the record for the site. [Section 19](#) provides a detailed discussion of site closures; however, primary considerations include:

- Has evaluation of site data relating to minimum hazard criteria shown any of these criteria to be exceeded? (see [Section 2.4.2](#), Site Listing) Note: This evaluation must be based on defensible site characterization data and other supportive evidence documented in the file. If minimum hazard criteria are not exceeded, taking response action is not appropriate.
- If response actions have been taken, were they sufficient to address the release or threat of release?

Once the HEER Office decides that no further action is necessary for a specific release or suspect release site, a NFA letter will be sent to the responsible party(s). The NFA determination may be made after review of site assessment reports that demonstrate a release or threat of release does not exist. NFA letters may also be issued after appropriate response action (either removal or remedial action) has been successfully completed and documented. The NFA letter typically:

- Summarizes the release or suspect release scenario briefly
- Indicates all pertinent information and data regarding the site assessment and/or response actions have been reviewed
- States that no further action appears necessary for the release
- Notes that if new information indicates that contamination is present at levels of concern, the HEER Office may require additional assessment and cleanup work (as necessary) to be performed

In some cases, a response action may address the threat posed by a hazardous substance release by containing the hazardous substances on site so that exposure to the public and the environment is prevented. For example, a barrier cover might be used to prevent direct contact with contaminated soil at a site. To ensure the continued effectiveness of controls preventing public exposure at a site, HDOH may place conditions on the site's NFA letter to require monitoring and reporting of site conditions, placement of an environmental covenant on the property title, or other long-term management actions. If these controls are not adequately maintained, HDOH may revoke the NFA letter and initiate additional site assessment or response actions (see [Section 19](#), Site Closures).

As noted in [Section 2.3](#), Emergency Response, an NFA letter regarding completion of an emergency response action may be qualified as pertaining only to the emergency response action, and may not necessarily address contamination that may remain at the site (e.g., in the subsurface soil or groundwater). In these instances, the NFA letter will indicate that the emergency response has been appropriately concluded and the site stabilized, but the site has been referred for additional environmental evaluation and remains an active (listed) environmental cleanup site.

Voluntary Response Program (VRP) sites receive a specialized NFA letter called a Letter of Completion (LOC), which also includes an exemption from future liability for the specific contaminants and media that were cleaned up (see [Section 20.3](#), VRP).

Sites receiving NFA letters are removed from the "list of sites" (at the end of the yearly reporting period) that are required to be identified for assessment or potential cleanup action under HRS 128-D and the Hawai'i SCP (see [Section 2.4.2](#), Site Listing).

Finally, under [HEER Office guidance](#) for Long-Term Management of Petroleum-Contaminated Soil and Groundwater, responsible parties may request the HEER Office to issue a determination that "No Further Active Remediation" is required for a site. Although short of a NFA letter (a No Further Active Remediation determination is not considered a type of site closure), this letter clearly defines the remaining environmental hazards, and consequently the environmental liabilities posed by the release, and the site conditions under which such hazards would be posed. This determination may be helpful to site owners, financial institutions, and potential purchasers to establish the "environmental liability" of a site with remaining contamination prior to formal site closure.



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2

REFERENCES

SECTION 2 REFERENCES

Citation references for this TGM Section denoted with an "a", "b", "c", etc... after the year of publication may not appear in sequence as these refer to the order placed in the [Master References](#) List for the entire TGM.

HAR 11-451. Hawai'i Administrative Rules, Department of Health. Title 11, Chapter 451, State Contingency Plan (SCP). Website URL: <http://gen.doh.hawaii.gov/sites/har/AdmRules1/11-451.pdf>. [Local Copy](#) (2.2mb). August 2, 1995.

HDOH, 2016. Hawai'i Department of Health, Office of Hazard Evaluation and Emergency Response. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. Website URL: <http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/EALs>. Summer 2016 (and updates).

HRS 128D. Hawai'i Revised Statutes. Hawai'i Environmental Response Law (HERL), Chapter 128D. Website URL: http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0128D/.

HRS 128E. Hawai'i Revised Statutes. Hawai'i Emergency Planning and Community Right-To-Know Act, Chapter 128E. Website URL: http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0128E/.

HRS 508C. Hawai'i Revised Statutes. Uniform Environmental Covenants Act (UECA), Chapter 508C. Website URL: http://www.capitol.hawaii.gov/hrscurrent/Vol12_Ch0501-0588/HRS0508C/. [Local Copy](#) (20kb).



TGM for the Implementation of the Hawai'i State Contingency Plan

Section 2

APPENDICES

SECTION 2 APPENDICES

- 2-A Hazardous Substance Release Notification and Inventory Guideline
- 2-B Hazardous Substance Release Notification Guideline
- 2-C Reportable Quantities (Sorted by Chemical Abstract Number)
- 2-D Reportable Quantities (Sorted by Chemical Name)



**APPENDIX 2-A
HAZARDOUS SUBSTANCE RELEASE NOTIFICATION AND
INVENTORY GUIDELINE**

[\(see PDF file\)](#)



**TGM for the Implementation of the Hawai'i State Contingency Plan
Appendix 2-B
HAZARDOUS SUBSTANCE RELEASE NOTIFICATION GUIDELINE**

**APPENDIX 2-B
HAZARDOUS SUBSTANCE RELEASE NOTIFICATION
GUIDELINE**

[\(see PDF file\)](#)



**TGM for the Implementation of the Hawai'i State Contingency Plan
Appendix 2-C
REPORTABLE QUANTITIES (SORTED BY CHEMICAL ABSTRACT NUMBER)**

**APPENDIX 2-C
REPORTABLE QUANTITIES
(SORTED BY CHEMICAL ABSTRACT NUMBER)**

[\(see PDF file\)](#)



TGM for the Implementation of the Hawai'i State Contingency Plan
Appendix 2-D
REPORTABLE QUANTITIES (SORTED BY CHEMICAL NAME)

APPENDIX 2-D
REPORTABLE QUANTITIES
(SORTED BY CHEMICAL NAME)

[\(see PDF file\)](#)