

NOTICES OF PROPOSED RULEMAKING

Unless exempted by A.R.S. § 41-1005, each agency shall begin the rulemaking process by 1st submitting to the Secretary of State's Office a Notice of Rulemaking Docket Opening followed by a Notice of Proposed Rulemaking that contains the preamble and the full text of the rules. The Secretary of State's Office publishes each Notice in the next available issue of the *Register* according to the schedule of deadlines for *Register* publication. Due to time restraints, the Secretary of State's Office will no longer edit the text of proposed rules. We will continue to make numbering and labeling changes as necessary.

Under the Administrative Procedure Act (A.R.S. § 41-1001 et seq.), an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the *Register* before beginning any proceedings for adoption, amendment, or repeal of any rule. A.R.S. §§ 41-1013 and 41-1022.

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TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 12. DEPARTMENT OF ENVIRONMENTAL QUALITY UNDERGROUND STORAGE TANKS

PREAMBLE

- | <u>Sections Affected</u> | <u>Rulemaking Action</u> |
|--------------------------|--------------------------|
| R18-12-101 | Amend |
| R18-12-102 | Amend |
| R18-12-250 | New Section |
| R18-12-251 | New Section |
| R18-12-260 | New Section |
| R18-12-260.01 | New Section |
| R18-12-261 | New Section |
| R18-12-262 | New Section |
| R18-12-263 | New Section |
| R18-12-263.01 | New Section |
| R18-12-263.02 | New Section |
| R18-12-264 | New Section |
| R18-12-280 | Amend |
- 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. §§ 49-104(B)(4), 49-1014(A).

Implementing statute: A.R.S. §§ 49-1004(D), 49-1005(E), 49-1005(F).
- List of all previous notices appearing in the Register addressing the proposed rules:**

Notice of Rulemaking Docket Opening: 3 A.A.R. 3368, November 28, 1997.
Notice of Rulemaking Docket Opening: 5 A.A.R. 27, January 4, 1999.
Notice of Rulemaking Docket Opening: 5 A.A.R. 4010, October 22, 1999.
- The name and address of agency personnel with whom persons may communicate regarding the rulemaking:**

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

CONTENTS OF THIS 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 Proposed Rule

ARTICLE 1. DEFINITIONS; APPLICABILITY

- 1) Introduction
- 2) Section-By-Section Explanation of the Proposed Rule

ARTICLE 2. TECHNICAL REQUIREMENTS

- 1) Introduction
- 2) Section-By-Section Explanation of the Proposed Rule

A. Introduction.

This proposed rule will complete the technical requirements for the management of an Underground Storage Tank (UST) of Article 2, Chapter 12, Title 18 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 releases of regulated substances from UST systems. These statutory requirements are found at Arizona Revised Statutes (A.R.S.) §§ 49-1004 and 49-1005. In order to implement these statutory requirements, the proposed rule also adds several definitions to those currently codified. The proposal also provides a general clarification of the compliance requirements of owners, operators, and other persons subject to regulation under the UST program as provided in A.A.C. Title 18, Chapter 12.

This proposed 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 the administration of the UST program and secure approval of the program from the United States Environmental Protection Agency (USEPA). The UST program regulates, as specified in statute, persons responsible for activities associated with UST systems. Articles 1 through 8 of Title 18, Chapter 12 of the A.A.C. currently contain most of the basic UST elements. Article 1 serves as an UST program “dictionary,” containing all definitions related to the balance of the articles in the Chapter. It also provides clarification of the responsibilities of owners and operators for compliance with the Chapter requirements. Article 2 currently provides for determining those UST systems that are subject to the rules and the “preventive” aspects of UST operations, such as installation of new USTs, upgrading existing systems, tank management and leak detection requirements and standards for temporary and permanent closure. The article also establishes requirements for sampling of contamination. This proposed rule will revise these 1st 2 articles by adding new definitions and expanding the applicability clarification in article 1 and including the reporting and investigation of suspected releases and the requirements for taking corrective action on actual releases in Article 2. When these rules become effective, the rule requirements necessary to receive program approval from USEPA will be in place. Articles 3, 4, and 5 (respectively) concern UST financial responsibility, excise tax, and tank fees. Article 6 provides for the administration of the UST State Assurance Fund (SAF) and Article 7 covers the UST grant program. Article 8 establishes requirements for certification of UST tank service providers.

The Department is currently considering revisions to Article 6 rules on the UST SAF. A draft is available for review by the public. In addition, the Department is continually evaluating the need for additional rulemakings to effectively administer the UST statutory requirements. Specifically, the Department is considering the need for rules on the administration of the A.R.S. § 49-1017.01 provisions for settlement authority of the Department with persons liable for direct corrective action costs, relief from obligation to conduct corrective action on property to which the responsible party cannot obtain access (A.R.S. § 49-1022), and the informal appeal provisions of A.R.S. § 49-1091.

B. Summary.

This proposed rule prescribes a set of uniform definitions and procedures that implement the statutes on release and

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suspected release reporting and corrective action. The proposed rule will provide sufficient detail to effectively carry out this essential part of the UST program without impairing the ability of the regulated person to exercise professional judgement in conducting activities or placing unrealistic burdens on any of the parties. The draft provides requirements for reporting of releases and suspected releases, and, when a release is actually determined to exist, the initial actions to be taken to reduce the effects of the release. Provisions for the initial site characterization and investigations for risk based responses to contamination (full site characterization) which determine the vertical and lateral extent of the contamination and information on and surrounding the contaminated area are established, as are the requirements for reducing the risks from the contamination to acceptable levels. The proposed rule also addresses requirements for closing the ADEQ case file on the 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.

The proposed rule also 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 proposed 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. In the current rule, there has been some concern over the clarity that requirements apply to persons only after they are determined to be an owner or operator. The revised provisions are re-designated as subsection (A) of R18-12-102.

Until a final rule becomes effective, these activities will continue to be conducted under the federal UST program at 40 CFR 280, Sections 280.50 through 280.67, and A.R.S. §§ 49-1004 and 49-1005. Overall, there will be little change in the way the Department is currently operating the UST program. The major exception will be the use of risk based corrective actions (RBCA) to 1) reduce the time and resources committed for both owner/operators and the agency in achieving site closure, and 2) determine cleanup standards for contaminated water that are above the water quality standards. The proposed rule also clarifies the approach to making these determinations. Additional information on the RBCA process is provided in section (5)(C) of this preamble. Because of the consistency of this proposed rule with the federal program, persons conducting reporting, investigation, and other corrective actions should not experience any additional economic impact when the proposed rule becomes final. In fact, it is projected that the more efficient approach of RBCA and the potential to reduce the amount of cleanup of water required to reach a level that is protective of public health and the environment will represent significant cost savings to these persons. The Department will experience minimal, if any, increased costs. This is the result of a more efficient approach to review of submitted information which will result in an expedited evaluation and decision process. See section 8 of this preamble for the preliminary summary of the economic, small business, and consumer impact.

The revisions to Article 2 of the proposed rule provide for applicability of the requirements to owners and operators with suspected releases and actual releases discovered before as well as after the effective date of the rule. The proposed rule next 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. At any time that there is a release determination, that is, verification that a release does exist, all activities relating to the suspected release investigation cease and the owner or operator is required to notify the Department of the release and begin corrective action.

The corrective action requirements of the proposed rule begin when a release determination is made. The circumstances constituting a release determination are discussed in the section-by-section explanation of R18-12-260 of this preamble. The owner or operator must notify the Department of the existence of the release within 24 hours of the determination and begin corrective action activities. These activities initially consist of stopping the release of regulated substances into the environment and mitigating hazardous conditions. The next objective is to investigate the LUST site and determine the circumstances of the existent geology and hydrology, concentrations and distribution of the contamination, pathways by which the contamination has or may use to spread into uncontaminated areas, and those populations and structures that meet the definition of "receptor" on and surrounding the contaminated area.

With information on the site available, the owner or operator must determine the concentration of each chemical of concern in each contaminated medium that is protective of public health and the environment. This concentration is the corrective action standard for the chemical of concern in the medium of concern. If the determined corrective action standard for water contamination is a concentration that is greater than the water quality standard, that standard must be approved by the Department and be subjected to public review before it can be used. This approval and public notification is done through use of the corrective action plan. The next step is to compare the corrective action

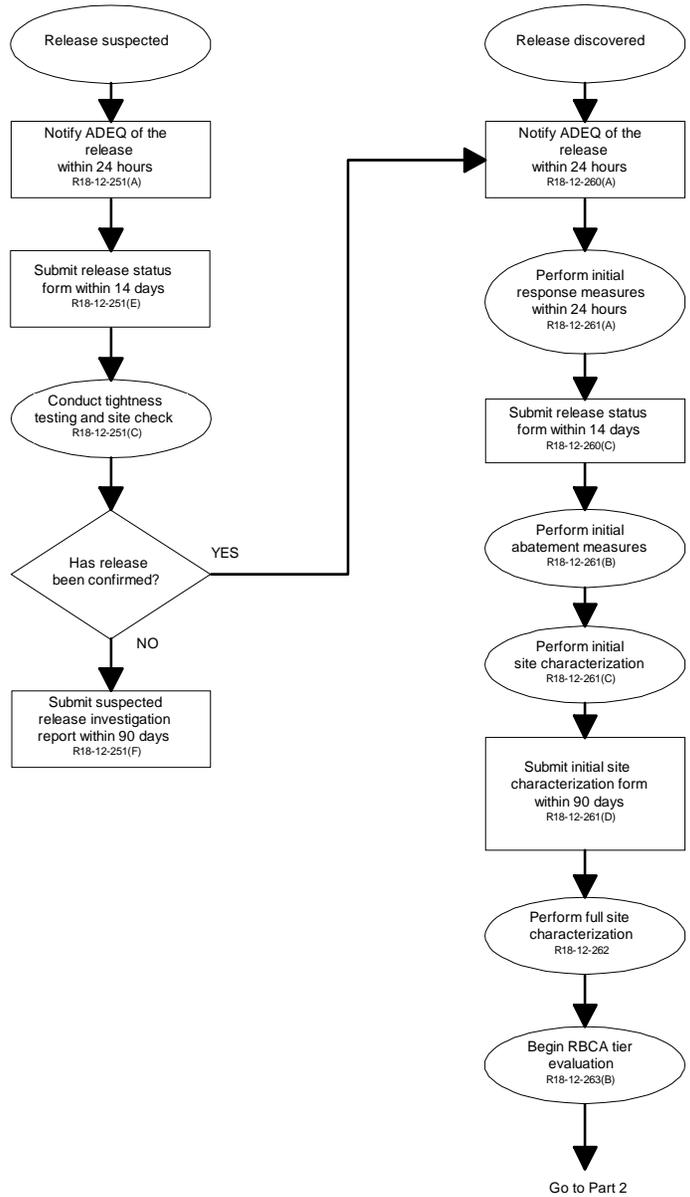
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standard to the concentration that exists at the site and determine what, if any, steps must be undertaken in order to attain the standard.

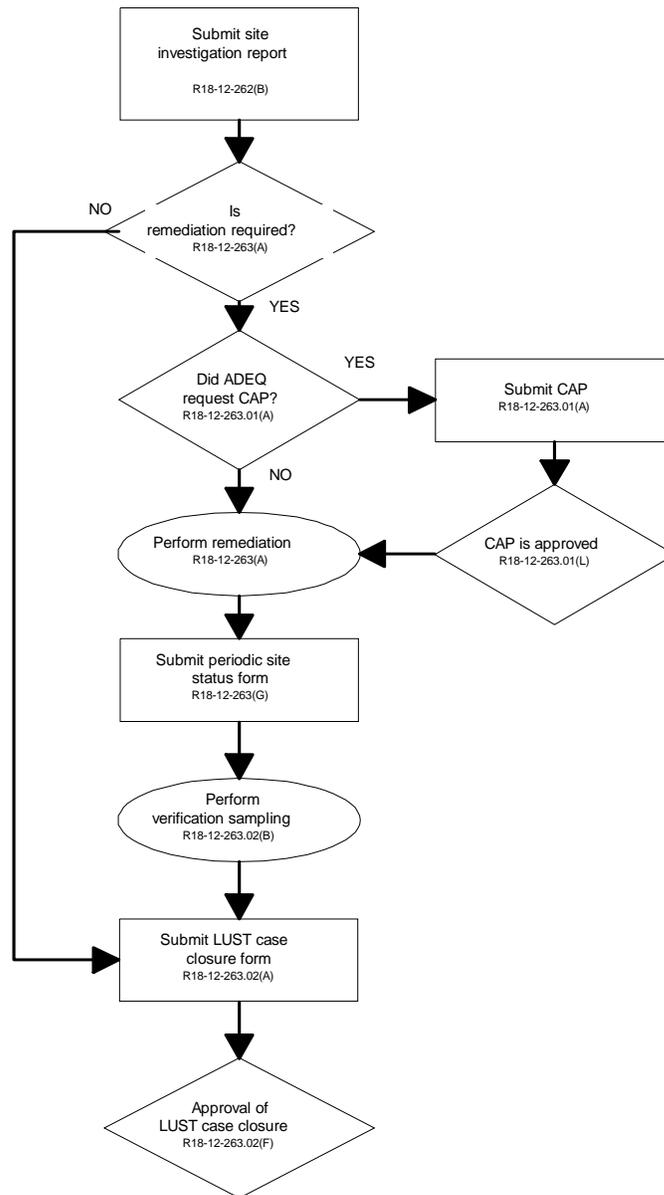
Once the corrective action standard for each chemical of concern in each contaminated medium is attained, the owner or operator can submit a request to have the LUST site closed. If the request evidences that the contamination no longer poses an unacceptable risk to public health or the environment, the Department will accept the request and close the LUST site.

Graphically, the process, in its usual progression is displayed as follows:

UST CORRECTIVE ACTION PROCESS
(PART 1)



UST CORRECTIVE ACTION PROCESS
(PART 2)



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The proposed rule 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. To provide a snapshot of the reporting and notification requirements, the following table is provided:

SUMMARY OF REQUIRED REPORTS		
REPORT	TIME-FRAME	RULE CITATION
SUSPECTED RELEASES		
Notification of suspected releases	Within 24 hours of discovery	R18-12-251(A)
Suspected release status	Within 14 days of discovery of a suspected release	R18-12-251(E)
Confirmation that a release does not exist	Within 90 days of discovery of a suspected release	R18-12-251(F)
RELEASES		
Notification of releases	Within 24 hours of discovery	R18-12-260(A)
Release status	Within 14 days of release discovery	R18-12-260(C)
Initial site characterization	Within 90 days of release discovery	R18-12-261(D)
Investigations for risk based responses to contamination	Within 1 year of release discovery, or as otherwise approved	R18-12-262(D)
Annual status	Annually, subsequent to Department acceptance of investigations for risk based responses to contamination report	R18-12-263(G)
Corrective action plan (CAP)	Within 120 days of Department request	R18-12-263.01(A)
LUST case closure	When appropriate	R18-12-263.02(A)

C. Risk Based Corrective Actions (RBCA).

This proposed rule has frequently been referred to as the “RBCA rule”, or Risk-Based Corrective Action rule. As a means of clarifying the expectations of what a RBCA rule is and the approach taken to provide a RBCA rule within the framework of Arizona law, a general discussion is provided here in addition to the explanations found in the sections on release reporting and corrective actions. RBCA, as applied to numerous state programs for leaking underground storage tanks, is based in part on the standard (E 1739-95) developed by the American Society for Testing and Materials. RBCA is a process for addressing the appropriate steps to be taken in the investigation and response to a release of a regulated substance from a regulated UST. These steps include reporting requirements, initial site classification and response, full site characterization and assessment of the extent of contamination in all impacted or potentially impacted media (investigations for risk based responses to contamination), development of risk-based corrective action standards, implementation of the chosen risk-based corrective action, and site closure.

Certain elements of the RBCA process have already been established and in use at the UST program. Sites have been prioritized according to the degree of impact. Closures have been achieved by implementing the soil rule, which currently allows sites with soil contamination to be closed according to a predetermined remediation level which is provided in rule in tabular format, or for calculation of an alternative level which is determined by risk assessment. No options are currently available for closure of sites with contaminated surface water or groundwater exceeding the water quality standard specified in rule or statute.

The Arizona Legislature has mandated that the Department develop rules necessary to implement a RBCA rule and, subject to specified safeguards, approve a corrective action that may result in water quality that exceeds water quality standards. The proposed rule provides the process to allow the closure of LUST sites where there are exceedances of the water quality standards for groundwater and surface water as specified in A.R.S. § 49-1005(E). This allowance is

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a major component of the RBCA process which determines the level of cleanup based on site-specific conditions and still is protective of public health and the environment. The predetermined water quality standards are used for the corrective action standards under Tier 1 evaluations. Exceedances of the water quality standards can be approved by the Director if certain criteria are met 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. Under the current conditions, the owner or operator responsible for the contamination and its cleanup would be required to remediate the water to standards far above those that would be required if the standard were related to current or potential use. Another major consideration is the potential to expend millions of dollars of taxpayer money, through payments for corrective actions from the State Assurance Fund (SAF), where there is questionable benefit to the citizens of Arizona. For these reasons, the provisions of A.R.S. § 49-1005(E) were revised by the Legislature to allow water to be cleaned up to standards related to the current and potential practical maximum beneficial use while being protective of public health and the environment.

Options become available with the use of RBCA. These proposed rules focus data requirements and site investigation into a tiered approach for evaluating the degree of risk to public health and the environment. As apposed to the soil rule which provides 2 tiers of clean up levels, RBCA provides for 3 tiers for all contaminated media. The differences between the 3 tiers sets a system for the minimization of time, resources and money expended on investigation and remediation activities which are “unreasonable or unnecessary” in achieving acceptable target cleanup goals. The basis for these tiered target cleanup goals is grounded in achieving similar, acceptable levels of protection for human health and the environment. A table describing the 3 tiers has been included below to assist the regulated community. One of the goals of this proposed rule is to aid in the identification of the elements which will be considered in the RBCA approach and the boundaries of these elements in rule.

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RBCA TIERED APPROACH for LUST SITES			
CRITERIA	TIER 1	TIER 2	TIER 3
Soil Target Level	Soil Remediation Level (SRL), Background, minimum Groundwater Protection Level (GPL)	Tier 1 levels corrected for site-specific conditions using same models as Tier 1 except soil vapor flux	Site-specific and other models than those used in Tier 2
Groundwater Target Level	Numeric Aquifer Water Quality Standard (AWQS) (R18-11-406); and Recommended screening levels	Tier 1 levels corrected for site-specific conditions; and Narrative AWQS (R18-11-405)	Tier 1 levels corrected by others models & more/different site-specific data
Surface Water Target Level	Numeric WQS (R18-11-109); Background (R18-11-119)	Tier 1 levels corrected for variances (R18-11-122) and mixing zones (R18-11-114); Narrative WQS (R18-11-108)	More site-specific modeling of Tier 2 mixing zones
Ecological Target Level	USEPA Benchmarks	Limited site-specific assessment	Site-specific assessment
Point of Compliance	Location of maximum level	Location of nearest on-site receptor or downgradient facility boundary	Nearest exposure point, either on-site or off-site
Exposure Pathways	All	Based on Conceptual Site Model (CSM)	Based on modeling
Receptors	Generic residential, non-residential, or ecological group; and production wells	Site-specific	Same as Tier 2 or more site-specific
Restrictive Covenant	Not Applicable	Institutional Control Engineering Control	Institutional Control Engineering Control
Corrective Action Plan	Site-specific	Site-specific	Required in all cases
Public Notice	Site-specific	Site-specific	Yes

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. Each year, all agencies must then report their compliance with the time-frames to GRRC and identify the number of applications received for each license category during the previous fiscal year, the number granted or denied within time frames, and the number each agency failed to make a licensing decision prior to the expiration of time frames.

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 1 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

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process.

The Department separates its general LTF rulemaking duties from specific rulemaking activities for 2 reasons. The 1st is that Arizona law prohibits an agency from including provisions from more than 1 chapter of the Arizona Administrative Code (A.A.C.) in a single rulemaking. LTF requirements are found under 18 A.A.C., chapter 1, and the corrective action rules are found under chapter 12. The 2nd reason closely follows the 1st reason. The Department must consolidate amendments to the LTF rule from the different programs into 1 rulemaking as necessary so that no more than 1 rulemaking is in progress on this subject at 1 time, also due to Arizona law requirements. The Department anticipates several benefits to this approach. First, this will allow stakeholders to focus on the entire LTF rule at the same time rather than piecemeal through 10, 15, or more separate rulemakings each year. Second, a large single amendatory rulemaking will allow a better opportunity to adjust the rule in its entirety in response to public comment, especially in regards to the unitary sections of the LTF rule. Finally, a single LTF rulemaking is sure to use only a very small fraction of Department and public oversight resources than would continuous LTF rulemakings conducted throughout the year and at the rate of 1 or more each month.

E. Section-by-section Explanation of the Proposed Rule.

ARTICLE 1

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 proposed 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 for understanding of 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 or operator.

2) Explanation of the Proposed Rule.

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. The centralization of definitions within Article 1 was implemented in the 1992 rulemaking that codified the initial rules on the SAF and financial responsibility. Use of 1 section for all definitions gives the reader an UST "dictionary" and avoids repeating terms as would be required if each article contained its own definitions.

The 46 new terms (shown in full underline in R18-12-101), defined for implementation of this proposed rule on release reporting and corrective action, are "Aboveground release," "ADWR," "Bedrock," "Belowground release," "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," "Land use," "LUST number," "LUST site," "Nature of the regulated substance," "Nature of the release," "Point of compliance," "Point of exposure," "Receptor," "Regulated substance," "Release," "Release determination," "Release discovery date," "Remediation," "resource conservation and recovery act" or "RCRA," "Risk based response," "Risk characterization," "SARA," "Site location map," "Site plan," "Source area," "Spring," "Surface water," "Surficial soil," "Suspected release discovery date," "Suspected release notification date," "Vadose zone," "Waters of the State," and "Waters of the United States."

For the purposes of the UST program, definitions have been adapted for certain terms which have a different scope in other programs. An example of this is the definition for "Surficial soil." Although the depth varies at which "surficial soil" constitutes the location of shallow soils for certain types of exposure scenarios, ADEQ has utilized the designation of 0 to 15 feet below surface grade. In addition to the surface soils which may be available for fugitive dust emissions, ingestion or dermal contact, this depth accounts for potential future exposures to soils which previously were not available for direct contact. Soils at these depths are easily "disturbed" and brought to the surface during excavation activities. Another example is the UST program's use of "contaminant" and "chemical of concern" (COC). The term COC has taken on a broader perspective. It refers to any regulated chemical released from a UST system which is present and analyzed in affected media, and evaluated in any of the tiered risk based processes. Unlike other programs, COCs are not just those chemicals which exceed the acceptable health risk.

Revisions to existing definitions currently in R18-12-101 are shown with new text in underline and text to be deleted in strikethrough. These revisions have been made for purpose of clarification. Additional terms will be added to R18-12-101 during the Rulemaking to revise the State Assurance Fund (SAF) rules of Article 6.

R18-12-102. Applicability: This section contains 3 subsections dealing with application of A.A.C. Title 18,

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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. A slight revision clarifies that the applicability is to persons who are either the owner or the operator. The text is revised to make clear that those requirements applicable to owners and operators apply only to those who hold that status. There was some question in past as to compliance requirements prior to a person being determined to hold the status of an owner or operator.

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. The subsection is added to clarify that the Chapter does apply to these persons, who are frequently referred to as “volunteers,” although some of the provisions are mandatory. Unless otherwise prevented, under statute or rule, persons conducting corrective action under A.R.S. § 49-1016(C)(4), are eligible for payment from the UST State Assurance Fund (SAF) as volunteers under A.R.S. 49-1052(I).

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

1) 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 compliance 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 proposed rule reflect this approach and are R18-12-250 through R18-12-264. ADEQ solicited comments on the desirability of making release reporting and corrective action a stand alone article (Article 2.1) during the informal comment period; however, stakeholders did not feel this approach was of significant benefit.

The proposed 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)
- LUST Site Classification (R18-12-260.01)
- Initial Response, Abatement, and Site Characterization (R18-12-261)
- Investigations for Risk Based Responses to Contamination, commonly referred to as Full Site Characterization (R18-12-262)
- Risk Based Responses to Contamination, commonly referred to as “remediation” (R18-12-263)
- Corrective Action Plan (CAP) (R18-12-263.01)
- LUST Site Closure (R18-12-263.02)
- General Reporting Requirements (R18-12-264)
- Sampling Requirements (R18-12-280)

The provisions for performing corrective actions on a release are designed to allow maximum flexibility in accomplishment. The owner or operator may perform all activities virtually simultaneously, if site conditions permit. If a release is discovered and the initial site characterization determines that response activity, other than a request for LUST site closure, is unnecessary, a consolidated report may be submitted to the Department. That report must meet the requirements for the report of investigations for risk based responses to contamination and request for LUST site closure, but can be a consolidation. If the site check determines the full extent of contamination and moving on to closure is appropriate, that should be the next step in the process. Similarly, the initial characterization and the full characterization may be accomplished at the same time, instead of having to be sequential. All time requirements for accomplishment of a task run from the release determination date, instead of from the filing of a prerequisite report and only maximum times for compliance are established for some activities. There is no time frame established for the owner or operator to complete any required risk based response to contamination or for filing the request for LUST site closure.

The proposed rule does not establish time requirements for the Department to respond to a submitted document or report. A.R.S. § 49-1091 makes informal appeal available to the owner or operator or SAF volunteer if the Department fails to respond within 120 days after receipt. Documents subject to this 120 day time limit include site characterization reports, corrective action plans, and closure requests. Under the statute, the ability to file the informal appeal is in the hands of the person making the submission. Therefore, if that person and the Department experience situations where additional time is needed, constraints of rule will not override issue-specific circumstances. If the person making the submission feels the Department has not responded to the submission on a timely basis, the appeal is available after the expiration of the 120 days. The statute also establishes that an owner, operator, or SAF volunteer disagreeing with a written interim determination, must file an informal appeal within 30 days of receiving the determination from the Department. With these over-riding provisions of the statute, additional response requirements in the proposed rule are unnecessary.

2) Explanation of the Proposed Rule.

R18-12-250. Applicability and Scope: This section is made up of 4 subsections. The 1st addresses suspected or actual releases that must be managed in accordance with all or part of the proposed rule. The 2nd deals with other requirements which the proposed rule will not supersede. The 3rd explains the process for notification and investigation of suspected releases. The 4th relates the process for conducting corrective action.

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 proposed rule to the extent of the relief. The statutory provisions are clear and no benefit is gained by adding rule text on this subject. The Legislature provided relief to owners and operators who are unable to obtain permission to enter property for purpose of conducting corrective action if 2 requests for access, which included reasonable compensation, have been sent to the person able to grant access and that access has not been granted. The statute does not require the relief to be granted by the Department, only the demonstration of compliance with the requirements is needed.

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. For a release reported before the effective date, only those provisions applicable to work that has not been initiated must meet the requirements of the proposed rule. For example, if the release is reported before the effective date of the proposed rule, and full site characterization, which would be otherwise performed and reported on in accordance with the proposed R18-12-262 (Investigations for Risk Based Responses to Contamination), has commenced, those site characterization activities will not have to be redone to meet the requirements of the rule. The requirements of the proposed rule and the federal regulations are virtually the same. Uninitiated remediation and a closure request, of course, would have to comply with the final rule.

The Department encourages owners or operators to take advantage of the certainties provided with compliance with the proposed rule, even if not required. This would be of special benefit for those seeking SAF payment. Under the statutory provisions of A.R.S. §§ 49-1004 and 49-1005, the final rule must be consistent with and no more stringent than the federal rules. Therefore, there is little functional difference between this proposed rule and the Department's current requirements for compliance with the Code of Federal Regulations. The major exception is for closure of a LUST site with concentrations of a chemical of concern above the applicable water quality standard. To do this, the owner or operator must, by statute, be in compliance with the final rule.

There may be some advantages to owners or operators who voluntarily comply with the proposed rule. For instance, the Department's current guidance includes determination of the full extent of contamination in soil to laboratory detection limits for all chemicals of concern. Under the provisions of R18-12-262(C)(1)(a), concentrations of hydrocarbons (C10 to C32) for diesel, new oil, or used oil are set at the residential level concentration established by the ADEQ Final Soil Remediation Standards rule (Appendix A).

An owner or operator with a release from an UST system excluded under R18-12-210(B) of Article 2, is not subject to the proposed rule requirements. Further, an owner or operator with a release subject to hazardous waste corrective action requirements under Resource Conservation and Recovery Act (RCRA) Subtitle C Section 3004(U), is only subject to the suspected release reporting and investigation requirements of the proposed rule. Section 3004(U) of RCRA Subtitle C establishes requirements for permitted facilities. Under this proposed rule, as under the federal program from its inception, releases of hazardous substances at other than these RCRA permitted facilities are subject to UST jurisdiction, not RCRA Subtitle C corrective action.

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

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corrective action plan or work plan (under the SAF preapproval provisions of Article 6) approved by the Department before the rule effective date will prevail where plan content and proposed rule requirements conflict. It is not necessary to repeat here the general exemption from rule requirements where the rule conflicts with an order of a court or the ADEQ Director as those provisions are included in the provisions of R18-12-102 of this proposed rule.

Subsection (C) is the 1st of 2 subsections dealing with process. This subsection establishes the basic steps for notifying the Department if a suspected release is discovered, performing the investigation, and informing the Department of the result.

Subsection (D), like subsection (C), relates the process for notifying the Department and going through the process of corrective action.

R18-12-251. Suspected Release: The provisions of this section will implement the requirements for reporting and investigation of suspected releases under A.R.S. § 49-1004. The reporting requirements for actual releases under this section of the statute is provided for in proposed R18-12-260. The definitions of “Suspected release” and “Release” are defined by A.R.S. § 49-1001. Section R18-12-251 is made up of 7 subsections covering initial notification, investigation and written reporting requirements for suspected releases.

Subsection (A) requires an oral or written notification to the Department within 24 hours of discovery of a suspected release. The subsection clarifies that small spill or overfill releases that are contained and cleanup within 24 hours are not required to be reported or investigated. Also, the subsection clarifies that if the conditions of a suspected release described in the definition of that term in A.R.S. § 49-1001(16)(b) or (c)(I) exist for less than 24 hours, the requirements of the section do not apply. These conditions are the indication that a release may exist from a release detection device, or other circumstances, such as the erratic behavior of dispensing equipment when the device or equipment is repaired, recalibrated or replaced immediately.

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 of discovery of the suspected release. The 90 day compliance period begins to run from the “suspected release discovery date” or the “suspected release notification date” which are defined in R18-12-101. If a system fails the tightness test or environmental contamination exists, the owner or operator is required to “measure” for the presence of a release. The term “measure” is used in the proposed rule because a release is determined to exist when either free product is discovered or laboratory analytical results are received (see the definition of “release determination” in R18-12-101).

Subsection (D) clarifies that if a release determination is made, that further compliance with the requirements of the section is not required. Because there is no definite way of pre-determining the investigation status at a given number of days after discovery of a suspected release, the provision in this subsection eliminating the requirement for further compliance will eliminate the requirement for submission of 1 or both of the reports otherwise required under subsections (E) and (F). Additionally, the owner or operator is directed to notify the Department of the release (as required in R18-12-260(A) and perform corrective actions.

Subsections (E) and (F) establish the requirements for written reports associated with a suspected release. Subsection (E) requires a status report within 14 calendar days after the discovery. Subsection (F) requires that a written report that an investigation had been conducted and no release was found. The written report is to be submitted within 90 days after a suspected release discovery or notification date.

The written report required under subsection (E) that is required within 14 days of the suspected release discovery or notification date, is specifically required by A.R.S. § 49-1004(C). The subsection provides for the report content. This 14 day report is a status report that may indicate that a release determination has been made or that the suspected release is still under investigation.

If the suspected release is not an actual release the report required under subsection (F) must be submitted within 90 calendar days of the suspected release discovery or notification date. The report content is established in the subsection. Under the federal UST program, no specific provision for a “false alarm” report exists; however, the owner or operator is required to confirm the suspected release. The proposed rule includes this mechanism for the owner or operator to formally close the ADEQ record of the suspected release, thus precluding any question that the investigation has been properly conducted or that a release has not been reported to the Department as required.

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 conditions.

Subsection (G) would 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. An example of the latter circumstance would exist where the UST is closed or abandoned and the owner(s) and operator(s) no longer own or occupy the facility. The types of impacts that typically would be discovered by the Department or by others who contact the Department are the presence of regulated substances, such as free product, dissolved phase contamination or vapors in groundwater, soils, basements, sewer and utility lines, and nearby surface and drinking waters. In determining if the UST is potentially the source of the impact, the Department will consider the location and extent of the impact in relation to the UST and known or estimated groundwater flow direction and gradient, subsurface geology, existence of artificial structures that may provide a conduit for a release, and other site specific conditions that indicate the UST may be the source of the impact.

R18-12-260. **Release Notification and Reporting:** This section establishes the requirements related to reporting a release or confirmed release (release determination). A release determination (discovery of free product or receipt of 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 of making the release determination. This is very similar to that required for a suspected release in R18-12-251(A), however, it must be emphasized that the release report under this section is different than a report of a suspected release under R18-12-251(A). A notification under this subsection includes information on any corrective actions that have been taken as of the time of the notice. Corrective actions are taken only after a release is determined to exist. If a suspected release is later determined to be a release, the information that was reported in the 24 hour suspected release report that is unchanged at the time of the report under subsection (A) of this section does not have to be repeated.

Subsection (C) is the companion piece to R18-12-251(C)(1) in fulfilling the provisions of A.R.S. § 49-1004(C). That subsection of the statute calls for a written report within 14 days of discovery of a release or suspected release. The report content is also contained in this subsection. Again, the information to be reported 14 days after a release determination is similar to the 14 day report for a suspected release; however, the circumstances are not the same.

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 permanent or temporary) the system. The proposed rule also requires the UST owner to submit the notification form required in R18-12-222 reflecting the status change of the UST.

R18-12-260.01. **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, based on known site-specific information available at the time the determination is developed. The classification is used by the Department to prioritize its work load and to help determine if a corrective action plan under R18-12-263.01 will be required. The use of the RBCA approach to corrective action necessitates an even greater participation by the owner or operator in the management of a release than existed when the scope of activities was more limited. The owner or operator is responsible for analysis of site conditions to determine the relative risk to public health and the environment from the start of the corrective action process.

Subsection (B) establishes the factors to be considered by the owner and operator in the development of the appropriate classification for the site. These factors include, in addition to the actual known site-specific conditions at the time the classification is being developed, the estimated time until a receptor or receptors will be impacted. Obviously, in some conditions the time is as of the date of the classification, and in others it may be several years.

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. The individual classifications are related to their relative risk to public health and the environment. The classifications range from Classification 1, the designation for immediate threats to public health and the environment, to Classification 4, for those sites where there is contamination; but, no pathways exist for the contamination to reach a receptor, or those situations where the site cannot be otherwise classified.

Subsection (D) provides for the LUST site classification form to be submitted with various reports to the Department. The classification is also submitted if the classification changes, or if it is determined that contamination has or probably will migrate to a property where access is a problem. The classification is, or can be, an evolving activity; therefore, the exercise of site awareness and verification of the classification is on-going until the LUST site is closed by

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the Department.

Subsection (E) provides for the form to be used in the classification process.

R18-12-261. Initial Response, Abatement, and Site Characterization: The activities to be accomplished within the 1st 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. The objective is to identify the principal contaminants, affected media, and potential migration pathways and receptors. This information may be obtained from existing sources, such as the knowledge and records of the owner or operator, other LUST files, Arizona Department of Water Resources (ADWR), and other "library" type research. If a site check has not been performed as part of the investigation of a suspected release, it must be accomplished at this time. In some cases, with the non-intrusive information and analyzed samples from a single boring during the site check, the full extent of contamination and the nature of the regulated substance and the release is determined so that the report of investigations for risk based responses to contamination under R18-12-262(D) can be completed and remediation begun or a request for LUST site closure initiated.

Subsection (D) establishes a report of the information required to be developed within the 90 day period following release discovery. As the required information is available from established sources and from observations on and around the facility, meeting the 90 day requirement is not problematic. Some information, such as that on ADWR permitted wells, is available on the INTERNET. The ADWR databases may be queried at WWW.ADWR.STATE.AZ.US by selection of interactive reference data.

The information to be reported on free product removal by subsection (D)(13), along with the free product provisions of R18-12-263(F) meet the statutory requirements for rules on free product removal at A.R.S. § 49-1005(F)(5). It is important to understand that this proposed rule requires the owner or operator to be continuously diligent in observing for the existence of free product during investigations of both suspected and determined releases and the other activities that make up corrective actions. The information required in the 90 day report under this subsection relates only to discovered free product.

As pointed out above, the requirements for conducting corrective action are not set out in a firm progression over a set time period. The initial site characterization provided for in this section of the proposed rule may be sufficient to determine all of the information needed to complete the report of investigations for risk based responses to contamination under R18-12-262 and request closure of the LUST site in accordance with R18-12-263.02. This rule construction permits persons submitting requests for preapproval under the SAF maximum flexibility. The process for gathering the initial site characterization information does not require borings, especially if the site check was accomplished during the investigation of a suspected release. Further, it does not prohibit borings which may be necessary for accomplishing full characterization from being installed at the same time as the non-intrusive initial site characterization information is being gathered. Persons requesting SAF preapprovals may include those actions which they deem reasonable for their site in the work plan submitted for preapproval. There is no requirement that only those actions provided for in this section be included.

R18-12-262. Investigations for Risk Based Responses to Contamination: This section establishes, in 7 subsections, the requirements for conducting and reporting on full site characterization. The title of the section is designed to relate the investigations to the risk based responses to contamination of R18-12-263 and avoid confusion with the initial site characterization of R18-12-261. This section provides the rules for investigations for soil, surface water and groundwater cleanups required under A.R.S. § 49-1005(F)(6).

The results of the investigation will be used to refine the LUST site classification, perform the Tier 1 RBCA evaluation under R18-12-263(B)(1) and, if determined appropriate, a Tier 2 evaluation under R18-12-263(B)(2). These are the preliminary steps in determining the extent of remediation necessary, if a corrective action plan is required, and if request for LUST case closure is in order. Although the activities are, usually, to be accomplished and reported on within 1 year from the release determination date, the report may be submitted as soon as the information is gathered. In fact, for simple releases, the report under this section and the report due within 90 days of the release determination date may be simultaneously submitted as soon as the information is gathered and may, in fact, be submitted with the request for LUST case closure.

Subsection (A) establishes the requirement to investigate the release and surrounding area to determine the most appropriate risk based response to the contamination. This requires determining the full vertical and lateral extent of the contamination, the current and potential pathways for contaminant migration, and current and potential receptors.

The subsection also establishes the activities that must be undertaken to fulfill the investigation requirements. Without knowing the site specific conditions, effective responses, whether active remediation, natural attenuation, LUST site closure request, or other activity, cannot be determined. There are no specific requirements for the methods to be used for compliance with this subsection. Because of the wide variety of chemicals of concern and site specific conditions it is left to the professional judgement of the owner or operator and the consultant to design the best approach in developing the necessary information.

Subsection (B) establishes a basic 1 year time period for completion of the investigation and reporting requirements of the section. Alternatives are also provided. Another time may be established in a preapproved SAF work plan, or if there is an actual or eminent adverse impact to a receptor, the Department may establish a shorter time period. This latter provision is for use only where there is critical risk and the Department's responsibility to protect public health and the environment mandates expedient determination of the full exposures at the LUST site.

The subsection also provides for the owner or operator to request an alternative time for compliance. The owner or operator needs to demonstrate that the alternative compliance date requested will not result in increased risk to public health or the environment. If the LUST site is classification 3 or 4, there is at least 2 years before an estimated impact to a receptor. If there is a WQARF site coincident with the LUST site, the probability is that the UST release is not a controlling factor in the threat posed at the site. If the owner or operator can demonstrate a good faith effort to comply with those requirements undertaken, or which should have been undertaken, as of the request date, the probability is that granting of an alternative compliance date will not result in recalcitrant behavior during the revised compliance period. Another important factor is that the owner or operator making the request has attempted access to off-site properties and has either gained access or has been relieved of responsibility (in accordance with A.R.S. § 49-1022(E)) for conducting corrective action activities on properties where access is not attained. The request will be granted if the information submitted demonstrates that the alternative compliance date will not, based on site-specific conditions, adversely impact public health or the environment.

The time standard for submission of the report of investigations for risk based responses to contamination (full site characterization) has been a long-standing subject of discussion among UST stakeholders. In past, the Department has required the report to be submitted within 120 days if contamination was limited to soil and 240 if groundwater was impacted. During a stakeholder meeting held in November 1997, consultants expressed the view that most sites could be fully characterized within 60 days of discovery of a release. This timeline, however, would be too short for some complex sites. In the Spring of 1998, the Department extended these timelines to 1 year no matter the media impacted. During the 1999 Legislative Session, the Legislature determined that 180 days is sufficient to characterize the site, as long as the full extent of contamination beyond the boundaries of the facility property is not considered. This provision was included in the new A.R.S. § 49-1053, added to A.R.S. Title 49, Chapter 6 during that Session. The Department considered various alternatives for establishing a time-frame for accomplishing the investigations and related reporting. Instead of attempting to develop different time-frames for different site complexities or the specific media impacted, the Department proposes using a single base standard of 1 year, with provisions for alternatives that consider risk to public health and the environment.

Subsection (C) establishes the requirements for determining the full vertical and lateral extent of contamination in each medium. Accuracy is assured by requiring the concentration of the chemical of concern to be determined through laboratory analysis. Requirements for the collection and laboratory analysis of all samples required under A.A.C. Title 18, Chapter 6 are provided in the revised R18-12-280 of this proposed rule.

The proposed rule establishes that the vertical extent of contamination in soil is determined when soil samples indicate the specified concentrations. Previous rule drafts attempted to require the samples be collected vertically at the point of the release. Difficulty is encountered when site-specific conditions prevent compliance with the requirement unless demolition, sometimes major in nature, 1st occurs. Attempts were made to establish that the collection location be as "close as practicable" to the release point; however, there was no realistic standard to measure what constituted "practicable." By simply providing that the vertical extent be determined to the concentrations established, the proposed rule allows the owner or operator to use professional judgement in the location of the boring used to determine full vertical extent. The requirement is based on the end result, not on the procedure used to get there.

Subsection (D) establishes the report of results of the investigations for risk based responses to contamination. This subsection clarifies that the same basic information is required for the report of investigations for risk based responses to contamination report under this section and for an on-site investigation report under the new A.R.S. § 49-1053 (Section 49-1053 was provided in Senate Bill 1381 passed during the 1999 Legislative Session), except that the on-

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site report does not have to determine the full extent of contamination beyond the property boundaries of the facility. While the on-site report is for use in conjunction with SAF related activities, the clarification here is more appropriate than making a special provision in upcoming revisions to the rules for that program. Just because an on-site report is made, that report does not take the place of the report of investigations for risk based responses to contamination, unless the full extent of on-site and off-site contamination is related in that report.

The proposed rule is clear that only those media investigated are to be reported on. Clarification is also made that the known or estimated depth to groundwater must be reported; however, unless the groundwater is threatened or impacted, the balance of the information described in subsection (D)3(a) is not required. There is no requirement to fully investigate associated hydrologic characteristics unless there is a valid concern.

The report of investigations for risk based responses to contamination must contain information on the tank, release, and the 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 1/4 mile of the outermost boundaries of the contamination is required. This is because these persons will have to be surveyed by the owner or operator to determine the actual, anticipated, and most beneficial use of the water in order to obtain Department approval of the alternative standard. Additional explanation is provided below in the discussion of the corrective action plan requirements of R18-12-263.01. The balance of the report content requires information on the geology and hydrology of the LUST site, the full extent of contamination determined and the approach used in the determination, the summary of findings and suggested subsequent actions, and the supporting maps, plans, and other documentation. The A.S.T.M. standard (D2488-93) referenced for classification of lithologies encountered (appearing in the lithologic log provided for in R18-12-262(14)(d)) may be purchased directly from A.S.T.M. over the Internet at [HTTP://WWW.ASTM.ORG](http://WWW.ASTM.ORG).

In subsection (D)(4)(d), the person responsible for submitting the report is asked to explain differences from general industry standards used in the investigation and why the different approach was used. This is a simple, concise relation of anomalies encountered due to very unique site-specific conditions which prevented employing relatively standard techniques. Standard techniques are considered to be those common in environmental investigations and are discussed and described in publications of national organizations concerned with corrective actions or otherwise appear in peer reviewed literature.

The concise statement of investigation results and intended future corrective actions required in subsection (D)(7) is intended to be no more than 2 or 3 short paragraphs. The summary statement can be used to give the reader of the report, whether Department staff or the public, a "thumbnail" view of the situation at the LUST site.

The report of investigations for risk based responses to contamination 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 those subsequent corrective actions, including request for LUST site closure, are necessary and reasonable. The report will be of great value to those members of the public interested in the conditions of the site and will be a tool available to them in considering their comments to any corrective action plan that may be noticed. Because of the comprehensive content and importance in determining additional activities, the report is required to be able to stand alone. Some information in the report may be contained in previous reports on the release received by the Department; however, the proposed rule does not make a content exception for this material. Currently the Department is receiving complete investigation reports and, with the availability of word processors and machines to copy documents, the inclusion of previously submitted information has not been a burden on the regulated community.

Subsections (E) and (F) provide for accepting the report of investigations for risk based responses to contamination by the Department if the report meets the requirements of the section, and accordingly notifying the owner or operator. This activity is a confirmation of compliance based on the extent to which the owner or operator has met the requirements and whether the actions taken were necessary and reasonable.

R18-12-263. Risk Based Responses to Contamination: This section, in 7 subsections, deals with activities usually referred to as remediation. There is no time-frame required for completion of these activities due to the wide variety of contaminants that may be released from an UST, remedial technologies that may be used (singly or in combination), and site conditions that may be encountered. The section meets the requirements for rules on "responses to contaminated soil, surface water and groundwater" required under A.R.S. § 49-1005(F)(7).

Subsection (A) requires the owner or operator to respond to the contamination. The proposed rule requires that the remedial activities continue until the determined corrective action standard for each chemical of concern in each contaminated medium is attained and the LUST site closure report is accepted by the Department.

Subsection (B) establishes how the risk based corrective action standard (the concentration of each chemical of con-

cern in each contaminated medium, often called the cleanup level) is determined. The determined corrective action standard must meet the requirements of A.R.S. § 49-1005(D) and (E) and, for contaminated soil, the ADEQ soil remediation standards at A.R.S. Title 49, Chapter 1, Article 4. The proposed rule uses the citation to the statutory provisions instead of repeating those provisions to avoid any possible confusion due to context differences. A.R.S. § 49-1005(D) establishes the 3 basic requirements of all corrective action activities. These are that the corrective action must ensure the protection of public health and welfare and the environment, maintain (to the extent practicable) the maximum beneficial use of the soil and water of the State, and be necessary, reasonable, cost effective and technically feasible. Subsection (E) of the statute provides for allowance of residual contamination in water that is above the water quality standards, provided that the residual concentration is approved by the Director based on final rules. The subsection also lists various corrective action alternatives that may be employed. These are discussed under the summary of subsection (D) below.

The corrective action standard determined through the risk based approach of RBCA is the concentration of each chemical of concern in each contaminated medium that may remain at the site without further corrective action, depending on site-specific conditions and acceptable levels of risk. This determination is based on the information under R18-12-262(D). The information is applied, progressively, through a series of 3 tier evaluations to reach the permissible concentration that is most cost-effective, overall, to attain. All 3 tiers do not have to be evaluated, and Tier 2 and 3 should be evaluated only if it is practical and cost effective to do so.

The Tier 1 evaluation compares the maximum concentration of any chemical of concern in any medium to the Tier 1 corrective action standard. The Tier 1 standard are those numbers which have been established by rule as soil remediation levels, and surface water and aquifer water quality standards. Tier 1 standards do not make use of institutional or engineering controls, as these actions require evaluation of site contamination under conditions other than those which currently exist and must implement a legal "tool" to keep them in place. In essence, these controls eliminate or modify exposure pathways. Therefore, institutional and engineering controls are reserved for use in Tier 2 and Tier 3 evaluations.

Currently, Tier 1 corrective action standards are enforceable only for those chemicals of concern which have a numeric value established in statute or rule. Technically, narrative corrective action standards are enforceable under statute or rule only at Tier 2 or Tier 3 evaluations. However, in the interest of minimizing time and resources expended in carrying narrative chemicals of concern into Tier 2 or Tier 3 analysis the Department will provide, in guidance, values which can be used as a "Tier 1 screening level." These screening levels are not enforceable, but provide a basis for evaluating potential impacts to human health prior to Tier 2 or 3 evaluations. Concentrations of chemicals of concern at a LUST site that are less than the "Tier 1 screening level" may be eliminated from further consideration in Tier 2 or 3.

Escalation of work effort into a Tier 2 evaluation is not needed if concentrations of chemicals of concern in media are less than the Tier 1 standard. A Tier 2 evaluation may not be warranted if the cost for conducting a Tier 2 evaluation and subsequent remediation to Tier 2 standards exceeds the cost for remediation to Tier 1 standards. When a Tier 2 evaluation is conducted, limited site-specific data is collected and utilized in the same or similar equations (others may apply for volatilization modeling) as those used for developing the Tier 1 standard. Tier 2 evaluation also utilizes the elimination of incomplete pathways of exposure, and refinement of receptor populations. Continuation into a Tier 3 evaluation is not required if representative concentrations of chemicals of concern (at the on-site point of exposure or nearest property boundary) are below the site-specific Tier 2 standard. A Tier 3 evaluation may not be warranted if the cost for conducting a Tier 3 evaluation and subsequent remediation to Tier 3 standards exceeds the cost for remediation to Tier 2 standards. When a Tier 3 evaluation is conducted, more site-specific data is collected to support the use of a variety of models and statistical applications in determining the exposure concentration of a contaminant at the point of exposure, which may occur off-site.

The level of investigation must reasonably coincide with the anticipated modifications to the conceptual site model and the applicable tier corrective action standard. It is cost effective to eliminate remobilization costs to obtain information which will assist in the determination of the appropriate tier evaluation. For example, if a preliminary risk screening indicates that a further tier evaluation will significantly change the cleanup levels yet result in an acceptable level of risk, site investigations should include as early as possible those activities which will satisfy requirements for the completion of the tier evaluation. Or, preliminary screening calculations may indicate estimated Tier 2 clean up levels to be similar to those of Tier 1. The determination to escalate to the next tier evaluation must be based on cost-effectiveness between the estimated total cost for subsequent tier evaluation plus remediation, and site-specific information which indicates that site conditions vary considerably from those assumed.

Subsection (C) provides for documenting the corrective action standard selected and the methodology used to determine that standard. These tier evaluation records must be submitted with the report of investigations for risk based

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responses to contamination of R18-12-262(D), corrective action plan (R18-12-263.01), if 1 is submitted, and LUST site closure request under R18-12-263.02. 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 paramount to its success.

Each tier evaluation has a specific form provided by the Department. This benefits the owner or operator as well as the Department. The standardized forms for the different evaluations will assist the owner or operator to ensure that all of the required factors have been included. Also, the information will be set out clearly and concisely, with a minimum of unnecessary explanatory narrative. The Department will be able to more efficiently review the evaluations because of the uniform format.

Subsection (D) provides for the determination of the remedial response. The provisions of A.R.S. § 49-1005(D) and (e) are referenced as the basic standards. As discussed above, subsection (D) of 49-1005 provides the 3 basic requirements of all corrective actions. Subsection (E) elaborates on the types of alternative remedial technologies that may be used in responding to the release. These include a no action alternative, monitoring, source control, controlled migration, physical containment, natural attenuation or degradation, and plume remediation alternatives. Because of the specifics of the statute, the Department determined that simply repeating the list in the rules is not necessary.

Subsections (E) through (G) provide requirements for handling of derived waste and free product, and an annual status report of progress to the Department. Subsection (F) meets the requirement for these corrective action rules to include provisions for free product removal under A.R.S. § 49-1005(F)(5).

The requirements for derived waste of subsection (E) relate to the requirements for handling petroleum contaminated soils (PCS) under the statutes and rules on solid waste. The vast majority of USTs are used to store petroleum products and, therefore, the vast majority of releases are of that regulated substance. Under the statutory definition of solid waste (A.R.S. § 49-701.01), an exemption is provided for waste resulting from UST corrective actions, provided the waste remains on-site and is properly controlled to prevent additional contamination of air, soil, and/or water. By following the requirements of subsection (E) of the proposed rule, the owner or operator will properly safeguard the PCS or other derived waste that would otherwise fall under the definition of solid waste. Compliance will eliminate the need for the owner or operator to prepare and the Department to review individual plans for controlling these substances.

Subsection (F) provides for handling of free product. Free product, defined at R18-12-101, would be a sheen on surface water and, for groundwater, generally 1/10 of an inch; however, if the thickness is present in a production well, that thickness would not be treated as an action threshold. For production wells, the threat to public health and the environment is greater than that for non-accessed groundwater and the ability to remove free product is greater; therefore, the thickness practicably removable is significantly reduced, potentially to the sheen level in these situations. Because of these site-specific variables, the definition of "Free product" does not establish a minimum thickness that must exist for free product to be present at the LUST site.

The annual status update for remedial activities described in subsection (G) is intended to keep the Department reasonably current on the progress being made by the owner or operator. The document, like others required to be submitted to the Department also serves to meet the public's need for information. The report, itself, is not complex and should require a minimal amount of time to update. Once a corrective action plan under R18-12-263.01 is approved by the Department, or a LUST site closure request accepted by the Department, the update is no longer required. A schedule for making progress reports is part of the corrective action plan and, of course, once the site is closed, there is nothing additional to be reported annually.

R18-12-263.01. Corrective Action Plan (CAP): This section, in 14 subsections, 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 and monitoring active types of remediations and as a vehicle for providing public notice when an alternative water quality standard is an intended corrective action standard. Under A.R.S. § 49-1005(E), public notice must be part of the Department's rules implementing the alternative water quality standards. The actual standard is determined under the tier approach of R18-12-263(B) 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.

Under the proposed rule, a CAP is not required for all remediations. Because a CAP is a formal, Department-approved plan for conducting responses to a release, it is not cost effective for either the owner or operator or the Department to have 1 required for each release. Although the owner or operator may submit a CAP if desired, the Department prefers to reserve this tool for use in cases where there is significant complexity to the LUST site or the

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remediation technology, or if public notice is a statutory requirement to proceed.

Subsection (A) provides the circumstances under which a CAP may be requested by the Department and provides for a voluntary submission by the owner or operator. The CAP must be submitted within 120 days of the Department's request; however, there is no submission time requirement for a voluntary submission, except that it cannot be submitted before the initial characterization report described in Section R18-12-261(D). The list of circumstances when the Department may require a CAP relies heavily on the classification of the LUST site.

Subsection (B) establishes that the CAP must be protective of public health and the environment through consideration of the nature of the chemical or chemicals of concern, the site specific hydrology and geology, and uses of groundwater, all related to risk based factors of complete pathways and receptors.

Subsection (C) describes the required CAP contents. If a corrective action standard for water is determined under a Tier 2 or 3 evaluation, the CAP must include the foreseeable and most beneficial use of groundwater or surface water within 1/4 mile of the outermost boundaries of the contamination. This is a fulfillment of the requirements of A.R.S. § 49-1005(E) and is accomplished by the owner or operator surveying of those persons who own property or have rights to use water within that specified area. For purpose of public notice, a list of those persons along with addresses, must be included with the CAP.

Subsection (C)(7) requires the CAP to include 3 technologies proposed to be used in remediation of the contamination, unless the purpose of the CAP is to provide public notice of an intent to use a corrective action standard developed under a Tier 2 or 3 evaluation. The purpose here is to have the CAP contain only the information needed to meet its objective. If the CAP is to be used only for public notice of a corrective action standard that, if approved, would not require further remediation, inclusion of additional technologies does not serve the owner or operator, the Department, or the public.

The proposed rule does not require that 1 of the 3 alternative remediation technologies be natural attenuation; however, this is usually considered appropriate for cost consideration reasons. Specifically, A.R.S. § 49-1052(O) requires those seeking SAF payment to implement, in the corrective action plan, that alternative that is the most cost effective, or if the most cost effective alternative is not selected, a demonstration for the alternative actually selected. As natural attenuation is usually the least expensive of the available technologies, a person desiring SAF payment should include it as 1 of the 3 technologies evaluated in the CAP.

Subsection (D) 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 (E) and (F) concern the preliminary (before public notice) CAP approval and, being consistent with the federal program, allow implementation before final approval, subject to certain conditions. The preliminary approval notification informs the owner or operator that public notice will begin. The ability to implement before final approval is a flexibility provided so that remediation can commence without waiting for the public notice and possible public meeting time to end. Circumstances may exist where a CAP is required and the public needs to be informed of the pending CAP and given opportunity to express opinion; however, the threats to public health and the environment need to be quickly addressed.

Subsections (G) through (I) concern the notification of the public that a CAP has been filed with the Department and is pending approval or denial. The ways in which notice will be provided, the contents of the notice, and the activities associated with requesting a public meeting and the distribution of information announcing that meeting are provided. The design is to inform members of the public that may be affected by the release and the intended response. The public may then participate in the approval process and express their concerns in writing or orally during a public meeting, if such a meeting is requested by 5 or more persons. Past experience has been that the public seldom responds to a notice that a CAP is being considered for approval by the Department. With the expanded scope of notice, public awareness should increase.

Subsection (J) provides for the owner or operator to revise the CAP, if necessary, after public comment is made.

Subsections (K) and (L) concern the final approval or denial of the CAP and the notifications associated with final approval or denial. Those members of the public making comments or informed about the public meeting will receive information on the final Department approval or denial of the CAP.

Subsections (M) and (N) provide for timely and scheduled implementation of the approved CAP and for public notice if the CAP, after implementation, is failing to meet the plan objective.

R18-12-263.02. LUST Site Closure: This section establishes the conditions that must be met before the Department will close a LUST site. The section is made up of 8 subsections.

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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 risk based responses to contamination 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. The requirements for this monitoring plan should not be confused with the requirements for water sampling found at R18-12-280(D) and (E). The plan under this subsection is an over-all scheme designed to provide valid results for the entire LUST site, while the requirements under R18-12-280 provide requirements for each individual sample.

Subsection (D) provides for the content of the request for LUST site closure and subsection (E) allows the Department to request additional information needed to verify that the corrective action standards have been met or to verify protection of public health and the environment. The proposed rule provides that a LUST site investigation (the same type of information required for investigations for risk based responses to contamination in R18-12-262) for purposes of the site closure request is not required if the R18-12-262(D) report documents that the corrective action standard for each chemical of concern in each contaminated medium is met. This provision is consistent with the Department's desire for an owner or operator to be able, for simple sites, to develop the information needed to prepare the report of investigations for risk based responses to contamination during the initial site characterization activities and submit those findings as part of the request for LUST site closure. In other words, it is possible for the requirements of R18-12-261(D), R18-12-262(D) and R18-12-263.02(D) to be met with 1 submission to the Department.

Subsections (F) and (G) provide 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. The contents of the letter informing the owner or operator of the outcome of the request are established. As with the acceptance of the report of investigations for risk based responses to contamination under R18-12-262, this is a confirmation that the owner or operator has met the compliance requirements.

Subsection (H) 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 owner or operator will be required to perform additional evaluation and, possibly, remediation to attain the same level of protection established under the circumstances existing when the LUST site was closed.

Subsection (I) provides that if previously undocumented contamination is discovered, the owner or operator will report and perform additional required corrective action.

R18-12-264. General Reporting Requirements: This section provides, in 4 subsections, 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 1st page for any written report submitted in accordance with the proposed rule. The form is prescribed by the Department and is designed to facilitate easy recognition of the type of document being submitted and expedite forwarding that document to the appropriate person within the Department. The use of this standard 1st page should significantly help in efficiently handling the large volume of reports received by the UST program each day.

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). In some cases, under BTR requirements, more than 1 professional signature and seal may be required to be on the report.

Subsection (C) permits the owner or operator to request that a report of investigations for risk based responses to contamination or request for LUST site closure be accepted by the Department without review. If such a request is made, the document must be sealed and signed by a Certified Remediation Specialist (CRS) properly registered with the BTR at the time of the submission. The content of the report must be within the scope of the registration. A request and certification statement that must be part of the document is established in this subsection.

The subsection also provides for the Department to audit at least 25% of the reports submitted under the subsection. This requirement is similar to the audit provisions of the Greenfields Pilot Program (A.R.S. §§ 49-153 through 49-157). There is no requirement for a CRS to maintain a separate registration with the Department, nor to carry professional liability insurance. Unlike the statutory provisions for the Greenfields Pilot Program, no type or amount of insurance is required of the CRS.

The Department will treat the document submitted by the CRS similar to 1 submitted by a Department contractor, in that it will not be reviewed in detail and, certainly, there will be no attempt to second-guess the report provider. The conclusions of the report will be reviewed and, if no reason exists for the Department to question the competency of

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the job, the conclusions of the report will be accepted. The Department is not surrendering regulatory authority as the CRS cannot, for instance, close a LUST site.

The Department is unsure of the number of reports that will be submitted under this subsection. In the past, financial institutions preferred to have these types of documents under ADEQ letterhead, or at least a specific ADEQ statement confirming findings. The CRS is an alternative for the owner or operator to use in management of the LUST site, and the extent of employment will be based on relative advantage.

Further, the flexibility in site management offered by the CRS could prove advantageous in future. If significant Department backlogs exist, the CRS sealed reports could serve the owner or operator in expediting handling by the Department.

Subsection (D) provides for the Department to acknowledge to the owner or operator if a document submitted in accordance with subsection (C) is accepted without review. The letter also will inform the owner or operator that no liability attaches to the State of Arizona in connection with such acceptance.

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 proposed rule, and to clarify the performance standard for determinations of 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. This broadening of scope and increased clarity eliminates the need to reference sampling requirements in each place in the proposed rule where requirements exist for sampling or inclusion of results in report content.

R18-12-280 is also revised to provide for use of the term “Chemical of concern” as a clarification to “regulated substance.” Further, the section is expanded to provide clarity on sampling requirements for groundwater and surface water. As the section is currently codified, the proposed rule shows new text in underline and deleted text in strikeout. The subsections with revisions needing additional explanation are discussed below.

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. These times are part of the requirements for the individual analytical method. Also, citations are expanded to conform to current citation style. Subsection (D) is revised to be specific to groundwater sampling. In the current rule, this subsection attempts to provide requirements for both groundwater and surface water samples.

Subsection (E) is added to provide needed clarification on sampling requirements for surface water.

6. 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.

7. 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.

8. The preliminary summary of the economic, small business, and consumer impact statement (EIS):

A. Identification of the Proposed Rulemaking

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

The Department requests your comments about cost-saving benefits, or any other aspect of this preliminary EIS. Relevant comments received will be incorporated into the final EIS.

B. Preliminary Comments About Impacts

The Department has determined that the addition of the underground storage tank (UST) release reporting and corrective action regulations into state rules should have no adverse economic impact on businesses in Arizona. This is because the Department anticipates cost-saving benefits to accrue to owners and operators of USTs. Furthermore, there are no additional costs to the regulated community when a state agency incorporates already effective standards. This proposed rulemaking reflects the current procedures under federal regulations (40 CFR 280) and provisions of Arizona statutes (A.R.S. §§ 49-1004 and 49-1005). It also provides more details on the process and what is required by owners and operators. Additionally, this rulemaking will provide a risk-based approach to clean up for groundwa-

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ter contamination. Currently, such an approach only is available for soil clean up.

Requirements for owners and operators for both reporting and investigation of 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 the provisions of the federal UST program (40 CFR 280, §§ 280.50 through 280.67 and to other specific provisions of the statutes). Therefore, activities required under the proposed rule, to the vast extent, simply are a codification of the UST program's existing procedures.

Certain statutory provisions can be implemented only through rules, such as the allowance of 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 a risk-based approach to corrective action (RBCA). These 2 provisions should result in savings to the regulated community without impairment of the protection of public health, welfare, and the environment.

Benefits should result from the risk-based approach of clean up and increased certainty about monies recoverable under the State Assurance Fund (SAF). For example, owners and operators could expect substantial savings from the ability to clean up water to standards not as stringent as adopted water quality standards in the state and still maintain standards protective of public health and the environment. Decisions about clean up standards are facilitated by service providers performing tier evaluations. Additional information about this tiered approach for leaking USTs will be provided in the final EIS.

Basically, the Department expects the determination of clean up standards by a tiered approach to provide cost-effective alternatives. For example, 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 stringent clean up standards. This approach should provide increased flexibility to UST owners and operators, as well as to their service providers. The Department, therefore, expects this rulemaking to minimize time, resources, and money for investigating and remediating activities and to eliminate unreasonable and unnecessary activities.

Furthermore, the Department expects this rulemaking to increase efficiency. Streamlining the requirements and process (such as using uniform submittal forms and formats) will reduce the Department's review time and enable it to respond quicker and more efficiently. The outcome will be cost-saving benefits to both the regulated community and the Department. As a result, the transition from the current process to the new process will not be burdensome. Also, the Department expects these changes to maintain protection for public health and the environment. Finally, these rules are not expected to impose net costs on the regulated community, 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's conclusion is that the benefits of this rulemaking will outweigh the costs.

Although not quantifiable at this time, the Department expects this rulemaking to substantially reduce compliance costs for owners and operators of leaking USTs. This is due partly to the fact that potential savings are site specific. Furthermore, these changes should not increase the cost of implementation or enforcement for the Department. In fact, 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 performing tier evaluations without additional staffing at this time.

C. Affected Classes of Persons

Federal and state law require owners and operators of USTs to investigate and report suspected and confirmed UST releases. The Department requires UST owners and operators to conduct an investigation to determine the extent of contamination, submit a site characterization report, and take corrective action steps. Therefore, potential owners and operators impacted by this rulemaking include the current 3,211 open, leaking underground storage tank (LUST) sites.¹ Approximately 1/3 of these sites are classified as open groundwater sites. New LUST sites are being reported at a rate of about 35 per month. However, the actual number of owners and operators impacted is less because more than 1 LUST site can exist at a single facility and more than 1 facility may be owned or operated by a person. Owners and operators of sites already in the process of clean up will not need to comply until the next phase in the process is reached.

Other persons potentially impacted include: the service providers (such as consultants including certified remediation

1. Data from the Department's UST database. Note that there are about 4,500 closed UST facilities.

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specialists, contractors, and testers); the Department as implementing agency; and the general public.

D. 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 rulemaking. 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 stringent 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.

9. **The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:**

Name: David H. Lillie, Economist M0836A
Address: ADEQ
3033 N. Central
Phoenix, AZ 85012-2809
Telephone: (602) 207-4436 (Any extension may be reached in-state by dialing 1-800-234-5677, and asking for that extension)
Fax: (602) 207-2251
TTD: (602) 207-4829

10. **The time, place, and nature of the proceedings for adoption, amendment, or repeal of the rule, or if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:**

Date: December 7, 1999
Time: 10 a.m.
Location: Arizona Department of Game and Fish
3500 S. Lake Mary Road
Flagstaff, AZ
Nature: Oral proceeding

Date: December 9, 1999
Time: 10 a.m.
Location: Tucson Fire Department
797 E. Ajo Way
Tucson, AZ
Nature: Oral proceeding

Date: December 10, 1999
Time: 9 a.m.
Location: Arizona Department of Emergency Affairs
5636 E. McDowell Road
Phoenix, AZ
Nature: Oral proceeding

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The Arizona Department of Environmental Quality (ADEQ) will close the rulemaking record on 12/13/99, and will include in the record all written comments received by 5 p.m. on that date addressed to the individuals identified in Section 4 of this preamble at the Department at 3033 North Central Avenue, Phoenix, Arizona, 85012. The ADEQ will also include in the rulemaking record all written comments postmarked no later than December 13, 1999, and addressed to the individuals identified in Section 4 of this preamble at the Department at 3033 North Central Avenue, Phoenix, Arizona, 85012.

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

Not applicable.

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

R18-12-262(D)(13)(d): American Society for Testing and Materials Publication D2488-93, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)", Amended September 15, 1993, Philadelphia, PA.

13. 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. Applicability

ARTICLE 2. TECHNICAL REQUIREMENTS

Section

- R18-12-250. Applicability and Scope
- R18-12-251. Suspected Release
- R18-12-260. Release Notification and Reporting
- R18-12-260.01. LUST Site Classification
- R18-12-261. Initial Response, Abatement, and Site Characterization
- R18-12-262. Investigations for Risk Based Responses to Contamination
- R18-12-263. Risk Based Responses to Contamination
- R18-12-263.01. Corrective Action Plan (CAP)
- R18-12-263.02. LUST Site Closure
- R18-12-264. General Reporting Requirements
- 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. "Aboveground release" means any release to the surface of the land or to surface water excluding aquifers and other accumulations of underground water. This includes releases from the aboveground portion of an UST system and aboveground releases associated with overfills, spills, and transfer operations in which the regulated substance moves to an UST system.
- 2+. "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 or more of the following:
 - a. Corrective action.
 - b. Compensation for bodily injury.
 - c. Compensation for property damage.
3. "ADWR" means the Arizona Department of Water Resources.

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42. "Ancillary equipment" means any device used to distribute, dispense, meter, monitor, or control the flow of regulated substances to and from an UST system.
53. "Annual" means, with respect to R18-12-240 through R18-12-245 only, a calendar period of 12 consecutive months.
64. "Applicant", for purposes of Article 7 only, means an owner or operator who applies for a grant from the UST grant account.
75. "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity as a result of past transactions.
86. "Aviation fuel", for the purpose of Article 4 only, has the definition at meaning ascribed to it in A.R.S. § 28-101(4).
9. "Bedrock" means the solid rock that underlies gravel, soil, or other superficial materials.
10. "Belowground release" means any release to the subsurface of the land, including aquifers or other accumulations of underground water, or to surface water, whether from the belowground portions of an UST system or associated with overfills, spills, and transfer operations as the regulated substance moves to an UST system.
117. "Bodily injury" means injury to the body, sickness, or disease sustained by any person, including death resulting from any of these at any time.
128. "Cathodic protection" means a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell.
139. "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.
- 14+0. "CERCLA" means the federal Comprehensive Environmental Response, Compensation, and Liability Act as defined at has the meaning ascribed to it in A.R.S. § 49-201(4).
- 15+1. "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.
- 16+2. "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.
17. "Chemical of concern" means any released regulated substance detected at the LUST site that is subject to the provisions of the UST regulatory program.
- 18+3. "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.
- 19+4. "Clast" means an individual constituent, grain, or fragment of a sediment or rock, produced by the mechanical weathering of a larger rock mass.
- 20+5. "Clean Water Act" has the definition at meaning ascribed to it in A.R.S. § 49-201(5).
- 21+6. "Compatible" means the ability of 2 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.
22. "Conceptual site model" means a description of the complete current and potential future exposure pathways based on existing and reasonably anticipated future use. The conceptual site model is prepared as early in the corrective action process as possible as an aid to developing the sampling plan and site investigation. The conceptual site model is updated as additional LUST site information is obtained on facility operations, primary and secondary sources of the chemicals of concern, current and expected LUST site conditions and land use, and location of current and future on and off LUST site receptors.
- 23+7. "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.
- 24+8. "Consultant" means a person who performs environmental services in an advisory, investigative, or remedial capacity.
- 25+9. "Consumptive use" means, with respect to heating oil only, use on the premises.
- 26+0. "Contamination" means the existence of a detectable concentration of a regulated substance outside the confines of an UST system.
- 27+1. "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.
- 28+2. "Controlling interest" means direct ownership of at least 50 percent of a firm, through voting stock, or otherwise.
- 29+3. "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.

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30. “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 exposure assumptions or site-specific data, and instituted controls.
3124. “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.
3225. “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.
3326. “Current assets” means assets which can be converted to cash within 1 year and are available to finance current operations or to pay current liabilities.
3427. “Current liabilities” means those liabilities which are payable within 1 year.
3528. “Decommissioning” means, with respect to Article 8 only, activities described in R18-12-271(C)(1) through R18-12-271(C)(4).
3629. “De minimis” means that quantity of regulated substance which is described by 1 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 human health or the environment greater than that of the host substance.
3730. “Department” means the Arizona Department of Environmental Quality has the meaning ascribed to it in A.R.S. § 49-101(1).
38. “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.
3931. “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.
4032. “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.
4133. “Director” means the Director of the Arizona Department of Environmental Quality has that meaning ascribed to it in A.R.S. § 49-101(2).
4234. “Electrical equipment” means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.
4335. “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, 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 ~~under pursuant to~~ A.R.S. § 49-1052(H).
 - c. A person described by A.R.S. § 49-1052(I).
- 44 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.
45. “Engineering Control” for soil, surface water and groundwater contamination has the definition at R18-7-201.
- 46-37. “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.
47. “Excess lifetime cancer risk level” for soil, surface water, and groundwater contamination, has the definition at R18-7-201.
- 48 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.
49. “Exposure” for soil, surface water, and groundwater contamination, has the definition at R18-7-201.
50. “Exposure assessment” means the qualitative or quantitative determination or estimation of the magnitude, frequency, duration, and route of exposure of or potential for exposure of a receptor to regulated substances from a release.

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51. “Exposure pathway” for soil, surface water, and groundwater contamination, has the definition at R18-7-201.
52. “exposure route” for soil, surface water, and groundwater contamination, has the definition at R18-7-201.
5339. “Facility” means, with respect to any owner or operator, a single parcel of property and any contiguous or adjacent property on which 1 or more UST systems are located. ~~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.~~
5440. “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 under pursuant to R18-12-409.
5541. “Facility location”, for the purpose of Article 4 only, means the street address or a description of the location of a storage facility.
5642. “Facility name” means the business or operational name associated with a storage facility.
5743. “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.
5844. “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.
5945. “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.
6046. “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.
6147. “Free product” means a regulated substance that is present as a nonaqueous phase liquid (for example, liquid not dissolved in water).
6248. “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.
6349. “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 under in accordance with R18-12-710, in conjunction with the application
6450. “Groundwater” has the definition at that meaning ascribed to it in A.R.S. § 49-201 A.A.C. R18-7-201(9).
65. “Hazard Index” for soil, surface water, and groundwater contamination, has the definition at R18-7-201.
66. “Hazard quotient” for soil, surface water, and groundwater contamination, has the definition at R18-7-201.
6751. “Hazardous substance UST system” means an UST underground storage tank system that contains a hazardous substance as defined in A.R.S. ~~§49-1001(14)(b) §49-1001(13)(b)~~ or any mixture of such substance and petroleum, which is not a petroleum UST system.
6852. “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 1 of these fuel oils for heating purposes.
6953. “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.
70. “IFCI” means the International Fire Code Institute.
7154. “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.
7255. “Indian country” means, under pursuant to 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.

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7356. “Induration” means the hardening 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).
7457. “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.
75. “Institutional control” for soil, surface water, and groundwater contamination, has the definition at R18-7-201.
58. “IFCI” means International Fire Code Institute.
76. “Land use” means a description of the use of the land and categorization as 1 or more of the following: residential, non-residential, local government, State, or federal.
- 77-59. “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 3rd party for bodily injury or property damage caused by an accidental release.
 - c. By any person to enforce the terms of a financial assurance mechanism.
- 78-60. “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.
- 79-61. “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 at ~~under~~ A.R.S. § ~~49-1001~~ 49-1001(12).
- 80-62. “LUST” means leaking UST ~~underground storage tank~~.
81. “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.
82. “LUST site” means the geographical extent of contamination resulting from a release.
8363. “Maintenance” means those actions necessary to ensure the proper working condition of an UST system or equipment used in corrective actions.²
8464. “Motor vehicle fuel”, for the purpose of Article 4 only, has the definition at that meaning ascribed to it in A.R.S. § 28-10128-101(34).
85. “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.
86. “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.
8765. “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.
8866. “Noncommercial purposes” means, with respect to motor fuel, not for resale.
8967. “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.
9068. “On the premises where stored” means, with respect to A.R.S. § ~~49-1001(18)(B)~~ 49-1001(17)(b) only, a single parcel of property or any contiguous or adjacent parcels of property.
9169. “Operational life” means the period beginning when installation of the tank system has begun and ending when the tank system is properly closed under in accordance with R18-12-271 through R18-12-274.
9270. “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.
9371. “Owner identification number” means the unique number assigned to the owner of an UST ~~underground storage tank~~ 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.
9472. “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.

2. The definition of “Maintenance” is revised to include equipment not previously provided for in Article 2.

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9573. "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.
9674. "Petroleum UST system" means an UST system that contains or contained petroleum or a mixture of petroleum with de 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.
9775. "Pipe" or "Piping" means a hollow cylinder or tubular conduit that is constructed of non-earthen materials.
9876. "Pipeline facility" means new or existing pipe rights-of-way and any associated equipment, gathering lines, facilities, or buildings.
99. "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 human health and the environment.
100. "Point of exposure" for soil, surface water, and groundwater contamination, has the definition at R18-7-201 for "exposure point."
10177. "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.
10278. "Provider of financial assurance" means an entity that provides financial assurance to an owner or operator of an UST underground storage tank through 1 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.
103. "Receptor" means persons, structures, utilities, springs, surface water, or water supply wells and wellhead protection areas that are, or may be, adversely affected by a release.
104. "Regulated substance" has the definition at A.R.S. § 49-1001.
105. "Release" has the definition at A.R.S. § 49-1001.
10679. "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.
107. "Release determination" 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 indicate that reportable concentrations of regulated substance are present at the UST site.
108. "Release determination date" means the date that an owner or operator 1st makes the release determination, or the date that the owner or operator is informed of a release determination made by another person.
109. "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.
11080. "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.
11181. "Report of work" means a written summary of corrective action services performed.
11282. "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.
11383. "Residential tank" means an UST system located on property used primarily for dwelling purposes.
114. "Resource Conservation and Recovery Act" or "RCRA" means 42 USC §§ 6991, et. seq.
11584. "Retrofit" means to add to an UST system, equipment or parts that were not originally included or installed as part of the UST system.
116. "Risk based response" means a decision making process for the assessment and response to contamination based on the protection of public health and the environment.
117. "Risk characterization" means the qualitative and quantitative determination of combined risks from individual chemicals of concern and exposure pathways, and the associated uncertainties.
11885. "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.
119. "SARA" means the Superfund Amendments and Reauthorization Act of 1986, P.L. 99-499.
12086. "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.

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121. “Site location map” means a representation on a plane surface, at an established scale, of the physical features (natural, artificial, or both) of the facility and the surrounding area within at least 1/4 mile of the facility boundaries by means of signs and symbols, with the direction of orientation indicated.
122. “Site plan” means a representation on a plane 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 by means of signs and symbols, with the direction of orientation indicated.
- 123~~87~~. “Solid Waste Disposal Act” for the purposes of this Chapter means the “federal act” as defined by A.R.S. § 49-921~~(3)~~.
124. “Source area” means either the location of the release from an UST, the location of free product, or the location of highest soil and groundwater concentration of chemicals of concern.
- 125~~88~~. “Spill” means the release loss of regulated substance during the transfer of a regulated substance to an UST system.
126. “Spring” means a place where groundwater flows from a rock or the soil onto the land surface or into a body of surface water.
- 127~~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 UST underground storage tank, an aboveground storage tank, or to a group of underground and aboveground storage tanks, and to which the Department has assigned a single facility identification number.
- 128~~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.
- 129~~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.
- 130~~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.
- 131~~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. § 28-6001(A) ~~28-1599.45(A)~~ or (B). The term “supplier” includes a distributor, as defined at by A.R.S. § 28-5601, who is required to be licensed by A.R.S. Title 28, Chapter 16 ~~9~~, Article 1.
- 132~~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 16 ~~9~~, Article 1.
- 133~~95~~. “Surface impoundment” means is a natural topographic depression, artificial man-made excavation, or diked area formed primarily of earthen materials, but which may be lined with artificial man-made materials, that is not an injection well.
134. “Surface water” has the definition at R18-11-101 and other waters described in the definition of “Waters of the State” in A.R.S. § 49-201.
135. “Surficial soil” means any soil occurring between the current surface elevation and 15 feet below current surface elevation.
- 136~~96~~. “Suspected release” has the definition at that meaning ascribed to it in A.R.S. § 49-1001, ~~49-1001(15)~~.
137. “Suspected release discovery date” means the day an owner or operator 1st has reason to believe, through direct discovery or being informed by another person, that a suspected release exists.
138. “Suspected release notification date” means the day the Department informs an owner or operator, as evidenced by the return receipt, that an owned or operated UST may be the source of on or off-site impact from a regulated substance.
- 139~~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.
- 140~~98~~. “Tax” means, for the purpose of Article 4 only, the excise tax on the operation of USTs underground storage tanks levied by A.R.S. Title 49, Chapter 6, Article 2.
- 141~~99~~. “Taxpayer” means, for the purpose of Article 4 only, the owner or operator of an UST underground storage tank who pays the tax.
- 142~~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.

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- ~~143+01.~~ “Underground area” means an underground room, such as a basement, cellar, shaft or vault, and providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.
- ~~144+02.~~ “Underground storage tank” has the ~~definition at meaning ascribed to it in~~ A.R.S. § 49-1001, 49-1001(17)
- ~~145+03.~~ “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.
- ~~146+04.~~ “Upgrade” means the addition to or retrofit of an UST system or UST system parts, ~~under in accordance with~~ R18-12-221, to improve the ability to prevent release of a regulated substance.
- ~~147+05.~~ “UST” means an underground storage tank ~~as defined at pursuant to~~ A.R.S. 49-1001 49-1001(17).
- ~~148+06.~~ “UST grant account” or “grant account” means the account designated ~~under pursuant to~~ A.R.S. § 49-1071.
- ~~149+07.~~ “UST regulatory program” means the program established by and described in A.R.S. Title 49, Chapter 6 and the rules promulgated thereunder.
- ~~150+08.~~ “UST system” or “tank system” means an ~~underground storage tank~~ UST, underground connected ~~underground~~ piping, impact valve and connected underground ancillary equipment and containment system, if any.
- ~~151.~~ “Vadose zone” has the definition at A.R.S. § 49-201.
- ~~152+09.~~ “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° C, a Henry’s Law Constant of greater than 1×10^{-5} atm·m³/mol, and which has a boiling point of less than 250° - 300° C.
- ~~153+10.~~ “Wastewater treatment tank” means a tank system that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.
- ~~154.~~ “Waters of the state” has the definition at A.R.S. § 49-201.
- ~~155.~~ “Waters of the United States” has the definition at section 502(7) of the Clean Water Act (33 United States Code section 1362(7)).

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

- 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 the operator of an UST. If the owner and operator of an UST are separate persons, only 1 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.** A person acting subject to the provisions of A.R.S. § 49-1016(C) shall comply with the requirements of this Chapter to the same extent as required of the owner of the UST for those activities.
- C. No supersedence.** Nothing in this Chapter shall supersede 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. Applicability and Scope

- A. Release reporting and corrective action rules.** R18-12-250 through R18-12-264 shall apply to an owner or operator:
1. Who discovers a release or suspected release on or after the effective date of this rule.
 2. Who is required to report a release or suspected release under the reporting requirements of A.R.S. § 49-1004(A) before the effective date of this rule, but only for those sections with required activities not initiated by that date.
 3. Except:
 - a. For a release from an UST system excluded in R18-12-210(B), or
 - b. For the corrective action requirements of R18-12-260 through R18-12-264, for a release subject to Subtitle C corrective action requirements in section 3004(u) of the Resource Conservation and Recovery Act, as amended.
- B. No supersedence.** Nothing in R18-12-250 through R18-12-264 shall supersede the requirements of any of the following:
1. The immediate reporting requirements of CERCLA, as implemented by 40 CFR 302, to the National Response Center and to the Division of Emergency Services within the Arizona Department of Emergency and Military Affairs under SARA Title III;
 2. A corrective action plan under 40 CFR § 280.66 submitted to the Department prior to the effective date of this rule; and
 3. A work plan under the UST Assurance Fund preapproval requirements of Article 6 of this Chapter submitted to the Department prior to the effective date of this rule.
- C. Suspected release process.** If a suspected release is discovered by or brought to the attention of the owner or operator, the owner or operator shall notify the Department as provided under R18-12-251(A), and:
1. Within 90 calendar days after discovering that suspected release conditions exist, investigate the UST and the surrounding area as required under R18-12-251(C) and determine if a release exists;
 2. Submit a status report to the Department within 14 calendar days, that meets the requirements under R18-12-251(E), unless a release determination is made; and

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3. Submit a report demonstrating that no release exists within 90 calendar days, that meets the requirements under R18-12-251(F), unless a release determination is made.
- D. Corrective action process.** If a release is discovered by or brought to the attention of the owner or operator, the owner or operator shall notify the Department as required under R18-12-260(A) and (B), and:
 1. Conduct initial response and abatement activities, as required under R18-12-261(A) and (B) 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;
 2. Investigate the site to determine the chemicals of concern released, the vertical and lateral extent of the contamination, the pathways that may allow the spread of contamination, and the receptors that are or may be impacted by the contamination. Site investigations shall be conducted to meet the requirements under R18-12-261(C) and R18-12-262(A);
 3. After the site is investigated as described in subsection (2), determine the corrective action standard for each chemical of concern in each contaminated medium using the process described under R18-12-263(B);
 4. Determine if the concentrations of the chemicals of concern are below, at, or above the corrective action standard for each chemical of concern in the medium contaminated and the further activities necessary to meet the requirements for LUST site closure in R18-12-263.02. Additional activities must include 1 or more of the following:
 - a. Activities at the LUST site necessary to reduce the concentration of each chemical of concern to the corrective action standard for that chemical of concern in each contaminated medium;
 - b. Preparation and submission of a corrective action plan under R18-12-263.01. The corrective action plan shall be used to meet the public notice requirements when the owner or operator is proposing use of a corrective action standard for a chemical of concern in water that is above the water quality standard; and
 - c. Request LUST site closure when the concentration of each chemical of concern is demonstrated to be at or below the corrective action standard for that chemical of concern in each contaminated medium and that risk to public health and the environment is at an acceptable level.
 5. Submit written reports to the Department as required in R18-12-260, R18-12-261, R18-12-262, R18-12-263, and R18-12-263.02. All reports may be submitted as soon as the required information is gathered and the report prepared. If all requirements are simultaneously met, multiple reports may be simultaneously submitted to the Department.

R18-12-251. Suspected Release

- A. Notification within 24 hours.** An owner or operator shall notify the Department, either orally or in writing, within 24 hours of discovery of a suspected release, except in either of the following circumstances:
 1. A spill or overfill of petroleum of 25 gallons or less or a hazardous substance that is less than its reportable quantity in CERCLA, as implemented by 40 CFR 302 that is contained and cleaned up within 24 hours.
 2. The conditions described in A.R.S. § 49-1001(16)(b) or (c)(i) exist for 24 hours or less.
- B. Notification content.** The information required by subsection (A) shall include:
 1. Identification of the individual making the notification.
 2. Identification of the UST involved and the reason for notifying the Department.
 3. Identification of the facility involved and the name of a contact person at the facility if different from the individual making the notification.
 4. Identification of the owner and the operator of the facility involved and the contact person for the owner and operator.
 5. A description of the investigation and containment actions taken as of the time of the notification.
- C. Requirement to investigate suspected releases.** An owner or operator shall complete the investigation requirements of this subsection and determine, within 90 calendar days from the suspected release discovery date or the suspected release notification date, whichever is earlier, if the suspected release is an actual release. The investigation shall include the following:
 1. Conduct tightness tests of the tank that meets the requirements under R18-12-243(C) and tightness tests of all connected piping that meets the requirements under R18-12-244(B) to determine if a leak may exist in any portion of the UST system that routinely contains regulated substance. Further investigation is required if either the tightness test results indicate that the system is not tight or contaminated media is the basis for suspecting a release.
 2. If further investigation is required under subsection (1), perform a site check that meets the requirements under this subsection. An owner or operator shall measure for the presence of a release where contamination is most likely to be present at the UST site. 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.
- D. Release determination.** If an owner or operator makes a release determination, the owner or operator shall notify the Department as required under R18-12-260(A), cease further compliance with the requirements of this Section, and perform corrective action under R18-12-260 through R18-12-264.

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- E.** Written report within 14 days. An owner or operator shall submit a written status report, on a Department provided form, to the Department within 14 calendar days after the suspected release discovery date or the suspected release notification date, whichever is earlier. The report shall include, to the extent known at the time of the report:
1. Identification of the UST suspected to be the source of the suspected release.
 2. The nature of the suspected release.
 3. The regulated substance suspected to be released, and
 4. The initial response to the suspected release.
- F.** Written report within 90 days. An owner or operator shall submit a written report to the Department, on a Department provided form, within 90 calendar days after the suspected release discovery date or suspected release notification date, whichever is earlier, demonstrating that investigations have been completed and determined that a release does not exist. The report shall include the following information, except that information identical to that submitted under subsection (E) is not required:
1. Identification of the UST suspected to be the source of the suspected release.
 2. The nature of the suspected release.
 3. The regulated substance suspected to be released.
 4. The response to the suspected release.
 5. Documentation of any 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 is the cause of the suspected release.
 6. A copy of the results of any tightness test conducted under subsection (C)(1).
 7. If the site check described in subsection (B)(2) was not performed, a statement by the owner or operator that, to the best of the knowledge and belief of the owner or operator, no person with direct knowledge of the circumstances of discovery or investigation of the suspected release observed contaminated media during the discovery or investigation.
 8. Copies of any laboratory analytical results of samples collected during the site check described in subsection (C)(2).
 9. A site plan showing the location of the suspected release and site check sample collections.
- G.** Investigation of suspected releases required by the Department. If on or off-site impacts of a regulated substance are discovered by the Department or brought to its attention by another person, the Department shall require the owner or operator of an UST suspected to be a source of the regulated substance to investigate using the procedures in subsection (C). The owner or operator shall determine if a release exists. The requirement to investigate the suspected release shall be established by certified mail stating the type of impact and the reasons the Department believes the UST system may be the source of the impact.

R18-12-260. Release Notification and Reporting

- A.** Release notification within 24 hours. An owner or operator, either orally or in writing, shall notify the Department within 24 hours of the release determination date of any of the following:
1. An aboveground or belowground release.
 2. A spill or overflow of petroleum that results in a release that either:
 - a. Exceeds 25 gallons, or
 - b. Causes a sheen on nearby navigable waters that is reportable to the National Response Center under 40 CFR 110.
 3. A spill or overflow of petroleum that results in a release of 25 gallons or less, that is not contained and cleaned up within 24 hours.
 4. A spill or overflow of a hazardous substance that equals or exceeds its reportable quantity under CERCLA, as implemented by 40 CFR 302, and
 5. A spill or overflow of a hazardous substance that is less than the reportable quantity under CERCLA, as implemented by 40 CFR 302, that is not contained and cleaned up within 24 hours.
- B.** Release notification information. An owner or operator notifying the Department under subsection (A) shall provide all of the following:
1. Identification of the individual providing notification.
 2. Identification of the UST involved and the reason for making the release determination.
 3. Identification of the facility involved and the name of a contact person at the facility if different from the individual making the report.
 4. Identification of the owner and the operator of the facility involved and the contact person for the owner and operator.
 5. Descriptions of any investigations, containment, and corrective actions taken as of the time of the notice.
- C.** Written reporting within 14 days. An owner or operator shall submit a report, on a Department provided form, to the Department within 14 calendar days after the release determination date. The report shall include:
1. The nature of the release.
 2. The regulated substance released.
 3. The estimated quantity of the regulated substance released.

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4. The estimated period of time over which the release occurred.
5. The current LUST site classification, as described in R18-12-260.01(E).
6. A copy of the results of any tightness test that meets the requirements under R18-12-243(C) or R18-12-244(B) performed to make the release determination.
7. Copies of any laboratory analytical results of samples demonstrating the release determination.
8. The initial response and corrective action taken as of the date of the report and anticipated to be taken within the 1st 90 days after the release determination date.

D. UST system modifications. If the UST is the source of the release:

1. The owner or operator shall repair, replace, upgrade or close the UST system as required under this Article.
2. The owner shall notify the Department as required under R18-12-222.

R18-12-260.01. LUST Site Classification

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

B. LUST site classification factors. The analysis of threat to public health and the environment conducted under subsection (A) shall include:

1. Presence and levels of vapors.
2. Presence of free product.
3. Extent of contamination.
4. Type and location of receptor.
5. Impacts and potential impacts to current and future receptors.
6. Estimated time between the date of the analysis and the impact to receptors.

C. LUST site classification. The owner or operator shall select a classification for the LUST site from 1 of the following based on the analysis performed under subsection (A):

1. Classification 1: immediate threats to public health and the environment.
2. Classification 2: short term threats to public health and the environment with potential impacts to receptors within 2 years.
3. Classification 3: long term threats to public health and the environment with potential impacts to receptors greater than 2 years.
4. Classification 4: contamination exists, but no complete exposure pathways have been identified, or information indicates the site cannot be otherwise classified under this subsection.

D. LUST site classification submission. The owner or operator shall submit to the Department the LUST site classification described in subsection (E) as required under R18-12-260 through R18-12-264, if LUST site conditions indicate the classification has changed, or if contamination has or probably will migrate to a property to which the owner or operator does not have access.

E. LUST site classification form contents. The 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 at the time the 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 if the release is a spill or overflow.
5. The factors considered in the determination of LUST site classification described in subsection (A).
6. The distance between the identified contamination and each receptor.
7. The estimated time, from the date of the form until impact to the receptor.
8. The classification of the LUST site.

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

A. Initial response within 24 hours. An owner or operator shall perform initial response actions within 24 hours after the release determination date to prevent further release and identify and mitigate fire, explosion, and vapor hazards.

B. Initial abatement within 60 days. An owner or operator shall perform the following initial abatement measures as soon as practicable, but not later than 60 calendar days after the release determination date:

1. Remove as much of the regulated substance from the UST system as is necessary to prevent 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

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4. Investigate the possible presence of free product and begin removal as soon as practicable using procedures described in R18-12-263(F).
- C.** Initial site characterization required. An owner or operator shall develop, from existing 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 discovered free product shall also be gathered and a site check that meets the suspected release investigation procedures requirements of R18-12-251(B)(2) performed, if not conducted as part of the investigation of a suspected release.
- D.** Reporting within 90 days. An owner or operator shall complete the initial site characterization and report to the Department, on a Department provided form, within 90 calendar days after the release determination date. The information shall include the following:
 1. The nature of the release, the regulated substance released, and the estimated quantity of the release.
 2. An estimated time period when the release was occurring.
 3. The initial response and abatement actions described in subsections (A) and (B), and any corrective action 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 any registration number of all ADWR registered and other known wells on and within 1/4 mile of the facility.
 6. Location and type of other receptors on and within 1/4 mile of the facility.
 7. Current occupancy and land 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. A copy of the report of any tightness test that meets the requirements under R18-12-243(C) or R18-12-244(B) performed during the investigation of the suspected release.
 10. Copies of any laboratory analytical results of samples analyzed and received as of the date of the summary.
 11. A site plan showing the location of the facility property boundaries, release, sample collections for samples with laboratory analytical results submitted with this summary, and identified receptors.
 12. The current LUST site classification, as described in R18-12-260.01(E).
 13. Information on any discovered free product, as follows:
 - a. The estimated quantity, type, extent and thickness of free product observed or measured in wells, boreholes, or excavations;
 - b. A description of all free product removal measures taken as of the date of the summary including the method of free product removal, final disposition and total amount of free product removed to date including the steps that have been or are being taken to obtain necessary permits for any discharge from the free product recovery system, and copies of any necessary permits that have been obtained;
 - c. An explanation of any discharge that will take place on site or off site during the recovery operation and where this discharge will be located.
 - d. A description of the type of treatment applied to and the effluent quality expected from any discharge; and
 - e. The name of the person responsible for implementing the free product removal.

R18-12-262. Investigations For Risk Based Responses To Contamination

- A.** Requirement to investigate. An owner or operator shall investigate to determine the extent of released regulated substance at the LUST site, pathways for migration or potential migration of chemicals of concern, and current or potential receptors. The type and nature of the regulated substance released and site-specific conditions shall be considered in planning an effective and adequate investigation that can be used to design risk based responses to contaminated soil, surface water and groundwater. The investigations for risk based responses to contamination shall accomplish the following:
 1. Determine the full extent of contamination;
 2. Identify physical, natural and artificial features of the LUST site that are current or potential future pathways for contamination migration;
 3. Identify current or potential future receptors; and
 4. Obtain any additional data necessary to determine corrective action standards and to demonstrate the selection of technology to be used in responses to contaminated soil, surface water and groundwater.
- B.** Completion of investigation activities. The investigation activities described in subsection (A) shall be completed and the report described in subsection (D) submitted to the Department within 1 year from the release determination date unless another period is established in a Department approved work plan under the preapproval provisions of the UST State Assurance Fund in Article 6 of this Chapter or the Department establishes a shorter period based on the existence or eminent threat of an adverse impact to a receptor. An owner or operator may request, and the Department may accept, an alternative period for complying with the investigation and reporting requirements of this Section. The 1 year time for compliance under this Section shall be suspended during the time the Department is reviewing the request of the owner or

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operator. A request for an alternative period for complying with the investigation and reporting requirements of this Section is subject to the following:

1. An owner or operator requesting another period of time for compliance under this subsection shall submit the following, as applicable:
 - a. A request for an alternative compliance time that includes the proposed date for completion of the investigation and reporting requirements of this Section and the rationale for the compliance date requested.
 - b. The current LUST site classification as described in R18-12-260.01(E).
 - c. An on-site investigation report that meets the content requirements of A.R.S. § 49-1053(H) in the format described in subsection (D).
 - d. Documentation of preexisting contamination of groundwater by hazardous substances, as defined in A.R.S. § 49-281, at and surrounding the known and potential LUST site.
 - e. Demonstration that the conditions of A.R.S. § 49-1022(E) have been met for all properties to which access is not obtained at the time of the request.
2. The Department shall determine if the requested alternative time period is acceptable, based on consideration of the following:
 - a. Verification that the LUST site is classification 3 or 4 as determined under R18-12-260.01(C).
 - b. The presence of preexisting contamination of groundwater by hazardous substances, as defined in A.R.S. § 49-281, at and surrounding the known and potential LUST site.
 - c. The extent of owner or operator compliance with the requirements of R18-12-260 through R18-12-263 as of the date of submission of the request.
3. The Department shall grant the request for an alternative time for compliance only if the owner or operator demonstrates the site will pose no greater threat to human health and the environment at the end of the alternative compliance period requested than would exist at the end of the 1 year compliance period and the owner or operator has met the applicable requirements of R18-12-260 through R18-12-263 as of the request date. The Department shall notify the owner or operator in writing that the request for an alternative compliance date is or is not accepted. The letter of acceptance or refusal shall meet the content requirements of subsections (F)(1) or (2).

C. Determining the full extent of contamination. The owner or operator shall determine the location, volume, and the distribution of concentrations of each chemical of concern stored in the UST over its operational life within each contaminated medium. The full extent of contamination shall be determined when the receipt of laboratory analytical results of samples demonstrate the following:

1. Soil samples collected to define the vertical extent of the release, unless bedrock is encountered, indicate the following concentrations of each chemical of concern:
 - a. Concentrations of hydrocarbons (C10 to C32) for diesel, new oil, or used oil are at or below the residential level determined under Chapter 7, Article 2, Appendix A of this Title; and
 - b. Concentrations of all other chemicals of concern are at or below the lower reporting limit of the analytical method and laboratory used for the analysis.
2. Soil samples collected laterally from the point of release, unless bedrock is contacted during the determination of vertical extent, indicate that the concentration of each chemical of concern is at or below the lowest concentration determined under Chapter 7, Article 2 of this Title for:
 - a. Pre-determined remediation standards of Appendix A for residential occupancies;
 - b. Concentrations that are protective of water or ecological receptors, if water or ecological receptors are threatened or impacted;
 - c. Concentrations that do not exhibit a hazardous waste characteristic of ignitability, corrosivity, or reactivity; or
 - d. Background concentration, if a chemical of concern exists as background at the LUST site.
3. If bedrock is encountered during the investigation, the full vertical extent of the release in soil is determined by the concentration of the chemical of concern at the depth where bedrock is encountered. The full lateral extent of the chemical of concern in soil is determined when samples collected laterally from the point where bedrock is encountered meet the requirements of subsection (2).
4. Groundwater samples, if there is evidence that groundwater is threatened or impacted, collected hydraulically down-gradient from the point of release indicate the concentration of each chemical of concern is at or below the aquifer water quality standard established in A.R.S. § 49-223 and the rules made under that section and samples collected laterally provide an extrapolation of the relative dispersion of the contaminant plume.
5. Surface water samples, if there is evidence that surface water is threatened or impacted, collected laterally from the point where the release of the chemical of concern entered the surface water body indicate the concentration of each chemical of concern is at or below the general water quality standards established for navigable waters in A.R.S. §§ 49-221 and 49-222 and the rules made under these Sections.

D. Investigations for risk based responses to contamination report contents. An owner or operator shall submit a report, in a Department provided format, of the information developed during the investigation activities required in subsection (A). The report shall be submitted by the time established in subsection (B). The report submitted under this subsection and an

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on-site investigation report submitted under A.R.S. § 49-1053 shall contain the information described as follows, except an on-site investigation report is not required to include the extent of contamination beyond the facility property boundaries:

1. A summary site history that includes:
 - a. Information on the release, including the nature of the release, the regulated substance released, the estimated quantity of the release, and the estimated time period when the release was occurring;
 - b. Past and present land use of the facility, and present land use of adjacent properties and each parcel of property impacted by the release. The present land use of all properties within 1/4 mile of the outermost extent of contaminated water shall be included if a corrective action standard determined by a Tier 2 or Tier 3 evaluation under the corrective action standards determination of R18-12-263(B) is to be used for water contamination at the LUST site; and
 - c. Name and address of the owner of each property impacted by the release and, if a corrective action standard determined by a Tier 2 or Tier 3 evaluation under the corrective action standards determination of R18-12-263(B) is to be used for water contamination at the LUST site, the name and address of all property owners and all other persons using or having rights to use water within 1/4 mile of the outermost extent of contaminated water.
2. Information on bedrock, if encountered during the investigation, as follows:
 - a. Depth to bedrock,
 - b. Bedrock lithology, and
 - c. Description of the slope of the vadose zone/bedrock interface.
3. The hydrologic characteristics of groundwater and surface water of the local area within 1/4 mile of either the facility boundary or the outermost extent of characterized contamination, whichever is the further distance, as follows:
 - a. A description of the local known or estimated depth to groundwater and, if groundwater is threatened or impacted, the gradient, flow direction, confining layers, multiple aquifers, seasonal or historic water table fluctuation, or quality that may affect the construction or location of additional groundwater monitor wells or responses to contaminated soil, surface water or groundwater; and
 - b. A description of the local surface water including the nature and uses of any waters of the United States or any unique waters designation under Chapter 11, Article 1, Appendix B of this Title. The nature of the surface waters shall be identified as perennial, ephemeral, or intermittent, and the known or estimated local gradient and flow direction shall be included.
4. A concise description of factors considered in determining the full extent of contamination, including:
 - a. Selection of soil sampling locations and points;
 - b. Selection of the location and number of groundwater wells, if groundwater is encountered during the investigation;
 - c. Selection of surface water sampling locations, if surface water is encountered during the investigation; and
 - d. Any differences from generally accepted industry standards that occurred during the performance of investigation activities and justification for the methodology used to complete the investigation.
5. A description of all responses to contaminated soil, surface water and groundwater activities initiated as of the time of the report.
6. A concise summary of the results of the investigation and a statement of intended future activities as follows:
 - a. The extent, location, magnitude and volume of documented soil, surface water and groundwater contamination;
 - b. The volume, contaminant concentration, and disposition of any contaminated soil or water removed from the LUST site;
 - c. A conceptual site model;
 - d. The LUST site classification described in R18-12-260.01(E);
 - e. The documentation, described under R18-12-263(C), of the Tier 1 evaluation and of each additional Tier evaluation performed as of the date of the report shall be included; and
 - f. Recommendations for future responses to documented contamination or LUST case closure.
7. A site location map that includes the labeled location of the following that occur within 1/4 mile of either the facility property boundaries or the outer boundaries of the characterized contamination, whichever is the greater area:
 - a. Property boundaries of the facility where the release occurred;
 - b. Named and unnamed streets, roads, alleys and other thoroughfares;
 - c. General land use of properties and locations of any schools, day care centers, hospitals, and nursing homes;
 - d. All wells discovered or installed during the investigation. Each well shall be identified by any assigned ADWR number, and for wells without an assigned ADWR number, the number assigned by the owner or operator;
 - e. Any surface water bodies, including flow direction; and
 - f. Groundwater flow direction.
8. A site plan or plans, as necessary to maintain clarity of the display, that includes the labeled location of the following that occur within the area investigated:

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- a. Property boundaries of the facility and other properties;
 - b. Named and unnamed streets, roads, alleys and other thoroughfares;
 - c. Any buildings, structures, or above ground storage tanks on the facility;
 - d. Type and extent of on-site ground-surface cover, indicated as asphalt, concrete, soil, or another specific type of cover;
 - e. The UST involved in the release, point of the release, and other present and former tanks including all piping and above ground ancillary equipment. The size and contents of each tank shall be identified. If any information required by this subsection on tanks, other than the UST that is the cause of the release, is not known, estimated information shall be provided and indicated as such;
 - f. Area of any existing or previous excavations resulting from UST corrective actions related to this release and the position of all existing excavated soil stockpiles;
 - g. Above or below ground utility corridors, sewer systems, irrigation canals, and drainage channels within and adjacent to the area investigated;
 - h. All wells discovered or installed during the investigation. Each well shall be identified by any assigned ADWR number, and for wells without an assigned ADWR number, the number assigned by the owner or operator;
 - i. Land use of properties that are impacted by the release;
 - j. Structures surrounding the facility that are impacted by the release;
 - k. Full lateral extent of soil contamination, all boreholes and all other sample collections, including the sample collections used during any UST closure activities related to this release;
 - l. Surface water bodies with all sample collections, documented full lateral extent of surface water contamination and the flow direction;
 - m. All groundwater monitor wells, documented full lateral extent of groundwater contamination, and seasonal and historic directions of groundwater flow and hydraulic gradients, if groundwater has been impacted, threatened, or investigated; and
 - n. Groundwater elevation contours and seasonal and historic directions of groundwater flow and hydraulic gradients, if groundwater has been impacted, threatened, or investigated.
9. A tabulation of all field screening and laboratory analytical results acquired during the investigation. The tabulations shall include the following:
- a. Sample location identification number.
 - b. Sample number.
 - c. Collection depth.
 - d. Date each sample was collected.
 - e. Analytical result with unit of measure.
10. Copies of all original laboratory reports and chain-of-custody forms supporting the tabulation described in subsection (9), and any supporting laboratory documents that report any analytical quality assurance and quality control anomalies experienced by the laboratory.
11. A tabulation of water level data acquired in investigating the full extent of contamination. The tabulation shall include the following:
- a. Groundwater monitor well identification number.
 - b. Date of measurement.
 - c. Elevation above mean sea level of top of casing, water level, and, if present, free product level.
 - d. Screened interval.
 - e. Depth to water and, if present, free product.
12. A tabulation of all wells registered with the ADWR, and any other known or observed wells located within 1/4 mile of the facility property boundary. For ADWR registered wells, the list shall include the ADWR registration number, water use category, reported water level, and drill date, if recorded.
13. The lithologic log developed for each borehole, excavation, monitor well, and sample collection location installed to investigate the full extent of contamination that contains the following information:
- a. The identification number assigned to the subsurface penetration;
 - b. Date and method of the subsurface penetration;
 - c. Depth of penetration;
 - d. Depth and description of lithologies encountered, using the American Society for Testing and Materials Publication D2488-93, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)", Amended September 15, 1993, Philadelphia, PA and no future editions or additions, as is incorporated by reference and on file with the Department and the Secretary of State;
 - e. Depth of each sample collected including sample identification number;
 - f. Field screening results of each sample collected; and
 - g. Other information describing subsurface lithology.

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14. The construction diagram (as built) of each monitor well installed to investigate the full extent of contamination that contains the following:
 - a. The unique identification number assigned to the well;
 - b. Date of installation;
 - c. Total depth and diameter of hole;
 - d. Casing material, diameter, and screened interval;
 - e. Intervals for the annular fill materials described as sand, grout, or another specified material;
 - f. Surface completion information; and
 - g. Identification of the surveyed fixed reference point used to determine the elevation in relation to sea level of the well head and the determined elevation of the well head for groundwater monitor wells.
 15. Additional information the owner or operator determines is necessary to verify that the requirements for investigations for risk based responses to contamination have been met.
- E.** Conditions for acceptance of the report of investigations for risk based responses to contamination. The Department shall determine that the report of investigations for risk based responses to contamination meets the requirements of this Section and is accepted if the following conditions are met:
1. The report contains all of the required information identified at subsection (D), or the Department has enough information to make an informed decision to grant the confirmation;
 2. The report demonstrates the corrective actions are necessary and reasonable as follows:
 - a. A corrective action is necessary if it is required by the corrective action requirements of A.R.S. § 49-1005 and the rules made under that Section, and
 - b. A corrective action is reasonable if it meets subsection (A) requirements and the owner or operator has considered site-specific topographic, geologic, hydrologic, and demographic conditions.
- F.** Notice of decision. The Department shall notify the owner or operator in writing that the report of investigations for risk based responses to contamination meets or does not meet the requirements of this Section as follows:
1. If the Department determines the conditions at subsections (E)(1) and (2) are satisfied, then the Department shall accept the report and notify the owner or operator in writing. The notification shall include any conditions upon which the acceptance is based and an explanation of the process for resolving disagreements over the decision under A.R.S. § 49-1091.
 2. If the Department determines conditions at subsections (E)(1) or (2) are not satisfied, then the Department shall notify the owner or operator in writing. The notification shall include an explanation of the reasons for not accepting the report and an explanation of the process for resolving disagreements over the decision under A.R.S. § 49-1091.

R18-12-263. Risk Based Responses to Contamination

- A.** Response required. An owner or operator shall remediate contamination at the LUST site as required under this Section. Remediation activities shall continue until contaminant concentrations for each chemical of concern, in each contaminated medium, at the point of compliance, is documented to be at or below the corrective action standard determined under subsection (B) and the corrective action completion report is accepted by the Department.
- B.** Determining risk based corrective action standard. An owner or operator shall determine and document, as described under subsection (C), a risk based corrective action standard using the procedures of this subsection. Corrective action standards shall meet the UST corrective action requirements of A.R.S. § 49-1005(D) and (E), and the soil remediation standards and restrictions on property use of A.R.S. Title 49, Chapter 1, Article 4 and the rules made under each. In determining the corrective action standard, an owner or operator shall 1st perform a Tier 1 evaluation. An owner or operator may subsequently perform progressively more site-specific, risk-based tier evaluations (Tier 2 or Tier 3) when there are comparative differences in input parameters, cost savings in conducting both the additional evaluation and remediation to the next tier, and a more accurate assessment of risk.
1. The Tier 1 evaluation shall determine the corrective action standard in accordance with the following:
 - a. Conservative scenarios are assumed in which all potential receptors are exposed to the maximum concentration of each chemical of concern in each contaminated medium detected at the LUST site.
 - b. All exposure pathways are assumed to be complete.
 - c. The point of compliance is the assumed point of exposure at the source or the location of the maximum concentration.
 - d. The concentration of each chemical of concern in each contaminated medium at the point of compliance is compared with the tier 1 corrective action standard determined under subsections (1)(e) through (1)(j).
 - e. For soil, the corrective action standard is that prescribed in R18-7-203(A)(1) and (2) and (B).
 - f. For surface water, the corrective action standard is that prescribed in R18-11-109 and R18-11-112.
 - g. For groundwater, the corrective action standard is that prescribed in R18-11-406.
 - h. For contaminated groundwater that is demonstrated to discharge or potentially discharge to surface water, the corrective action standard is that prescribed in R18-11-108, R18-11-109, and R18-11-112.

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- 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, the corrective action standard is that concentration determined on the basis of updated, peer reviewed scientific data as applied to those equations used to formulate the numeric standards established in rule or statute, or for leachability and protection of the environment, those concentrations determined on the basis of methods approved by the Department.
 - 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, the corrective action standard is that concentration prescribed in R18-11-405. This concentration shall be determined on the basis of updated, peer reviewed scientific data and methodologies.
 2. The Tier 2 evaluation shall determine the corrective action standard as follows:
 - a. Site-specific data shall be applied to the same equations as those 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, the corrective action standard shall be determined on the basis of updated, peer reviewed scientific data provided through environmental regulatory agencies and scientific organizations.
 - c. Values for equation parameters shall be Department approved, if different than those used in Tier 1 or not obtained through site-specific data.
 - d. Exposure pathways that are incomplete due to site-specific conditions, or institutional or engineering controls, may be eliminated from continued evaluation in this Tier.
 - e. The point of compliance shall be a point 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. Representative concentrations of chemicals of concern are the lesser of the 95% upper confidence level or maximum concentration in the contaminated medium at the point of compliance.
 - g. The Tier 2 corrective action standard shall be the concentration determined under subsections (2)(a) through (2)(e) and R18-7-206, R18-11-108, and R18-11-405.
 - h. The concentration of each chemical of concern in each contaminated medium at the point of compliance is compared with the Tier 2 corrective action standard.
 3. The Tier 3 evaluation shall determine the corrective action standard as follows:
 - a. More site-specific data than required in the development of Tier 2 corrective action standards may be applied 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. The point of exposure shall be the nearest known or potential receptor.
 - c. The point of compliance shall be the point of exposure or some point between the source and the point of exposure, but is not limited by the facility boundary.
 - d. Representative concentrations are the actual or modeled concentrations in the medium of concern at the point of compliance.
 - e. The Tier 3 corrective action standard shall be the concentration determined under subsections (3)(a) through (3)(d).
 - f. The representative concentration of each chemical of concern in each contaminated medium at the point of compliance is compared with the Tier 3 corrective action standard to determine the remediation required.
 - g. The remedial action chosen upon completion of the Tier 3 evaluation shall 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 determined under Tier evaluations of 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 1 of the following conditions impacts or may impact current or future receptors:
 - a. More than 10 carcinogens are identified.
 - b. More than 1 Class A carcinogen is identified.
 - c. Any non-carcinogen has a hazard quotient exceeding $1/n$ th of the hazard index of 1, where n represents the total number of non-carcinogens identified.
 - d. More than 10 non-carcinogens are identified.
- C.** Documentation of Tier evaluation. An owner or operator shall document each Tier evaluation conducted to determine a corrective action standard used in responses to contaminated soil, surface water and groundwater. Documentation of each evaluation shall be prepared in a Department provided format and accordance with this subsection.
1. The Tier 1 evaluation shall include the following information:

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- a. Each chemical detected at 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. Current and future land use of the facility and surrounding properties.
- e. Each receptor evaluated.
- f. Tier 1 corrective action standard for each chemical of concern for each contaminated medium.
- g. Proposed follow-up activities for those chemicals of concern that exceed Tier 1 corrective action standards.
2. The Tier 2 evaluation shall include 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 land use of the facility and surrounding properties.
 - e. Point of exposure.
 - f. Point of compliance.
 - g. Revised conceptual site model.
 - h. Parameters necessary to utilize the soil leachability 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 (B)(2) for subsurface volatilization.
 - j. Supporting calculations and reference citations used in the development of the Tier 2 corrective action standards.
 - k. Table of the calculated Tier 2 corrective action standards.
 - l. Description of institutional or engineering controls implemented or to be implemented.
 - m. Proposed follow-up activities for those chemicals of concern that exceed Tier 2 corrective action standard.
3. The Tier 3 evaluation shall contain 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. Detailed description of current and future land use of the facility and surrounding properties, including a demonstration of the current and foreseeable use of groundwater within 1/4 mile of the source.
 - e. Point of exposure.
 - f. Point of compliance.
 - g. Revised conceptual site model.
 - h. Identification and justification for alternate assumptions, methodology or site-specific information used in place of those for the Tier 2 evaluation.
 - i. Supporting calculations and reference citations used in the development of the Tier 3 corrective action standards.
 - j. Results and validation of modeling for soil leaching, groundwater plume migration, and surface water hydrology.
 - k. 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. Proposed follow-up activities for those chemicals of concern that exceed Tier 3 corrective action standards.
- D.** Determination of remediation response. An owner or operator shall determine the remediation technology to be used at the LUST site based on the corrective action requirements of A.R.S. § 49-1005(D) and (E), including all of the following:
 1. Local, State, and federal requirements that affect the installation, operation, demobilization, and other activities associated with the technology.
 2. Reduction of toxicity, mobility, or volume.
 3. Long-term effectiveness and permanence.
 4. Short-term effectiveness.
 5. Ability to implement, including consideration of the results of investigations for risk based responses to contamination, corrective action standard for each chemical of concern in each contaminated medium, ease of initiation, operation and maintenance of the technology, and public response to any contamination residual to or resulting from the technology.
- E.** Derived waste. An owner or operator shall prevent and remedy hazards posed by derived waste resulting from investigation or response activities under this subsection.
 1. An owner or operator meeting the requirements of this subsection is deemed to meet the exemption provisions in the definition of solid waste at A.R.S. § 49-701.01(B)(12)(b) for petroleum contaminated soil stored or treated on-site.

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2. On-site derived waste shall be held within a containment system designed and constructed to prevent the migration of contaminants into subsurface soil, surface water, or groundwater throughout the time the derived waste remains on-site. An owner or operator shall utilize protective measures to ensure:
 - a. Access by unauthorized persons is restricted.
 - b. Integrity of any containment system during placement, storage, treatment or removal of the derived waste is maintained.
3. On-site derived waste stored or treated in stockpiles, drums, tanks, or other vessels shall be labeled with the words "caution contains" followed by the name of each contaminant, name and telephone number of the owner or operator, and the accumulation start date in legible letters on a high contrast background, not obstructed from view, and sufficiently durable to equal or exceed the duration of storage or treatment. Letter size shall be at least 2.5 cm (1 inch) in sans serif, Gothic, or block style. The accumulation start date shall be the 1st date that derived waste is placed into the stockpile or container. The label shall be placed on the stockpile or container on the accumulation start date.
4. On-site treatment of derived waste shall be to the corrective action standards determined under this Section if the derived waste is to be returned to the on-site subsurface.
5. Nothing in this subsection shall supersede more stringent requirements for storage, treatment, or disposal of on-site or off-site derived waste imposed by local, State, or federal governments.
- F.** Free product. An owner or operator shall continue investigation for and remove free product discovered during any of the activities required in R18-12-251 through this Section. Free product removal shall:
 1. Be conducted in a manner that minimizes the spread of contamination by using recovery and disposal techniques based on site-specific hydrologic, geologic, and demographic conditions and that treats, discharges, or disposes of recovery by-products in compliance with local, State, and federal regulations.
 2. Use abatement of free product migration as a minimum objective for the design of the free product removal system.
 3. Handle any flammable products in a safe and competent manner to prevent fires or explosions.
- G.** Periodic site status report. An owner or operator shall submit a site status report, on a form provided by the Department, once every 12 months after the date of Department notice of acceptance of the report of investigations for risk based responses to contamination described in R18-12-262(F)(1). Another submission schedule may be provided in a Department approved corrective action plan under R18-12-263.01. The submittal of the site status report shall continue until the Department accepts a LUST site closure report under R18-12-263.02(G)(1). The site status report shall include all of the following information:
 1. Identification of each type of remedial corrective action technology being performed;
 2. Date each remedial corrective action technology became operational;
 3. Results of monitoring and laboratory analysis of collected samples for each contaminated medium received since the last report to the Department;
 4. Site plan showing the current location of the components of any installed remediation technology including monitoring and sample collection locations of data collected and included as required under subsection (3);
 5. Estimated time 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 contaminated medium; and
 6. The current LUST site classification described in R18-12-260.01(E).

R18-12-263.01. Corrective Action Plan (CAP)

- A.** When a CAP is submitted, The Department may require an owner or operator, or the owner or operator may volunteer, to develop and submit a corrective action plan (CAP) to the Department that meets the requirements of this Section at any time after submission of the report described in R18-12-261(D). The CAP shall be developed and submitted within 120 calendar days after receipt of the Department's written request. The Department shall require a CAP if any of the following circumstances exist:
 1. The LUST site is classification 1 or classification 2 as determined under R18-12-260.01(C).
 2. Soil or groundwater contamination extends or has potential to extend off the facility property and the LUST site is classification 3 as determined under R18-12-260.01(C).
 3. Free product is determined to extend off the facility property.
 4. The owner or operator has determined a corrective action standard for groundwater or surface water under a Tier 2 or Tier 3 evaluation.
 5. The owner or operator has determined a corrective action standard for soil under a Tier 3 evaluation.
 6. 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.
 7. Site-specific conditions indicate a level of threat to public health and the environment equal to or exceeding that of the circumstances of subsections (1) and (2). In determining the extent of threat to public health and the environment, the Department shall consider the following:

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- a. Nature of the regulated substance and location, volume, and the 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.
 - c. The presence of complete exposure pathways.
- B.** CAP shall be protective of public health and the environment. The owner or operator shall prepare a CAP that provides for the adequate protection of public health and the environment. The Department shall determine if the CAP adequately protects public health and the environment through analysis of the following factors:
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 existing and potential receptor exposure.
 6. Any information assembled in compliance with R18-12-251 through R18-12-263.02.
- C.** CAP contents. A CAP shall be prepared in a format provided by the Department and shall include:
1. The extent of contamination known at the time of the CAP submission, including the current LUST site classification, as described in R18-12-260.01(E).
 2. A description of any responses to contaminated soil, surface water and groundwater contamination initiated as of the time of the CAP submission.
 3. A determination of the foreseeable and most beneficial use of surface water or groundwater within 1/4 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.
 - a. The determination of the foreseeable and most beneficial use of surface water or groundwater shall result from the owner or operator survey of property owners and other persons using or having rights to use water within 1/4 mile of the outermost extent of contaminated water.
 - b. The survey results shall be included with the CAP along with the names and addresses of persons surveyed.
 4. A description of the goals and expected results.
 5. The corrective action standard for each chemical of concern in each affected medium and the Tier evaluation documentation.
 6. Description of any permits that are required for the operation of each remediation technology and system.
 7. The general description of design and operation and total estimated cost of 3 remediation technologies proposed to perform corrective actions on contaminated soil, surface water, or groundwater described in a narrative form. This report shall also include all 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.
 8. Justification for the selection of the remediation technology chosen for the LUST site. The selection shall consider site-specific conditions and be based on the method that best meets all of the remediation criteria listed in the corrective action requirements of A.R.S. § 49-1005(D).
 9. Schedules for the implementation, operation, and demobilization of any remediation technology and periodic reports as described in R18-12-263(G) to the Department.
 10. The potential effects of residual contamination on groundwater and surface water.
 11. Additional information necessary to analyze the site specific conditions and effectiveness of the remediation technologies.
- D.** Modifications. The Department shall inform the owner or operator if modification to the CAP is required to meet the requirements of subsections (B) and (C). The request for modification shall be made by certified mail and describe the modifications and the reasons for requiring the modifications. The owner or operator shall, within 45 calendar days or as approved by the Department after receiving the written notice, as demonstrated by the return receipt, submit to the Department either a revised CAP or a notice that the owner or operator will rely on the information as submitted. The Department shall disapprove the CAP if the deficiencies remain after the expiration of the modification submission period, and notify the owner or operator in writing as described under subsection (L)(2).
- E.** Preliminary CAP approval. If the requirements of subsections (C) and (D) are met, the Department shall inform the owner or operator in writing that the CAP is complete and proceed with public notice as required under subsection (G).
- F.** Implementation before approval. An owner or operator may begin implementation of the remediation technologies in the CAP before the CAP is approved by the Department, if the owner or operator:
1. Informs the Department in writing prior to implementation;
 2. Complies with any conditions imposed by the Department consistent with the provisions of subsection (B), including halting any activity or mitigating adverse consequences from implementation; and
 3. Obtains all necessary permits and approvals to conduct the activities.

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- G.** Public notice. The Department shall provide a minimum of 30 calendar days notice to the public that a CAP has been submitted to the Department for review. The methods of public notice shall include 1 or more the following:
1. Publication of notice of the submission of a CAP in a newspaper of general circulation in the geographic area addressed in the CAP and the legal notice format utilized by the newspaper. A 2nd notice shall be published in the same newspaper within 7 calendar days following the 1st notice.
 2. Posting a notice at the facility that contains the information described in subsection (H)(1) through (7). The notice shall be posted on a sign at the facility that contains or contained the UST that is the source of the release, in legible letters on an orange background, not obstructed from view, and sufficiently durable to equal or exceed a period of 60 calendar days. Letter size shall be at least 2.5 cm (1 inch) in sans serif, Gothic, or block style.
 3. Sending a copy of the notice to all owners of property impacted by the release and the planned corrective action, and to owners of property adjacent to these properties. A copy shall also be provided to all property owners and all other persons using or having rights to use water within 1/4 mile of the outermost extent of contaminated water, Arizona Department of Health Services, ADWR, and county and any city government within whose jurisdiction the CAP will be implemented if the CAP includes use of a corrective action standard for water determined under a Tier 2 or Tier 3 evaluation described in the corrective action standards determination of R18-12-263(B).
 4. Posting the notice on the Department's Internet site.
- H.** Public notice contents. A notice to the public shall include all of the following:
1. A statement that a CAP has been submitted to the Department for review.
 2. An identification of the facility where the release occurred and the site of the proposed response, using the street address, or if there is no street address, using natural or artificial landmarks that are well known to local residents.
 3. The date the CAP was submitted to the Department and name of the person submitting the CAP.
 4. A specific explanation if a corrective action standard for water, determined under a Tier 2 or Tier 3 evaluation, is part of the CAP.
 5. A statement that a copy of the CAP can be viewed by the public in at least 2 locations. The 1st shall be at the Department's Phoenix office. The 2nd shall be at the public library located nearest to the site of the release. Any additional locations, selected by the Department, shall be included.
 6. A statement that any comments on the CAP shall be sent to the Underground Storage Tank Program of the Department within 30 calendar days after the 2nd publication of the notice as provided under subsection (G)(1).
 7. A description of the public meeting provisions of subsection (I).
- I.** Public meeting. The Department shall hold a public meeting to receive comments on a CAP if requested by 5 or more persons who are potentially affected by the release and the proposed corrective action within 30 calendar days after the 2nd publication of the notice required under subsection (G)(1), or the CAP includes a corrective action standard for water developed under a Tier 2 or Tier 3 evaluation. If the Department holds a public meeting, the Department shall schedule the meeting and send information on the meeting time and location to:
1. The owner or operator.
 2. Persons requesting a meeting, and if the published public notice states that a meeting will be held to:
 - a. All property owners and all other persons using or having rights to use water within 1/4 mile of the outermost extent of contaminated water;
 - b. Arizona Department of Health Services;
 - c. ADWR; and
 - d. County and any city government within whose jurisdiction the CAP will be implemented.
- J.** Modification due to public comment. The Department shall inform the owner or operator if modification to the CAP is required due to public comment received from public notice or meeting. The request for modification shall be made by certified mail, and describe the modifications and the reasons for requiring the modifications. An owner or operator shall make the required modifications and submit the revised CAP within 45 calendar days after receiving the written notice, as demonstrated by the return receipt. If the requested modifications are not made within the 45 day period, the Department shall disapprove the CAP and notify the owner or operator in writing as described under subsection (L)(2).
- K.** Conditions precedent for CAP approval. The Department shall approve a CAP only if all of the following conditions are met:
1. The CAP contains all of the required information identified in subsections (C), (D), and (J), or the Department makes a determination that it has enough information to make an informed decision to approve the CAP.
 2. The CAP demonstrates the corrective actions that are a subject of the CAP are necessary, reasonable, cost-effective, and technically feasible as follows:
 - a. A corrective action is necessary if it is required by the corrective action requirements of A.R.S. § 49-1005 and the rules made under that Section.
 - b. A corrective action is reasonable if it meets subsection (B) requirements and the owner or operator have considered site-specific topographic, geologic, hydrologic, and demographic conditions.
 - c. A corrective action is cost effective if it is the most inexpensive alternative that protects human health and the environment based on the factors listed in subsection (B).

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- d. A corrective action is technically feasible if it is technically possible and technically practical, taking into account LUST site-specific conditions.
- L.** Notice of CAP approval. The Department shall notify the owner or operator in writing that it is approving or denying the CAP as follows:
1. If the Department determines the conditions at subsections (K)(1) and (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 determined under a Tier 2 or Tier 3 evaluation, a copy of the notice shall be sent to the Arizona Department of Health Services, ADWR, and county and any city government within whose jurisdiction the CAP will be implemented. The notice shall also be sent to any persons submitting written or oral comments on the proposed CAP. The notice shall include the following:
 - a. Any conditions upon which the approval is based.
 - b. An explanation of the process for resolving disagreements over the determination under A.R.S. § 49-1091.
 2. If the Department determines conditions at subsections (K)(1) or (2) are not satisfied, the Department shall deny the CAP and notify the owner or operator in writing of the denial. If the approved CAP includes a corrective action standard for water determined under a Tier 2 or Tier 3 evaluation, the Department shall send a copy of the notice to the Arizona Department of Health Services, ADWR, and county and any city government within whose jurisdiction the CAP would have been implemented. The Department shall also send the notice to any persons submitting written or oral comments on the proposed CAP. The notice shall include the following:
 - a. An explanation of the reasons for the denial.
 - b. An explanation of the process for resolving disagreements over the determination under A.R.S. § 49-1091.
- M.** CAP implementation. If the CAP is approved, the owner or operator shall begin implementation of the CAP, as approved, within 30 calendar days after receiving the Department's written approval.
- N.** CAP termination. The Department may terminate an implemented CAP if the corrective action standards of the approved CAP are not being met. The Department shall provide notice to the owner or operator and, as described in subsection (G), to the public if termination of the CAP is being considered by the Department.

R18-12-263.02. LUST Site Closure

- A.** LUST site closure request. An owner or operator requesting LUST site closure by the Department shall do so in writing and include a corrective action completion report described in subsection (D) that meets the requirements of this Section. An owner or operator shall submit the request for LUST site closure only after the site investigation requirements of R18-12-261 and R18-12-262, and risk based responses to contamination of R18-12-263 are met.
- B.** Verification that corrective action standard is met. An owner or operator shall provide documentation verifying that the corrective action standard for each chemical of concern in each contaminated medium is met.
- C.** Method of water quality verification monitoring. If LUST site investigations indicate that water quality was threatened or impacted, the owner or operator shall determine the method of water quality verification monitoring. The owner or operator shall document that the results of the water quality verification monitoring verifies that contaminant concentrations will remain at or below the corrective action standard for each chemical of concern in the contaminated groundwater and surface water. The selected methodology shall consider:
1. Site specific hydrologic conditions.
 2. The full extent of water contamination as documented in the report of investigations for risk based responses to contamination submitted to the Department under R18-12-262.
 3. The presence and location of known receptors that are or potentially impacted by the release.
- D.** Corrective action completion report contents. The corrective action completion report shall include all of the following information, except that identical information previously submitted to the Department is not required to be resubmitted if the name, date, and pages of any previous report containing the information required by this subsection is indicated.
1. Description of the vertical and lateral extent of contamination.
 2. Statement of the corrective action standard for each chemical of concern for each medium of concern and the evaluation form described in R18-12-263(C), for each Tier evaluated.
 3. List of remediation technologies used to reach the standard.
 4. Results of a post remediation LUST site investigation that meets the requirements of R18-12-262 that documents that the corrective action standard of each chemical of concern in each medium of concern is met. A post remediation LUST site investigation is not required if the initial investigation for soil, surface water and groundwater cleanups described in R18-12-262 demonstrates the corrective action standard of each chemical of concern in each medium of concern is met.
 5. A site plan. All sample collection locations for both investigations for risk based responses to contamination described in R18-12-262 and LUST site closure verification described in this Section shall be shown.
 6. Verification that ADWR permitted monitor wells, recovery wells, or vapor extraction wells that are abandoned prior to submission of the LUST case closure request, have been abandoned as required under A.A.C. R12-15-816 and that

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abandoned recovery wells or vapor extraction wells not having ADWR permits have been performed in a manner that ensures that the well will not provide a pathway for contaminant migration.

7. Documentation of compliance with the requirements for the storage, treatment, or disposal of any derived waste in R18-12-263(E).
 8. Documentation that any institutional or engineering controls are implemented and legal mechanisms are in place to ensure that the institutional or engineering controls will be maintained.
 9. The current LUST site classification, as described in R18-12-260.01(E).
 10. Any additional information the owner or operator determines is necessary to verify the LUST site is eligible for closure under this Section.
- E.** Conditions for acceptance of LUST case closure request. The Department shall inform the owner or operator that a corrective action completion report meets the requirements of this Section, is accepted, and close the LUST site if all of the following conditions are met:
1. The corrective action completion report contains all of the required information identified at subsection (D), or the Department makes a determination that it has enough information to make an informed decision to grant the confirmation and close the LUST site.
 2. The corrective action completion report demonstrates the corrective actions are protective of public health and the environment, and are necessary and reasonable as follows:
 - a. A corrective action is necessary if it is required by the corrective action requirements of A.R.S. § 49-1005 and the rules made under that Section.
 - b. A corrective action is reasonable if it meets subsections (B) and (C) requirements and the owner or operator have considered site-specific topographic, geologic, hydrologic, and demographic conditions.
- F.** Notice of LUST site closure decision. The Department shall notify the owner or operator in writing that the corrective action completion report meets or does not meet the requirements of this Section, is or is not accepted, and is closing or not closing the LUST site as follows:
1. If the Department determines the conditions at subsections (E)(1) and (2) are satisfied, then the Department shall accept the report, close the LUST site, and notify the owner or operator. The notification shall include any conditions upon which the acceptance is based and an explanation of the process for resolving disagreements over the decision under A.R.S. § 49-1091; or
 2. If the Department determines conditions at subsections (E)(1) or (2) are not satisfied, then the Department shall deny the report and notify the owner or operator. The notification shall include an explanation of the reasons for not accepting the report and an explanation of the process for resolving disagreements over the decision 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 in the determination of a corrective action standard for water under a Tier 2 or Tier 3 evaluation, the Department shall require an owner or operator to conduct additional corrective actions that meet the requirements of R18-12-263 and R18-12-263.01 to evaluate and attain the same level of protection of public health and the environment that was met when the LUST case was closed.
- H.** Subsequent discovery of contamination. If evidence of previously undocumented contamination is discovered at or emanating from the LUST site, an owner or operator shall report and perform additional corrective action as necessary to meet the requirements of R18-12-260 through R18-12-264.

R18-12-264. General Reporting Requirements

- A.** Standard 1st page. Any written submission to the Department under R18-12-251 through R18-12-263.02 shall have a 1st page, on a form the Department provided that contains all of 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 described in A.R.S. § 49-1052(H), a person described in § 49-1052(I), or other person notifying the Department of a release or suspected release or conducting corrective action under A.R.S. §§ 49-1016(C)(2) or 49-1016(C)(4), and any identifying number assigned to the person by the Department. The name, address, and daytime telephone number of a person serving as a contact person to the Department for the document shall also be shown.
 2. Identification of the type of document or request being submitted and the Section of this Article establishing any required contents.
 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. Name and address of the facility, facility identification number, and the name and daytime telephone number of a person at the facility serving as a contact person to the Department.
 5. The name, address, and daytime telephone number of the owner and operator and the identification number assigned to each by the Department if not included in subsection (A)(1).

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6. The name, address, and daytime telephone number of the owner of the facility property containing the leaking UST system, if the property owner is not the owner or operator and any identification number assigned to the property owner by the Department.
 7. A certification statement signed by the person responsible for submitting the document or the authorized agent of the person that reads: "I hereby certify, under penalty of law, that this submittal and all attachments were prepared under my direction and supervision, and that the information submitted is true, accurate, and complete to the best of my knowledge."
- B.** Seal of professional required. Any written report submitted to the Department under R18-12-260 through R18-12-263.02 shall meet any requirements for an original seal imprint and signature of a registered professional required by 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 the determination of corrective action standards limited to Tier 1 or Tier 2 evaluations, an owner or operator may request the Department to accept without review for completeness or deficiency, a site characterization report described in R18-12-262(D) or corrective action completion report described in R18-12-263.02(D) signed by a certified remediation specialist who meets the requirements under subsection (B). The Department shall audit at least 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 by an individual, community group, or neighborhood association to review a specific document. The Department shall review the audited document and make a decision on compliance based on the applicable provisions of R18-12-262 or R18-12-263.02. The Department may accept the document based solely on the seal and signature of the certified remediation specialist, if a notarized certification appears at the end of the document that is signed by the certified remediation specialist and the owner or operator. The certification statement shall be worded as follows with the information in brackets replaced with the relevant information and the brackets deleted:
"I, [name of certified remediation specialist] hereby certify that I have reviewed the above [name of report] on the release(s) of [name of regulated substance or regulated substances] reported to the Arizona Department of Environmental Quality on [date of release report] and subsequently designated as LUST [LUST number] and have determined that all requirements for this [name of report] under the Underground Storage Tank Corrective Action requirements of A.R.S. § 49-1005 and the rules made under that Section have been met. I, [Name of Certified Remediation Specialist], at the request of [Name of owner or operator] request acceptance of this [Name of report] as submitted. I, [Name of certified remediation specialist] 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 [name of 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 the loss of use resulting 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 any of them, or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by a party indemnified hereunder."
- D.** Department acceptance and liability waiver. The Department shall issue a letter to the owner or operator accepting a document submitted under subsection (C) that states that the acceptance is based on the certification statement of the certified remediation specialist without Department review of the file and that no liability associated with the acceptance shall accrue to the State.

R18-12-280. Sampling Requirements

- A.** Required analytical procedures. The following analytical procedures shall be performed for all required sampling provided for in this Chapter:
1. Samples shall be analyzed for the chemicals of concern associated with components of the 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 in accordance with A.A.C. R9-14-601 through A.A.C. R9-14-617 617; ~~except that soil samples which are to be analyzed for the possible presence of volatile regulated substances shall be subject to 1 of the following procedures unless a shorter extraction time is specified by the analytical method:~~
 - a. ~~Laboratory extraction occurs within 72 hours of collection, unless the Department has site specifically approved, prior to collecting samples, extension of the time to 120 hours. unless site specific pre-approval to extend the time to 120 hours has been granted by the Department.~~
 - b. ~~Field extraction is made using methanol immersion.~~
 - c. ~~A purge and trap modified adapter is used.~~
 - d. The Department may approve, prior to collecting obtaining samples, other procedures 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.
 2. Sample analyses shall be performed by a laboratory licensed for the selected analytical method methodology by the Arizona Department of Health Services under in accordance with A.A.C. R9-14-601 through A.A.C. R9-14-617; ~~and~~

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3. Samples shall be analyzed within the specified time period required for the analytical test method under in accordance with A.A.C. R9-14-601 through A.A.C. R9-14-617 ~~R18-12-617~~.
- B. Quality assurance and quality control (QA/QC).** The following quality assurance and quality control procedures shall be performed for all required sampling provided for in this Chapter:
1. All sampling equipment shall be decontaminated following the performance standards under using procedures set forth in R18-12-281(Q):-
 2. Samples shall be immediately labeled, sealed in a plastic bag, and placed in a cooler on ice following the performance standards under in accordance with R18-12-281(R)(1) and R18-12-281(R)(2) and A.A.C. R9-14-601 through A.A.C. R9-14-617:- and
 3. Chain-of-custody procedures under subsection R18-12-281(S) shall be followed, ~~in accordance with subsection R18-12-281(S)~~, for all required sampling. In addition, condition and temperature of the samples as received by the laboratory shall be included on the chain-of-custody record.
- C. Soil sampling.** All required soil sampling ~~required~~ provided for in this Chapter R18-12-272 shall be conducted following the procedures under in accordance with R18-12-281(R)(2). If chemicals of concern regulated substances stored in the UST system at any time during the life of the system include volatile chemicals of concern regulated substances, samples shall be collected obtained with minimal loss of volatile chemicals of concern regulated substances collected obtained through excavation shall be collected by a method designed to prevent loss of volatile constituents, such as driving a clean metal ring, metal cylinder, or a sleeve that 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 collecting obtaining samples, other procedures for sampling that which have been determined by the Department to result in analytical data representative of the concentrations and compositions of volatile chemicals of concern regulated substances actually present in the soil.
- D. Groundwater sampling.** All required groundwater water sampling ~~required~~ provided for in this Chapter R18-12-272 shall be analyzed as required under in accordance with A.A.C. R9-14-601 through A.A.C. R9-14-617. All groundwater sampling shall be performed by a methodology that will result in analytical data that is representative of the concentrations and compositions of the chemicals of concern that may be present in the groundwater. The determination of the sampling method shall be based on consideration of all of the following criteria:
1. The specific chemicals of concern involved.
 2. Site specific hydrologic conditions.
 3. Site specific monitor well construction details.
 4. Depth of sample collection, and
 5. Generally accepted industry standards. Generally accepted industry standards are those groundwater sampling activities described in publications of national organizations concerned with corrective actions or otherwise appear in peer reviewed literature.
- E. Surface water sampling.** All required surface water sampling provided for in this Chapter shall be analyzed as required under A.A.C. R9-14-601 through A.A.C. R9-14-617. All surface water sampling shall be performed by a methodology that will result in analytical data that is representative of the concentrations and compositions of the chemicals of concern that may be present in the surface water. The determination of the sampling method shall be based on consideration of all of the following criteria:
1. The specific chemicals of concern involved.
 2. Site specific hydrologic conditions, and
 3. Generally accepted industry standards. Generally accepted industry standards are those surface water sampling activities described in publications of national organizations concerned with corrective actions or otherwise appear in peer reviewed literature.