NOTICES OF FINAL RULEMAKING

The Administrative Procedure Act requires the publication of the final rules of the state's agencies. Final rules are those which have appeared in the *Register* first as proposed rules and have been through the formal rulemaking process including approval by the Governor's Regulatory Review Council or the Attorney General. The Secretary of State shall publish the notice along with the Preamble and the full text in the next available issue of the *Register* after the final rules have been submitted for filing and publication.

NOTICE OF FINAL RULEMAKING

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

PREAMBLE

1. Sections Affected — **Rulemaking Action**
R7-2-302 — Amend

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):
Authorizing statute: A.R.S. § 15-203(A)

Implementing statute: A.R.S. § 15-741

3. The effective date of the rules:
August 21, 2002

4. A list of all previous notices appearing in the Register addressing the final rule:
Notice of Rulemaking Docket Opening: 7 A.A.R. 4276, September 28, 2001

Notice of Proposed Rulemaking: 8 A.A.R. 827, March 1, 2002

5. The name and address of agency personnel with whom persons may communicate regarding the rule:

Name:	Corinne L. Velasquez, Executive Director
Address:	1535 W. Jefferson, Room 418 Phoenix, AZ 85007
Telephone:	(602) 542-5057
Fax:	(602) 542-3046

6. An explanation of the rule, including the agency's reasons for initiating the rule:
R7-2-302 sets forth the minimum course of study and competency requirements for graduation from high school. The State Board of Education has postponed the requirement of a passing score on the reading, writing, and mathematics portions of AIMS for graduation from high school to the class of 2006.

7. A reference to any study that the agency proposes to rely on in its evaluation of or justification for the proposed rule and where the public may obtain or review the study, all data underlying each study, any analysis of the study and other supporting material:
Not applicable

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:
Not applicable

9. The summary of the economic, small business, and consumer impact:
There will be no economic or small business impact related to this rule. Students are currently required to take the AIMS test for graduation from high school pursuant to Arizona statute and State Board of Education policy. This will align the rule with the current Board policy.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):
None

11. A summary of the principal comments and the agency response to them:
None

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:
Not applicable

13. Incorporations by reference and their location in the rules:
None

14. Was this rule previously adopted as an emergency rule?
No

15. The full text of the rule follows:

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

ARTICLE 3. CURRICULUM REQUIREMENTS AND SPECIAL PROGRAMS

Section
R7-2-302. Minimum Course of Study and Competency Requirements for Graduation from High School

ARTICLE 3. CURRICULUM REQUIREMENTS AND SPECIAL PROGRAMS

R7-2-302. Minimum Course of Study and Competency Requirements for Graduation from High School
The Board prescribes the minimum course of study and competency requirements as outlined in subsections (1) and (2) and receipt of a passing score on the reading, mathematics, and writing portions of the AIMS (Arizona's Instrument to Measure Standards) assessment for the graduation of pupils from high school or issuance of a high school diploma, effective for the graduation class of ~~2002 and 2003; and receipt of a passing score on the reading, writing and mathematics portions of AIMS for the graduation class of 2004~~ 2006.

1. No change
2. No change
3. No change
4. No change
5. No change
6. No change

NOTICE OF FINAL RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 12. DEPARTMENT OF ENVIRONMENTAL QUALITY
UNDERGROUND STORAGE TANKS

PREAMBLE

1. Sections Affected	**Rulemaking Action**
Article 1	Amend
R18-12-101	Amend
R18-12-102	Amend
R18-12-250	New Section
R18-12-251	New Section
R18-12-260	New Section
R18-12-261	New Section
R18-12-261.01	New Section
R18-12-261.02	New Section
R18-12-262	New Section
R18-12-263	New Section
R18-12-263.01	New Section
R18-12-263.02	New Section
R18-12-263.03	New Section
R18-12-264	New Section

R18-12-264.01	New Section
R18-12-280	Amend

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statutes: A.R.S. §§ 49-104(B)(4) and 49-1014(A)

Implementing statutes: A.R.S. §§ 49-1004(D), 49-1005(E), and 49-1005(F)

3. The effective date of the rules:

August 20, 2002

4. A list of all previous notices appearing in the Register addressing the final rule:

Notice of Rulemaking Docket Opening: 8 A.A.R. 1559, March 29, 2002

Notice of Proposed Rulemaking: 8 A.A.R. 1222, March 29, 2002

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Ian D. Bingham, Manager, UST Corrective Action Section, Waste Programs Division

Address: Arizona Department of Environmental Quality
1110 W. Washington (4415A-3)
Phoenix, AZ 85007

Telephone: (602) 771-4322

Fax: (602) 771-4346

E-mail: Bingham.Ian@ev.state.az.us

Other contacts: Joseph Drosendahl and Jeanene Hanley

Telephone and E-mail: Joe Drosendahl: (602) 771-4845, Drosendahl.Joseph@ev.state.az.us

Jeanene Hanley: (602) 771-4314, Hanley.Jeanene@ev.state.az.us

(In Arizona, call 1-800-234-5677 and ask for the four-digit extension.)

Fax: (602) 771-4346

6. An explanation of the rule, including the agency's reasons for initiating the rule:

Contents of Explanation of the Rule:

A. Introduction

B. Summary

C. Risk Based Corrective Actions (RBCA)

D. Licensing Time-Frames (LTF)

E. Section-by-Section Explanation of the Rule

A. Introduction

This rule will complete the technical requirements for managing an Underground Storage Tank (UST), described in Title 18, Chapter 12, Article 2, of the Arizona Administrative Code (A.A.C.). It will fulfill the statutory requirement to develop rules to implement the reporting and investigation of suspected releases and taking corrective action on confirmed releases of regulated substances from UST systems.

This rule is the latest in a series of rulemakings that implement the UST program. A.R.S. § 49-1014(A) requires the Director of the Arizona Department of Environmental Quality (ADEQ) to "adopt" rules to provide for administering the UST program and secure approval of the program from the United States Environmental Protection Agency (USEPA).

Considerable stakeholder input went into developing this rule, including numerous stakeholder workshops over the course of two years. The rule was unanimously approved by the UST Policy Commission on April 19, 2000. The rule also went through an informal public comment period before the notice of proposed rulemaking was published. The formal notice and comment period was open between the date of publication, March 29, 2002, and the close of the comment period on April 30, 2002. During the public comment period, nine comments were received. Those comments, and the Department's responses to them, are found in item #11, "A summary of the principal comments, and the agency responses to them."

B. Summary

This rulemaking accomplishes the following objectives:

- Prescribes a set of uniform definitions and procedures that implement the statutes on release and suspected release reporting and corrective action.
- Protects public health and the environment from releases from UST systems that have impacted the soil, surface water and groundwater of Arizona, by defining a process for determining appropriate site-specific cleanup levels.
- Provides sufficient detail to allow the UST program to effectively carry out the statutory mandate of assuring the protection of public health and the environment, and to allow flexibility for Department staff and owners and operators of USTs to develop site-specific standards.
- Provides requirements for reporting releases and suspected releases, and, when a release is determined to exist, initial actions to be taken to reduce the effects of the release. Establishes provisions for the initial and full site characterization, the information required to describe the area surrounding the contamination, and the process for determining site-specific cleanup levels.
- Provides requirements for investigating, reporting and responding to free product, including removal, in order to protect public health and the environment. The requirements are consistent with the federal regulations.
- Addresses requirements for closing the ADEQ case file on a release and revises the Section on sampling requirements to broaden the scope to all sampling of contamination under the Chapter, regardless of the Article under which the sampling is required.
- Revises the content of Article 1. The Article title is revised to "Definitions; Applicability" from "Definitions," to better reflect its content and scope. Those definitions necessary to interpret the release reporting and corrective action requirements of this rule are added to R18-12-101. Further, the compliance clarification of R18-12-102 is titled "Applicability" and is expanded to include compliance provisions for a person who is not an UST owner or operator, but who owns the property on which a UST is located. The applicability Section also clarifies supersedence. The existing provisions of "Responsibilities of Owners and Operators" of the Section are revised, slightly, to clarify the applicability to persons who are owners or operators. The rule that is being replaced is unclear about requirements that apply to persons before they are determined to be an owner or operator. The revised provisions are contained in subsection (A) of R18-12-102.
- Requires little change in the way the Department is currently operating the UST program. The major change is the use of a risk based corrective action (RBCA) process to protect public health, welfare and the environment. The rule will clarify the approach to determining site-specific cleanup levels.
- Addresses actions to be taken when a suspected release, as defined at A.R.S. § 49-1001(16), exists. The owner or operator is required to investigate and determine, within a maximum of 90 days from the date the suspected release is discovered, if there is actually a release, or if the suspicion is unfounded.
- Contains requirements for several reports or notifications to be submitted to the Department during the process of confirming a release or conducting corrective action. Although the reports and notifications have elements in common, each report or notification has a separate purpose.
- Defines how to implement the risk based portion of the soil remediation standards in 18 A.A.C. 7, Article 2 within the context of a UST remediation. The soil rule applies to all soil cleanups across the Department including those conducted at UST sites.

C. Risk Based Corrective Actions (RBCA)

This rule has frequently been referred to as the "RBCA rule", or Risk-Based Corrective Action rule. A general discussion is provided to clarify the expectations of the RBCA rule and the approach taken to provide a RBCA rule within the framework of Arizona law. Excerpts from the USEPA OSWER Directive 9610.17 "Use of Risk-Based Decision-Making in UST Corrective Action Programs", March 1, 1995, are included. Additional explanations can be found in the sections on release reporting and corrective actions.

The following are statements from the USEPA concerning risk-based decision-making for UST corrective actions:

- "Where risk-based decision-making is incorporated into the UST corrective action process, the result is usually called risk-based corrective action (RBCA). The American Society for Testing and Materials (ASTM) recently issued an emergency standard for risk-based corrective action (the final ASTM Standard E 1739 was issued in 1995); the ASTM standard provides a detailed scientific and technical framework that can be adapted by UST implementing agencies for use in their corrective action programs." [USEPA OSWER Directive 9610.17, March 1, 1995]
- "Risk-based decision-making is consistent with EPA policies and regulations governing UST corrective action and with the approaches being taken by other EPA programs involved in protection of ground water and cleanup of environmental contamination." [USEPA OSWER Directive 9610.17, March 1, 1995]
- "The real value of risk-based decision-making lies in its potential to help UST implementing agencies and UST owners and operators oversee/manage cleanups of UST releases based on relative risks to human health and the environment. In addition, risk-based decision-making can provide a coherent decision-making framework to

help keep transaction costs under control. Thus, while risk-based decision-making can be as protective of human health and the environment as other approaches, it offers a scientifically sound and administratively effective way to respond to the pressures for timely action at large numbers of sites and efficient use of both public and private resources. It is important to recognize that risk-based decision-making is not intended to be primarily a money-saving tool, even though its use may save money in many cases. At high-risk sites (which account for only 20 to 30 percent of all sites), risk-based cleanups could cost more than those based on other procedures for establishing cleanup goals." [USEPA OSWER Directive 9610.17, March 1, 1995]

- "Risk-based decision-making is a mechanism for identifying necessary and appropriate action throughout the corrective action process. Depending on known or anticipated risks to human health and the environment, appropriate action may include site closure, monitoring and data collection, active or passive remediation, contaminant (sic), or institutional controls. In all cases, the objective is the same, i.e., to ensure that adequate protection of human health and the environment is provided. The availability of options such as allowing contamination to remain in place or using institutional controls to prevent exposure will depend on applicable state and local laws and regulations." [USEPA OSWER Directive 9610.17, March 1, 1995]

The RBCA process, based in part on the standard (E 1739-95) developed by the American Society for Testing and Materials, is a tool available to more effectively and efficiently complete remediation of contaminated sites. The American Society for Testing and Materials, founded in 1898, is a not-for-profit organization that provides a global forum for developing and publishing voluntary consensus standards for materials, products, systems, and services. ASTM has over 30,000 members from 100 nations, including producers, users, consumers, and representatives of government and academia. In over 130 varied industry areas, ASTM standards serve as the basis for manufacturing, procurement, and regulatory activities. ASTM provides standards that are accepted and used in research and development, product testing, quality systems, and commercial transactions around the globe. A rigorous public review process was used to develop the ASTM standard on RBCA, including federal and state regulators, scientists, industry and lawyers.

The RBCA process is one tool that can be used to achieve closure that is protective and flexible. The Arizona Legislature has mandated the implementation of other risk based tools to achieve closure including the Soil Remediation Rule and the DEUR statute which both rely on a site-specific risk based analysis. EPA has also identified risk-based approaches as viable options for program development and closure for RCRA (The Resource Conservation and Reclamation Act) and CERCLA (The Comprehensive Environmental Response, Compensation and Liability Act) sites.

CERCLA, and hence RCRA (the subsequent reauthorization act) requires that actions selected to remedy hazardous waste sites be protective of human health and the environment. A remedial action must result in levels of residual contamination that is protective of human health and the environment from current and potential threats from releases. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is the regulation that implements these requirements of CERCLA.

In a 1996 memo, Steven A. Herman, Assistant Administrator of the USEPA Office of Enforcement and Compliance Assurance, and Elliott Laws, Assistant Administrator of the USEPA Office of Solid Waste and Emergency Response, made the following statement concerning risk-based decision-making for RCRA and CERCLA corrective actions: "We encourage you to consider risk-based approaches when developing cleanup levels for RCRA regulated units and to give consideration to levels set by state/tribal programs which use risk-based approaches. EPA is developing guidance on risk-based clean closure and on using models to meet the clean closure performance standard." [Memo from Steven A. Herman and Elliott Laws of USEPA to RCRA/CERCLA National Policy Managers, dated September 24, 1996, with the subject, "Coordination between RCRA Corrective Action and Closure and CERCLA Site Activities."]

In a discussion of the Land Disposal Restrictions, the USEPA supports contrasting the risks posed by leaving contamination in place to the risks associated with disturbing the contamination, transporting it, and disposing of it in a new location.

The Arizona Legislature has mandated that the Department develop rules necessary to implement a RBCA process. The Legislature further requires the Department to approve a corrective action that may result in water quality that exceeds water quality standards, subject to specified safeguards to protect public health and the environment. The rule provides a process to allow the closure of LUST sites where there are exceedences of the water quality standards for groundwater and surface water as specified in A.R.S. § 49-1005(E). However, the Department has taken specific precautions to ensure that the methodology utilized in the rule for allowing these exceedences does not conflict with the requirements of the Clean Water Act and RCRA. The rule provides for a risk-based approach. The exceedance must undergo a thorough investigation and plan for addressing remediation or limitations to remediation within the context of a Corrective Action Plan and input from the public (R18-12-263.02).

Essentially, existing and potential future water uses must be evaluated for the time period, or window of exceedance, for which the standard will not be achieved. The purpose of the evaluation is to identify who may have access to contaminated water, and how these "users" will be in contact with the water. By doing so, the potential impacts to human health and the environment may be identified and appropriately abated during the "window of exceedance". The goal upon closure of the "window of exceedance" is to provide for the maximum beneficial use of water, which is drinking water for aquifers and the designated uses prescribed by law for surface water (the latter ranging from domestic drinking water source to wildlife/aquatic habitat). Predetermined water quality standards are used for the corrective

action standards under Tier 1 evaluations. Exceedences of the water quality standards can be approved by the Director if certain criteria are met (e.g. submitting a corrective action plan (CAP), giving public notice and using institutional controls) and demonstrated through the Tier 2 and 3 evaluations to be protective of public health and the environment. The Legislature realized that, in many instances, contamination exists in groundwater where that groundwater will not be used for drinking purposes, or never used at all.

Understanding risk-based corrective action might be better understood by considering the alternative approaches to setting cleanup levels, including removal and technology-based standards. Removal may introduce risks associated with disturbing the contaminated media, transporting it to a new location, and disposing of it in the new location. Technology based standards are independent of site conditions or exposure routes. Both of these alternatives may result in unacceptable risk. Most "off-the-shelf" soil cleanup levels are based on risk analysis, using conservative assumptions that result in protective concentrations for most site conditions.

Additional cleanup options become available with the RBCA process. The options take the form of a tiered approach to determining the appropriate risk-based cleanup level for a site. To accomplish this, the rule focuses data requirements and site investigation into three tiers. Tier 1, being the easiest and quickest means of establishing the risk-based corrective action standard, is a conservative "one-size-fits all sites" due to its use of very conservative assumptions. Tier 2 and Tier 3 use increasingly more site-specific information to replace the conservative assumptions of Tier 1 standards. In doing so, the calculated cleanup standard differs between the three tiers by replacement of assumptions, not by replacement of the targeted human health protection. For example, a Tier 1 standard is determined by the conservative assumption that residents at a site are present and in contact with contamination 24 hours per day for 350 days per year. In reality, the residents may utilize the site as their "winter only" residence, and may only be present 16 hours per day for 100 days per year. These site-specific Tier 2 values change the resulting Tier 2 cleanup levels accordingly.

D. Licensing Time-Frames (LTF)

State law requires agencies to identify all licenses they issue and then to set in rule application review time-frames within which each agency expects to make a licensing decision.

Department compliance with the licensing time-frames (LTF) law, A.R.S. §§ 41-1072 through 41-1079, consists of showing LTF requirements, license category identification, and lengths of time-frames in one unitary rule that applies to all Department programs subject to LTF. That rule is found at 18 A.A.C. 1, Article 5, "Licensing Time-Frames." A.A.C. R18-1-501 through R18-1-525. License categories administered by the various Department programs are shown on a series of 32 tables divided along program lines. That rule currently shows 476 license categories. License categories administered by the UST section are shown on Table 18 of that rule. Any licenses included within this corrective action rule and determined to be subject to LTF requirements will be identified and included in the next annual amendatory rulemaking to the LTF rule and shown on Table 18 of that rule. The public will be able to review and comment on the identification of categories and the length of time-frames shown in that rule during that rulemaking process.

E. Section-by-section Explanation of Rule

ARTICLE 1

Introduction

Article 1, titled "Definitions," of A.A.C. Title 18, Chapter 12 currently consists of R18-12-101 containing definitions and R18-12-102 clarifying the responsibilities of owners and operators in complying with the provisions of the Chapter. This rule revises the Article title to "Definitions; Applicability" to better reflect the content. The UST definitions are in R18-12-101 and the existing terms supplemented with those definitions needed to understand the new sections added to Article 2. Some revisions have been effected to existing definitions to clarify understanding. The title of R18-12-102 has been revised to "Applicability" from "Responsibilities of Owners and Operators" and expanded to include needed clarifications pertaining to persons who are neither an owner nor operator.

R18-12-101. Definitions

The definitions that apply to all of the UST rules (Technical Requirements, Financial Responsibility, State Assurance Fund (SAF), Grant, and Tank Service Providers) are located in this Section. Centralizing the definitions within Article 1 was implemented in the 1992 rulemaking that codified the initial rules on the SAF and financial responsibility. Using one Section for all definitions gives the reader a UST "dictionary" and avoids repeating terms as would be required if each Article contained its own definitions. The 36 new terms defined for implementing this rule on release reporting and corrective action, are "Chemical of concern," "Conceptual site model," "Corrective action standard," "Derived waste," "Engineering control," "Excess lifetime cancer risk level," "Exposure," "Exposure assessment," "Exposure pathway," "Exposure route," "Hazard index," "Hazard quotient," "Institutional control," "LUST case," "LUST number," "LUST site," "Nature of the regulated substance," "Nature of the release," "Point of compliance," "Point of exposure," "Receptor," "Release confirmation," "Release confirmation," "Remediation," "Risk characterization," "SARA," "Site location map," "Site plan," "Site vicinity map," "Source area," "Surface water," "Surficial soil," "Suspected release discovery date," "Suspected release notification date," "Vadose zone," and "Waters of the State."

R18-12-102. Applicability

This Section addresses the applicability of A.A.C. Title 18, Chapter 12.

- Subsection (A) provides that either the owner or the operator may comply; however, in event of non-compliance, both may be held liable. Although the federal definition of "owner" [40 CFR 280.12] is different than Arizona's definition of "owner" [A.R.S. § 49-1001.01], the Department considers it to be consistent with the federal definition because it covers the same group of people.
- Subsection (B) clarifies that a person who owns or has control of property where a UST is or was located, but who is not the owner of that UST, and who is complying with the provisions of A.R.S. § 49-1016(C), must do so to the same extent as required of an UST owner.
- Subsection (C) clarifies that the provisions of the Chapter do not supersede the orders of courts or of the Director of the Arizona Department of Environmental Quality.

ARTICLE 2

Introduction

Article 2, titled "Technical requirements," was added to the Administrative Code in 1996 and has requirements for the "preventive" side of the UST program. The Article currently includes provisions for UST systems excluded from the rule requirements or deferred from parts of the requirements (R18-12-210). R18-12-211 establishes minimal installation requirements for deferred systems. For systems subject to the standards, the Article establishes requirements for UST installation (R18-12-220), upgrade (R18-12-221), system notification (R18-12-222), maintenance (R18-12-230 through R18-12-234), release detection (R18-12-240 through R18-12-245), closure (R18-12-270 through R18-12-274), and sampling requirements (R18-12-280). The Article also provides a list of codes of practice to be used for complying with these preventive requirements (R18-12-281).

In following the order of appearance in A.R.S. Title 49, Chapter 6 and the Code of Federal Regulations (40 CFR 280), the requirements for release reporting and corrective action are placed between those for release detection and tank closure. The sections that make up this part of the rule reflect this approach and are R18-12-250 through R18-12-264. ADEQ solicited comments on the desirability of making the release reporting and corrective action component of the rulemaking a stand-alone Article (Article 2.1) during the informal comment period; however, stakeholders preferred the current format.

The rule on release reporting and corrective action is organized as follows:

- Applicability and Scope (R18-12-250)
- Suspected Release (R18-12-251)
- Release Notification and Reporting (R18-12-260)
- Initial Response, Abatement, and Site Characterization (R18-12-261)
- LUST Site Classification (R18-12-261.01)
- Free Product (R18-12-261.02)
- LUST Site Investigations (R18-12-262)
- Remedial Responses, commonly referred to as "remediation" (R18-12-263)
- Risk Based Corrective Action Standards (R18-12-263.01)
- Corrective Action Plan (CAP) (R18-12-263.02)
- LUST Site Closure (R18-12-263.03)
- General Reporting Requirements (R18-12-264)
- Public Participation (R18-12-264.01)
- Sampling Requirements (R18-12-280)

R18-12-250. Applicability and Scope

This Section addresses suspected or actual releases that must be managed under the rule, as well as other existing requirements which this rulemaking will not affect. An owner or operator may be relieved of performing corrective action on any property to which access has been requested, but not obtained. The provisions for such relief are at A.R.S. § 49-1022(E), and persons securing such relief are not subject to the provisions of this rule to the extent of the relief.

- Subsection (A) provides that all of the requirements apply to an owner or operator with a release or suspected release discovered on or after the effective date of the final rule.

- Subsection (B) provides that the reporting requirements of the rule will not supersede the release reporting requirements under Superfund Amendment and Preauthorization Act (SARA) Title III. Each release must be reported to the Department under the rule and to the other federal and Arizona agencies if required.

R18-12-251. Suspected Release

The provisions of this Section will implement the requirements for reporting and investigating suspected releases under A.R.S. § 49-1004. The reporting requirements for actual releases under this section of the statute is provided for in R18-12-260. The definitions of "Suspected release" and "Release" are defined by A.R.S. § 49-1001. Section R18-12-251 covers initial notification, investigation and written reporting requirements for suspected releases.

- Subsection (A) requires an oral or written notification to the Department within 24 hours after discovering a suspected release. This includes spills or overfills that involve less than 25 gallons of petroleum or hazardous substances that are less that the reportable quantity under CERCLA, that are not contained and cleaned up with 24 hours. The Department considers that if performed within 24 hours, the public health and the environment will be adequately protected in a manner consistent with the federal requirement to immediately or promptly respond to these spills or overfills. If not contained or cleaned up within 24 hours, these spills or overfills are required to be reported under R18-12-260(A) and meet all of the corrective action requirements necessary to protect public health and the environment.
- Subsection (B) establishes the information to be included in the subsection (A) notification.
- Subsection (C) establishes the investigation activities that must be accomplished within 90 days after discovering the suspected release.
- Subsection (D) clarifies that if a release determination is made, further compliance with the requirements of the Section is not required.
- Subsection (E) requires a status report within 14 calendar days after the discovery.
- Subsections (E) and (F) establish the requirements for written reports associated with a suspected release.
- Subsection (G) mandates the Department to require an owner or operator to investigate a suspected release if environmental contamination is discovered by the Department or brought to its attention. This subsection comes into use where the owner or operator is unaware of the condition.
- Subsection (G) is to be used in situations where the UST is potentially the source of off-site or on-site impacts that are not observed or reported to the owner or operator.

R18-12-260. Release Notification and Reporting

This Section establishes the requirements related to reporting a release or confirmed release. A release confirmation (discovering free product or receiving laboratory analytical results) may be made during temporary or permanent system closure, release detection monitoring, observation of the system, or investigation of a suspected release.

- Subsection (A) requires the release to be reported, orally or in writing, within 24 hours after it is determined to exist, no matter how or when the determination is made. The different types of releases to be reported are established.
- Subsection (B) provides for the information to be reported within 24 hours after making the release determination.
- Subsection (C) is the companion piece to R18-12-251(C)(1) in fulfilling the requirements of A.R.S. § 49-1004(C). That subsection of the statute calls for a written report within 14 days after discovering a release or suspected release.
- Subsection (D) requires that the owner or operator of a UST system that is found to be the source of a release to repair, replace, upgrade or close (either permanently or temporarily) the system.

R18-12-261. Initial Response, Abatement, and Site Characterization

The activities to be accomplished within the first 90 days following the discovery or confirmation of a release are provided in this Section. This Section implements A.R.S. § 49-1005(F)(1) through (F)(4).

- Subsections (A) and (B) specify the initial response and abatement actions designed to minimize further contamination, prevent fire and explosion hazards, and minimize access or exposure to levels of contaminants that may pose an acute health or environmental hazard.
- Subsection (C) provides for the initial site characterization which involves gathering non-intrusive information on the UST, facility, LUST site, and surrounding area.
- Subsection (D) establishes a report of the information required to be developed within the 90 day period following release discovery.

R18-12-261.01. LUST Site Classification

This Section establishes the LUST site classification scheme which is an integral part of risk based corrective actions (RBCA) and based on the relative risk that the release will impact receptors.

- Subsection (A) provides that the classification is determined by the owner or operator, and is based on known site-specific information available at the time the determination is developed.
- Subsection (B) establishes the factors to be considered by the owner and operator in developing the appropriate site classification.
- Subsection (C) provides the classification scheme. The analysis described in subsection (B) is applied to the individual classification factors in this subsection to determine that classification appropriate to the LUST site.
- Subsection (D) provides for the LUST site classification form to be submitted with various reports to the Department.
- Subsection (E) provides for the form to be used in the classification process.

R18-12-261.02. Free Product

This Section establishes the requirements for investigating, removing and reporting free product. The information to be reported on free product removal meet the statutory requirements for rules on free product removal at A.R.S. § 49-1005(F)(5).

- Subsection (A) specifies conditions under which owners or operators must search for free product and what to do if it is discovered.
- Subsection (B) provides for handling free product.

R18-12-262. LUST Site Investigations

This Section establishes the requirements for conducting and reporting on full site characterization. This Section provides the rules for investigations for soil, surface water, and groundwater cleanups required under A.R.S. § 49-1005(F)(6).

The investigation results will be used to refine the LUST site classification, perform the Tier 1 RBCA evaluation under R18-12-263.01(A)(1) and, if determined appropriate, a Tier 2 evaluation under R18-12-263.01(A)(2).

- Subsection (A) establishes the requirement to investigate the release and surrounding area to determine the most appropriate investigation activity. The subsection also establishes the activities that must be undertaken to fulfill the investigation requirements.
- Subsection (B) establishes that the investigation and reporting requirements of the Section be completed within a time-frame established by the Department.
- Subsection (C) establishes the requirements for determining the full extent (vertical and lateral) of contamination in each medium.
- Subsection (D) establishes the contents of the site characterization report. The site characterization report must contain information on the tank, release, facility and surrounding area. If an alternative water quality standard (Tier 2 or Tier 3 evaluation) is to be used, information on those persons owning property and having rights to use water within one-quarter mile of the outermost boundaries of the contamination is required. The site characterization report is the cornerstone of all subsequent activities. Because the report provides a comprehensive picture of the actual conditions on and surrounding the area of contamination, it is the document the Department will use to verify that subsequent corrective actions, including requests for LUST site closure, are necessary and reasonable.
- Subsections (E) and (F) provide for accepting the site characterization report by the Department if the report meets the requirements of the Section, and accordingly notifying the owner or operator.

R18-12-263. Remedial Responses

This Section deals with activities usually referred to as remediation.

- Subsection (A) describes when remedial responses are not required, and therefore, when the owner or operator can request LUST case closure under the provisions of A.A.C. R18-12-263.03.
- Subsection (B) describes when remedial responses will be required.
- Subsection (C) provides the circumstances under which the Department may request a corrective action plan (CAP) and provides for a voluntary submission by the owner or operator.
- Subsection (D) provides the circumstances under which the Department will request a corrective action plan (CAP).
- Subsection (E) provides for determining the remedial response. A.R.S. § 49-1005(D) and (E) are referenced as the basic standards.

- Subsection (F) relates to the requirements for handling derived waste, which includes petroleum contaminated soils (PCS) under the statutes and rules on solid waste.
- Subsection (G) describes the requirement to submit periodic site status reports which are intended to keep the Department reasonably current on the progress being made by the owner or operator.

R18-12-263.01. Risk Based Corrective Action Standards

This Section deals with determining the corrective action standard to be used to remediate the contamination documented to have emanated from the UST site. The Section meets the requirements for rules on "risk based corrective action alternatives" required under A.R.S. § 49-1005(F).

- Subsection (A) establishes how the risk based corrective action standard (the concentration of each chemical of concern in each contaminated medium, often called the cleanup level) is determined. The Section provides citations for Tier 1 corrective action standards for chemicals that currently have a numeric standard in an existing rule and for the determination of Tier 1 corrective action standards for chemicals which do not currently have a numeric standard in an existing rule. The Section also provides for the determination of Tier 2 corrective action standards, which is accomplished by using the same equations/models as used for the calculation of the existing numeric standards. The existing numeric standards have been through the rulemaking and public review process, hence, the equations/models used to establish these existing "enforceable" numeric standards have also passed the rulemaking and public review process. Therefore, the UST rule adopted these "acceptable" equations/models by cross-referencing and requires the use of these equations in combination with the most recent, updated scientifically peer-reviewed input values. Because the latter condition did not proceed through a rulemaking process, the Department may only "recommend" these Tier 1 standards for chemicals which have no existing numeric standard in rule. At the Tier 1 stage, the Department conducts this work for the owners and operators, and provides these Tier 1 standards as "recommended" standards which can be easily accessed from the Tier 1 Lookup Table in the guidance document to the rule. At the Tier 2 stage for determining the corrective action standard, the Department must approve the values and results obtained which are provided to the Department by the owner or operator. For the Tier 3 corrective action standards, because any scientific peer-reviewed equations/models may be selected for use by the owner or operator in the determination of the Tier 3 standards, the Department must approve both the model and the model input.
- Subsection (B) provides for documenting the corrective action standard selected and the methodology used to determine that standard. As with the LUST site classification, the tier evaluation is an integral part of the RBCA process and with the flexibility inherent in that process, an in-depth involvement of the owner and operator in the respective determinations is necessary for its success.
- Subsection (C) describes when the tier evaluation shall be submitted to the Department. Depending upon the specific tier evaluation, the tier evaluation must be submitted with one of the required reports or in certain circumstances as a stand-alone submittal.

R18-12-263.02. Corrective Action Plan (CAP)

This Section provides for the corrective action plan (CAP) required for this rule to be consistent with the federal program. The corrective action plan and related public notice is at 40 CFR 280, sections 280.66 and 280.67. The CAP is used for planning, implementing and monitoring the types of remediations and as a vehicle for providing public notice when an alternative water quality standard is an intended corrective action standard. The actual standard is determined under the tier approach of R18-12-263.01 and, as the CAP is flexible when it comes to types of remedial activities to be included and a risk based determination of a corrective action standard is a form of remediation, it is only logical that the CAP be used to provide public notice of intent to use this alternative.

- Subsection (A) establishes that the CAP must be protective of public health and the environment through considering the nature of the chemical(s) of concern, the site specific hydrology and geology, and groundwater uses, all related to risk based factors of complete pathways and receptors.
- Subsection (B) describes the required CAP contents.
- Subsection (C) provides for modifications to be made to the CAP by the owner or operator if the plan fails to meet Section requirements for protectiveness. Failure to make the modifications may result in denial of the CAP.
- Subsections (D) and (E) concern the preliminary (before public notice) CAP approval and, in conformity with the federal program, allow implementation before final approval, subject to certain conditions.
- Subsection (F) provides the opportunity for the owner or operator to revise the CAP, if necessary, after public comment is made.
- Subsections (G) and (H) concern the final approval or denial of the CAP and the notifications associated with final approval or denial.
- Subsections (I) and (J) provide for timely and scheduled implementation of the approved CAP and for terminating the CAP, after implementation, if it is failing to meet the plan objective.

- Subsection (K) provides for the ability of the Department to allow an approved CAP to be revised under certain circumstances, and subsection (L) specifies the condition under which a new CAP will be requested.

R18-12-263.03. LUST Case Closure

This Section establishes the conditions that must be met before the Department will close a LUST site.

- Subsection (A) provides that there must be a request for closure and that the request can be made only after the site has been investigated and any remedial responses to contamination have been completed.
- Subsections (B) and (C) provide the standards for verifying that the corrective action standard for each chemical of concern in each contaminated medium is met and that the monitoring plan for water will yield valid results.
- Subsection (D) provides for the content of the corrective action completion report, and subsection (E) describes the conditions required to obtain LUST case closure.
- Subsection (F) provides for the standards for confirming to the owner or operator that the site meets all requirements for closure, that the request for LUST site closure is accepted by the Department, and the site is being closed.
- Subsection (G) provides that if the Department is informed that the foreseeable or most beneficial use of water has changed since a Tier 2 or Tier 3 evaluation determined an alternative water quality standard, the Department shall reopen the LUST case file and require the owner or operator to perform additional evaluation and, possibly, remediation to attain the same level of protection established under the circumstances existing when the LUST case was closed.
- Subsection (H) provides that if previously undocumented contamination is discovered, the Department shall reopen the LUST case file and require the owner or operator to perform additional required corrective action.

R18-12-264. General Reporting Requirements

This Section provides uniform requirements for written reports submitted to the Department. The objective is for the Department to be able to more efficiently handle submitted written material, ensure that reports contain valid information on the activities that are a subject of the report, and provide for Department acceptance of certain reports without review.

- Subsection (A) provides for a standard first page for any written report submitted under the rule.
- Subsection (B) requires the signature and seal of a registered professional, if required by the statutes and rules governing the Arizona Board of Technical Registrations (BTR).
- Subsection (C) permits the owner or operator to request that a site characterization report or request for LUST site closure be accepted by the Department without review.
- Subsection (D) provides that the Department acknowledge to the owner or operator if a document submitted under subsection (C) is accepted without review.

R18-12-264.01 Public Participation

Under A.R.S. § 49-1005(E), public notice must be part of the Department's rules implementing the alternative water quality standards and be consistent with the Federal regulations; the process of approving CAPs submitted to the Department must include public notice.

- Subsections (A) through (C) concern the public notification, the ways in which notice will be provided, the contents of the notice, and the activities associated with requesting a public meeting and announcing that meeting.

R18-12-280. Sampling Requirements

This Section was added to A.A.C. Title 18, Chapter 12, Article 2 with the 1996 rulemaking on the preventive areas of the UST program. At that time, the only applicable provisions were for site assessments during temporary or permanent closure as provided in R18-12-270 through R18-12-272. With the addition of the release reporting and corrective action provisions of this rule, and to clarify the performance standard for determining payable amounts under the SAF, the Section is expanded to broaden its application to all sampling required under the entire Chapter, instead of specified sections of Article 2.

- Subsection (A)(1) is revised to eliminate requirements covered in Department of Health Services rules relating to environmental laboratory licensure as respects extraction time for volatile chemicals of concern/regulated substances.
- Subsection (E) is added to provide needed clarification on sampling requirements for surface water.

7. A reference to any study that the agency relied on in its evaluation of or justification for the rule and where the public may obtain or review the study, all data underlying each study, any analysis of the study and other supporting material:

- American Society of Testing and Materials. "Risk-Based Decision Making (RBDM) Performance Assessment Study Bulletin #2." March 2000.

- American Society of Testing and Materials. "Standard E 1739." 1995.
- Peterson Consulting. "Underground Storage Tank Assurance Fund Actuarial Study as of October 18, 2001." October 18, 2001.
- Herman, Steven A. and Elliott Laws (of USEPA), Memo to RCRA/CERCLA National Policy Managers with the subject, "Coordination between RCRA Corrective Action and Closure and CERCLA Site Activities." September 24, 1996.
- United States Environmental Protection Agency. "Land Disposal Restrictions Phase IV: Final Rule Promulgating Treatment Standards for Metal Wastes and Mineral Processing Wastes; Mineral Processing Secondary Materials and Bevill Exclusion Issues; Treatment Standards for Hazardous Soils, and Exclusion of Recycled Wood Preserving Wastewaters." 63 FR 28556-28753, May 26, 1998.
- United States Environmental Protection Agency. "OSWER Directive 9610.17: Use of Risk-Based Decision-Making in UST Corrective Action Programs." March 1, 1995.

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. Summary of the economic, small business, and consumer impact statement (EIS):

A. Identification of Rule

Title 18, Chapter 12, Articles 1 and 2. Article 1 contains applicability provisions and definitions. Article 2 contains technical requirements.

B. Overview

This rule is known as the Underground Storage Tank (UST) Release Reporting and Corrective Action Rule. In the proposed rulemaking, the Department requested examples of cost-saving benefits from UST owners and operators and other interested parties. No such information was provided during the public comment period. Costs that could not be monetized are qualitatively characterized as "minimal," "moderate," or "substantial."

Federal and state law requires owners and operators of USTs to investigate and report suspected and confirmed UST releases. The Department requires owners and operators of leaking underground storage tanks (LUSTs) to conduct an investigation to determine the extent of contamination, submit a site characterization report, and take corrective action steps.

Requirements for owners and operators for both reporting and investigating suspected releases and corrective action for confirmed releases are conducted under the provisions of A.R.S. §§ 49-1004 and 49-1005. These sections of the statute require reporting and corrective action to be conducted in accordance with requirements of the federal UST program. Activities required under this rule predominantly are a codification of the UST program's existing procedures, regarded as the current baseline.

Although this rule reflects the current procedures under federal regulations and provisions of Arizona statutes, it provides clarification and additional details on the remediation process. Additionally, the rule will establish a risk-based cleanup approach for LUSTs. The predicted result will be substantial savings to owners and operators of LUSTs.

The risk-based strategy uses a tiered approach for evaluating the degree of risk to human health and the environment. For example, from Tier 1 to Tier 3, the level of site-specific information increases. The tiered approach should minimize the expenditure of time, resources, and money on investigation and remediation activities that are unnecessary. This approach is expected to achieve acceptable cleanup goals and minimize unreasonable and unnecessary practices. Refer to part C, "Risk Based Corrective Action (RBCA)," below.

The Department estimates that annual savings on remediation costs could be more than $3.3 million. Anticipated savings to owners and operators of LUSTs is a direct result of the tiered approach that allows cleanup standards to be less conservative than current standards. Refer to part D, "Economic Impacts," below.

Additionally, the Department expects benefits to accrue to the UST program as a result of increased efficiency and clearer rule requirements. For example, the Department expects average LUST closure times for soil only sites to be reduced by almost 50 percent from the current time-frame. The Department anticipates a potential increase of 40 percent in processing efficiency due to clearer rule provisions and guidance.

Finally, the Department expects that the public will benefit as a result of achieving faster cleanups, reducing the backlog of contaminated sites, and returning land to productive use more quickly, while maintaining site-specific cleanup levels that are protective of human health and the environment.

C. Risk Based Corrective Action (RBCA)

Certain statutory provisions can be implemented only through rules, such as allowing the use of corrective action standards for contaminated water that are above the concentrations provided in the water quality standards. The companion piece is the implementation of risk-based corrective action (RBCA). RBCA is a process for investigating and responding to a release of a regulated substance from a regulated UST. This process, which is based in part on a stan-

dard developed by the American Society for Testing and Materials, is applied to numerous state programs for leaking underground storage tanks. It is used to define site-specific cleanup levels that are protective of human health and the environment.

Specific steps for RBCA include the following:

1. Reporting requirements,
2. Initial site classification and response,
3. Full site characterization and assessing the extent of contamination in all impacted or potentially impacted media,
4. Developing risk-based corrective action goals,
5. Implementing the chosen risk-based corrective action, and
6. Site closure.

The Department expects the determination of cleanup standards by a tiered approach to provide cost-savings benefits to owners and operators. An owner or operator may be able to clean up a site to a corrective action standard determined under a Tier 2 evaluation, based on site-specific data, that would cost less than cleaning up to a Tier 1 standard and still demonstrate that risks are reasonable, such that the population will not be exposed to increased risks by allowing less conservative cleanup standards.[1] Currently, an owner or operator would be required to remediate a site to standards above those that would be required if the standards were related to current or potential use.[2] Thus, this rule, based on Risk-Based Decision Making ("RBDM") using the tiered approach should provide increased flexibility and cost savings to LUST owners and operators.

[1 Predetermined soil and water quality standards are used for the corrective action standards under Tier 1 evaluations. Exceedences of the standard after cleanup can occur if certain criteria are met and demonstrated through Tier 2 and Tier 3 evaluations, based on site-specific data.]

[2 For example, groundwater may be contaminated, but cleanup to a less conservative standard than Tier 1 would be feasible under this rule if the groundwater would not be used for drinking water, or not used at all.]

In "Risk-Based Decision Making (RBDM) Performance Assessment Study Bulletin #2," March 2000, ASTM concludes the following about the benefits of the RBCA process:

"In the majority of pilot states (Illinois, Iowa, North Carolina, Utah, and Texas), implementation of an RBDM program resulted in an immediate increase in site closures and a stabilization or decrease in case backlog. The reduction in case backlog represents a decreased administrative burden for the corrective action program. Average age at closure generally increased which, combined with the increase in case closures, indicates that many older sites are being closed using RBDM. Evaluation of site risk classifications in the backlog population indicates that the RBDM programs are effectively targeting low-risk sites for closure while retaining higher-risk for further action. Additional study is needed to determine the impact of RBDM on the remediation and closure of these higher-risk sites."

D. Economic Impacts

The Department ascertains that the changes this rule makes to the UST release reporting and corrective action program will have minimal adverse economic impact on certain businesses in Arizona, and that, taken as a whole, the benefits to businesses will offset the minimal costs to these relatively few businesses. The Department anticipates cost-saving benefits to accrue to owners and operators of LUSTs. Relative to procedures previously followed for investigating and remediating LUST sites, the RBCA process provides cost-savings benefits through the following: eliminating work previously required, streamlining the process for achieving site closure, maximizing resource utilization, and providing alternatives for choosing among cleanup options which best meet the financial, future land use and time requirements for owners and operators while protecting human health and the environment.

Potential owners and operators impacted by this rule include the current 2,407 open LUST cases. Approximately one-half of these cases are classified as open groundwater sites. New LUST cases are being reported at a rate of about five per month, or 60 cases annually.[3] Owners and operators of sites already in the process of cleanup will not need to comply until the next phase in the process is reached.

[3 The actual number of owners and operators impacted may be fewer because more than a single LUST case can exist at a single facility and more than one facility may be owned or operated by the same entity.]

Other persons potentially impacted include: the corrective action service providers (consultants, certified remediation specialists, contractors, and others); the Department as implementing agency; and the general public. Political subdivisions owning and operating LUSTs are included in the total number of LUST cases given above. The Department expects them to be impacted in a positive manner, like other owners and operators.

Benefits should result from the risk-based approach to cleanup. For example, owners and operators could expect substantial savings from the ability to clean up water to standards not as conservative as adopted water quality standards in the state and still maintain standards protective of public health and the environment. Decisions about cleanup standards are facilitated by corrective action service providers performing tier evaluations.

According to UST program data, there are 60 new LUSTs occurring per year. Of these LUSTs, 80 percent (48 sites) and 20 percent (12 sites) are characterized as soil and groundwater contamination, respectively. Under this rule, about 75 percent should be eligible for Tier 2 or Tier 3 cleanup and reduced remediation costs referred to as cost-savings benefits to owners and operators of LUSTs.[4]

[[4] The cost benefit calculated represents the difference between the current average remediation cost of $100,000 for soil-contaminated sites and $500,000 for groundwater-contaminated sites, and the estimated cost of Tier 2 and Tier 3 reduced remediation costs under this new rule.]

Of the 48 soil-contaminated sites, the Department anticipates five sites would have Tier 1 average-remediation costs of $100,000 per site, representing no cost savings.[5] Of the other 43 sites, potentially nine sites would have Tier 2 remediation costs of $95,000 per site, representing a cost savings of $5,000 per site, and the remaining 34 sites experiencing the greatest cost savings with no remediation necessary, representing a cost savings of $95,000 per site. These reduced remediation costs for new soil only LUSTs translate into cost-savings benefits of $45,000 and $3,230,000, or a total of $3,275,000.

Similarly, of the 12 groundwater-contaminated sites, the Department anticipates 80 percent (10 sites) would have Tier 1 average remediation costs of $500,000 per site, representing no cost savings, while the remaining two sites would have Tier 2 or Tier 3 remediation costs of $475,000 per site, representing a cost savings of $25,000 per site.[5] Combining the potential cost savings for remediating new soil and new groundwater LUSTs, generates a total cost savings of $3,325,000 annually.

[[5] Based upon Department records of the number of sites requiring remediation for soil and groundwater, average remediation cost by type of media, and experience in tiered RBCA outcomes for corrective actions.]

Decreased remediation costs for some owners and operators, coupled with a more efficient remediation process, will likely result in less monies flowing out from UST owners and operators to corrective action service providers. As a result, corrective action service providers are likely to experience decreased revenues from LUST remediation. This could lead to increased competition, layoffs, and higher per hour remediation costs charged by the various service providers. Taken cumulatively across the service provider industry, the Department expects these costs will be minimal, since many service providers include other types of cleanups and cleanups in other states among their projects.

However, the occurrence of methyl tertiary-butyl ether (MTBE) may increase the cost of performing corrective actions at LUST sites that involve MTBE. Typically, MTBE does not degrade at rates similar to those of other constituents of petroleum fuels, such as benzene and toluene. Because MTBE is a fuel additive and a regulated substance, when it is released into the environment from a regulated UST system, it must be assessed for its impacts. The costs of assessing impacts from MTBE contamination in environmental media are nearly identical to the costs for assessing any other chemical from a release at a UST site. The only exception would be the costs associated with a delay in obtaining off-site access to install a downgradient, and possibly a cross-gradient, monitor well for sampling groundwater. Remediation is the phase at which the costs for addressing MTBE exceed those of other chemicals. The additional incremental costs for remediating MTBE may range from $5,000 to $100,000 per site as an estimate. This estimate is based on variability of how and when the aquifer will be used, the level of MTBE present, and the assumption that a risk-based approach will be fully utilized.

ADEQ acknowledges that implementing anything new, in this case the risk-based corrective action process, has a "learning curve". Some aspects of the rule utilize this risk-based corrective action (RBCA) approach. This learning curve, however, is new only to Arizona and only with respect to groundwater. The RBCA process began taking root in other state programs with the help of the Environmental Protection Agency (EPA), the American Society of Testing and Materials (the publisher of the standard on the RBCA framework), and the American Petroleum Industry (API) in 1994. Service providers have been aware of RBCA for nearly six years. Those providers with interstate customer bases have most likely been using the RBCA process. As a result, the Department believes that the costs to providers to learn the new process will be minimal.

The Department expects this rule to increase efficiency. Streamlining the requirements and process (such as using uniform submittal forms and procedures) will reduce the Department's review time and enable it to respond quicker and more efficiently. Again, the outcome will be cost-saving benefits to both the regulated community and the Department. For example, the Department anticipates a potential increase of 40 percent in processing efficiency due to clearer rule provisions and guidance, as well as reporting forms. In addition, the Department anticipates closure times for LUST to be substantially less, decreasing from an average 5.5 years to 3 years, representing a 45 percent decline in the average time it will take to investigate, remediate, and close a LUST site.

The Department is committed to reducing overall risk to public health, welfare and the environment, by addressing both high and low risk sites more effectively. While the Department expects faster closure for the low risk sites, based on the ASTM study, it does not follow that higher risk sites will be delayed. On the contrary, the faster closure of the low risk sites represents an increased efficiency that will translate into resources being more effectively focused on high-risk sites, as well. As the backlog improves, more staff time will be available to address high risk sites.

The Department expects an overall cost savings because of the anticipated increased efficiency. As a result, current program staff should be able to handle the increased workload of performing tier evaluations without additional staff-

ing at this time. In addition, these rule changes may decrease enforcement costs for the Department. The Department expects this will provide a substantial cost benefit to the Department.

Except for the likely impact in the form of reduced revenues to service providers, this rule is not expected to have a direct impact on either private or public employment. In general, the Department does not expect this rule to impact long-run employment, production, or output. Finally, it is not expected to have a negative impact on state revenues.

The savings to owners and operators, due to RBCA, is expected to directly impact the State Assurance Fund (SAF). This is funded by the 1% UST excise tax paid by taxpayers purchasing gasoline. By making cleanups more cost effective and spending less per average cleanup, the effectiveness of SAF is improved. The intent is that fewer dollars (potentially in the millions) paid by taxpayers will be spent on cleanup levels that would not represent economic efficiency or be beneficial to the general public. See "Underground Storage Tank Assurance Fund Actuarial Study as of October 18, 2001," a study by Peterson Consulting, for more information on the impact of RBCA on the SAF.

These rules are not expected to impose net costs on owners or operators of LUSTs, small businesses, political subdivisions, or the public at large in Arizona. The public is expected to benefit indirectly from a more efficient UST program. The Department expects these changes to maintain protection for public health and the environment.

The long-term costs of doing less cleanup may include additional steps in future land transactions and opportunity costs of limiting site use to conform to the assumptions used to determine site-specific cleanup levels. Land owners have the option of using site-specifically determined RBCA levels, or more conservative Tier 1 levels from pre-existing rules, or of cleaning to a non-detect level. This rule sets out a process and does not impose a requirement that the most cost-effective cleanup level be used. The decision regarding the cost effectiveness of this tool is left to the land owner, as a business decision. It is the land owner's responsibility to make decisions that minimize long-term, as well as immediate costs. The consequences of making a less cost effective decision are borne by the land owner. The Department expects that land owner's decisions will result in a minimal long-term cost. However, land owners should be mindful that long-term impacts of residual contamination at a site have the least financial considerations when remediated to levels which are consistent with site usage. Additional costs may be incurred when an existing owner or potential future owner wishes to use the site for purposes contrary to the terms of the Declaration of Environmental Use Restriction (DEUR) filed with the deed of the property. By doing so, costs will be incurred for assessing the new appropriate cleanup levels for the changed site usage, and for determining the current levels of residual contaminants at the time of change of site usage. This is necessary due to changes (decreases) in contaminant levels over time. Only when site levels exceed the new cleanup levels will costs for remediation become necessary for the intended new site usage. These steps are also needed when new site-specific information becomes available to the Department after site closure, indicating a potential threat to human health or the environment which was previously not present.

The process of re-opening closed LUST releases has remained the same since the start of the Arizona UST Program. Subsection R18-12-263.03(H) allows ADEQ to reopen closed LUST sites. If information is submitted to ADEQ indicating that contamination is emanating from the closed LUST site and poses a potential threat to the public or environment, then ADEQ may require that the UST owner/operator perform additional corrective actions. This determination is based solely on site-specific conditions.

The overall conclusion is that probable benefits of this rule will outweigh probable costs. As stated, this conclusion is principally due to the potential cost-savings benefits to owners and operators of LUSTs that will be eligible to remediate to less conservative standards. In many cases, the costs and benefits could not be monetized. Qualitatively speaking, the Department believes the benefits to be substantial and the costs to be minimal.

E. Rule Impact Reduction on Small Businesses

State law requires agencies to reduce the impact of a rule on small businesses by using certain methods when they are legal and feasible in meeting the statutory objectives for the rule. The Department considered each of the methods prescribed in A.R.S. §§ 41-1035 and 41-1055(B)(5)(c) for reducing the impact on small businesses. Methods that may be used include the following: (1) exempting them from any or all rule requirements, (2) establishing performance standards which would replace any design or operational standards, or (3) instituting reduced compliance or reporting requirements. An agency may accomplish the 3rd method by doing the following: (1) establishing less conservative requirements, (2) consolidating or simplifying them, or (3) setting less stringent schedules or deadlines.

The Department cannot exempt a small business, or even establish a less stringent standard or schedule for it, or any business as a matter of fact, from compliance or reporting requirements. Any reductions in impacts have been built-in by federal law. However, the entire process of release reporting and corrective action has been simplified and made more efficient; hence, this ultimately will provide a reduction in adverse economic impacts to small businesses.

The Department concludes that this rule contains the least costly and less intrusive provisions for achieving the goals and objectives of the UST program.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

Based on discussions with staff of the Governor's Regulatory Review Council (G.R.R.C.) the Department did make various grammatical changes and the following non-substantive changes:

- In R18-12-101, the definition of "surface water" was revised to delete the reference to "waters of the state" found at A.R.S. § 49-201, since that definition includes aquifers and other subsurface waters.
- In R18-12-260(A)(2), the word "navigable waters" was replaced with "surface water". The reason for doing this is to simplify and make consistent with the federal regulations the role of investigating and remediating waters which are not subsurface for impacts from a release. Because the federal definition of navigable waters is not substantively different from the state definition of surface water, the appropriate changes in rule will be made. In R18-12-263.01(A)(1), the following revisions, including additional citations, were added to clarify the basis of the Tier 1 corrective action standards (using as base text the rule as proposed without redlining):

"f. For surface water, use the applicable corrective action standard in ~~R18-11-109 and R18-11-112~~ R18-11-112 or Appendix A (18 A.A.C. 11, Article 1);

g. For groundwater, use the applicable corrective action standard in R18-11-406;

h. For contaminated groundwater that is demonstrated to discharge or potentially discharge to surface water, use the applicable corrective action standard in ~~R18-11-108, R18-11-109, and R18-11-112~~ R18-11-108, R18-11-112, or Appendix A (18 A.A.C. 11, Article 1);

i. If a receptor is or has the potential to be impacted, for those chemicals of concern in soil or surface water with no numeric standard established in rule or statute, use a corrective action standard consistent with R18-7-206 or R18-11-108, as applicable, using updated, peer-reviewed scientific data applying those equations and methodologies used to formulate the numeric standards established in ~~rule or statute~~ R18-7-203(A)(2) or Appendix A (18 A.A.C. 11, Article 1), or for leachability and protection of the environment, a concentration determined on the basis of methods approved by the Department; and

j. If a public or private water supply well is or has the potential to be impacted, for those chemicals of concern in groundwater with no numeric water quality standard established in rule or statute, use a corrective action standard consistent with R18-11-405, using updated, peer-reviewed scientific data ~~and methodologies~~ applying those equations and methodologies used to formulate the numeric standards established in R18-11-406."

In R18-12-263.03(H), the following revision was made to clarify when the Department may reopen a closed LUST case file:

"If evidence of previously undocumented contamination is discovered at or emanating from the LUST site, the Department may reopen the LUST case file based on an assessment of site specific information and require an owner or operator..."

11. A summary of the principal comments and the agency responses to them:

Both written and oral comments were received during the public comment period from March 29, 2002 through April 30, 2002. Below is a listing of the comments, an analysis of the comments, and the Department's response to the comments.

The following section summarizes the written comments received during the public comment period from March 29, 2002 through April 30, 2002 from the following entities, and ADEQ's responses to the comments:

Arizona Petroleum Marketers Association (APMA)

Tierra Dynamic Co. (TDC)

The following are the generalized public comments:

1. The rule and draft guidance does not set forth a process for how MTBE will be regulated. The current MTBE policy should be included in the rules or guidance. [APMA 1]

   ANALYSIS: MTBE is a regulated chemical for which remediation levels in soil have been established under A.A.C. Title 18, Chapter 7, Article 2. The process for investigating and determining the corrective action standard for MTBE in soil is the same as for all other chemicals in soil which are listed in Appendix A to the cited Article of A.A.C. The entirety of the rule is devoted to this process. Therefore, no changes will be made to the rule or guidance to specifically address MTBE in soil.

   However, MTBE does not have an established numeric AWQS under R18-11-406 for groundwater. In order to determine the corrective action standard for **any** chemical which does not have a numeric AWQS, including MTBE, the proposed rule clearly states that the procedures in R18-12-263.01 shall be followed. Specifically, when a public or private well is or has the potential to be impacted, a Tier 1 corrective action standard should be determined using updated, peer-reviewed scientific data and methodologies **and** should be consistent with the requirements of R18-11-405. Once this standard is determined, this subsection of the rule specifies the series of actions to be completed for **all** chemicals of concern to determine whether concentrations at the site are in compliance, or whether further work is required.

   The investigation procedures for **all** chemicals of concern are the same, and are prescribed in subsection R18-12-262. As it is impractical for the rule to specify the numeric value for each chemical of concern in each contaminated media to which investigation must be completed (R18-12-262(C)), the guidance document clearly states in Section 4 that groundwater (as with soil) is defined to the outermost edges of the contaminant plume where the

concentration is less than or equal to the most stringent of the potentially applicable corrective action standards. These standards are listed in Table 6.1.2.a and discussed in section 6 of the guidance document.

Therefore, as the rule already addresses this comment as discussed above, no revision will be made. However, in order to accommodate this comment to the rule, the guidance document is revised to include text specifically devoted to MTBE.

RESPONSE: No change

2. Concern is expressed that the ADEQ does not have sufficient staff resources to implement the risk-based approach of the rule. Although this is acknowledged as unrelated to the rule itself, it is perceived as an impediment to efficiency and therefore related to rulemaking. [APMA 3]

   ANALYSIS: ADEQ concurs that implementing anything new, in this case the risk-based corrective action process, has a "learning curve". Some aspects of the rule, as discussed in the preamble, utilize this risk-based corrective action (RBCA) approach. This learning curve, however, is new only to Arizona, and only with respect to groundwater. The RBCA process began taking root in other state programs with the help of the EPA, the ASTM, and the API in 1994.

   The UST Program has been preparing to implement this RBCA program for nearly six years. An implementation plan was submitted to the UST Policy Commission two years ago. The only remaining elements which have not been completed are as follows: promulgating this rule, ratifying the completed guidance document, executing a contract for Tier 2 RBCA software, and internal/external training. All of the steps in Arizona RBCA implementation have been conducted and will continue to be conducted by ADEQ's risk assessment specialist with the assistance of EPA Region IX and ASTM. ADEQ has two experienced risk assessment staff who will provide oversight of the RBCA process and assistance to case managers. As the guidance document and training will be provided prior to the submittal of any requests for LUST case review and closure under the rule, ADEQ has not identified and does not anticipate a lack of staff resources. A majority of these sites will occur with Tier 2 RBCA evaluations, and the Tier 2 software simplifies this effort. Therefore, the ADEQ does not see any benefit in revising the rule to address an administrative concern which has been prepared for and has not occurred.

   RESPONSE: No change

3. There is concern that the required reports will need to contain each and every detail required by the rules if it is to be accepted by ADEQ. ADEQ needs to be flexible with requesting the reports and information required by the rule. [APMA 4, TDC 5B,C,D]

   ANALYSIS: The public comment stated that "various new and never previously required reports and forms are called for by the Rules, such as those found in R18-12-261.01 (site classification), and R18-12-261(C) through (D) (initial site characterization report). The following is a list of the reports required by the rule and whether they are new reports or are currently being submitted to ADEQ:

Suspected release 14-day report:	currently required.
Suspected release 90-day report:	**new**, although currently, this information is usually submitted.
Release 14-day report:	currently required.
Initial site characterization report:	required by federal regulations.
LUST classification:	**new**.
Free product removal report:	currently required if free product is discovered.
Site characterization report:	currently required.
Tier evaluations (1, 2, & 3):	**new, although Tier 2 & 3 are optional**; currently risk assessments are required by the Soil Rule if alternative soil standards are determined.
Corrective action plan:	currently required for some sites.
Periodic site status report:	currently being submitted.
LUST case closure report:	currently being submitted.

   During the development of this rule which included significant input by UST stakeholders, the information required by the different reports was purposely restricted to information that is applicable to all LUST sites. The majority of this information is already being submitted by the majority of consultants. ADEQ understands that some required report information may not be known and feels that the rule language complies with A.R.S. § 49-1004(C) which states that for the 14 day report required for releases or suspected releases "The written report shall specify to the extent known at the time of the report...".

   Likewise, in subsection R18-12-261(D) [initial site characterization report] and R18-12-261.01(A) [LUST site classification], the rule only requires information that is known at the time to be submitted within the report. In addition, rule language was added in subsections R18-12-262(E) [site characterization report approval], R18-12-263.02(G) [corrective action plan (CAP) approval] and R18-12-263.03(E) [LUST case closure approval] which

states that ADEQ shall approve the report if it contains the information required by the rule "or ADEQ has enough information to make an informed decision to approve the report." In an effort to reduce the reporting burden on the regulated community, the ADEQ has created forms (1-2 pages) and formats to assist the regulated community in submitting information in a concise and consistent manner, which is anticipated to lower the cost of submitting reports to ADEQ and will also allow ADEQ to review the reports more efficiently. The specific information required to be submitted in the different reports, and the rule language which gives ADEQ approval flexibility if all of the information is not submitted, was reviewed and unanimously approved by the UST Policy Commission.

RESPONSE: No change

4. The UST Policy Commission approved the rules contingent upon the guidance being completed prior to the rules being completed. Some portions of the guidance are incomplete. Therefore, the rules are incomplete. [APMA 5A]

   ANALYSIS: The rules are a stand alone deliverable. They are complete without guidance being issued by the agency. In fact, the agency is not required by law to provide guidance documents. However, the UST Program complied with stakeholder wishes to provide a guidance document so that stakeholders could receive a clearer understanding of the agency's intent, interpretation and implementation of the rule. Please refer to the transcript of the UST Policy Commission meeting at which ADEQ stated that the guidance document would be complete and be available at the time that rules become effective. Only after the rules were unanimously voted as acceptable for rule promulgation by the Policy Commission did stakeholders request that the guidance be produced prior to rule review by G.R.R.C. ADEQ has finished the guidance document well in advance of this deadline. The purpose of the guidance document is to provide a road map to assist the regulated community in achieving LUST site closure. However, ADEQ cannot publish a guidance document which achieves complete consensus of nearly 5000 stakeholders on "all aspects". These remaining "aspects" referred to in the comment are outstanding issues among only a few stakeholders.

   ADEQ has committed to continue developing specific guidance through committees or task groups after the rule has become effective and training completed. Additionally, some of these "aspects" do not relate to the UST Release Reporting and Corrective Action Rule, but rather the rule for the State Assurance Fund (SAF). Therefore, no revisions can be made to this rule to address administrative and management issues, or to address the SAF rule.

5. The preamble does not sufficiently address how the rule will result in cost-savings benefits to UST owners and operators, will increase certainty about recoverable monies from SAF, will decrease backlog of case processing, and will increase efficiency in present staffing. A greater workload is assumed to result from tier evaluations described by rule. [APMA 5E]

   ANALYSIS: The agency does not see a need to change rule content to address comments on the preamble. Therefore, no change to the rule will be made. The summary of the economic, small business, and consumer impact statement (EIS), in item 6 has been revised to include more explanation. To address the comment, however, the preamble clearly describes how the RBCA process eliminates unnecessary work on the behalf of owners and operators which previously has been the underlying theme to corrective actions. Please refer to the appropriate section in the preamble. Therefore, if the process is more streamlined, requires less money and time to get to closure, and requires no additional work, then it is clear that there is a cost-savings relative to prior procedures. Consequently, these cost-savings would be realized across the board if implemented appropriately for owners/operators, the agency, and the SAF. Additional staff requirements beyond that currently employed are not needed for implementing the RBCA process, which will not create a greater work load than is currently incurred by not having a RBCA process. Please refer to the actuarial study conducted by Peterson Consulting, dated October 18, 2001 for further details regarding the impact of rules and RBCA on the SAF monies.

   RESPONSE: No change

6. The release reporting and corrective action rules must have a provision that allows A.R.S. § 49-1016(C) volunteers to notify the ADEQ that they are no longer UST corrective action volunteers pursuant to A.R.S. § 49-1016(C). [TDC 1]

   ANALYSIS: In accordance with A.R.S. § 49-1016(C), "If the person voluntarily undertakes corrective action, [the person shall] take corrective action in a manner consistent with federal regulations and rules adopted by the director pursuant to § 49-1005." Since there is no statutory authority requiring "volunteers" to perform corrective actions, no rule language is needed to allow a "volunteer" to stop performing corrective actions.

   RESPONSE: No change

7. R18-12-251. Suspected Release: Subsection (D) must be modified so as to include provisions explicitly stating the process and criterion governing the ADEQ's determination of individual UST releases, as well as the process and criterion governing the assignment of individual LUST release numbers. [APMA 2, TDC 2]

   ANALYSIS: The rule in R18-12-251(C)(2) already provides a description of how UST releases are identified: "An owner or operator shall consider the nature of the regulated substance, the type of initial alarm or cause for

suspicion, the type of backfill, the depth to groundwater, and conditions of the regulated substance and the site for identifying the presence and source of the release.". The owner/operator is also required by A.R.S. § 49-1004 to report the release to ADEQ within 24 hours and provide a written report within 14 days that includes a description of the nature of the release. "Nature of the release" [R18-12-101] means "the known or estimated means by which the contents of the UST was dispersed from the UST system into the surrounding media, and the conditions of the UST system and media at the time of release."

From the information submitted to ADEQ from the owner/operator, ADEQ assigns a LUST number for the reported release for administrative purposes. After the UST Release Reporting and Corrective Action Guidance is finalized, ADEQ plans to revise the Departmental policies on documenting UST releases and determining multiple UST releases. The revised policies will be given to the UST Policy Commission for review and will incorporate the final policies in future revisions to the guidance document.

RESPONSE: No change

8. R18-12-262 and R18-12-263.02 must include time-frames for the Department's review and approval of site characterization reports and corrective action plans. [TDC 3,4]

   ANALYSIS: ADEQ's compliance with licensing time-frame (LTF) law, A.R.S. §§ 41-1072 through 41-1079, consists of showing LTF requirements, license category identification, and lengths of time-frames in one unitary rule that applies to all Department programs subject to LTF. That rule is found at 18 A.A.C. 1, Article 5, "Licensing Time-frames." A.A.C. R18-1-501 through R18-1-525. License categories administered by the various Department programs are shown on a series of 32 tables divided along program lines. That rule currently shows 476 license categories. License categories administered by the UST section are shown on Table 18 of that rule. Any licenses included within this corrective action rule and determined to be subject to LTF requirements will be identified and included in the next annual amendments to the LTF rule. The public will be able to review and comment on the identification of categories and the length of time-frames shown in that rule during that rulemaking process.

   RESPONSE: No change

9. R18-12-263.03. LUST Case Closure: Subsection (H) must be modified so as to include provisions for the process and criterion governing the ADEQ's re-opening of previously closed LUST releases, as well as the process and criterion governing the ADEQ's assignment of new LUST release numbers for re-opened LUST releases. [APMA 2, TDC 5]

   ANALYSIS: The process of re-opening closed LUST releases has remained the same since the start of the Arizona UST Program. Subsection R18-12-263.03(H) allows ADEQ to reopen closed LUST sites. If information is submitted to ADEQ indicating that contamination is emanating from the closed LUST site and poses a potential threat to the public or environment, then ADEQ may require that the UST owner/operator perform additional corrective actions. This determination is based solely on site-specific conditions.

   RESPONSE: No change

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

13. Incorporations by reference and their location in the rules:

Not applicable

14. Was this rule previously adopted as an emergency rule?

No

15. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 12. DEPARTMENT OF ENVIRONMENTAL QUALITY
UNDERGROUND STORAGE TANKS

ARTICLE 1. DEFINITIONS; APPLICABILITY

Section
R18-12-101. Definitions
R18-12-102. ~~Responsibilities of Owners and Operators~~ Applicability

ARTICLE 2. TECHNICAL REQUIREMENTS

Section
R18-12-250. ~~Reserved~~ Applicability and Scope

R18-12-251. ~~Reserved~~ Suspected Release
R18-12-260. ~~Reserved~~ Release Notification, and Reporting
R18-12-261. ~~Reserved~~ Initial Response, Abatement, and Site Characterization
R18-12-261.01. LUST Site Classification
R18-12-261.02. Free Product
R18-12-262. ~~Reserved~~ LUST Site Investigation
R18-12-263. ~~Reserved~~ Remedial Response
R18-12-263.01. Risk-based Corrective Action Standards
R18-12-263.02. Corrective Action Plan
R18-12-263.03. LUST Case Closure
R18-12-264. ~~Reserved~~ General Reporting Requirements
R18-12-264.01. Public Participation
R18-12-280. Sampling Requirements

ARTICLE 1. DEFINITIONS; APPLICABILITY

R18-12-101. Definitions

In addition to the definitions prescribed in A.R.S. §§ 49-1001 and 49-1001.01, the terms used in this Chapter have the following meanings:

~~1.~~ "Accidental release" means, with respect to Article 3 only, any ~~sudden or nonsudden~~ release of petroleum from an UST system that is neither expected nor intended by the UST system owner or operator, that results in a need for ~~1~~ one or more of the following:
  ~~a.~~ Corrective action,
  ~~b.~~ Compensation for bodily injury, or
  ~~c.~~ Compensation for property damage.

~~2.~~ "Ancillary equipment" means any device used to distribute, dispense, meter, monitor, or control the flow of regulated substances to and from an UST system.

~~3.~~ "Annual" means, with respect to R18-12-240 through R18-12-245 only, a calendar period of 12 consecutive months.

~~4.~~ "Applicant", for purposes of Article 7 only, means an owner or operator who applies for a grant from the UST grant account.

~~5.~~ "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity as a result of past transactions.

~~6.~~ "Aviation fuel", for the purpose of Article 4 only, has the ~~meaning ascribed to it in~~ definition at ~~A.R.S. § 28-101(4)~~ A.R.S. § 28-101.

~~7.~~ "Bodily injury" means injury to the body, sickness, or disease sustained by any person, including death resulting from any of these at any time.

"CAP" means corrective action plan.

~~8.~~ "Cathodic protection" means a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell.

~~9.~~ "Cathodic protection tester" means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such a person shall have education and experience in soil receptivity, stray current, structure-to-soil potential, and component electrical isolation measurements of buried metal piping and tank systems.

~~10.~~ "CERCLA" ~~has the meaning ascribed to it in~~ means the federal Comprehensive Environmental Response, Compensation, and Liability Act as defined in ~~A.R.S. § 49-201(4)~~ A.R.S. § 49-201.

~~11.~~ "CFR" means the Code of Federal Regulations, with standard references in this Chapter by Title and Part, so that "40 CFR 280" means Title 40 of the Code of Federal Regulations, Part 280.

~~12.~~ "Change-in-service" means changing the use of an UST system from the storage of a regulated substance to the storage of a non-regulated substance.

"Chemical of concern" means any regulated substance detected in contamination from the LUST site that is evaluated for potential impacts to public health and the environment.

~~13.~~ "Chief financial officer" means, with respect to local government owners and operators, the individual with the overall authority and responsibility for the collection, disbursement, and use of funds by the local government.

~~14. "Clast" means an individual constituent, grain, or fragment of a sediment or rock, produced by the mechanical weathering of a larger rock mass.~~

~~15.~~ "Clean Water Act" has the ~~meaning ascribed to it in~~ definition at ~~A.R.S. § 49-201(5)~~ A.R.S. § 49-201.

~~16.~~ "Compatible" means the ability of ~~2~~ two or more substances to maintain their respective physical and chemical properties upon contact with one another under conditions likely to be encountered in the UST during the operational life of the UST system.

"Conceptual site model" means a description of the complete current and potential exposure pathways, based on existing and reasonably anticipated future use.

~~17.~~ "Connected piping" means all underground piping including valves, elbows, joints, flanges, and flexible connectors that are attached to a tank system and through which regulated substances flow. For the purpose of determining how much piping is connected to an individual UST system, the piping that joins multiple tanks shall be divided equally between the tanks.

~~18.~~ "Consultant" means a person who performs environmental services in an advisory, investigative, or remedial capacity.

~~19. "Consumptive use" means, with respect to heating oil only, use on the premises.~~

~~20.~~ "Contamination" means the analytically determined existence of a regulated substance within environmental media outside the confines of an UST system, that originated from the UST system.

~~21.~~ "Contractor" means a person who is required to obtain and hold a valid license from the Arizona Registrar of Contractors which permits bidding and performance of removal, excavation, repair, or construction services associated with an UST system.

~~22.~~ "Controlling interest" means direct ownership of at least 50 percent of a firm, through voting stock, or otherwise.

~~23.~~ "Corrective action services" means any service that is provided ~~in order~~ to fulfill the statutory requirements of A.R.S. § 49-1005 and the rules ~~promulgated thereunder~~ made under § 49-1005.

"Corrective action standard" means the concentration of the chemical of concern in the medium of concern that is protective of public health and welfare and the environment based on either pre-established non-site-specific assumptions or site-specific data, including any applied environmental use restriction.

~~24.~~ "Corrosion expert" means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. The person shall be accredited or certified as being qualified by the National Association of Corrosion Engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.

~~25.~~ "Cost ceiling amount" as described in R18-12-605 means the maximum amount determined by the Department to be reasonable for a corrective action service.

~~26.~~ "Current assets" means assets which can be converted to cash within ~~1~~ one year and are available to finance current operations or to pay current liabilities.

~~27.~~ "Current liabilities" means those liabilities which are payable within ~~1~~ one year.

~~28.~~ "Decommissioning" means, with respect to Article 8 only, activities described in R18-12-271(C)(1) through R18-12-271(C)(4).

~~29.~~ "De minimis" means that quantity of regulated substance which is described by one of the following:

~~a.~~ When mixed with another regulated substance, is of such low concentration that the toxicity, detectability, or corrective action requirements of the mixture are the same as for the host substance.

~~b.~~ When mixed with a non-regulated substance, is of such low concentration that a release of the mixture does not pose a threat to public ~~human~~ health or the environment greater than that of the host substance.

~~30.~~ "Department" ~~has the meaning ascribed to it in A.R.S. § 49-101(1)~~ means the Arizona Department of Environmental Quality.

"Derived waste" means any excavated soil, soil cuttings, and other soil waste; fluids from well drilling, aquifer testing, well purging, sampling, and other fluid wastes; or disposable decontamination, sampling, or personal protection equipment generated as a result of release confirmation, LUST site investigation, or other corrective action activities.

~~31.~~ "Dielectric material" means a material that does not conduct electrical current and that is used to electrically isolate UST systems or UST system parts from surrounding soils or portions of UST systems from each other.

~~32.~~ "Diesel" means, with respect to Article 4 only, a liquid petroleum product that meets the specifications in American Society for Testing and Materials Standard D-975-94, "Standard Specification for Diesel Fuel Oils" amended April 15, 1994 (and no future amendments or editions), which is incorporated by reference and on file with the Department and the Office of the Secretary of State.

~~33.~~ "Director" ~~has that meaning ascribed to it in A.R.S. § 49-101(2)~~ means the Director of the Arizona Department of Environmental Quality.

~~34.~~ "Electrical equipment" means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

~~35.~~ "Eligible person" means, with respect to Article 6 only, a member of the class of persons regulated by A.R.S. Title 49, Chapter 6, and the rules promulgated ~~thereunder~~ under A.R.S. Title 49, Chapter 6, not otherwise excluded under A.R.S. § 49-1052, and including all of the following:

~~a.~~ Any owner, operator, or designated representative of an owner or operator.

~~b.~~ A political subdivision ~~pursuant to~~ under A.R.S. § 49-1052(H).

~~c.~~ A person described by A.R.S. § 49-1052(I).

~~36.~~ "Emergency power generator" means a power generator which is used only when the primary source of power is interrupted. The interruption of the primary source of power shall not be due to any action or failure to take any action by the owner or operator of either the emergency generator or of the UST system which stores fuel for the emergency generator.

"Engineering Control" for soil, surface water and groundwater contamination has the definition at R18-7-201.

~~37.~~ "Excavation zone" means the volume that contains or contained the tank system and backfill material and is bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

"Excess lifetime cancer risk level" for soil, surface water, and groundwater contamination, has the definition at R18-7-201.

~~38.~~ "Existing tank system" means a tank system used to contain an accumulation of regulated substances on or before December 22, 1988, or for which installation has commenced on or before December 22, 1988.

"Exposure" for soil, surface water, and groundwater contamination, has the meaning defined in R18-7-201.

"Exposure assessment" means the qualitative or quantitative determination or estimation of the magnitude, frequency, duration, and route of exposure or potential for exposure of a receptor to chemicals of concern from a release.

"Exposure pathway" for soil, surface water, and groundwater contamination, has the meaning defined in R18-7-201.

"Exposure route" for soil, surface water, and groundwater contamination, has the definition at R18-7-201.

~~39.~~ "Facility" means~~, with respect to any owner or operator, all underground storage tank systems used for the storage of regulated substances which are owned or operated by such owner or operator and located on a single parcel of property, or on any contiguous or adjacent property~~ a single parcel of property and any contiguous or adjacent property on which one or more UST systems are located.

~~40.~~ "Facility identification number" means the unique number assigned to a ~~storage~~ facility by the Department either after the initial notification requirements of A.R.S. § 49-1002 are satisfied, or after a refund claim is submitted and approved ~~pursuant to~~ under R18-12-409.

~~41.~~ "Facility location", for the purpose of Article 4 only, means the street address or a description of the location of a storage facility.

~~42.~~ "Facility name" means the business or operational name associated with a storage facility.

~~43.~~ "Farm tank" means a tank system located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank shall be located on the farm property. The term "farm" includes fish hatcheries, rangeland, and nurseries with growing operations.

~~44.~~ "Financial reporting year" means the latest consecutive 12-month period, either fiscal or calendar, for which financial statements used to support the financial test of self-insurance under R18-12-305 are prepared, including the following, if applicable:

~~a.~~ A 10-K report submitted to the Securities and Exchange Commission.

~~b.~~ An annual report of tangible net worth submitted to Dun and Bradstreet.

~~c.~~ Annual reports submitted to the Energy Information Administration or the Rural Electrification Administration.

~~45.~~ "Firm" means any for-profit entity, nonprofit or not-for-profit entity, or local government ~~governmental subdivision~~. An individual doing business as a sole proprietor is a firm for purposes of this Chapter.

~~46.~~ "Flow-through process tank" means a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. The term "flow-through process tank" does not include a tank used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

~~47.~~ "Free product" means a mobile regulated substance that is present as a nonaqueous phase liquid (e.g. liquid not dissolved in water).

~~48.~~ "Gathering lines" means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

~~49.~~ "Grant request" means the total amount requested on the application for a grant from the UST grant account, plus any cost to the Department for conducting a feasibility determination ~~in accordance with~~ under R18-12-710, in conjunction with the application

~~50.~~ "Groundwater" ~~has that meaning ascribed to it in A.A.C. R18-7-201(9)~~ means water in an aquifer as defined at A.R.S. § 49-201.

"Hazard Index" for soil, surface water, and groundwater contamination, has the definition at R18-7-201.

"Hazard quotient" for soil, surface water, and groundwater contamination, has the definition at R18-7-201.

~~51.~~ "Hazardous substance UST system" means an UST ~~underground storage tank~~ system that contains a hazardous substance as defined in A.R.S. ~~§ 49-1001(13)(b)~~ § 49-1001(14)(b) or any mixture of such substance and petroleum, which is not a petroleum UST system.

~~52.~~ "Heating oil" means petroleum that is No. 1, No. 2, No. 4--light, No. 4--heavy, No. 5--light, No. 5--heavy, or No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils for heating purposes.

~~53.~~ "Hydraulic lift tank" means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.
"IFCI" means the International Fire Code Institute.

~~54.~~ "Implementing agency" means, with respect to Article 3 only, the Arizona Department of Environmental Quality for UST systems subject to the jurisdiction of the state of Arizona, or the EPA for other jurisdictions or, in the case of a state with a program approved under 42 U.S.C. 6991 ~~Section 9004~~ (or pursuant to a memorandum of agreement with EPA), the designated state or local agency responsible for carrying out an approved UST program.

~~55.~~ "Indian country" means, ~~pursuant to~~ under 18 U.S.C. ~~Section~~ 1151, all of the following:

~~a.~~ All land within the limits of an Indian reservation under the jurisdiction of the United States government which is also located within the borders of this state, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation.

~~b.~~ All dependent Indian communities within the borders of the state whether within the original or subsequently acquired territory of the state.

~~c.~~ All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through such allotments.

~~56.~~ "Induration" means the ~~hardening~~ consolidation of a rock or rock material by the action of heat, pressure, or the introduction of some cementing material not commonly contained in the original mass. Induration also means the hardening of a soil horizon by chemical action to form hardpan (caliche).

~~57.~~ "Installation" means the placement and preparation for placement of any UST system or UST system part into an excavation zone. Installation is considered to have commenced if both of the following exist:

~~a.~~ The owner and operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the UST system.

~~b.~~ The owner and operator has begun a continuous on-site physical construction or installation program or has entered into contractual obligations, which cannot be canceled or modified without substantial loss, for physical construction at the site or installation of the UST system to be completed within a reasonable time.

"Institutional control" for soil, surface water, and groundwater contamination, has the definition at R18-7-201.

~~58. "IFCI" means International Fire Code Institute.~~

~~59.~~ "Legal defense cost" means, with respect to Article 3 only, any expense that an owner or operator, or provider of financial assurance incurs in defending against claims or actions brought under any of the following circumstances:

~~a.~~ By EPA or a state to require corrective action or to recover the costs of corrective action~~.~~;

~~b.~~ By or on behalf of a ~~third~~ 3rd party for bodily injury or property damage caused by an accidental release~~.~~;or

~~c.~~ By any person to enforce the terms of a financial assurance mechanism.

~~60.~~ "Liquid trap" means sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

~~61.~~ "Local government" means a county, city, town, school district, water and aqueduct management district, irrigation district, power district, electrical district, agricultural improvement district, drainage and flood control district, tax levying public improvement district, local government public transportation system, and any political subdivision ~~as~~ defined ~~under~~ in A.R.S. § ~~49-1001(12)~~ 49-1001.

~~62.~~ "LUST" means leaking ~~underground storage tank~~ UST.
"LUST case" means all of the documentation related to a specific LUST number, which is maintained on file by the Department.
"LUST number" means the unique number assigned to a release by the Department after the notification requirements of A.R.S. § 49-1004(A) are met.
"LUST site" means the UST facility from which a release has occurred.

~~63.~~ "Maintenance" means those actions necessary to ensure the proper working condition of an UST system or equipment used in corrective actions.

~~64.~~ "Motor vehicle fuel", for the purpose of Article 4 only, has ~~that meaning ascribed to it in~~ the definition at A.R.S. § ~~28-101(34)~~ 28-101.
"Nature of the regulated substance" means the chemical and physical properties of the regulated substance stored in the UST, and any changes to the chemical and physical properties upon or after release.
"Nature of the release" means the known or estimated means by which the contents of the UST was dispersed from the UST system into the surrounding media, and the conditions of the UST system and media at the time of release.

~~65.~~ "New tank system" means a tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after December 22, 1988.

~~66.~~ "Noncommercial purposes" means, with respect to motor fuel, not for resale.

~~67.~~ "On-site control" means, for the purpose of Article 8 only, being at the location where tank service is being performed while tank service is performed.

~~68.~~ "On the premises where stored" means, with respect to A.R.S. § ~~49-1001(17)(b)~~ 49-1001(18)(b) only, a single parcel of property or any contiguous or adjacent parcels of property.

~~69.~~ "Operational life" means the period beginning when installation of the tank system has begun and ending when the tank system is properly closed ~~in accordance with~~ under R18-12-271 through R18-12-274.

~~70.~~ "Overfill" means a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of a regulated substance to the environment.

~~71.~~ "Owner identification number" means the unique number assigned to the owner of an ~~underground storage tank~~ UST by the Department after the initial notification requirements of A.R.S. § 49-1002 are satisfied, or after a refund claim is submitted and approved pursuant to R18-12-409.

~~72.~~ "Petroleum marketing facility" means a facility at which petroleum is produced or refined and all facilities from which petroleum is sold or transferred to other petroleum marketers or to the public.

~~73.~~ "Petroleum marketing firm" means a firm owning a petroleum marketing facility. Firms owning other types of facilities with USTs as well as petroleum marketing facilities are considered to be petroleum marketing firms.

~~74.~~ "Petroleum UST system" means an UST system that contains or contained petroleum or a mixture of petroleum with de ~~minims~~ minimis quantities of other regulated substances. These systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

~~75.~~ "Pipe" or "Piping" means a hollow cylinder or tubular conduit that is constructed of non-earthen materials.

~~76.~~ "Pipeline facility" means new or existing pipe rights-of-way and any associated equipment, gathering lines, facilities, or buildings.

"Point of compliance" means the geographic location at which the concentration of the chemical of concern is to be at or below the risk-based corrective action standard determined to be protective of public health and the environment.

"Point of exposure" for soil, surface water, and groundwater contamination, has the definition at R18-7-201 for "exposure point."

~~77.~~ "Property damage" means physical injury to, destruction of, or contamination of tangible property, including all resulting loss of use of that property; or loss of use of tangible property that is not physically injured, destroyed, or contaminated, but has been evacuated, withdrawn from use, or rendered inaccessible.

~~78.~~ "Provider of financial assurance" means an entity that provides financial assurance to an owner or operator of an ~~underground storage tank~~ UST through ~~1~~ one of the mechanisms listed in R18-12-306 through R18-12-312 or R18-12-316, including a guarantor, insurer, risk retention group, surety, or issuer of a letter of credit.

"RCRA" means the Resource Conservation and Recovery Act in 42 U.S.C. 6924 (u)

"Receptor" means persons, enclosed structures, subsurface utilities, waters of the state, or water supply wells and wellhead protection areas.

"Release confirmation" means free product discovery, or reported laboratory analytical results of samples collected and analyzed in accordance with the sampling requirements of R18-12-280 and A.A.C. Title 9, Chapter 14, Article 6 which indicates a release of a regulated substance from the UST system.

"Release confirmation date" means the date that an owner or operator first confirms the release, or the date that the owner or operator is informed of a release confirmation made by another person.

~~79.~~ "Release detection" means determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.

"Remediation" for soil, surface water, and groundwater contamination, has the definition at A.R.S. § 49-151, except that "soil, surface water and groundwater" is substituted for "soil" where it appears in that Section.

~~80.~~ "Repair" means to restore a tank or UST system component that has caused or may cause a release of regulated substance from the UST system.

~~81.~~ "Report of work" means a written summary of corrective action services performed.

~~82.~~ "Reserved and designated funds" means those funds of a nonprofit, not-for profit, or local government entity which, by action of the governing authority of the entity, by the direction of the donor, or by statutory or constitutional limitations, may not be used for conducting UST upgrades, replacements, or removals, or for installing UST leak detection systems, or conducting corrective actions, including payment for expedited review of related documents by the Department, on releases of regulated substances.

~~83.~~ "Residential tank" means an UST system located on property used primarily for dwelling purposes.

~~84.~~ "Retrofit" means to add to an UST system, equipment or parts that were not originally included or installed as part of the UST system.

"Risk characterization" means the qualitative and quantitative determination of combined risks to receptors from individual chemicals of concern and exposure pathways, and the associated uncertainties.

~~85.~~ "Routinely contains product" or "routinely contains regulated substance" means the part of an UST system which is designed to contain regulated substances and includes all internal areas of the tank and all internal areas of the piping, excluding only the vent piping.

"SARA" means the Superfund Amendments and Reauthorization Act of 1986, P.L. 99-499.

~~86.~~ "Septic tank" means a water-tight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.

"Site location map" means a representation by means of signs and symbols on a planar surface, at an established scale, of the streets, wells, and general use of the land for properties within at least one-quarter mile of the facility boundaries, with the direction of orientation indicated.

"Site plan" means a representation by means of signs and symbols on a planar surface, at an established scale, of the physical features (natural, artificial, or both) of the facility and surrounding area necessary to meet the requirements under which the site plan is prepared, with the direction of orientation indicated.

"Site Vicinity Map" means a representation by means of signs and symbols on a planar surface, at an established scale, of the natural and artificial physical features, used in the exposure assessment, that occur within at least 500 feet of the facility boundaries, with the direction of orientation indicated.

~~87.~~ "Solid Waste Disposal Act" for the purposes of this Chapter means the "federal act" as defined by A.R.S. § ~~49-921(3)~~ 49-921.

"Source area" means either the location of the release from an UST, the location of free product, the location of the highest soil and groundwater concentration of chemicals of concern, or the location of a soil concentration of chemicals of concern which may continue to impact groundwater or surface water.

~~88.~~ "Spill" means the loss of regulated substance during the transfer of a regulated substance to an UST system.

~~89.~~ "Storage facility" means, for the purpose of Article 4 only, the common, identifiable, location at which deliveries of regulated substances are made to an ~~underground storage tank~~ UST, an ~~aboveground~~ above ground storage tank, or to a group of underground and ~~aboveground~~ above ground storage tanks, and to which the Department has assigned a single facility identification number.

~~90.~~ "Storm-water or wastewater collection system" means piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water run-off resulting from precipitation, or of domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance.

~~91.~~ "Substantial business relationship" means the extent of a business relationship necessary under Arizona law to make a guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract is issued "incident to that relationship" if it arises from and depends on existing economic transactions between the guarantor and the owner or operator.

~~92.~~ "Substantial governmental relationship" means the extent of a governmental relationship necessary under Arizona law to make an added guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract under R18-12-316 is issued "incident to that relationship" if it arises from a clear commonality of interest in the event of an UST release such as coterminous boundaries, overlapping constituencies, common ground water aquifer, or other relationship other than monetary compensation that provides a motivation for the guarantor to provide a guarantee.

~~93.~~ "Supplier" means, for the purpose of Article 4 only, with respect to collection of the UST excise tax, a person who is described by either A.R.S. § ~~28-1599.45(A)~~ 28-6001(A) or (B). The term "supplier" includes a distributor, as defined ~~by~~ in A.R.S. § 28-5601, who is required to be licensed by A.R.S. Title 28, Chapter ~~9~~ 16, Article 1.

~~94.~~ "Supplier identification number" means, for the purpose of Article 4 only, the unique number assigned to the supplier by the Department of Transportation for the purpose of administering the motor vehicle fuel tax under A.R.S. Title 28, Chapter ~~9~~ 16, Article 1.

~~95.~~ "Surface impoundment" ~~is~~ means a natural topographic depression, ~~man-made~~ artificial excavation, or diked area formed primarily of earthen materials, but which may be lined with ~~man-made~~ artificial materials, that is not an injection well.

"Surface water" has the definition at R18-11-101.

"Surficial soil" means any soil occurring between the current surface elevation and extending to that depth for which reasonably foreseeable construction activities may excavate and relocate soils to surface elevation, and any stockpiles generated from soils of any depth.

~~96.~~ ~~"Suspected release" has that meaning ascribed to it in A.R.S. § 49-1001(15).~~

"Suspected release discovery date" means the day an owner or operator first has reason to believe, through direct discovery or being informed by another person, that a suspected release exists.

"Suspected release notification date" means the day the Department informs an owner or operator, as evidenced by the return receipt, that a UST may be the source of a release.

~~97.~~ "Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets do not include intangibles such as goodwill and rights to patents or royalties.

~~98.~~ "Tax" means, for the purpose of Article 4 only, the excise tax on the operation of ~~underground storage tanks~~ USTs levied by A.R.S. Title 49, Chapter 6, Article 2.

~~99.~~ "Taxpayer" means, for the purpose of Article 4 only, the owner or operator of an ~~underground storage tank~~ UST who pays the tax.

~~100.~~"Tester" means a person who performs tightness tests on UST systems, or on any portion of an UST system including tanks, piping, or leak detection systems.

~~101.~~"Underground area" means an underground room, such as a basement, cellar, shaft, or vault ~~providing~~ that provides enough space for physical inspection of the exterior of the tank, situated on or above the surface of the floor.

~~102.~~"Underground storage tank" has the ~~meaning ascribed to it in~~ definition at A.R.S. § ~~49-1001(17)~~ 49-1001.

~~103.~~"Unreserved and undesignated funds" means those funds that are not reserved or designated funds and can be transferred at will by the governing authority to other funds.

~~104.~~"Upgrade" means the addition to or retrofit of an UST system or UST system parts, ~~in accordance with~~ under R18-12-221, to improve the ability to prevent release of a regulated substance.

~~105.~~"UST" means an underground storage tank ~~pursuant to~~ as defined at A.R.S. § ~~49-1001(17)~~ 49-1001.

~~106.~~"UST grant account" or "grant account" means the account designated ~~pursuant to~~ under A.R.S. § 49-1071.

~~107.~~"UST regulatory program" means the program established by and described in A.R.S. Title 49, Chapter 6 and the rules promulgated ~~thereunder~~ under that program.

~~108.~~"UST system" or "tank system" means an ~~underground storage tank~~ UST, connected underground piping, impact valve and connected underground ancillary equipment and containment system, if any.

"Vadose zone" has the definition at A.R.S. § 49-201.

~~109.~~"Volatile regulated substance" means any regulated substance that generally has the following chemical characteristics: a vapor pressure of greater than 0.5 mmHg at 20^{o} C, a Henry's Law Constant of greater than $1x10^{-5}$ atm·m^3/mol, and which has a boiling point of less than 250^{o} - 300^{o} C.

~~110.~~"Wastewater treatment tank" means a tank system that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

R18-12-102. ~~Responsibilities of Owners and Operators~~ Applicability

A. Owners and operators. As provided in A.R.S. § 49-1016(A), the responsibilities of this Chapter, unless indicated otherwise, are imposed on persons who are the owner ~~and~~ or the operator of an UST. If the owner and operator of an UST are separate persons, only ~~1~~ one person is required to discharge any specific responsibility. Both persons are liable in the event of noncompliance.

B. Persons in possession or control of property. The requirements of this Chapter are applicable to a person acting under the provisions of A.R.S. § 49-1016(C).

C. No supersedence. Nothing in this Chapter supersedes the requirements of the following:

1. A court of competent jurisdiction,
2. An order of the Director under A.R.S. § 49-1013.

ARTICLE 2. TECHNICAL REQUIREMENTS

R18-12-250. ~~Reserved~~ Applicability and Scope

A. Release reporting and corrective action. Except for a release from an UST system excluded by R18-12-210(B), or for the corrective action requirements of R18-12-260 through R18-12-264.01, for a release subject to Subtitle C corrective action requirements in Section 3004(u) of RCRA, as amended, R18-12-250 through R18-12-264.01 apply to a release or suspected release discovered:

1. On or after the effective date of this Section; or
2. Before the effective date of this Section, but only for those sections of R18-12-250 through R18-12-264.01 with required activities not initiated by the effective date of this Section.

B. No supersedence. Nothing in R18-12-250 through R18-12-264.01 supersedes any of the following:

1. Immediate reporting to the National Response Center and to the Division of Emergency Services within the Arizona Department of Emergency and Military Affairs, under CERCLA, and SARA Title III;
2. A CAP submitted to the Department under 40 CFR 280.66 before the effective date of this Section and subsequently approved; and
3. A work plan under the UST Assurance Fund preapproval requirements of Article 6 of this Chapter submitted to the Department before the effective date of this Section and subsequently approved.

R18-12-251. ~~Reserved~~ Suspected Release

A. 24 hour notification. An owner or operator shall notify the Department, within 24 hours after discovery of a suspected release, except for either:

1. A spill or overfill of 25 gallons or less of petroleum or a hazardous substance that is less than its reportable quantity under CERCLA, contained and cleaned up within 24 hours, or
2. The conditions described in A.R.S. § 49-1001(16)(b) or (c)(i) exist for 24 hours or less.

B. 24 hour notification content. If known, the notification shall identify the:

1. Individual notifying the Department;

2. UST involved and the reason for notifying the Department;
3. Facility involved;
4. Owner and the operator of the UST facility; and
5. Investigation and containment actions taken as of the date of the notification.

C. Requirement to investigate suspected releases. Within 90 calendar days from the suspected release discovery date or the suspected release notification date, whichever is earlier, an owner or operator shall complete the investigation requirements of this subsection and confirm whether the suspected release is a release. The investigation shall include:

1. Tightness tests of the tank and all connected piping meeting the requirements of R18-12-243(C) and R18-12-244(B). Further investigation is required if the results of the tightness test indicate that the system is either not tight or contaminated media is the basis for suspecting a release.
2. If further investigation is required under subsection (1), a site check meeting the requirements of this subsection must be performed. An owner or operator shall measure for the presence of a release where contamination is likely to be present and shall consider the:
   a. Nature of the regulated substance;
   b. Type of initial alarm or cause for suspicion;
   c. Type of backfill;
   d. Depth to groundwater; and
   e. Conditions of the regulated substance and the site in identifying the presence and source of the release.

D. Release Confirmation. If a release is confirmed, the owner or operator shall notify the Department as required by R18-12-260(A), cease further compliance with this Section, and perform corrective actions under R18-12-260 through R18-12-264.01.

E. 14 day report. The owner or operator shall submit a written status report, on a form provided by the Department, within 14 calendar days after the suspected release discovery date or the suspected release notification date, whichever is earlier. If the suspected release is confirmed to be a release within the 14 day period, the 14 day report is satisfied when the report required by R18-12-260(C) is submitted. If known on the date the 14 day report is submitted, an owner or operator shall identify the:

1. UST that is the source of the suspected release;
2. Nature of the suspected release;
3. Regulated substance suspected to be released; and
4. Initial response to the suspected release.

F. 90 day report. If the suspected release is not confirmed to be a release the owner or operator shall submit a written report, on a form provided by the Department, within 90 calendar days after the suspected release discovery date or suspected release notification date, whichever is earlier, showing that the investigation has been completed and a release does not exist. Unless previously submitted, the 90 day report shall identify the:

1. UST suspected to be the source of the release;
2. Nature of the suspected release;
3. Regulated substance suspected to be released;
4. Response to the suspected release;
5. Repair, recalibration, or replacement of a monthly monitoring device described in R18-12-243(D) through (H) or R18-12-244(C), and any repair or replacement of faulty UST system equipment that may have been the cause of the suspected release;
6. Results of any tightness test conducted under subsection (C)(1);
7. Person, if the site check described in subsection (C)(2) was not performed, having direct knowledge of the circumstances of the suspected release who observed contaminated media during the discovery or investigation.
8. Laboratory analytical results on samples collected during the site check described in subsection (C)(2); and
9. Site plan showing the location of the suspected release and site check sample collection locations.

G. Investigation of suspected releases required by the Department. If the Department becomes aware of an on- or off-site impact of a regulated substance, the owner or operator shall be notified and may be required, based on an assessment of site specific information, to perform an investigation under subsection (C). If an investigation is required, the Department shall describe the type of impact and the rationale for its decision that the UST system may be the source of the impact.

R18-12-260. ~~Reserved~~ Release Notification, and Reporting

A. 24 hour release notification. An owner or operator shall notify the Department within 24 hours after the release confirmation date of the following:

1. A release of a regulated substance;
2. A spill or overfill of petroleum that results in a release exceeding 25 gallons, or causes a sheen on nearby surface water that is reportable to the National Response Center under 40 CFR 110;
3. A spill or overfill of petroleum resulting in a release of 25 gallons or less that is not contained and cleaned up within 24 hours;
4. A spill or overfill of a hazardous substance that equals or exceeds its reportable quantity under CERCLA; and

5. A spill or overfill of a hazardous substance that is less than the reportable quantity under CERCLA, not contained and cleaned up within 24 hours.

B. Release notification information. If known on the date that the 24 hour notification is submitted, an owner or operator shall notify the Department under subsection (A) and shall include the:
1. Individual providing notification;
2. UST involved and the reason for confirming the release;
3. Facility involved;
4. Owner and operator of the facility involved; and
5. Investigations, containment, and corrective actions taken as of the date and time of the notice.

C. 14 day report. An owner or operator shall submit a report, on a form provided by the Department, within 14 calendar days after the release confirmation date. The report shall include:
1. The nature of the release, and the regulated substance and the estimated quantity released;
2. The elapsed time over which the release occurred;
3. A copy of the results of any tightness test, meeting the requirements of R18-12-243(C) or R18-12-244(B), performed to confirm the release;
4. Laboratory analytical results of samples demonstrating the release confirmation; and
5. The initial response and corrective actions taken as of the date of the report and anticipated actions to be taken within the first 90 calendar days after the release confirmation date.

D. UST system modifications. An owner or operator shall repair, upgrade, or close the UST system, that is the source of the release, as required under this Article and the owner shall notify the Department as required by R18-12-222.

R18-12-261. ~~Reserved~~ Initial Response, Abatement, and Site Characterization

A. 24 hour initial response. An owner or operator shall begin response actions within 24 hours of the release confirmation date to prevent any further release, and identify and mitigate fire, explosion, and vapor hazards.

B. 60 day initial abatement. An owner or operator shall begin the following initial abatement measures as soon as practicable, but not later than 60 calendar days of the release confirmation date:
1. Removal of as much of the regulated substance from the UST system as is necessary to prevent a further release;
2. Visually inspect for and mitigate further migration of any aboveground and exposed below ground release into surrounding soils and surface water;
3. Continue to monitor and mitigate any fire and safety hazards posed by vapors or free product; and
4. Investigate for the possible presence of free product and, if found, initiate the requirements of R18-12-261.02.

C. Initial site characterization required. An owner or operator shall develop, from readily available sources, initial site characterization information on site-specific geology, hydrology, receptors, potential sources of the contamination, artificial pathways for contaminant migration, and occupancies of the facility and surrounding area. Information on any discovered free product shall be gathered and a site check, meeting the requirements of R18-12-251(C)(2), shall be performed, unless conducted as part of the investigation of a suspected release.

D. 90 day report. An owner or operator shall submit an initial site characterization report to the Department, on a Department provided form, within 90 calendar days after the release confirmation date. If known, the report shall include the:
1. Nature of the release, the regulated substance released, and the estimated quantity of the release;
2. The estimated time period when the release occurred;
3. Initial response and abatement actions described in subsections (A) and (B), and any corrective actions taken as of the date of the submission;
4. Estimated or known site-specific lithology, depth to bedrock, and groundwater depth, flow direction, and quality. The date and source of the information shall be included;
5. Location, use, and identification of all wells registered with Arizona Department of Water Resources, and other wells on and within one-quarter mile of the facility;
6. Location and type of receptors, other than wells, on and within one-quarter mile of the facility;
7. Current occupancy and use of the facility and properties immediately adjacent to the facility;
8. Data on known sewer and utility lines, basements, and other artificial subsurface structures on and immediately adjacent to the facility;
9. Copies of any report of any tightness test meeting the requirements under R18-12-243(C) or R18-12-244(B), performed during the investigation of the suspected release;
10. Laboratory analytical results of samples analyzed and received as of the date of the report;
11. Site plan showing the location of the facility property boundaries, release, sample collections for samples with laboratory analytical results submitted with the report, and identified receptors;
12. Current LUST site classification form described in R18-12-261.01(E); and
13. Information on any free product discovered under R18-12-261.02.

R18-12-261.01. LUST Site Classification

A. LUST site analysis. An owner or operator shall determine a LUST site classification by analyzing current and future threats to public health and the environment based on site-specific information known at the time of the determination.

B. LUST site classification factors. The owner or operator shall determine any threats to public health and the environment by addressing the following:
1. Presence and levels of vapors;
2. Presence of free product;
3. Extent of contamination;
4. Type and location of receptor;
5. Impacts and reasonably foreseeable impacts to current and future receptors; and
6. Estimated time between the date of the analysis and the impact to receptors.

C. LUST site classification. An owner or operator shall select a classification for the LUST site from one of the following, based on the analysis performed under subsection (B):
1. Classification 1: immediate threats;
2. Classification 2: short term threats from impacts that are reasonably foreseeable at or within two years;
3. Classification 3: long term threats from impacts that are reasonably foreseeable after two years; or
4. Classification 4: contamination exists, but no demonstrable long term threat has been identified, or information indicates the site cannot be otherwise classified under this subsection.

D. LUST site classification form submission. An owner or operator shall submit to the Department the LUST site classification form described in subsection (E) as required by R18-12-260 through R18-12-264.01, and when LUST site conditions indicate the classification has changed, or if contamination has migrated, or is anticipated to migrate, to a property where the owner or operator does not have access.

E. LUST site classification form contents. An owner or operator shall submit the LUST site classification, on a Department provided form, that includes the following information:
1. Date of preparation;
2. LUST number assigned to the release that is the subject of the classification;
3. The status of corrective action activities on the date that the classification form is submitted;
4. The regulated substance and the estimated volume (in gallons) released, the UST identification number from the notification form described in R18-12-222, the component of the UST where the release occurred, and whether the release is a spill or overfill;
5. The factors considered in determining the LUST site classification described in subsection (B);
6. The distance between the identified contamination and each receptor;
7. The estimated time, from the date on the form until impact to a receptor; and
8. The classification of the LUST site.

R18-12-261.02. Free Product

A. Free product investigation. An owner or operator shall investigate for free product if site specific information indicates the potential existence for free product, and if discovered, determine its extent.

B. Free product removal. If free product is discovered, the owner or operator shall:
1. Begin removal as soon as practicable;
2. Remove free product in a manner minimizing the spread of contamination using recovery and disposal techniques based on site-specific hydrologic, geologic, and demographic conditions;
3. Comply with local, state, and federal laws or regulations when treating, discharging, or disposing recovery byproducts;
4. Use abatement of free product migration as a minimum objective for the design of the free product removal system; and
5. Handle any flammable product in a safe and competent manner to prevent fire and explosion.

C. Forty-five day free product report. If free product is discovered, the owner or operator shall submit a status report, on a Department provided form, within 45 calendar days of free product discovery and with subsequent reports required by the Department. The status report shall contain the following information known at the time of the report:
1. The estimated quantity, type, extent and thickness of free product observed or measured;
2. A description of free product removal measures taken;
3. A description of any discharge that will take place during the recovery operation and where this discharge will be located; and
4. A description of the type of treatment applied to and the effluent quality expected from any discharge.

R18-12-262. ~~Reserved~~ LUST Site Investigation

A. Requirement to investigate. An owner or operator shall investigate a release at and from a LUST site to determine the full extent of the release of regulated substances and shall:
1. Determine the full extent of contamination;

2. Identify physical, natural, and artificial features at or surrounding the LUST site that are current or potential pathways for contamination migration;
3. Identify current or potential receptors; and
4. Obtain any additional data necessary to determine site-specific corrective action standards and to justify the selection of remedial alternatives to be used in responses to contaminated soil, surface water, and groundwater.

B. Completion of investigation activities. The owner or operator shall complete the investigation activities described in subsection (A) and submit the report described in subsection (D) within a time established by the Department.

C. Determining the full extent of contamination. The owner or operator shall determine, within each contaminated medium, the full extent, location, and distribution of concentrations of each chemical of concern stored in the UST over its operational life. The full extent of contamination shall be determined upon receipt of laboratory analytical results delineating the vertical and lateral extent of the contamination.

D. LUST site characterization report. An owner or operator shall submit a report of the information developed during the investigation required in subsection (A), in format approved by the Department. The report shall be submitted within the time established in subsection (B). The report submitted under this subsection and an on-site investigation report submitted under A.R.S. § 49-1053 shall contain the following minimum information, except that an on-site investigation report is not required to include the extent of contamination beyond the facility property boundaries:

1. A site history summary;
2. Information on bedrock, if encountered during the investigation;
3. The hydrologic characteristics and uses of groundwater and surface water of the local area;
4. A concise description of factors considered in determining the full extent of contamination;
5. A concise summary of the results of the investigation including a conceptual site model;
6. A site vicinity map, site location map and a site plan;
7. A tabulation of all field screening and laboratory analytical results and water level data acquired during the investigation;
8. Laboratory sample analytical and associated quality assurance and quality control reports and chain-of-custody forms;
9. A tabulation of all wells registered with the Arizona Department of Water Resources, and other wells located within one-quarter mile of the facility property boundary;
10. The lithologic logs for all subsurface investigations; and
11. The as-built construction diagram of each well installed as part of this investigation.

E. Conditions for approval of the site characterization report. The Department shall approve the site characterization report if the Department determines it meets the requirements of this Section and A.R.S. § 49-1005, and contains the information required by subsection (D), or the Department has enough information to make an informed decision to approve the report.

F. Notice of decision. The Department will determine if the conditions in subsection (E) are or are not satisfied and shall either approve or not approve the report and notify an owner or operator in writing. The notification shall include any conditions on which the approval or non-approval is based and an explanation of the process for resolving disagreements under A.R.S. § 49-1091.

R18-12-263. ~~Reserved~~ Remedial Response

A. Remedial response not required. An owner or operator shall comply with R18-12-263.03 for LUST case closure if a remedial response is not required for any chemical of concern, when contaminant concentrations in each contaminated medium, at the point of compliance, are documented to be at or below the corrective action standard under R18-12-263.01(A)(1).

B. Remedial response required. The owner or operator shall remediate contamination at and from the LUST site as required by this Section. Remediation activities shall continue until:

1. Contaminant concentration of any chemical of concern, in each contaminated medium, at the point of compliance, is documented to be at or below the corrective action standard determined in R18-12-263.01; and
2. The requirements for LUST case closure in R18-12-263.03 are completed and approved by the Department.

C. Remedial responses that may require a CAP. The Department may request the owner or operator, or the owner or operator may voluntarily submit a CAP, meeting the requirements of this Section, any time after submission of the report in R18-12-261(D). If a CAP is requested, it shall be submitted within 120 calendar days of the owner or operator's receipt of the request, or a longer period of time established by the Department. The Department may request a CAP based on the following:

1. Soil or groundwater contamination extends, or has potential to extend, off the facility property and the LUST site is classification 3 in R18-12-261.01(C);
2. Free product extends off the facility property; and
3. Site-specific conditions indicate a potential level of threat to public health and the environment that is equal to or exceeds the threat in subsections (1) and (2). In determining the extent of threat to public health and the environment, the Department shall consider:

a. The nature of the regulated substance and the location, volume, and distribution of concentrations of chemicals of concern in soil, surface water, and groundwater;
b. The presence and location of known receptors potentially impacted by the release; and
c. The presence of complete exposure pathways.

D. Remedial responses that require a CAP. At any time after Department approval of the report described in R18-12-261(D), the Department shall request that the owner or operator submit a CAP meeting the requirements of this Section within 120 calendar days, or a longer period of time established by the Department, if any of the following exist:
1. The LUST site is classification 1 or 2 in R18-12-261.01(C);
2. The owner or operator proposes a corrective action standard for groundwater or surface water under a Tier 2 or Tier 3 evaluation, described in R18-12-263.01;
3. The owner or operator proposes a corrective action standard for soil under a Tier 3 evaluation, and the point of compliance extends beyond a facility property boundary; or
4. The intended response or remediation technology involves discharge of a pollutant either directly to an aquifer or the land surface or the vadose zone. For purposes of this subsection, the term pollutant has the definition at A.R.S. § 49-201.

E. Determination of remediation response. The owner or operator shall choose a remediation technology based on the corrective action requirements of A.R.S. § 49-1005(D) and (E), and the following:
1. Local, state, and federal requirements associated with the technology;
2. Reduction of toxicity, mobility, or volume;
3. Long-term effectiveness and permanence;
4. Short-term effectiveness; and
5. Ability to implement the corrective action standard for each chemical of concern, in each contaminated medium, including considering the results presented in the site characterization report, ease of initiation, operation and maintenance of the technology, and public response to any contamination residual to or resulting from the technology.

F. On-site derived waste. Nothing in this subsection shall supersede more stringent requirements for storage, treatment, or disposal of on-site derived waste imposed by local, state or federal governments. An owner or operator meeting the requirements of this subsection is deemed to have met the exemption provisions in the definition of solid waste at A.R.S. § 49-701.01 for petroleum contaminated soil stored or treated on-site. The owner or operator shall prevent and remedy hazards posed by derived waste resulting from investigation or response activities under this Article and shall.
1. Contain on-site derived waste in a manner preventing the migration of contaminants into subsurface soil, surface water, or groundwater throughout the time the derived waste remains on-site, and shall:
   a. Restrict access to contaminated areas by unauthorized persons; and
   b. Maintain the integrity of any containment system during placement, storage, treatment, or removal of the derived waste;
2. Label on-site derived waste stored or treated in stockpiles, drums, tanks, or other vessels in a manner consistent with A.R.S. Title 49, Chapter 4, Article 9 and the rules made under that Article; and
3. Treat on-site derived waste to the applicable corrective action standard in R18-12-263.01 if the derived waste is to be returned to the on-site subsurface.

G. Periodic site status report. After approval of the site characterization report, the owner or operator shall submit a site status report, on a form provided by the Department, based on site-specific conditions. The report shall be submitted as requested by the Department, or by the time requested in the CAP under R18-12-263.02. The owner or operator shall continue to submit a site status report until the Department approves a LUST case closure report under R18-12-263.03(F)(1). The report shall:
1. Identify each type of remedial corrective action technology being employed;
2. Provide the date each remedial corrective action technology became operational;
3. Provide the results of monitoring and laboratory analysis of collected samples for each contaminated medium received since the last report was submitted to the Department;
4. Provide a site plan that shows the current location of the components of any installed remediation technology including monitoring and sample collection locations for data collected and reported in subsection (3);
5. Estimate the amount of time that must pass until response activities, including remediation and verification monitoring, will demonstrate that the concentration of each chemical of concern is at or below the corrective action standard determined for that chemical of concern in the specific contaminated medium; and
6. Provide the current LUST site classification form described in R18-12-261.01(E).

R18-12-263.01. Risk-based Corrective Action Standards

A. Conducting risk-based tier evaluation and proposing the applicable corrective action standard. The owner or operator shall propose and document, as described in subsection (B), each applicable risk-based corrective action standard, using the procedures of this subsection. The owner or operator shall ensure that each corrective action standard meets the corrective action requirements of A.R.S. § 49-1005(D) and (E), and is consistent with soil remediation standards and restrictions on property use in A.R.S. Title 49, Chapter 1, Article 4 and the rules made under each. In determining the proposed correc-

tive action standard, the owner or operator shall first perform a Tier 1 evaluation. The owner or operator may subsequently perform progressively more site-specific, risk-based tier evaluations (Tier 2 or Tier 3) after considering the comparative differences in input parameters, the cost effectiveness in conducting both the additional evaluation and remediation to the next tier corrective action standard, and the cumulative estimate of risk to public health and the environment.

1. For a Tier 1 evaluation, the owner or operator shall:
   a. Base assumptions on conservative scenarios where all potential receptors are exposed to the maximum concentration of each chemical of concern in each contaminated medium detected in contamination at and from the LUST site;
   b. Assume that all exposure pathways are complete;
   c. Use the assumed point of exposure at the source or the location of the maximum concentration as the point of compliance;
   d. Compare the maximum concentration of each chemical of concern in each contaminated medium at the point of compliance with the applicable Tier 1 corrective action standard in subsections (A)(1)(e) through (A)(1)(j);
   e. For soil, use the applicable corrective action standard in R18-7-203(A)(1) and (2) and (B);
   f. For surface water, use the applicable corrective action standard in R18-11-112 or Appendix A (18 A.A.C. 11, Article 1);
   g. For groundwater, use the applicable corrective action standard in R18-11-406;
   h. For contaminated groundwater that is demonstrated to discharge or potentially discharge to surface water, use the applicable corrective action standard in R18-11-108, R18-11-112, or Appendix A (18 A.A.C. 11, Article 1);
   i. If a receptor is or has the potential to be impacted, for those chemicals of concern in soil or surface water with no numeric standard established in rule or statute, use a corrective action standard consistent with R18-7-206 or R18-11-108, as applicable, using updated, peer-reviewed scientific data applying those equations and methodologies used to formulate the numeric standards established in R18-7-203(A)(2) or Appendix A (18 A.A.C. 11, Article 1), or for leachability and protection of the environment, a concentration determined on the basis of methods approved by the Department; and
   j. If a public or private water supply well is or has the potential to be impacted, for those chemicals of concern in groundwater with no numeric water quality standard established in rule or statute, use a corrective action standard consistent with R18-11-405, using updated, peer-reviewed scientific data applying those equations and methodologies used to formulate the numeric standards established in R18-11-406.
2. For a Tier 2 evaluation the owner or operator shall:
   a. Apply site-specific data to the same equations used to develop the Tier 1 corrective action standard, or, in the case of volatilization from subsurface soil, a Department-approved equation that accounts for the depth of contamination;
   b. For those chemicals of concern with no numeric standard established in statute or rule, use a corrective action standard based on updated, peer-reviewed scientific data, and provided through environmental regulatory agencies and scientific organizations;
   c. Use Department-approved values for equation parameters, if the values are different than those used in Tier 1 or not obtained through site-specific data;
   d. Eliminate exposure pathways that are incomplete due to site-specific conditions, or institutional or engineering controls, from continued evaluation in this tier;
   e. Use as the point of compliance a location between the source and the point of exposure for the nearest known or potential on-site receptor, or the nearest downgradient facility property boundary, whichever is the nearest to the source;
   f. Use representative concentrations of chemicals of concern that are the lesser of the 95% upper confidence level or maximum concentration in the contaminated medium at the point of compliance;
   g. Use as the Tier 2 corrective action standard, a concentration determined under subsections (2)(a) through (2)(c), R18-7-206, R18-11-108, and R18-11-405; and
   h. Compare the representative concentration of each chemical of concern, in each contaminated medium, at the point of compliance with the proposed Tier 2 corrective action standard, to determine if remediation is required.
3. For a Tier 3 evaluation the owner or operator shall:
   a. Apply more site-specific data than required in the development of Tier 2 corrective action standards in alternative and more sophisticated equations appropriate to site-specific conditions. The owner or operator shall use equations and methodology of general consensus within the scientific community that is published in peer-reviewed professional journals, publications of standards, and other literature;
   b. Use the nearest known or potential receptor as the point of exposure;
   c. Use as the point of compliance the point of exposure or some location between the source and the point of exposure, regardless of the facility boundary;
   d. Use representative concentrations that are the actual or modeled concentrations in the medium of concern at the point of compliance;

e. Use as the Tier 3 corrective action standard a concentration consistent with subsections (3)(a) through (3)(d);
f. Compare the representative concentration of each chemical of concern in each contaminated medium at the point of compliance with the Tier 3 corrective action standard to determine if remediation is required; and
g. Choose the remedial action upon completion of the Tier 3 evaluation that will result in concentrations of chemicals of concern presenting a hazard index no greater than 1 and a cumulative excess lifetime cancer risk between 1×10^{-6} and 1×10^{-4}.

4. All risk-based corrective action standards proposed under the tier evaluations in subsections (1) through (3) are based on achieving similar levels of protection of public health and the environment. For Tier 2 and Tier 3 evaluations, a cumulative risk assessment is warranted if multiple pathways of exposure are present, or reasonably anticipated, and one or more of the following conditions impacts or may impact current or future receptors:
a. More than 10 carcinogens are identified;
b. More than one class A carcinogen is identified;
c. Any non-carcinogen has a hazard quotient exceeding 1/nth of the hazard index of 1, where n represents the total number of non-carcinogens identified; or
d. More than 10 non-carcinogens are identified.

B. Documentation of tier evaluation. The owner or operator shall document each tier evaluation performed in response to contaminated soil, surface water and groundwater. The owner or operator shall prepare each evaluation using a Department provided format and complying with this subsection.

1. For a Tier 1 evaluation the owner or operator shall provide the following information:
a. Each chemical of concern detected in the contamination at and from the LUST site;
b. Each medium contaminated, identified as soil, surface water, or groundwater;
c. The maximum concentration of each chemical of concern for each contaminated medium.
d. The current and future use of the facility and surrounding properties;
e. Each receptor evaluated;
f. The Tier 1 corrective action standard for each chemical of concern for each contaminated medium; and
g. The proposed corrective actions for each chemical of concern that exceeds the Tier 1 corrective action standard.

2. For the Tier 2 evaluation the owner or operator shall provide the following information:
a. Each chemical of concern evaluated;
b. Each medium contaminated, identified as surficial soil, subsurface soil, surface water, or groundwater;
c. The representative concentration of each chemical of concern for each contaminated medium;
d. A detailed description of the current and future use of the facility and surrounding properties;
e. The point of exposure;
f. The point of compliance;
g. The revised conceptual site model;
h. Parameters necessary to utilize the leachibility equations, if groundwater is or may be impacted by the release, published in federal and state peer-reviewed professional journals, publications of standards, or other literature accepted within the scientific community;
i. Identification and justification for alternate assumptions or site-specific information used in place of the default assumptions of the Tier 1 evaluation, or used in a Department-approved model under subsection (A)(2) for subsurface volatilization;
j. Any supporting calculations and reference citations used in the development of Tier 2 corrective action standards;.
k. A table of the calculated Tier 2 corrective action standards;
l. A description of any institutional or engineering controls to be implemented; and
m. Proposed corrective actions for chemical of concerns that exceeds a Tier 2 corrective action standard.

3. For the Tier 3 evaluation the owner or operator shall provide the following information:
a. Each chemical of concern evaluated;
b. Each medium contaminated, identified as surficial soil, subsurface soil, surface water, or groundwater;
c. The representative concentration of each chemical of concern for each contaminated medium;
d. A detailed description of the current and future use of the facility and surrounding properties, including a demonstration of the current and foreseeable use of groundwater within one-quarter mile of the source;
e. The point of exposure;
f. The point of compliance;
g. A revised conceptual site model;
h. Identification and justification for alternate assumptions, methodology or site-specific information used in place of the assumptions for the Tier 2 evaluation;
i. Any supporting calculations and reference citations used in the development of Tier 3 corrective action standards;

j. Results and validation of modeling for soil leaching, groundwater plume migration, and surface water hydrology;
k. A table of the calculated Tier 3 corrective action standards;
l. Risk characterization, and cumulative lifetime excess cancer risk, and hazard index for current and potential receptors for all chemicals of concern in all contaminated media;
m. A description of any institutional or engineering controls to be implemented; and
n. Proposed corrective actions for chemical of concern that exceeds a Tier 3 corrective action standard.

4. When a Tier 2 or Tier 3 evaluation relies on the use of an institutional or engineering control in establishing a corrective action standard, the owner or operator shall:
a. Demonstrate that the institutional or engineering control is legal, and technically and administratively feasible;
b. Record any institutional or engineering control with the deed for all properties impacted by the release;
c. Communicate the terms of the institutional or engineering control to current and future lessees of the property, and to those parties with rights of access to the property; and
d. Ensure that the terms of the institutional or engineering control be maintained throughout any future property transactions until concentrations of chemicals of concern meet a corrective action standard at the point of compliance that does not rely on the use of the institutional or engineering control. For the institutional or engineering control to be implemented, the owner or operator shall prepare an institutional or engineering control that includes the following, as appropriate:
i. Chemicals of concern;
ii. Representative concentrations of the chemicals of concern;
iii. Any Tier 2 or Tier 3 corrective action standard;
iv. Exposure pathways that are eliminated;
v. Reduction in magnitude or duration of exposures to chemicals of concern;
vi. The cumulative excess lifetime cancer risk and hazard index if determined under subsection (A)(4);
vii. A brief description of the institutional or engineering control;
viii. Any activity or use limitation for the site;
ix. The person responsible for maintaining the institutional or engineering control;
x. Performance standards;
xi. Operation and maintenance plans;
xii. Provisions for removal of the institutional or engineering control if the owner or operator demonstrates that representative concentrations of chemicals of concern comply with an alternative corrective action standard not dependent on the institutional or engineering control; and
xiii. A statement of intent that informs lessees and parties with rights of access of the terms described in subsections (4)(d)(i) through (xii).

C. Submittal of tier evaluation. The owner or operator shall submit to the Department the tier evaluation conducted under subsection (A) and provide, in accordance with subsection (B), the following:
1. Documentation of the Tier 1 evaluation with the site characterization report described in R18-12-262(D), and
2. Documentation of the Tier 2 evaluation as soon as practicable during the course of conducting risk-based responses to contamination, as a stand alone document or in conjunction with one of the following:
a. The site characterization report described in R18-12-262(D);
b. The CAP as described in R18-12-263.02(B); or
c. The corrective action completion report described in R18-12-263.03(D).
3. Documentation of the Tier 3 evaluation shall be submitted to the Department as soon as practicable during the course of conducting risk-based responses to contamination, as a stand alone document or in conjunction with the CAP described in R18-12-263.02(B).

R18-12-263.02. Corrective Action Plan

A. An owner or operator shall prepare a CAP that protects public health and the environment. The Department shall apply the following factors to determine if the CAP protects public health and the environment:
1. The physical and chemical characteristics of the chemical of concern, including toxicity, persistence, and potential for migration;
2. The hydrologic and geologic characteristics of the facility and the surrounding area;
3. The proximity, quality, and current and future uses of groundwater and surface water;
4. The potential effects of residual contamination on groundwater and surface water;
5. The risk characterization for current and potential receptors; and
6. Any information gathered in accordance with R18-12-251 through R18-12-263.03.

B. CAP contents. An owner or operator shall prepare a CAP in a format provided by the Department that includes:
1. The extent of contamination known at the time of the CAP submission, including a current LUST site classification form, as described in R18-12-261.01(E);
2. A description of any responses to soil, surface water, or groundwater contamination initiated;
3. A determination of the foreseeable and most beneficial use of surface water or groundwater within one-quarter mile of the outermost boundaries of the contaminated water, if a Tier 2 or Tier 3 evaluation is used for the corrective action standard for either medium. In making this determination the owner or operator shall:
   a. Conduct a survey of property owners and other persons using or having rights to use water within one-quarter mile of the outermost extent of contaminated water; and
   b. Include within the CAP the names and addressed of persons surveyed and the results;
4. A description of goals and expected results;
5. The corrective action standard for each chemical of concern in each affected medium, and the tier evaluation documents;
6. If active remedial methodologies are proposed the owner or operator shall:
   a. Describe any permits required for the operation of each remediation technology and system.
   b. Describe, in narrative form, the conceptual design, operation, and total estimated cost of three remedial alternatives proposed to perform corrective actions on contaminated soil, surface water or groundwater. Also include data and conclusions supporting the selection and design of each technology and system, including criteria for evaluation of effectiveness in meeting stated objectives and an abandonment plan. The information described in this subsection is not required if the remedial technology in the CAP is limited to approval of corrective action standards developed under Tier 2 or Tier 3 evaluation.
   c. Justify the selection of the remedial alternative chosen for the contamination at and from the LUST site. The owner or operator shall consider site-specific conditions and select a remedial alternative that best meets all of the remediation criteria listed in A.R.S. § 49-1005(D).
   d. Provide schedules for the implementation, operation, and demobilization of any remediation technology and periodic reports as described in R18-12-263(G) to the Department.
7. The reasonably foreseeable effects of residual contamination on groundwater and surface water.
8. Additional information necessary to analyze the site-specific conditions and effectiveness of the proposed remedial response, which may include, but is not limited to a feasibility study.

C. Modification of CAP. The owner or operator shall modify the CAP upon written request of the Department to meet the requirements of subsections (A) and (B). The request for modification shall describe any necessary modification and its rationale. The owner or operator shall respond to the request in writing within 45 calendar days of receipt, or a longer time period approved by the Department. If the requested modification is not made within 45 days, the Department shall disapprove the CAP, and notify the owner or operator in writing under subsection (H)(2).

D. Preliminary CAP approval. If the requirements of subsections (B) and (C) are met, the Department shall provide written notice to the owner or operator that the CAP is complete, and provide public notice required by R18-12-264.01.

E. Implementation before approval. An owner or operator may, in the interest of minimizing environmental contamination and promoting more effective remediation, begin implementation of the remediation technologies, in the CAP, before the plan is approved by the Department, if the owner or operator:
1. Informs the Department in writing before implementation;
2. Complies with any conditions imposed by the Department consistent with the provisions of subsection (A), including halting any activity or mitigating adverse consequences from implementation; and
3. Obtains all necessary permits and approvals for the remediation activities.

F. Modification due to public comment. An owner or operator shall modify the CAP upon written request of the Department that modification is required because of public comment received. The request shall describe any necessary modification and its rationale. The owner or operator shall respond to the modification request within 45 calendar days after receipt. If the requested modification is not made in writing within 45 days, the Department may disapprove the CAP and notify the owner or operator in writing described in subsection (H)(2).

G. Conditions for CAP approval. The Department shall approve a CAP only if the following conditions are met:
1. The CAP contains all elements required in subsections (B), (C), and (F), or the Department makes a determination that it has enough information to make an informed decision to approve the CAP; and
2. The CAP demonstrates that the corrective actions described are necessary, reasonable, cost-effective, technically feasible and meet the requirements of A.R.S. § 49-1005.

H. Notice of CAP approval. The Department shall notify the owner or operator in writing that it is approving or disapproving the CAP as follows:
1. If the conditions in subsections (G)(1) and (G)(2) are satisfied, the Department shall approve the CAP and notify the owner or operator. If the approved CAP includes a corrective action standard for water that is based on a Tier 2 or Tier 3 evaluation, the Department shall send a copy of the notice to the Arizona Department of Water Resources, the applicable county, and municipality where the CAP will be implemented, and water service providers and persons

having water rights that may be impacted by the release. The notice shall also be sent to any persons submitting written or oral comments on the proposed CAP. The notice shall include any conditions upon which the approval is based and an explanation of the process for resolving disagreements over the determination under A.R.S. § 49-1091.

2. If the conditions of subsections (G)(1) or (2) are not satisfied, the Department shall disapprove the CAP and notify the owner or operator in writing of the disapproval. The Department shall send the notice to any persons submitting written or oral comments on the proposed CAP. The notice shall include an explanation of the rationale for the disapproval and an explanation of the process for resolving disagreements under A.R.S. § 49-1091.

I. CAP implementation. If the CAP is approved, the owner or operator shall begin implementation in accordance with the approved schedule.

J. CAP termination. The Department may terminate an implemented CAP, and may require a new CAP if the corrective action standards of the approved CAP are not being achieved. The Department shall provide notice to the owner or operator and the public under R18-12-264.01 if termination of the CAP is being considered.

K. Revisions to an approved CAP. The Department may approve revisions to an approved CAP without additional public notice unless the revision involves alternative remediation methodologies, or may adversely affect public health or the environment.

L. New CAP. The Department shall require a new CAP under R18-12-263(C) or (D) if a revision involves an alternative remediation methodology or may adversely affect public health or the environment.

R18-12-263.03. LUST Case Closure

A. LUST case closure request. An owner or operator requesting LUST case closure by the Department shall do so in writing, and submit a corrective action completion report that meets the requirements of this Section. The owner or operator shall submit the request for LUST case closure only after the site investigation requirements in R18-12-261 and R18-12-262, and any remedial response required by R18-12-263 are satisfied.

B. Verification that corrective action standard is met. The owner or operator shall verify that the corrective action standard for each chemical of concern in each contaminated medium is met, and provide documentation of the verification described in subsection (D).

C. Method of water quality verification. If LUST site investigations indicate that water quality was threatened or impacted, the owner or operator shall use an appropriate method of water quality verification. The owner or operator shall provide documentation that contaminant concentrations are at or below the corrective action standard for each chemical of concern in the contaminated groundwater and surface water. In selecting a method of water quality verification, the owner or operator shall consider:

1. Site-specific hydrologic conditions;
2. The full extent of water contamination, as documented in the site characterization report required by R18-12-262; and
3. The existence and location of known receptors that are or may be impacted by the release.

D. Contents of corrective action completion report. The owner or operator shall include the following information in the corrective action completion report, except that identical information previously submitted to the Department is not required to be resubmitted if the name, date, and applicable page(s) of any previous report containing the information required by this subsection is provided:

1. A description of the vertical and lateral extent of contamination;
2. A statement of the corrective action standard for each chemical of concern in each contaminated medium and the evaluation described in R18-12-263.01(B) for each tier evaluated;
3. A list of remediation technologies used to reach the corrective action standard;
4. Documentation verifying that the corrective action standard for each chemical of concern, in each medium of concern, has been met. Verification is not required if an initial investigation regarding soil, surface water, or groundwater described in R18-12-262 demonstrates the corrective action standard for each chemical of concern in each medium of concern has been met;
5. All sample collection locations shall be shown for both the site investigation described in R18-12-262 and the LUST case closure verification described in this Section;
6. Verification that Arizona Department of Water Resources permitted monitor wells, recovery wells, or vapor extraction wells that are abandoned before submission of the LUST case closure request, have been abandoned as required under A.A.C. R12-15-816 and that recovery wells or vapor extraction wells without Arizona Department of Water Resources permits have been abandoned in a manner that ensures that the well will not provide a pathway for contaminant migration;
7. Documentation showing compliance with the requirements for the storage, treatment, or disposal of any derived waste in R18-12-263(F);
8. Documentation showing any institutional or engineering controls that have been implemented, and any legal mechanisms that have been put in place to ensure that the institutional or engineering controls will be maintained;
9. The current LUST site classification form in R18-12-261.01(E); and
10. Any additional information the owner or operator determines is necessary to verify that the LUST case is eligible for closure under this Section.

E. Conditions for approval of LUST case closure. The Department shall inform the owner or operator that a corrective action completion report is approved if it meets the requirements of this Section and A.R.S. § 49-1005, and contains all of the information in subsection (D), or the Department determines that it has enough information to make an informed decision to approve the report and close the LUST case file.

F. Notice of LUST case closure decision. The Department shall provide written notice to the owner or operator that the corrective action completion report either does or does not comply with the requirements of this Section, and that case closure is approved or denied. LUST case closure occurs as follows:

1. If the Department determines that the conditions in subsection (E) are satisfied, the Department shall approve the report, close the LUST case, and notify the owner or operator. The notification shall include any conditions upon which the approval is based and explain the process for resolving disagreements provided by A.R.S. § 49-1091; or
2. If the Department determines that the conditions in subsection (E) are not satisfied, the Department shall disapprove the report and notify the owner or operator. The notification shall include any conditions upon which the disapproval is based and explain the process for resolving disagreements under A.R.S. § 49-1091.

G. Change in foreseeable or most beneficial use of water. If the Department is notified of a change in the foreseeable or most beneficial use of water, documented under a Tier 2 or Tier 3 evaluation, the Department shall reopen the LUST case file and require the owner or operator to perform additional corrective actions as necessary to meet the requirements of R18-12-261 through R18-12-264.01.

H. Subsequent discovery of contamination. If evidence of previously undocumented contamination is discovered at or emanating from the LUST site, the Department may reopen the LUST case file based on an assessment of site specific information and require an owner or operator to perform additional corrective actions necessary to comply with the requirements of R18-12-261 through R18-12-264.01.

R18-12-264. ~~Reserved~~ General Reporting Requirements

A. Standard first page. An owner or operator making a written submission to the Department under R18-12-251 through R18-12-263.03 shall prepare a cover page, on a Department provided form, that contains the following:

1. The name, address, and daytime telephone number of the person responsible for submitting the document, identified as owner, operator, a political subdivision under A.R.S. § 49-1052(H), a person under A.R.S. § 49-1052(I), or other person notifying the Department of a release or suspected release or conducting corrective actions under A.R.S. § 49-1016(C)(2) or (4), and any identifying number assigned to the person by the Department;
2. Identification of the type of document or request being submitted;
3. The LUST number assigned by the Department to the release that is the subject of the document. If no LUST number is assigned, the date the release or suspected release was reported to the Department;
4. The name and address of the facility, and the facility identification number;
5. The name, address, daytime telephone number, and any identification number assigned by the Department of the owner and operator and the owner of the property that contains LUST; and
6. A certification statement signed by the owner or operator or the person conducting the corrective actions under A.R.S. § 49-1016(C) that reads: "I hereby certify, under penalty of law, that this submittal and all attachments are, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations."

B. Professional registration requirements. Both the professional submitting a written report to the Department under R18-12-260 through R18-12-263.03 and the report shall meet the requirements of the Arizona Board of Technical Registrations under A.R.S. Title 32, Chapter 1 and the rules made under that Chapter.

C. Certified remediation specialist. If the contaminated medium is limited to soil and involves only a Tier 1 or Tier 2 evaluation, an owner or operator may request that the Department accept, without review for completeness or deficiencies, a site characterization report described in R18-12-262(D) or corrective action completion report described in R18-12-263.03(D), signed by a certified remediation specialist meeting the requirements of (B). The Department may audit up to 25% of the documents submitted annually under this subsection. The Department shall select documents to be audited at random, unless the Department receives a written request to review a specific document. The Department shall review the audited document to determine whether it complies with R18-12-262 or R18-12-263.03. The Department shall approve the document based solely on the seal and signature of the certified remediation specialist, if the following certification is signed and notarized by both the certified remediation specialist and the owner or operator. The language of the certification shall be as follows:

"I hereby certify that I have reviewed the attached report on the underground storage tank (UST) release(s) reported to the Arizona Department of Environmental Quality and have determined that all requirements of A.R.S. § 49-1005 and the rules made under that Section have been met. I request approval of this report as submitted. I agree to indemnify and hold harmless the state of Arizona, the Department of Environmental Quality, and their officers, directors, agents or employees from and against all claims, damages, losses, attorneys' fees, and expenses, arising out of Departmental acceptance of this report based solely on my signature and seal as a certified remediation specialist, including, but not limited to, bodily injury, sickness, disease or injury to or destruction of tangible property, including

any loss of use therefrom caused in whole or in part by any negligent act or omission of mine as a certified remediation specialist, any subcontractor, anyone directly or indirectly employed by me or any subcontractor, or anyone for whose acts I or any subcontractor may be liable, regardless of whether or not caused in part by a party indemnified by this certification."

D. Department approval and liability waiver. The owner or operator shall be notified by the Department that the acceptance of a document complying with subsection (C) is based solely on the notarized statement of the certified remediation specialist, without Department review, and that no liability, associated with the acceptance, accrues to the state.

R18-12-264.01. Public Participation

A. Public notice. If public notice is required by A.R.S. § 49-1005, or rules made under that Section, the Department shall provide a minimum of 30 calendar days notice to the public regarding a public comment period. The Department shall use methods of public notice designed to reach those members of the public directly affected by the release and the planned corrective actions including, but not limited to, publication in a newspaper of general circulation, posting at the facility, mailing a notice to owners of property affected or potentially affected by contamination from the release and corrective actions, or posting on the Department's internet site. If a CAP includes a corrective action standard for water based on a Tier 2 or Tier 3 evaluation, the Department shall send a copy of the notice to the Arizona Department of Water Resources, the applicable county and any municipality where the CAP will be implemented, water service providers and persons having water rights that may be impacted by the release.

B. Public notice contents. The Department shall provide notice to the public that includes all of the following:

1. Identifies the name of the document submitted to the Department that is available for public comment;
2. Identifies the facility where the release occurred and the site of the proposed corrective actions.
3. Identifies the date the document was submitted to the Department, and name of person who submitted the document;
4. Provides a specific explanation if a corrective action standard for water is based on a Tier 2 or Tier 3 evaluation;
5. Identifies at least two locations where a copy of the document can be viewed by the public, including the Department's Phoenix office and the public library located nearest to the LUST site;
6. Explains that any comments on the document shall be sent to the Underground Storage Tank Program of the Department within the time-frame specified in the notice; and
7. Describes the public meeting provisions of subsection (C).

C. Public meeting. After consideration of the amount of public interest, and before approving a document requiring public participation, the Department may hold a public meeting to receive comments on a document undergoing public review. If the Department holds a public meeting, the Department shall schedule the meeting and notify the public, in accordance with subsection (A), of the meeting time and location.

R18-12-280. Sampling Requirements

A. Required analytical procedures. For all sampling under this Chapter, an owner or operator shall:

1. Analyze samples for the chemicals of concern associated with regulated substances stored in the UST during its operational life by analytical test methods that are approved for analysis of each chemical of concern under A.A.C. R9-14-601 through R9-14-617. Before collecting samples, the Department may approve, a different procedure after considering whether the analytical data will be representative of the concentrations and compositions of volatile regulated substances existing in the contaminated medium;
2. Perform sample analyses using a laboratory licensed for the selected analytical method by the Arizona Department of Health Services under A.A.C. R9-14-601 through A.A.C. R9-14-617; and
3. Analyze samples within the specified time period required for the analytical test method under A.A.C. R9-14-601 through A.A.C. R9-14-617.

B. Quality assurance and quality control (QA/QC). ~~The following quality assurance and quality control procedures shall be performed for all required sampling~~ For all required sampling under this Chapter, an owner or operator shall:

1. ~~All Sampling Decontaminated~~ Decontaminate sampling equipment ~~shall be decontaminated using procedures set forth~~ as provided in R18-12-281(Q);~~.~~
2. ~~Samples shall be immediately labeled, sealed in a plastic bag, and placed in a cooler on ice in accordance with R18-12-281(R)(1) and R18-12-281(R)(2) and R9-14-601 through R9-14-617;~~. Handle and transport samples using a methodology that will result in analytical data that is representative of the concentrations and compositions of the chemicals of concern that may exist in the contaminated medium;
3. ~~Chain-of-custody~~ Follow chain-of-custody procedures under R18-12-281(S) ~~shall be followed, in accordance with subsection R18-12-281(S)~~, for all required sampling~~.~~, including the condition and temperature of the samples ~~as~~ received by the laboratory ~~shall be included~~ on the chain-of-custody record; and
4. Follow generally accepted industry standards. For the purpose of subsection (B), "generally accepted industry standards" mean those QA/QC procedures that are described in publications of national organizations concerned with corrective actions or that otherwise appear in peer-reviewed literature.

C. Soil sampling. ~~All~~ An owner or operator shall perform all soil sampling required ~~provided for in~~ under this Chapter ~~R18-12-272 shall be conducted in accordance with R18-12-281(R)(2). If regulated substances stored in the UST system at any time during the life of the system include volatile regulated substances, samples shall be obtained with minimal loss of volatile regulated substances in accordance with R18-12-281(R)(1). Samples of volatile regulated substances obtained through excavation shall be collected by driving a clean metal ring, metal cylinder, or a sleeve which is composed of an inert material such as Teflon, stainless steel, or brass into the center of the soil in the backhoe or trackhoe bucket immediately after the soil is lifted from the bottom of the excavation. The Department may approve, prior to obtaining samples, other procedures for sampling which have been determined by the Department to result in analytical data representative of the concentrations and compositions of volatile regulated substances actually present in the soil.~~ using a methodology that will result in analytical data that is representative of the concentrations and compositions of the chemicals of concern that may exist in the contaminated soil. The owner or operator shall use a sampling method that is based on consideration of all of the following criteria:

1. The specific chemicals of concern potentially involved,
2. Site-specific lithologic conditions,
3. Depth of sample collection, and
4. Generally accepted industry standards. For the purpose of subsection (C), "generally accepted industry standards" mean those soil sampling activities that are described in publications of national organizations concerned with corrective actions or that otherwise appear in peer-reviewed literature.

D. Groundwater sampling. ~~All~~ An owner or operator shall perform all required ~~water~~ groundwater sampling ~~required in R18-12-272~~ under this Chapter ~~shall be analyzed in accordance with R9-14-601 through R9-14-617~~ using a methodology that will result in analytical data that is representative of the concentrations and compositions of the chemicals of concern that may exist in the groundwater. The owner or operator shall use a sampling method that is based on consideration of all of the following criteria:

1. The specific chemicals of concern potentially involved,
2. Site-specific hydrologic conditions,
3. Site-specific monitor well construction details,
4. Depth of sample collection, and
5. Generally accepted industry standards. For the purpose of subsection (D), "generally accepted industry standards" mean those groundwater sampling activities that are described in publications of national organizations concerned with corrective actions or that otherwise appear in peer-reviewed literature.

E. Surface water sampling. An owner or operator shall perform all required surface water sampling under this Chapter using a methodology that will result in analytical data that is representative of the concentrations and compositions of the chemicals of concern that may exist in the surface water. The owner or operator shall use a sampling method that is based on consideration of all of the following:

1. The specific chemicals of concern involved or potentially involved,
2. Site-specific hydrologic conditions, and
3. Generally accepted industry standards. For the purpose of subsection (E), "generally accepted industry standards" mean those surface water sampling activities that are described in publications of national organizations concerned with corrective actions or that otherwise appear in peer-reviewed literature.