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Guidance for Initiating and Reporting Response Actions Conducted Under TNRCC's Voluntary Cleanup Program

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Remediation Division

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

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1.0 Introduction

1.1 Introduction and Goals

The goal of this guidance document is to acquaint the voluntary cleanup applicant with the framework for initiating response actions in the Voluntary Cleanup Program (VCP) and to provide report formats and checklists outlining minimum technical and informational requirements necessary to expedite approval of documents submitted to the VCP. This guidance document consists of several smaller sections that each focus on specific submittals. Each smaller document is placed in its own section of this package. These documents are titled as follows:

Section 2—**Guidance for Preparation of a Site Investigation Report**
Section 3—**Guidance for Preparation of a Conceptual Exposure Assessment Model (CEAM)**
Section 4—**Guidance for Preparation of a Response Action Work Plan**
Section 5**—Guidance for Preparation of a Response Action Completion Report**

Each individual section is generally written from the standpoint that investigations, cleanups, and closures will follow the substantive requirements of the Risk Reduction Rules (30 TAC 335) or the Underground and Above Ground Storage Tank (Petroleum Storage Tank (PST)) Rules (30TAC 334) and, when appropriate, the use of optional standards specific to the VCP described in 30TAC 333 (VCP Rules). It is possible that portions of each or all of these suggested submittals could make up a single document submitted by a voluntary cleanup applicant (see Table 1-1 for submittal requirements).

1.2 Background

House Bill 2296 of the 74th Legislative Session (codified as Chapter 361, Subchapter S, Health and Safety Code—see Appendix C) created the VCP *primarily* to provide incentives to encourage the cleanup of thousands of contaminated properties necessary to complete real estate transactions by offering timely technical and regulatory review of response actions which will be protective of currently discovered or reasonably anticipated receptors. Rules regarding implementation of the program were proposed in the *Texas Register* in November 1995. Adoption of the final rules occurred on March 27, 1996 (see Appendix D).

The Voluntary Cleanup Law allows for any site to enter the VCP provided that it is not subject to a Commission order, Commission permit, or under the jurisdiction of the Texas Railroad Commission. Additionally, sites may be rejected from participating in the VCP if the site is subject to any other administrative, state, or federal enforcement action or where a federal grant requires an enforcement action be taken.

Table 1-1
VCP Submittal Matrix for VCP Sites Utilizing this Guidance Document and Operating under the Risk Reduction Rules or the LPST Rules[1]

	Attainment of Risk Reduction Standard 1	Attainment of Risk Reduction Standard 2	Attainment of Risk Reduction Standard 3	LPST Plan A— Priority 1 Sites[2]	LPST Plan A— non Priority 1 Site	LPST Plan B
Site Investigation Report	R1	R1	R2	R3	R1	R3
Conceptual Exposure Assessment Model (CEAM), Baseline Risk Assessment, or Plan B Evaluation			R2			R3
Response Action Work Plan			R2	R3		R3
Response Action Completion Report	R	R	R	R3	R	R3

Table Key

R - Required Submittal as specified in VCP Agreement and where remedial action is required.

R1 - Required Submittal as specified in VCP Agreement. May be submitted as part of Response Action Completion Report.

R2 - Required Submittal as specified in VCP Agreement. May be submitted with any other submittal in column but must be submitted and approved by the TNRCC prior to remedial action implementation.

R3 - Required Submittal as specified in VCP Agreement. Documents to be submitted and approved sequentially as specified in RG-175, *Guidance for Risk-Based Assessments at LPST Sites in Texas* (October 1995) and RG-36, *Risk Based Corrective Action for Leaking Storage Tank Sites* (January 1994).

Footnotes -

1. This table prepared without regard for requirements for LPST sites seeking reimbursement from the PST fund.
2. Priority 1 sites are those LPST sites defined as Priority 1 sites in RG-36, *Risk Based Corrective Action for Leaking Storage Tank Sites* (January 1994), page 10.

1.3 Guidance Applicability

The process, submittals, titles, formats, content, and flexibility presented in this guidance package may be used for any site which is under the review of the VCP as long as compliance with all other relevant state or federal statues, rules, or standards are maintained. Parties using this guidance document must comply with the minimum applicable submittal requirements presented here, as well as other substantive requirements (i.e., Risk Reduction Rules). Where the voluntary party wishes to pursue cleanup of a site using appropriate standards of another program, the party must comply with the minimum submittal requirements of that program.

Note for PST Sites Seeking Reimbursement: A voluntary party seeking reimbursement for a response action conducted under the PST program must gain approval from the PST program. A Certificate of Completion will be issued by the VCP following PST and VCP approval.

1.4 Technical Standards for the Voluntary Cleanup Program

TNRCC technical standards for investigation and remediation are relied upon by the VCP. In most cases these standards will be either the TNRCC's Risk Reduction Rules (30 TAC 335 Subchapter S) or the TNRCC's PST Rules (30 TAC 334).

When using the risk reduction rules under a voluntary cleanup agreement, the following five exceptions to the Risk Reduction Rules may be acceptable:

1. **Reporting Requirements**—The VCP requests the submittal of reports to follow the report titles and formats described in this guidance package. The required information and self implementing response actions allowed under Standards 1 and 2 of the Risk Reduction Rules remains the same.

2. **Deed Certification**—Under 30 TAC 333.9, the filing of the certificate of completion into the deed record shall satisfy the deed certification requirements of 30 TAC Chapter 334 (Underground and Aboveground Storage Tanks) and 30 TAC Chapter 335 of this title (Industrial Solid Waste and Municipal Hazardous Waste) for the areas covered by the certificate of completion. However, if the certificate of completion is not recorded for the off-site properties, the deed certification requirements, if any, of other applicable rules must be met for cleanups which do not achieve residential health-based levels in all media of concern and/or cleanups that include engineering controls, remediation systems, or post-closure care or non-permanent institutional controls.

3. **Risk Assessment**—The VCP will allow the development and use of a conceptual exposure assessment model (CEAM) to fulfill the requirements of conducting a Baseline Risk Assessment under Risk Reduction Standard 3 (30 TAC 335.553(b)). However, pre-approval of the Site Investigation Report, CEAM, and the Response Action Work Plan is still required under 335.553(b).

4. **Focused Site Investigations and Calculating Cleanup Levels (Use of the CEAM)**—Under 30 TAC 333.7, the VCP encourages the use of a CEAM (as described in Section 3 of this guidance document), as an alternative to conducting a site investigation of the full nature and extent of contamination. Prior to or during the site investigation, the CEAM may provide sufficient information to focus or limit site investigations. After completion of site investigations, the CEAM should allow development of cleanup levels based on currently discovered or reasonably anticipated exposure.

5. **Remedy Selection**—Under 30 TAC 333.8, voluntary parties may select a response action which will achieve the response action objectives for the appropriate future use of the property in lieu of meeting the remedy selection requirements of the Risk Reduction Rules (30 TAC 335.561–335.563).

1.5 Overview of the Voluntary Cleanup Process

The decision process for cleanup under the VCP is depicted in Figure 1-1. As stated earlier, it is anticipated that the VCP process presented in this guidance will use the substantive requirements of the Risk Reduction Rules or the PST Rules and the standards specific to the VCP described in 30 TAC 333 and in this guidance package. The technical standards specific to the VCP are discussed in the following section.

1.6 Overview on Guidance for the Preparation of Reports and Work Plans

A short overview of each section is presented below. Each section is specifically describes the type of document which may be submitted to the VCP as part of the applicant's response action. Each section attempts to provide a clear, yet flexible framework for submitting reports and work plans to the VCP and outlines the minimum technical requirements needed to expedite review and approval.

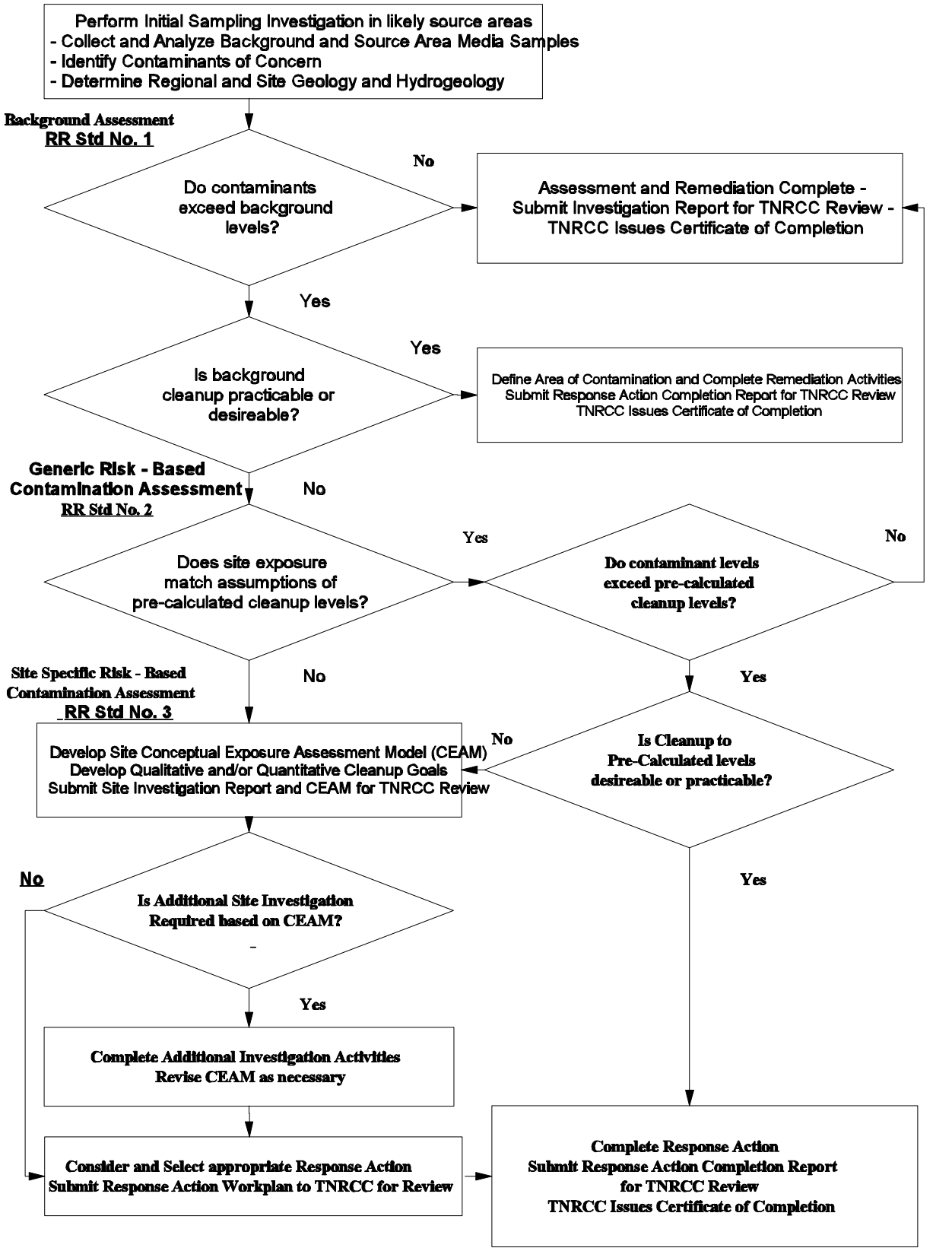
1.6.1 Section 2.0—Guidance for Preparation of a Site Investigation Report (SIR)

The purpose of the SIR is to present, analyze, and draw conclusions from the data collected during site sampling activities from all likely source areas. Since this data is used to determine the need for cleanup, the report should include a comparison with background levels and/or pre-calculated cleanup levels. Comparison to pre-calculated cleanup levels requires an intermediate step to determine if site exposure matches the assumptions of the cleanup levels. In summary, the report should address whether contamination exists at the site, and if it does, determine the appropriate cleanup levels.

1.6.2 Section 3.0—Guidance for Preparation of a Conceptual Environmental Assessment Model Report

The primary purpose of the Conceptual Environmental Assessment Model Report is to identify current or reasonably anticipated human and environmental exposure to contaminants by identifying potential on-site and off-site receptors. Historically, investigations have automatically been completed to the full nature and extent of contamination and have not been focused or limited to areas where human or environmental exposure may have occurred. Frequently, investigation activities were expanded until the area of contamination was determined to background levels. The CEAM was developed primarily to streamline the investigation and cleanup process and to allow parties engaged in voluntary cleanup activities to tailor investigation *and* remediation activities to current or reasonably anticipated exposure to contaminants, thereby focusing cleanup dollars on the most critical human and environmental concerns.

Figure 1-1 Voluntary Cleanup Investigation and Remediation Proce



1.6.3 Section 4.0—Guidance for Preparation of a Response Action Work Plan

The primary purpose of the Response Action Work Plan is to provide a basis for the TNRCC to evaluate the response action proposed for a VCP site. The term Response Action Work Plan is synonymous with Corrective Measures Study when used in the Risk Reduction Rules and Corrective Action Plan as used in the regulations for underground and aboveground storage tanks. Subsection 333.8(b) of the VCP rules state that the applicant shall select a response action for the response action area which will achieve the response action objectives. This allows applicants to select only one response action and discuss its ability to achieve the response action objectives, instead of comparing numerous alternatives as required in Corrective Measures Studies and Corrective Action Plans. The Response Action Work Plan also establishes the schedule for implementation of response action activities, which allows the TNRCC to coordinate activities with the site owner or operator.

1.6.4 Section 5.0—Guidance for Preparation of a Response Action Completion Report

The Response Action Completion Report (RACR) should document attainment of the response action objectives. The RACR is synonymous with the final report when used in the context of the Risk Reduction Rules. Response action objectives consists of both qualitative and quantitative remediation goals which are used to achieve a Risk Based Response Action. The report should illustrate attainment of appropriate cleanup levels for constituents of concern in impacted media and/or the implementation of engineering and institutional controls (per approved applicable post-closure care plans) which eliminate exposure pathways to potential receptors. In situations where the RACR is the only report submitted to the TNRCC, the SIR data and information must be included.

Upon receipt of the RACR, a project manager within the VCP will review it for administrative and technical compliance. If administrative or technical inadequacies are found, a comments letter will be issued to the applicant recommending actions necessary to gain approval. Upon approval of the RACR documenting successful completion of the response action, a Certificate of Completion will be issued.

2.0 Guidance for Preparation of a Site Investigation Report

The Site Investigation Report (SIR) should document site-specific information about the nature and extent of contamination for sites participating in the VCP. The site investigation and corresponding report may have been completed following an Environmental Site Assessment and therefore may also be referred to as a phase II investigation report or other appropriate title.

A suggested table of contents and checklist are attached as Tables 2-1 and 2-2. The checklist includes the essential elements of the investigation report. The table of contents and checklist are guidance and should be modified as appropriate to fit site-specific considerations; however, the essential elements of the checklist should be included in the report. A brief explanation of the table of contents and checklist is presented below.

Executive Summary

The SIR should include an executive summary which is a concise overview of the report. It should also include a discussion of the nature, extent, and magnitude of contamination determined during the investigation, a brief discussion of any anomalies in the site data, and outline recommendations for future investigation or remediation activities.

Introduction and Background

This section should include an overview of the purpose of the report and events leading to the investigation. This section should also include 1) maps and figures that illustrate on-site structures and adjacent properties and 2) a summary of historical and current business operations with an emphasis upon possible contaminant sources. This information should be used to guide selection of chemical analyses, sampling locations, and sampling intervals and frequency.

Objectives of Investigation Activities

The goals of the investigation activities should be discussed in this section. Goals should include identifying source areas and chemicals of concern, determining background concentrations (if appropriate), and defining the extent of contamination to health based levels in soil and groundwater.

Investigation activities should be designed to determine the full nature and extent (in both the vertical and lateral directions) of contamination unless investigation to a health based level is appropriate for the site. The voluntary cleanup rules, specifically Title 30 TAC 333.7 and 333.8 and the corresponding sections of the preamble, should be consulted for a detailed discussion on determining investigation goals.

The TNRCC will not compel an investigation of groundwater at every site. If the soils investigation suggests contamination extends into groundwater, or if contaminants in the soil exceed the soil cleanup levels that are protective of groundwater, then a groundwater investigation will be required. However, the TNRCC recommends a groundwater investigation

regardless of the contaminant levels found in the soil because many sites have been shown to have groundwater contamination where there is no obvious sources identified in the soil. In addition, a sample of groundwater can assess a much broader area than a discreet soil sample.

The TNRCC will review the SIR and ultimately base the issuance of the certificate of completion on the understanding that a thorough site history and site investigation consistent with accepted commercial standards was performed on the site or partial response action area with the goal of identifying all contaminated media that is of regulatory concern. Be aware that if investigation activities have been conducted in a manner to deliberately withhold evidence of contamination or otherwise failed to disclose material information, the release of liability offered by the Certificate of Completion is not effective, as per the VCP statute.

Scope of Investigation Activities

This section of the report should focus on the rationale for sampling activities and less on the details of sampling methods. The discussion should include the basis for the location and frequency of samples collected from all environmental media. In particular, describe how the sampling scheme will meet the investigation objectives (i.e., collecting sample with highest organic vapor analyzer (OVA) reading to increase the likelihood of finding the highest contamination, etc). Sample collection points should be clearly presented on maps, cross-sections, and boring logs. Sampling, decontamination, and QA/QC methods should be discussed in the appropriate section of the appendix.

Site Investigation Results

The report should include a thorough discussion of geologic and chemical data collected from all media during the site investigation. Data should be presented in tabular and/or in graphical form as appropriate. Whenever possible cross sections and maps should be used to illustrate the spatial relationship of the analytical results to the subsurface geology and hydrogeology. If contaminants include several organic compounds it may be advantageous to illustrate total organics contamination. For example, if perchloroethylene, trichloroethylene, and 1,2-dichlorothane are all present on a site, a map illustrating total chlorinated organics could be developed. Tables and maps should be located together in the back of the report for easy access as opposed to being distributed throughout the text. Field notes, soil boring and well installation logs, and laboratory analytical reports, should be included in the appendices.

Contamination Assessment

Conclusions regarding potential contaminant source areas, the vertical and horizontal extent of contamination in all affected media (consistent with the site investigation goals), comparison to appropriate cleanup criteria, a discussion of the CEAM, and the potential for cross media or off-site contamination should be presented in this section. If the CEAM is prepared under a separate cover, then the SIR should summarize the CEAM and reference the stand alone report for detailed information. If cleanup criteria for Risk Reduction Standard Number 2 will be used, an

evaluation should be made to confirm that the exposure reflected in the calculated cleanup levels is appropriate for the site; however, a CEAM is not required under Risk Reduction Standard 2.

Investigation Summary and Conclusions

This section should include an overall assessment of the extent of contaminants in environmental media with an emphasis on contamination above appropriate cleanup levels, if contamination was discovered. A tabular summary of the information can be used to facilitate a quick review. In addition, concise conclusions based on the investigation results should be prepared. Emphasis should be placed on assessing whether the goals of the investigation have been met and identifying any data gaps. Conclusions should also address the likelihood of cross-media impacts, a discussion of contaminant source areas that have been confirmed or identified, and potential risks to human health and the environment. To facilitate review, conclusions can be presented in bullet form.

Recommendations

Recommendations for future action should be stated in the report. This could include a recommendation for further investigation, a proposal to initiate remediation, or a no further action proposal. Also, the recommendations should indicate whether a separate remediation work plan will be prepared.

Appendices

Appendix A Sampling Methods, Decontamination Methods, and Quality Assurance Procedures

This Appendix should include a discussion of how samples were collected, how sampling devices were decontaminated between sample locations, and results from quality assurance samples. Duplicate samples should be collected for quality assurance purposes on every media investigated when laboratory or field screening sample are collected (e.g., soil, groundwater, etc.). These samples should be analyzed for the same analytes as the original samples and should be collected at a rate not less than one per sampling event and not less than one per 20 samples. If volatile analyses of water samples are performed, trip blanks and field blanks should be part of the sampling program. Trip blanks should be supplied by the laboratory at a rate of one sample per sampling event. Field blanks, that are actually poured in the field, should be collected at a rate of not less than one per sampling event and not less than one per 20 samples. Trip blanks and field blanks should reside in the same coolers as other samples collected for volatile analyses. Trip blanks should be submitted to the laboratory at the end of the sampling event. Results from quality assurance samples should be discussed in detail and conclusions should be drawn about the validity of the data.

Appendix B Soil Boring and Well Installation Logs

This Appendix should include a log of each boring/well that was drilled and completed during site investigation activities. Boring logs should include a complete description of the materials encountered during drilling, field OVA readings and any pertinent information that may identify contamination. This could include laboratory analytical results.

When wells are installed, a description of well installation parameters and the description of the materials encountered during drilling should be presented on the same log so well completion depths can be evaluated.

General Information about Report Format and Organization

The TNRCC prefers that tables, maps, and figures summarizing and illustrating the extent of contamination be placed in the back of the report in a section following the recommendations.

Keep in mind that for sites where several areas are addressed, specific descriptions should be presented in separate sections for each area investigated. Each section should include maps of each localized area, localized stratigraphy (when applicable), separate tables of analytical data, and a discussion of work conducted in that area. If exposure and toxicity assessments were completed separately for each area of concern, the information should be presented in the appropriate section for each area. Investigation summary and conclusions and any recommendations should be prepared in each section, but may also be summarized at the end of the report for the site as a whole.

Note that the aforementioned format suggestion is not required, but by formatting in this manner, the review of the document may proceed more smoothly and swiftly which could save significant staff review time.

Table 2-1
Site Investigation
Table of Contents

Table 2-2
Site Investigation Report
Checklist

Executive Summary

1.0 Introduction

1.1 Site Background

1.1.1 Site Location and History

___ A. Facility name and address

___ B. Facility description

___ C. Current and proposed future land use including adjacent property

___ D. Site map depicting the property lines, building and road outlines, potential source areas (i.e. chemical storage areas, above and below ground tanks, loading/unloading areas, waste treatment, storage or disposal areas), surface water bodies, water supply wells, utility rights of way

___ E. Summary of historical and current business operations with an emphasis upon possible contaminant sources

___ F. Summary of likely and potential on-site contaminants

1.1.2 Site Documentation

___ A. Chronological list of previous reports

___ B. Summary and conclusions of previous reports

___ C. Provide copies of any TNRCC letters addressing previous reports

2.0 Objectives of Investigation Activities

___ A. Identify and list potential source areas

___ B. Identify and list chemicals of concern

___ C. Identify affected media and determine the full nature and extent of contamination unless investigation to a health based levels is appropriate

___ D. A qualitative assessment of the potential for human or environmental exposure

___ E. Statement of quality assurance goals for sampling activities including appropriate detection limits

3.0 Scope of Investigation Activities

___ A. Type and rationale for analytical testing based on suspected source of contaminants

Table 2-2
Site Investigation Report
Checklist (continued)

___ B. Rationale for sampling scheme including sample/boring/well locations, sampling screening, sample intervals and frequency

___ C. Map illustrating sample/boring/well locations

4.0 Site Investigation Results

4.1 Site Stratigraphy and Hydrogeology

___ A. Discuss regional geology and hydrogeology including regional aquifers when groundwater contamination is present or contaminant levels in the soil suggest that groundwater may be impacted

___ B. Discuss site specific geology and hydrogeology including information about the uppermost water-bearing zone

___ C. Identify the uppermost water-bearing zone as drinking water or non drinking water based on current TNRCC definitions if potential groundwater contamination is present or contaminant levels in soil suggest groundwater impacts

___ D. Illustrate geology and hydrogeology with appropriate cross sections and potentiometric maps

___ E. Illustrate relationship to surface water bodies

4.2 Assessment of Analytical Results

4.2.1 Chemicals of Concern

___ A. Tabulate quantitative and qualitative chemical characteristics of suspected contaminants (i.e. solubility, likelihood to migrate, relative toxicity)

4.2.2 Background Assessment

___ A. Identify background levels for chemicals of concern (background is generally a value representative of naturally occurring levels but may be a man-made level that is representative of area-wide contamination [e.g., Lead in soil due to use of leaded gasoline in automobiles])

___ B. Prepare data summary tables and data distribution cross sections/maps comparing analytical results to background data (generally only for inorganics)

___ C. Describe statistical method used (e.g., tolerance interval) list of statistical parameters, (e.g., K and t values)

Table 2-2
Site Investigation Report
Checklist (continued)

___ D. Determine if a contaminant release has occurred

___ E. Evaluate feasibility or desirability of a background cleanup

5.0 Contamination Assessment (if necessary)

5.1 Cleanup Levels

___ A. Identify precalculated cleanup levels if available

___ B. Determine if site exposure matches assumptions of pre-calculated cleanup levels

___ C. Discuss results of CEAM if conducted or reference stand alone report (see also CEAM guidance)

___ D. Illustrate calculations for cleanup levels as appropriate

5.2 Contamination Characterization

5.2.1 Soil Contamination

___ A. Discuss, compare, and illustrate contamination data in the context of pre-calculated cleanup levels and other appropriate cleanup criteria. Present data in tables, cross sections and/or maps

___ B. Discuss likelihood to migrate to groundwater or surface water, especially any drinking water zones.

5.2.2 Groundwater Contamination

___ A. Discuss, compare, and illustrate contamination data in the context of precalculated cleanup and other appropriate cleanup criteria. Present data in tables and contaminant distribution maps as appropriate

___ B. Discuss the likelihood of contamination migrating off-site or deeper in either surface water or groundwater

6.0 Investigation Summary and Conclusions

___ A. Assess the degree to which investigation objectives were accomplished

___ B. Summarize the extent of contamination in appropriate media and note any analytical results that exceed cleanup standards

___ C. Discuss possible source areas based on the distribution of contamination

Table 2-2
Site Investigation Report
Checklist (continued)

___ D. Assess qualitative risks to human health and the environment

___ E. Determine if a site specific risk assessment is necessary

7.0 Recommendations

___ A. Assess whether further assessment is warranted or if a site cleanup decision can be made with existing data

___ B. Discuss remedial options or additional sampling

Tables and Figures

Tabular Summary of Analytical Results

___ A. Tabular presentation of cleanup levels

___ B. Data highlighted that exceeds background and/or pre-calculated cleanup levels

Maps and Figures

___ A. Cross sections include correlated lithologic data and illustrate depth and spatial relationship of analytical results and sample locations

___ B. Cross sections include monitor well screened interval, elevation of first encountered and static groundwater

___ C. Groundwater flow direction and contaminant migration pathways noted on maps

Appendices

A Sampling Methods, Decontamination Methods and Quality Assurance Procedures

___ A. Description of Soil Boring and Well Installation methods

___ B. Description of Sampling Methods

___ C. Discuss results of rinsate samples, field blanks, duplicate samples and other QA/QC samples

___ D. Discuss results from quality assurance samples in terms of precision, accuracy, completeness, representativeness, and comparability

Table 2-2
Site Investigation Report
Checklist (continued)

B Soil Boring and Well Installation Logs

___ A. Complete description of lithology encountered

___ B. Screening readings noted on boring log with sample description

___ C. First encountered and static water noted on boring well installation log

C Field Notes

D Supporting Laboratory Analytical Data and Custody Forms

E Supporting Information about Site History

F Site Photographs

___ A. Include map illustrating location and direction of photographs

G Proof of Notification to Off-site Impacted Landowner or On-site Landlord

3.0 Guidance for Preparation of a Conceptual Environmental Assessment Model Report

3.1 Overview

3.1.1 Applicability

For non-PST sites, the decision to use a CEAM to determine response actions for a voluntary cleanup site should only be made after the voluntary party has evaluated other options available to them under Risk Reduction Standards 1 and 2 of the Risk Reduction Rules (30 TAC Chapter 335, Subchapter S) and decided that use of Risk Reduction Standard 3 would be best suited for their needs. Within the VCP there are two choices available to the voluntary party when choosing to evaluate a site under Risk Reduction Standard 3. The voluntary party may choose to conduct either a CEAM or a traditional baseline risk assessment.

For PST sites TNRCC guidance documents *Guidance for Risk-Based Assessments at LPST Sites in Texas,* RG-175, (October 1995), *Guidance Manual for Risk Assessment,* RG-91, (May 1994), and *Risk Based Corrective Action for Leaking Storage Tank Sites,* RG-36, (January 1994) may be used to determine response action objectives. In the case of mixed release sites (e.g., when petroleum storage tank releases are indivisibly mixed with releases of other hazardous constituents/compounds) the Risk Reduction Rules and this guidance may be used to determine response action objectives.

3.1.2 Advantages of Using a CEAM

The primary advantage of developing a CEAM instead of the baseline risk assessment is that the CEAM may be used to guide the site investigation so that the voluntary party may not need to determine the full nature and extent of contamination. Under certain scenarios, the response action objectives defined in the CEAM allow the placement of effective and achievable institutional, legal, or engineering controls for the site to be considered. The CEAM should be used to determine the risk based exposure levels which are protective of human health and the environment, based upon currently discovered or reasonably anticipated exposure pathways of concern. Ordinarily the CEAM also streamlines the requirements that would be necessary for a full baseline risk assessment.

3.1.3 Introduction

This section provides guidance to voluntary parties designing CEAMs for voluntary cleanup sites in Texas. Designing and completing a CEAM allows the voluntary party to effectively and efficiently direct the investigation process and ultimately assists in determining response action objectives as required in 30 TAC 333 Subchapter A. The CEAM process also supports efficient and cost effective risk-based response actions through the collection of the necessary assessment data to focus the site investigation on appropriate exposure pathways. Generally, risk-based response actions are those actions in which traditional components of a response action (such as

site investigation, remedial action planning, and compliance monitoring) are integrated and conducted concurrently with the risk/exposure assessment process. Integrating these processes ensures that response actions conducted for a site are decided within a technically justifiable, rational, cost-effective, and streamlined process that provides protection of human health and the environment. Figure 3-1 illustrates the overall CEAM process for VCP sites.

The CEAM provides for the use of qualitative information and default exposure assumptions for determination of response actions at voluntary cleanup sites. If default assumptions are not appropriate or available for a site and qualitative information alone will be insufficient to determine the response action objectives, then sophisticated quantitative data should be collected so that risk based exposure levels and response action objectives may be determined. The risk based exposure levels and response action objectives must be developed to be protective of human health and the environment at current and reasonably anticipated future points of exposure (POE) to contamination both on-site and off-site.

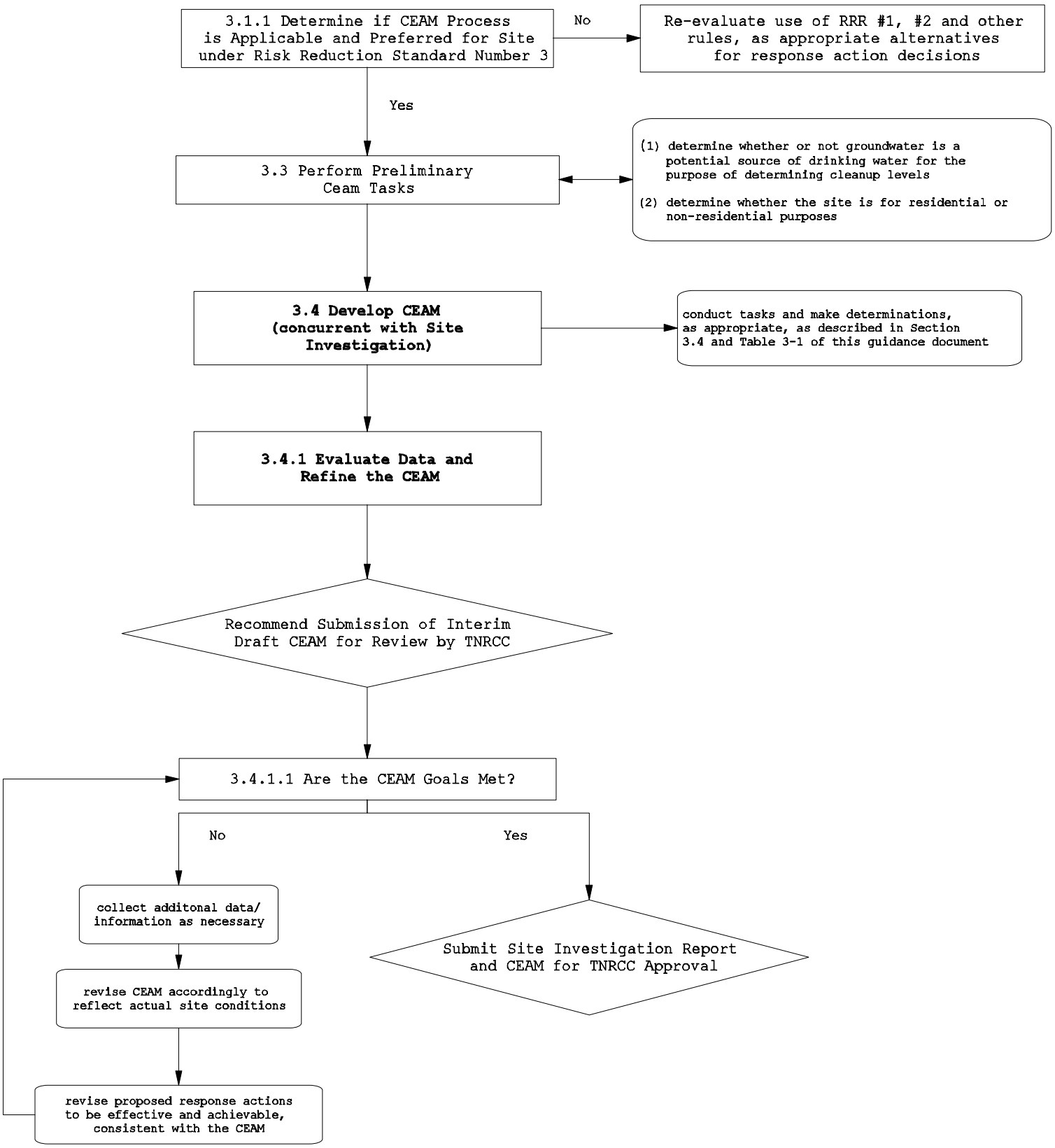
3.2 Purpose and Goals

This section provides guidance on how to design an effective CEAM which may be used as a tool to direct portions of site investigations and response action objectives as warranted at voluntary cleanup sites. Creating a CEAM also assists in achieving the requirements of the VCP provided in Subchapter S of the Solid Waste Disposal Act, Chapter 361, Health and Safety Code and 30 TAC Chapter 333, Subchapter A rules for the VCP.

The goals of the CEAM are to provide a realistic conceptualization of actual or reasonably anticipated points of exposure, identification of actual or reasonably anticipated future receptors, and to assist in the determination of effective and achievable response action(s) which are protective of human health and the environment. The development of a CEAM also allows for flexibility and assistance in the decision making process of choosing what level of investigation (to background or risk based exposure levels) is necessary to best meet the VCP requirements. At a minimum, the tasks necessary to achieve the CEAM goals are as follows (some or all of these tasks may be completed as part of and integrated into the site investigation):

- identify all potential receptors and exposure pathways;
- identify and delineate all contaminant source areas, maximum concentration and the 95 % confidence interval of the mean concentration for the contaminant(s);
- identify site conditions which may affect or limit contaminant movement; and
- determine risk based exposure levels of contaminants that individually and collectively are protective of human health and the environment at all current and reasonably anticipated future POE, both on-site and off-site.

Figure 3-1. CEAM Process Overview



3.3 Preliminary CEAM Tasks

To begin the process of CEAM development and achieving the goals of a CEAM, the following three tasks should be conducted first. These tasks are to:

- evaluate current, historic, and reasonably anticipated future facility/site operating conditions;
- evaluate the environmental conditions of the site; and
- perform a receptor survey.

If sufficient information is available from completion of the three tasks mentioned above, at least two important determinations may be made during initial CEAM development.

These determinations include, but are not limited to the following:

- determine whether or not groundwater is a potential source of drinking water for the purpose of determining cleanup levels; and
- determine whether or not the site is appropriately categorized for residential or non-residential purposes

Often these determinations should be made as early in the voluntary cleanup process as is feasible since they are the factors which most typically drive the cleanup goals and objectives at a site.

In the case of groundwater, the determination is based on two criterion; that the total dissolved solids content of the groundwater is less than or equal to 10,000 milligrams per liter and that it occurs within a geologic zone that is sufficiently permeable to transmit water to a pumping well in usable quantities.

A detailed description of how to conduct the three tasks described in this section is presented in Appendix A.

3.4 CEAM Development

The CEAM must initially assume that all current and reasonably anticipated future pathways are complete. As the CEAM is developed, qualitative, and quantitative information/data may be used to demonstrate that a pathway does not exist or does not pose a risk to receptors. An exposure scenario flow chart is presented as Figure 3-2 to assist the voluntary party in evaluating of all potential pathways to a POE and possible response actions to consider which would reduce or eliminate exposure to site contaminants. In addition, Figure 3-3, which depicts anticipated

decision points along potential exposure pathways, should be used to self-guide the voluntary party through the decision making process of CEAM development.

The CEAM should be developed to be as realistic as possible, and there should be a general understanding or working hypothesis of the relationship between the contaminant source areas (e.g., contaminated soils and groundwater, non-aqueous phase liquids (NAPLs), etc.), transport mechanisms (e.g., wind dispersal, leaching, groundwater transport, etc.), exposure pathways (e.g., inhalation, ingestion, dermal contact, etc.), and receptors (e.g., residents, flora and fauna, groundwater users, surface waters, etc). A checklist of information and data needed to complete the CEAM (whenever one or more exposure pathways exist) is presented as **Table 3.1** at the end of this section.

To completely develop the CEAM, the following items must be determined and included in the CEAM report to the extent applicable and practicable:

- **!** identification of all potential receptors, exposure pathways, points of exposure, and immediate and long-term risk hazards to actual or reasonably anticipated receptors;

- **!** type of contaminant release(s) (i.e., spill, leak, etc.);

- **!** contaminant source area(s) should be clearly defined;

- **!** maximum concentrations and the 95% confidence interval of contaminant concentrations for contaminants of concern for all affected media and source areas (i.e., soil, groundwater, vapors);

- **!** one appropriate beneficial use category for the site (residential, non-residential);

- **!** evaluation of dermal, inhalation, ingestion, or other potential exposure pathways if depth to contamination is less than 15 feet or if pathways to actual or reasonably anticipated future POE warrant exposure considerations;

- **!** if a pathway to surface water exists, the acceptable POE concentrations to surface water should be determined based on surface water quality criteria or other appropriate health based criteria, if available. If health based criteria are not available for a particular contaminant, then risk based criteria should be developed and may be used to determine surface water POE concentrations that are protective to actual or reasonably anticipated future human and ecological receptors;

- **!** Calculate site risk-based exposure levels that are needed to prevent exceedance of individual contaminant and combined contaminant risk limits at current and reasonably anticipated future points of exposure. Default equations and parameters may be used (e.g., Risk Reduction Standard Number 2 Equations) when no site specific data is available and the defaults are appropriately representative of the site (please qualify the defaults used in

CEAM report). Risk based exposure levels calculated should also be protective of current and reasonably anticipated future drinking water supplies (groundwater and surface water).

- identification of site conditions which affect or limit contaminant movement;

The following factors/situations should also be considered and incorporated, if applicable, into the CEAM:

- the nature of the contaminants involved, including mobility, fate (including biodegradation products evolved), and likely form (e.g., ionic state of metal) present;

- the synergistic effects of multiple contaminants on fate, transport, and risk evaluation;

- the potential for, or determination of non-aqueous phased liquids (NAPL) (such as dense- or light- NAPL and other immiscible liquids) present or likely to be formed as a result of the site release(s);

- impact to food source vegetation; and

- reasons why site monitoring and other information may indicate that concentrations are stable, increasing, or declining (consider plume migration, biodegradation, removal actions, etc).

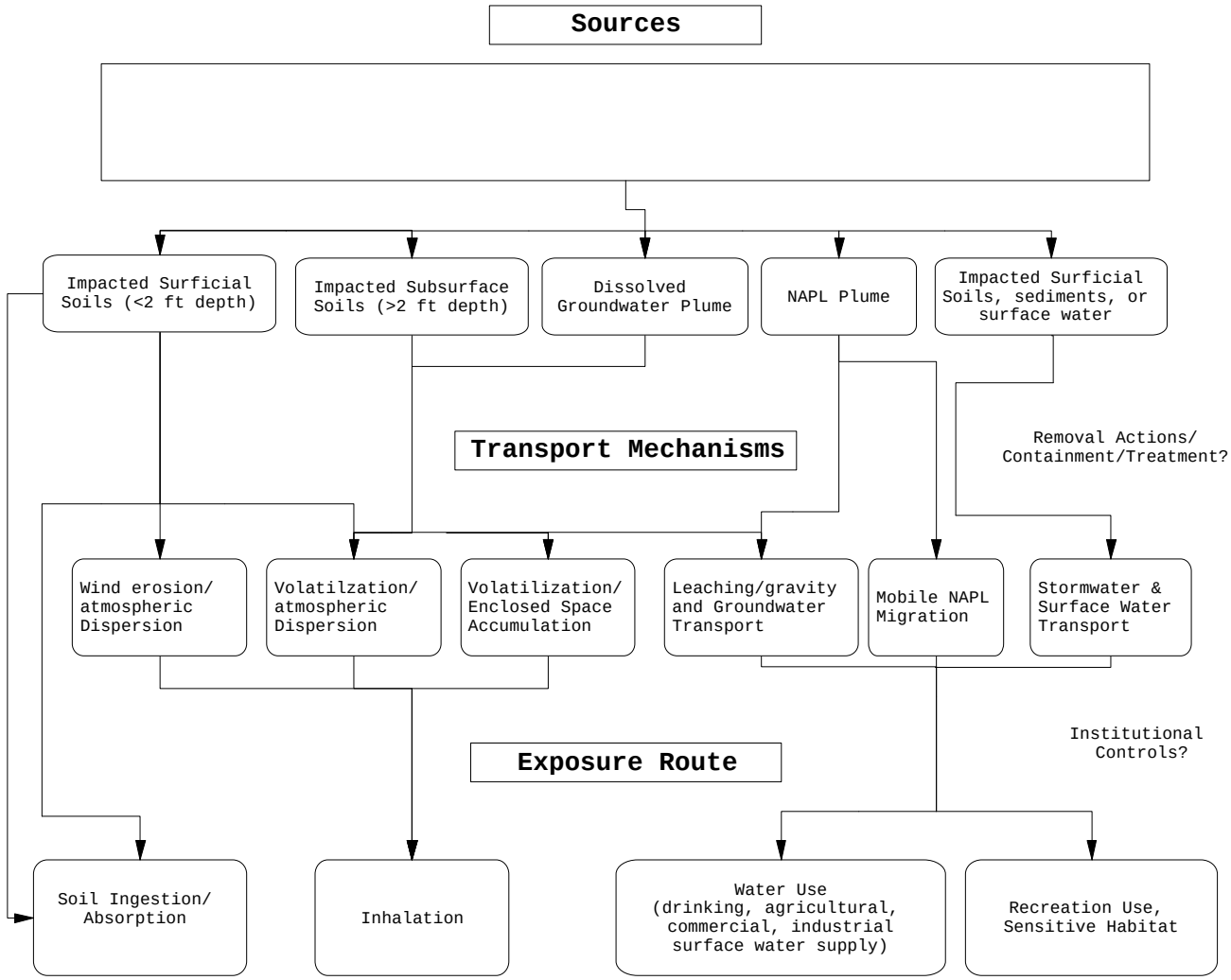
3.4.1 Evaluate the Data and Refine the CEAM

As site data is collected and evaluated the CEAM should be revised to reflect the most current exposure scenarios for a site. Compilation of data into graphics, such as flow charts, conceptual pictures, site maps, and cross sections, will facilitate the evaluation of the data and refinement of the CEAM. Upon completion of an investigation or remedy selection activity, the voluntary party should ask two basic questions that need to be answered: 1. Are the CEAM goals met?, and 2. if not, what actions must take place to meet these goals?

3.4.1.1 Are the CEAM Goals Met?

Data collected for the CEAM should be sufficient to perform a thorough assessment of the site. If the CEAM goals are not met, additional data/information may be required. Refining the CEAM is an iterative process. Based on the data collected, the CEAM will need to be refined and the site investigation scope of work may need to be modified. Scope of work modification may be necessary, if the following occurs:

Figure 3-2. CEAM Exposure Scenario Flowchart

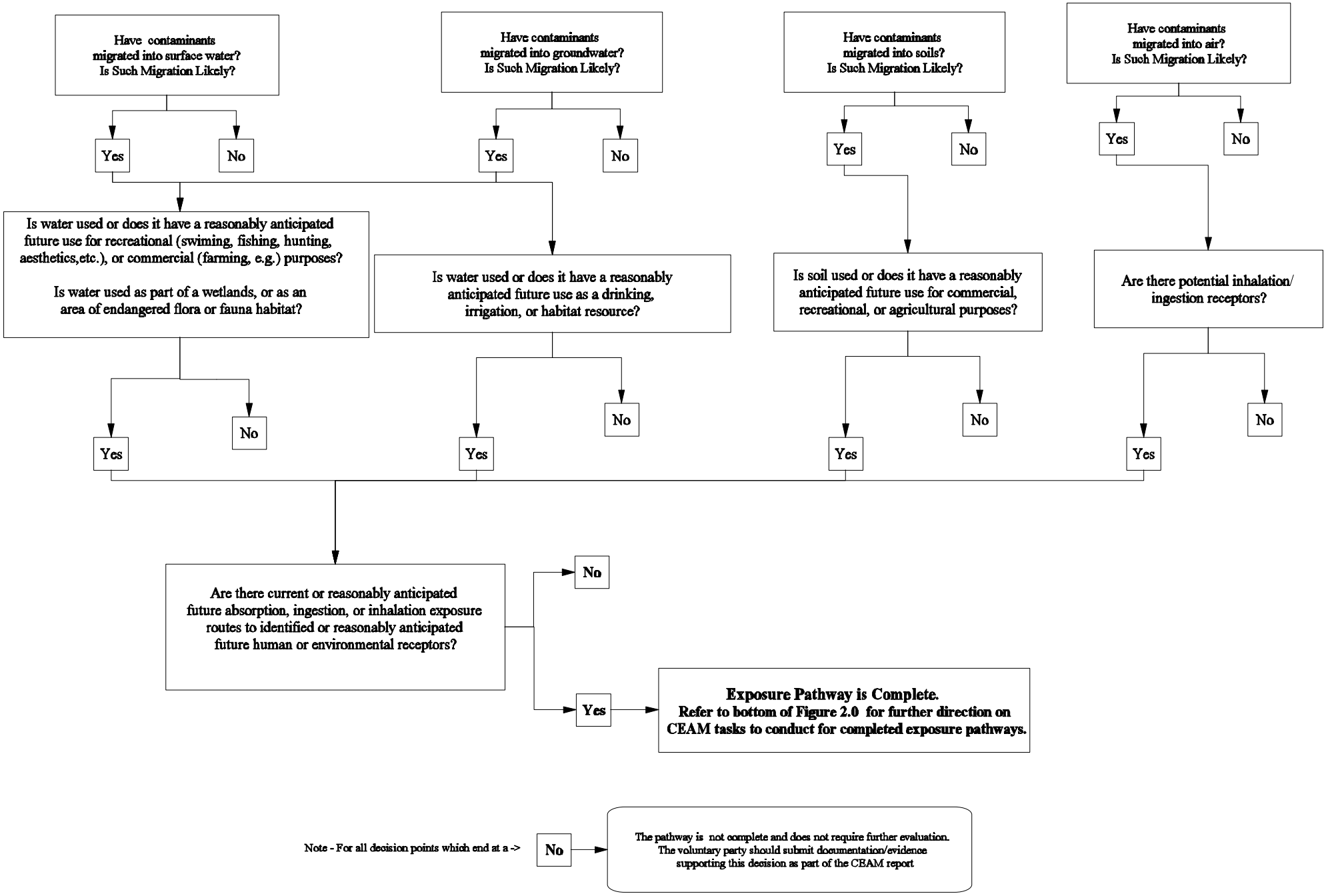


If a Pathway is Complete, Conduct a Risk Assessment to Determine:

(1) Current and Reasonably Anticipated Future Point of Exposure Concentrations Protective of Receptors Onsite and Offsite; and

(2) Risk based Exposure Levels of Contaminants Necessary to Protect Current and Reasonably Anticipated Future Receptors Onsite and Offsite (may include consideration of removal, treatment, and containment actions).

Figure 3-3. Example Exposure Assessment Decision Points Matrix



- information/data collected during the site investigation does not support the CEAM. The CEAM will then need modification to reflect actual conditions and subsequently the site investigation may need modifications (such as media sampled, sampling locations, etc. to reflect the revised and more accurate CEAM (addition or removal of a pathway to exposure, for example)); and/or

- collection of additional data to minimize mobilizations is feasible and beneficial (e.g., aquifer testing).

3.5 Requirements of CEAM Submittal to TNRCC

The TNRCC will require the submittal of the CEAM and supporting information/data collected for determination of effective and achievable response action objectives when the CEAM is conducted to fulfill requirements of a baseline risk assessment for Risk Reduction Standard 3. The submittal of the CEAM should be included with or incorporated as part of the final site investigation report, should be described in written form and portrayed graphically (i.e., diagrams, maps, cross sections, etc.), and should contain all of the elements requested in Section 3.4 of this section (including **Table 3-1** elements) as necessary and appropriate for completion of the CEAM.

For each pathway determined to not have any viable potential POE (e.g., for all the "no" decision points reached as per Figure 3-3), the voluntary party shall submit justification for elimination of the pathway, including all data and information used to make the determination, along with the CEAM package. For pathways which are determined to have currently discovered or reasonably anticipated future points of exposure, risk based exposure levels should be developed and submitted (including all information, data, assumptions, and calculations used to develop the Risked Based Response Action criteria/levels).

Additionally, the TNRCC recommends that the voluntary party submit an interim CEAM for evaluation. Although TNRCC does not approve interim CEAMs, TNRCC review at this stage will provide the feedback to facilitate final approval of the CEAM and implementation of response actions.

Table 3-1 CEAM Report Checklist

This list is not all inclusive, but is provided as an example for the voluntary party. Please refer to Section 3.5 for complete CEAM requirements.

1.0 INTRODUCTION

___ A. Briefly discuss why the CEAM is being conducted

___ B. Discuss the specific goals of the CEAM activities

___ C. Summarize proposed land use(s) for the site and adjacent properties (Residential or non-residential)

2.0 SOURCE DESCRIPTION

___ A. Summarize current and historical site activities that resulted in contamination

___ B. Discuss on-site and off-site primary source areas (chemical or waste storage facilities, piping, operations, equipment), and describe how contamination was released to the environment

___ C. Summarize maximum contaminant concentrations in primary and secondary source areas (contaminated media). The summary should include general information about the type, magnitude, toxicity, mobility of contaminants and provide adequate information about the extent of contaminants in media.

3.0 HUMAN AND ECOLOGICAL EXPOSURE TO CONTAMINATED MEDIA

3.1 Receptor Survey

___ A. Perform a walking field survey within 1/4 mile of the site to identify potential off-site sensitive receptors, points of human exposure and contaminant transport migration pathways. This should include all registered and unregistered water wells, schools, churches, residences, day cares, businesses, surface water bodies, parks, confined spaces, etc.

___ B. Provide a map and comprehensive description illustrating land-use within a 1 mile radius (i.e., industrial, residential, commercial, agricultural, etc.) of the site. The map should also include results from the 1/4 mile walking field survey which illustrates potential sensitive receptors and points of exposure.

3.2 Receptors currently exposed or reasonably anticipated to be exposed in the future to Contaminated Soil

___ A. Discuss on-site and off-site current and reasonably anticipated receptor exposure to contaminated soil (workers, residents, visitors etc)

___ B. For receptors, distinguish between acute (days or weeks) and chronic (years) exposure

___ C. Describe site features (i.e., buildings, parking lots, deed restrictions or planned remediation activities) that could limit or otherwise restrict exposure

Table 3.1 CEAM Report Checklist (continued)

___ D. Determine if ingestion, dermal contact, inhalation of vapors and particulates, are potential receptor exposure routes for contaminants in soil when exposure is possible

___ E. Determine the likelihood of contaminated soil impacting groundwater or surface water

___ F. Present the physical/chemical properties of the constituents of concern that support the likelihood of contaminants to migrate to soil or other media. (analytical results, partition coefficient equations, etc)

3.3 Receptors Currently Exposed or Reasonably Anticipated to Be Exposed in the Future to Contaminated Groundwater

___ A. Present results from a records search to identify water wells within a ½ mile radius of the site. Results should include location and depth of wells illustrated on a map, and a brief description of regional geology and hydrogeology from the surface down to the drinking water zone. The survey should incorporate any well information from the 1/4 mile walking field survey.

___ B. Describe current and anticipated future use of all water-bearing zones underlying the areas of interest including: 1) zones used for drinking water, industrial use, irrigation, residential use, surface water supply, and 2) zones that are not currently or reasonably anticipated to be used. A thorough explanation of the rationale for not considering a water bearing zones drinking water should be provided.

___ C. Determine if contaminated groundwater is hydrogeologically connected to a potential source of drinking water as described in Section 335.563(h) of Subchapter S of the Risk Reduction Standards or to surface water

___ D. Discuss current and reasonably anticipated future receptor exposure to contaminated groundwater

___ E. For receptors, distinguish between acute (days or weeks) and chronic (years) exposure

___ F. Describe site features either geological or man-made including planned response activities that could limit or otherwise restrict exposure (e.g., total dissolved solids content, well yield, water quality, deed restrictions)

___ G. Determine if ingestion, dermal contact, and inhalation of vapors are potential routes for exposure to contaminated groundwater if a receptor is identified

___ H. Locate subsurface utilities and determine if groundwater could migrate along utility trenches and/or impact, basements, vaults, or other structures

___ I. Discuss the physical/chemical properties of the contaminants and hydrogeology (i.e., solubility, biodegradation potential, tendency to form non-aqueous phased liquids, groundwater flow direction and rate, etc.) as they relate to the migration of contaminants

Table 3.1 CEAM Report Checklist (continued)

3.4 Receptors Currently Exposed or Reasonably Anticipated to Be Exposed in the Future to Contaminated Surface Water

___ A. Identify all surface water bodies (ditches, streams, wetlands, lakes, etc.) that are present on-site or off-site within a ½ mile radius

___ B. Describe the current and reasonably anticipated future use of the surface water body (i.e., drainage, recreational, etc)

___ C. Assess whether surface water currently is or is reasonably anticipated to be contaminated in the future by direct discharge, overland migration from rainfall runoff, and/or discharge from groundwater

___ D. Describe site features either geological or man-made including planned remediation activities that could limit or otherwise restrict exposure to surface water

___ E. Discuss current and reasonably anticipated future receptor exposure to contaminated surface water both for on-site and off-site properties within ½ mile radius of the site

___ F. Determine if ingestion, dermal contact, and inhalation of vapors are potential exposure routes for contaminated surface water when receptors are identified

___ G. Determine the likelihood of surface water contamination impacting other media (contaminated sediments, air, groundwater, etc)

3.5 Receptors Currently Exposed or Reasonably Anticipated to Be Exposed in the Future to Contaminants in Air

___ A. Determine if vaporization and airborne liberation of particulates from either contaminated soil, groundwater or waste (including phase separated organics) is occurring or is reasonably anticipated to occur at levels that may be harmful for human exposure

___ B. Distinguish acute versus chronic exposure in the analysis of current and reasonably anticipated future receptors

C. Determine if confined spaces (basements, buildings) are present that could result in the build up of contaminants that may present a current or reasonably anticipated health hazard

___ D. Present the physical/chemical properties of the contaminants that support the conclusions for migration of contaminants in air. (i.e., Henry's Law Constant, vapor pressure, modeling using equations)

3.6 Secondary Receptor Exposure to Contamination

___ A. Evaluate any secondary (indirect) exposure routes to receptors similar to the processes presented in Sections 3.1-3.5 of this Table (ingestion of contaminated food such as fish, home-grown vegetables, etc)

Table 3.1 CEAM Report Checklist (continued)

___ B. Discuss any site-specific current or reasonably anticipated human exposure that may result in an adverse affect to human health and the environment

4.0 DEVELOPMENT OF CEAM

4.1 CEAM

A discussion of the CEAM should summarize the following information:

___ A. Current and reasonably anticipated land and resource use

___ B. Pertinent information on all complete (current and reasonably anticipated future) exposure pathways at the site by identifying receptors, exposure media, exposure points, and exposure routes

___ C. For each contaminant of concern provide toxicological information regarding the toxic effects associated with exposure to the chemical and the concentrations at which the adverse effects are expected to occur in humans, flora, and fauna

___ D. Information/data (including toxicity information per 4.4 of this checklist) to demonstrate elimination of one or more exposure pathways

___ E. The effect regional and local environmental conditions (wind, geology, precipitation, flood potential, etc.) will have on transport and life of contaminants and resultant receptor exposure to contaminants

___ F. The effect planned site response activities including institutional controls will have on on-site or off-site exposure when determining alternate concentration limits

4.2 Additional Investigation/Assessment and Response Actions

___ A. Discuss any additional activities necessary to support exposure pathway analysis and/or response activities

___ B. Discuss health based levels that will be used to guide assessment activities

___ C. Determine whether or not development of risk based exposure levels are necessary based on determination of a complete exposure pathway (if so collect and present the information requested in Section 4.3 that follows)

4.3 Completed Pathway Analysis Data Requirements

4.3.1 Soil/Air Pathways

___ A. Determine area of affected surface soil

___ B. Determine surface soil type and porosity

Table 3.1 CEAM Report Checklist (continued)

___ C. Determine or obtain reasonable default values for soil types and porosity values

___ D. Determine downwind distance to vapor/dust receptor(s)

___ E. Determine representative climactic conditions including, but not limited to, wind speed and direction(s), stability factors, etc.

4.3.2 Groundwater Pathway

___ A. Determine groundwater flow gradient, total dissolved solids content, seepage velocity, and hydraulic conductivity of water bearing unit and underlying aquitard (if one exists)

___ B. Determine groundwater use classification as well as unaffected background groundwater quality upgradient of the site (may use default as per Appendix A)

___ C. Determine leaching potential of unsaturated soils above water bearing unit (rainfall infiltration rates, soil permeability, soil-water partion cofficients (KOCs) of contaminant(s) of concern, evapotranspiration rates, etc.)

___ D. Determine the background fraction of organic carbon of the soil (or other) matrix of the water bearing unit

___ E. Determine attenuation factors such as dissolved oxygen, retardation factors, decay rate coefficients for contaminant(s) of concern (COCs)

4.3.3 Surface Water Pathway

___ A. Classify surface water body(s) quality and use

___ B. Identify storm water drainage pathway(s) from affected surface soil zone to surface water body and estimate COCs loading rate

___ C. Determine COC loading rate to surface water body(s) (such as lake, river, or stream) due to groundwater discharge from the site

4.4 Summary and Presentation of Toxicological Information

___ A. For each contaminant of concern provide toxicological information regarding the toxic effects associated with exposure to the chemical and the concentrations at which the adverse effects are expected to occur in humans, flora, and fauna. The information presented should be supported by a description of the database from which the information was obtained and the study or studies from which the value was derived. Any uncertainty factors used or critical effects should be noted if used in toxicity calculations. Summary tables of toxicity values for contaminants of concern, RfDs, uncertainty factors, and confidence rating (if available), and critical effects should be included in tabular form.

Table 3.1 CEAM Report Checklist (continued)

4.5 Determine Risk Based Exposure Levels for the Site

___ A. Calculate site risk-based exposure levels that are needed to prevent exceedance of individual contaminant and combined contaminant risk limits at points of exposure. Default equations and parameters may be used (e.g., Risk Reduction Standard Number 2 Equations) when no site specific data is available and the defaults are appropriately representative of the site (please qualify the defaults used in CEAM report).

4.0 Guidance for Preparation of a Response Action Work Plan

Purpose of the Response Action Work Plan

The primary purpose of the Response Action Work Plan is to provide a basis for the TNRCC to evaluate the response action being proposed for a VCP site. The term Response Action Work Plan is synonymous with Corrective Measures Study when used in the Risk Reduction Rules and Corrective Action Plan as used in the regulations for underground and aboveground storage tanks. Subsection 333.8(b) of the VCP rules state that the applicant shall select a response action for the response action area which will achieve the response action objectives. This allows applicants to select only one response action and discuss its ability to achieve the response action objectives, instead of comparing numerous alternatives as required in Corrective Measures Studies and Corrective Action Plans. The Response Action Work Plan also establishes the schedule for implementation of response action activities, which allows the TNRCC to coordinate activities with the site owner or operator.

A suggested table of contents and checklist are attached as Tables 4-1 and 4-2. The checklist includes the essential elements of the work plan. The table of contents and checklist are guidance and should be modified as appropriate to fit site specific considerations; however, the essential elements of the checklist should be included in the work plan. A brief explanation of the table of contents and checklist are presented below.

Executive Summary

To facilitate review of the Response Action Work Plan, participants should provide an Executive Summary. The Executive Summary should contain brief statements identifying the sources of contamination, additional investigation needs, if applicable, the proposed response action(s), and implementation milestones (e.g., start date, treatment system start-up, end date).

Introduction

The Introduction should include the site's name and address, a brief description of site operations, and a brief discussion of the site's history, including the events which led to preparation of the Response Action Work Plan. A site location map and site layout drawing should indicate property boundaries, building outlines, the locations of any aboveground or underground storage tanks, any exterior areas where raw materials, wastes, or products are loaded or unloaded, any on-site waste storage, treatment or disposal areas, any surface water bodies or water wells on or bordering the property, and any utilities.

The Introduction should also include a summary of the site investigation results. The summary should identify and briefly characterize the contaminants of concern and the proposed cleanup criteria determined in the CEAM or baseline risk assessment.

Statement of Work

The Statement of Work should contain a clear statement of the response action objectives. The objectives should address all contaminants, media, and areas subject to a response action under the voluntary cleanup agreement. Participants should list the major response action tasks which will be undertaken. A graphical description of the area to be addressed should be presented and estimated volumes should be discussed. The vertical and horizontal extent of contaminants exceeding the cleanup levels should be described and shown on a map.

Quality Assurance

The TNRCC should be able to verify that any additional investigation work, confirmatory sampling, and other response action tasks will be completed in a manner which will ensure reliable analytical results. A discussion should be presented on quality assurance procedures for sample collection and analysis. Any proposed exceptions to the quality assurance procedures presented in Appendix A of the Site Investigation Report (Section 2.0) should be discussed in the Response Action Work Plan.

Additional Field Investigation

If additional sampling or other field work beyond that completed during the site investigation is proposed, participants should describe the additional tasks and indicate why each is necessary.

Response Alternatives

In some instances (e.g. Risk Reduction Standard 3), the TNRCC must approve the proposed response action prior to implementation. In these cases the VCP participants must demonstrate that the proposed response action(s) is capable of achieving the response action objectives. A complete description of the selected response action should be given, including discussion of the proposed extent of remediation, the anticipated volume of contaminated material, proposed treatment systems, transportation distances, and other relevant factors. If the response action objectives include any institutional controls, please provide a discussion on the assurances which can be provided to the TNRCC that these institutional controls are and will remain effective.

Remediation System

If more than one response action alternative will be used to address different areas on-site, participants should describe how the remediation system as a whole will work. A block flow diagram, conceptual sketch, or other device should be used to illustrate the components of the proposed remediation system. Major equipment (e.g., pumps, air strippers, in-situ treatment equipment) should be listed. A site map showing the areas to be addressed and the proposed locations of major equipment should also be provided.

As provided for in §361.611 of the VCP statute and 30 TAC 333.8© of the Voluntary Cleanup Rules, a state and local permit is not required for removal or remedial action conducted on a site as part of a voluntary cleanup. However, the applicant shall comply with any federal or state substantive provisions to which the response action would otherwise be subject if a permit were required. Participants should identify any federal permits necessary in order to complete the proposed response action activities in the Response Action Work Plan.

Proposed disposal arrangements for wastes generated during response actions should be described. Any approvals, waste manifests or other necessary documentation should be identified.

Monitoring/Confirmation Sampling

Participants should include a proposed sampling plan for confirming that response action objectives have been achieved. For example, if the proposed response action for contaminated soil is excavation and removal, the sampling plan should identify the proposed number and locations of soil samples to be collected following excavation. The proposed analytical methods to be used on the samples should also be identified. If intermediate monitoring is proposed, for example, in the case of a treatment system, the plan should also address the proposed monitoring frequencies, parameters, locations, and analytical methods. The applicant should notify the TNRCC at least ten days in advance of project completion sampling. Advanced notice should be given before any confirmation sampling takes place. This will allow the TNRCC the opportunity to observe the sampling activity and possibly obtain duplicate samples.

Data Management

Depending upon the complexity of the proposed response action project, additional investigation work, treatment system monitoring, and/or confirmation sampling may generate a large volume of data. Well-organized, well-presented data contributes significantly to efficient review and oversight of remediation projects. Participants should describe how they propose to manage and present the data generated during implementation of the Response Action Work Plan. Tabular formats are preferred wherever possible. The discussion should address the frequency, content, and format of progress reports to be submitted to the TNRCC during implementation of the Plan.

Operation and Maintenance Plan

If one or more treatment systems and/or any engineering controls are proposed for the site, its operation and maintenance should be addressed in the Response Action Work Plan. Participants should list necessary operation and maintenance tasks and characterize optimum operating conditions for the system(s). Planned maintenance and replacement events should be identified and proposed inspections schedule presented. Potential problems and proposed remedies should be anticipated. A contingency plan indicating how the site owner or operator plans to respond in the event of a system failure should also be presented.

Completion of Response Action

Participants should commit to submission of a Response Action Completion Report (RACR) as described in the following section. This section should also state the expected future use(s) of the site following the response action(s).

Schedule

The Response Action Work Plan should include a detailed schedule for implementation of the Plan. This will enable TNRCC to coordinate implementation oversight activities. The schedule should include all significant remediation milestones (e.g., start date, completion of treatability studies, construction start-up, treatment system start-up, etc.), and include a proposed progress reporting schedule. The proposed schedule should either allow sufficient time for review and approval, if required, of the Plan by the TNRCC before work begins, or be expressed in terms of the anticipated duration of each task, rather than in calendar terms, so that start-up is contingent upon receiving any required approvals.

Cost Estimate

Participants are requested to include an estimate of total response action costs. The TNRCC will track these costs in its site database to use in development of "average" costs of response actions for specific types and sizes of sites.

Tables and Figures

All tables and maps (figures) may be consolidated in these two sections.

Table 4-1
Response Action Work Plan
Table of Contents

Table 4-1
Response Action Work Plan
Table of Contents (continued)

Table 4-2
Response Action Work Plan
Checklist

1.0 EXECUTIVE SUMMARY

Brief statements of the following:

__ A. sources of contamination

__ B. need for additional investigation, if applicable

__ C. proposed response action(s)

__ D. implementation milestones (e.g., start date, treatment system start-up, end date)

2.0 INTRODUCTION

2.1 Site Background

2.1.1 Site Location and History

__ A. Facility name and address

__ B. Updated site map depicting lines, building outlines, raw materials, and bulk storage, tanks, roads, loading/unloading areas, on-site waste storage, treatment, and disposal, surface water bodies, water supply wells, and utilities

__ C. Brief summary of the site history and activities leading up to the Work Plan

2.2 Summary of Site Investigation Activities and CEAM

2.2.1 Sources and Extent of Contamination

__ A. Description of contaminants of concern and the concentration ranges found in environmental media at the site (tabular form)

__ B. Proposed cleanup criteria determined in the CEAM

3.0 STATEMENT OF WORK

3.1 Objectives of Response Action

__ A. Statement of response action objectives for all affected media, contaminants, and exposure pathways

__ B. Description of the horizontal and vertical extent of contamination (areas to be addressed) in soil, groundwater, surface water, and sediment (graphical presentation). If historical data is available, contamination trends should be discussed.

Table 4-2 Response Action Work Plan Checklist (continued)

3.2 Quality Assurance

__ A. Include discussion on quality assurance goals

4.0 RESPONSE ACTION PLAN

4.1 Additional Field Investigation

__ A. Identification of any additional field investigations that will be needed to effectively complete the design of the remediation system

__ B. Reason for the additional investigation

__ C. Complete description of the additional investigation

4.2 Response Action Alternatives

4.2.1 Treatability Study/Waste Characterization (if applicable)

__ A. Objectives of treatability study or waste characterization to be performed

__ B. Description of remedial technologies to be tested and equipment required

__ C. Methodology of treatability study (e.g., bench-scale or pilot-scale)

__ D. Data requirements and analytical methods to be employed

__ E. Installation and start-up procedures for pilot plants

__ F. Pilot plant operation and maintenance

__ G. Proposed data analysis and interpretation procedures

__ H. Proposed application of the technology at full scale and identification of limitations/optimum operating conditions

__ I. Statement of intention to submit a report detailing the results of the treatability study

__ J. Description of the review and evaluation of the treatability study results

4.2.2 Recommended Response Action Alternative(s)

__ A. Identification of selected response action alternative(s)

__ B. Discussion of effectiveness of response action alternative(s)

Table 4-2 Response Action Work Plan Checklist (continued)

__ C. Description of selected response action alternative(s) including extent of remediation, anticipated volume of contaminated material, size of major technologies, process parameters, cleanup time frames, transportation distances, and special considerations

4.3 Remediation System

4.3.1 Project Description

__ A. Site map depicting area(s) to be remediated

__ B. Overall description of the remediation system and planned implementation

__ C. Drawing depicting locations of remediation equipment

4.3.2 Preliminary Design

__ A. Conceptual design illustrating the components of the remediation system (e.g., block flow diagram)

__ B. List of major equipment to be installed for the remediation system

4.3.3 Permit Requirements/Disposal Approval

__ A. Identification of federal permit requirements for the remediation system. Note: State and local permits will be waived; however, substantive State technical requirements must be met.

__ B. Waste disposal approvals needed for implementation of the remediation system

4.4 Monitoring/Confirmation Sampling Plan

__ A. Description of the monitoring/confirmation sampling to be performed

__ B. Frequency of sampling

__ C. Analytical parameters and methods

4.4.1 Data Management

__ A. Description of how the monitoring/confirmation sampling data will be documented and reported

__ B. Proposed format of progress reports

Table 4-2 Response Action Work Plan Checklist (continued)

5.0 OPERATION AND MAINTENANCE PLAN (IF APPLICABLE)

5.1 Normal Operation and Maintenance

5.1.1 System Operation

__ A. List of operation tasks

__ B. List of inspection tasks

__ C. Description of optimum operating conditions

5.1.2 System Maintenance

__ A. List of maintenance tasks

__ B. Frequency of maintenance tasks and replacement schedule

__ C. List of maintenance inspection tasks

5.1.3 Inspection Schedule

__ A. Schedule for regular operation inspections

__ B. Schedule for regular maintenance inspections

5.2 Potential Operating Problems

__ A. Description of potential sources of problems or failure of the system

__ B. Description of common remedies of problems or alternatives

5.3 Contingency Operation And Maintenance

__ A. Description of alternate operation procedures to prevent undue hazard should the system fail

__ B. Notification procedures in the event of system shutdown or failure

__ C. Procedures to follow for system modifications

6.0 COMPLETION OF RESPONSE ACTION

6.1 Completion Report

__ A. Statement that a Response Action Completion Report detailing the response action and confirmation sampling will be submitted upon completion of the response action

6.2 Future Use of Site

Table 4-2 Response Action Work Plan Checklist (continued)

__ A. Clear statement of the expected future uses of the site after the response action is completed

7.0 SCHEDULE

__ A. Full schedule of the response action activities planned, including investigation items, selection of response action alternatives, treatability study report, design, equipment specification, permit application and/or disposal approval submittal, monitoring/ confirmation sampling progress reports, equipment certification, Operation And Maintenance Plan and the Response Action Completion Report

8.0 COST ESTIMATE

__ A. Written estimate of current costs of completing the response action and any monitoring to be performed

__ B. Documentation of financial capability to complete any long-term Operation And Maintenance (if required)

FIGURES

__ A. Site Map

__ B. Graphical presentations of horizontal and vertical extent of contamination in all media

__ C. Site map depicting areas to be addressed

__ D. Drawings depicting remediation equipment

__ E. Block flow diagram of remediation system

TABLES

__ A. Contaminants of concern and concentration ranges

__ B. Proposed cleanup criteria

5.0 Guidance for Preparation of a Response Action Completion Report

Purpose of the Response Action Completion Report

The Response Action Completion Report (RACR) documents that the response actions have been completed by demonstrating that the applicable cleanup standards have been achieved or that engineering controls, remediation systems, or post-closure care or non-permanent institutional controls are satisfactorily being maintained per an approved plan. The RACR is synonymous with the final report when used in conjunction with the Risk Reduction Rules. Response action objectives consist of both qualitative and quantitative goals which will achieve a risk based corrective action. The goals may consist of attaining appropriate cleanup levels for constituents of concern in impacted media and/or the implementation of engineering and institutional controls which assure that exposure pathways to potential receptors are not completed per an approved plan. In situations where the RACR is the initial report submittal to the Texas Natural Resource Conservation Commission (TNRCC) the Site Investigation Report data and information should be included. Documentation that the applicant proposes to use to fulfill any deed certification requirements and/or achieve any response action objectives are required to be submitted for review and approval. Data and information contained in reports previously submitted to the TNRCC need only be referenced and summarized in the RACR.

Upon receipt of the RACR, the Voluntary Cleanup Program will review it for administrative and technical compliance. If the review determines there are administrative or technical inadequacies, a report review letter will be issued to the applicant detailing the inadequacies and recommending the further response actions that need to be performed. When the review of the RACR indicates that the response action objectives have been achieved a Certificate of Completion will be issued. In instances where a Conditional Certificate of Completion has been issued an addendum to the RACR would be required in the future to demonstrate that the conditions at the site qualify for a Final Certificate of Completion.

A suggested table of contents and checklist are attached as Tables 5-1 and 5-2. The checklist includes the essential elements of the completion report. The table of contents and checklist are guidance and should be modified as appropriate to fit site specific considerations; however, the essential elements of the checklist should be included in the report. A brief explanation of the table of contents and checklist are presented below.

Executive Summary

The RACR should include an executive summary that presents a brief overview of the purpose of the report and the report’s contents. It should provide a brief summary of the response action objectives, state the cleanup standard(s) at the site, and describe the time required to achieve the response action goals.

Introduction

The introduction section of the RACR should state the site's name and address, provide a discussion of the site's past operational history, and describe the current site operations including the events which led to participation in the Voluntary Cleanup Program. A site location map and site layout drawing should be included. A U.S. Geological Survey Map excerpt maybe used as a site location map. The site layout drawing should indicate property boundaries, building outlines, the locations of any aboveground or underground storage tanks, any possible source areas of contamination, surface water bodies or water wells on or bordering the property, remediation areas, and the location(s) of major remediation equipment.

Investigation

In this section, the investigation activities should be described. In the event this is the initial submittal to the agency of the investigative activities the information and data requested in the Site Investigation Report (SIR) section of this guidance document should be included. In the instance when a SIR was previously submitted for review, it is appropriate to reference the report(s) and only provide a summary of the investigation activities.

Response Action

This section of the RACR should state the response action objectives and fully describe the activities performed to achieve the response action objectives at the site. Any removal or decontamination activities, engineering, and institutional controls that enable the response action objectives to be achieved should be described in detail. The target cleanup levels and a discussion on how they were developed should be provided. The area of response action activities should be illustrated on a site map. Information on the volume of soils, groundwater, sediments, and non-aqueous phase liquids remediated along with their final disposition should be submitted. Summaries of sampling methodology and analytical results which demonstrate that contaminants have been removed or decontaminated to applicable cleanup levels must be provided. A comparison of the confirmation sampling results to the cleanup levels should be performed. The report should demonstrate through the direct comparison and/or statistical comparison method that the cleanup levels have been achieved. Any non compound-specific response action objectives should be discussed. This would include for example the removal of any liners, dikes, stained areas, and odors. Additionally, a description of any site restoration activities should also be provided.

Example Deed Recordation Language (if applicable)

Off-site areas which are not being certified and where contamination is above residential health based levels are required to meet the deed certification requirements of the applicable program area. Example deed certification/restriction language for these areas is required to be submitted with the RACR for review and approval. For a site using the recommended deed certification

language found in the Risk Reduction Rules, the Voluntary Cleanup Program case number must be inserted in place of the Notice of Registration number, as the information concerning the remediation action will be stored in the Voluntary Cleanup Program files.

Figures and Tables

All maps (figures) and tables requested in the checklist and any additional maps and figures used to demonstrate attainment of the cleanup levels may be consolidated and placed in these sections.

Appendices

Photographs

This appendix should include any photographs used to show the conditions and/or work performed at the site.

Sample Analytical Results and Chain-of-Custody Forms

This appendix should include copies of all analytical reports including complete chain-of-custody documentation. Include all quality assurance analytical reports.

Quality Assurance/Quality Control Evaluation

This appendix should include a discussion on how samples were collected and stored, how sampling devices were decontaminated between sample locations, and that sample holding times were met. Results from quality assurance samples should be discussed in detail and conclusions drawn about the validity of the data.

Soil Boring and Well Installation Logs

This appendix should include a log of each boring or well that was drilled that has not been previously submitted. Boring logs should include a complete description of the materials encountered during drilling. A description using the Unified Soil Classification System should be performed and any observable secondary permeability features (e.g. slinkensides, fractures, chemical alterations, evidence of contamination, etc.) should be noted. When wells are installed, a description of well installation parameters and the description of the materials encountered during drilling should be presented on the same log so well completion can be evaluated.

Notification Documentation

This appendix should include copies of the notification documents to all property owners where contamination is located which is not owned by the applicant conducting the cleanup as required by 30 TAC 333.11 of the Voluntary Cleanup Rules. This includes the owner of the property in the

situation where the applicant is a lessee and/or any off-site property owners when contamination has migrated to property not owned by the applicant.

Waste Manifests

This appendix should include all waste manifests used in the transporting and disposal of all waste generated during the Response activities.

Field Notes

This appendix should include all relevant notes taken in the field during response activities.

Table 5-1
Response Action Completion Report
Table of Contents

Table 5-1
Response Action Completion Report
Table of Contents (continued)

Table 5-2
Response Action Completion Report Checklist

1.0 EXECUTIVE SUMMARY

____ A. Brief overview of the purpose of the report and the events leading up to it

____ B. Brief summary of the report contents

____ C. Summary of the response actions performed at the site

____ D. Declaration of cleanup standard achieved. For example risk reduction standard achieved, if applicable.

____ E. Description of the time required to achieve full response

2.0 INTRODUCTION

2.1 Site Background

2.1.1 Site Location and History

____ A. Site name and address

____ B. Site description

____ C. Site history

____ D. Site map(s) depicting property boundary lines, raw materials and bulk storage areas, tanks, roads, loading/unloading areas, work areas, surface water bodies, water supply wells, utility lines, and other major structures on the site

2.1.2 Site Documentation

____ A. List of all previous reports regarding the site. Include any investigation, baseline risk assessment or conceptual exposure assessment model, and response action work plan reports.

____ B. Provide copies of any TNRCC approval letters for the above reports

____ C. Description of all other available data and/or documentation

3.0 INVESTIGATION (SEE SITE INVESTIGATION REPORT CHECKLIST)

4.0 RESPONSE ACTION

4.1 Scope of Response Action

____ A. Describe the response action objectives to be attained at the site

Table 5-2 Response Action Completion Report Checklist (continued)

____ B. General description of the response action activities performed at the site. Include a description of any engineering or institutional controls that enabled the response action objectives to be met.

____ C. Provide a table listing the appropriate cleanup levels for the contaminants of concern and briefly discuss the development of the cleanup levels

____ D. Describe the period of time response action activities took place

4.2 Areas and Volumes

____ A. Provide a site map(s) illustrating the source areas and areal extent of the contaminated area(s) prior to response action activities

____ B. Discuss the volume of the soils and/or sediments removed and/or decontaminated

____ C. Discuss the volume of the groundwater removed and or decontaminated

____ D. Discuss the volume of non-aquas phase liquids removed

____ E. Discuss the classification of all waste generated during response activities

____ F. Discuss the disposition of all waste generated during response action activities, include the total volume and state the name and location of the disposal facility used

____ G. Provide manifest's on the disposed waste in the appendices

____ H. Describe and illustrate the area in which engineering or institutional controls were put in-place

4.3 Response Action (Remediation) System Details

____ A. Block flow diagram and/or description of the remediation system as installed

____ B. List of the major equipment used and/or installed for the cleanup

____ C. Description of the operation of the remediation system

____ D. Evaluation of the overall effectiveness of the system

____ E. Description of the documentation procedures followed in evaluating the system operation

____ F. Discussion of problems encountered during the remediation and how they were addressed

____ G. Description and discussion of any engineering controls in-place. Include any testing performed on the engineering control.

Table 5-2 Response Action Completion Report Checklist (continued)

4.4 Confirmation Sampling

4.4.1 Data Collection

____ A. Description of confirmation sampling procedure, state how many samples were collected.

____ B. Discuss quality assurance and quality control practices such as storing samples, field blanks, duplicates, etc.

____ C. State sample analysis method used

____ D. Confirmatory sample location map(s) with verification sample results listed

4.4.2. Comparison of Data to Cleanup Criteria

____ A. Table comparing confirmation sample results to cleanup levels

____ B. Discussion of sample results compared to cleanup criteria, demonstrating that acceptable levels have been attained through either direct comparison or statistical comparison, as appropriate

____ C. Statistical analysis per the appropriate rules, if applicable

____ a. State statistical method used

____ b. List of statistical parameters such as K and t values, and standard deviation, etc.

____ c. Table listing statistical results

____ D. Provide a discussion on any non compound-specific cleanup criteria required to be met. For example demonstrate that all objectional characteristics have been removed or that soils left in place do not exhibit some hazardous waste characteristics, if applicable.

4.5 Site Restoration (if applicable)

____ A. Description of how the site has been restored following response action activities such as excavation backfilling, planting trees, installing parking lot, etc.

____ B. Site map and or photographs depicting the conditions following response action and restoration activities

Table 5-2 Response Action Completion Report Checklist (continued)

5.0 DEED RECORDATION LANGUAGE (if applicable)

____ A. Provide example deed recordation language that meets the requirements for the cleanup standard achieved and/or meets the goals of the response action objectives, if applicable

____ B. Revise deed recordation language to reflect the Voluntary Cleanup Program number in place of the Notice of Registration number

FIGURES

____ A. Site Location Map

____ B. General Site Map(s)

____ C. Site Map(s) depicting extent of contamination prior to response action activities

____ D. Site Map(s) showing the location of confirmation sample locations with listed verification sample results listed

____ E. Site Map(s) depicting extent of residual contamination, location of any engineering or institutional controls, and illustrating the area described in the metes and bounds description, if applicable

TABLES

____ A. Table illustrating the clean up levels and their source. (The source could be a site specific background, the risk reduction rules Appendix II Table, MSC calculations, PST rules and PST guidance manuals, etc.

____ B. Tabular summary of confirmation sample results compared to clean up levels

____ C. Table listing any statistical results compared to clean up levels, if appropriate

6.0 APPENDICES

I. Photographs

____ A. Include map illustrating location and direction of photographs

II. Sample Analytical Results and Chain-of-Custody Forms

III. Quality Assurance/Quality Control Evaluation

____ A. Describe sampling methods

____ B. Discuss results of rinsate samples, field blanks, duplicate samples and other QA/QC samples

Table 5-2 Response Action Completion Report Checklist (continued)

____ C. Discuss results from quality assurance samples in terms of precision, accuracy and repeatability

____ D. Include discussion that holding time were met and other laboratory QA/QC requirements were met

IV. Soil Boring and Well Installation Logs

V. Notification Documentation

VI. Waste Manifests

VII. Field Notes

APPENDICES

Appendix A—CEAM Development Details

APPENDIX A

CEAM Development Detail

This appendix provides a detailed description of the three tasks required for preliminary CEAM development as mentioned in Section 3 of this guidance document.

Evaluate Current, Historical, and Reasonably Anticipated Future Conditions of Facility Operation

Please refer to the site investigation portion of this guidance, specifically Table 2-2 Sections 1.1.1 and 1.1.2 for information to be collected and presented for this task.

Evaluate Environmental Conditions

Regional Geology:

Review local and regional geologic/hydrogeologic maps and other publications. These should be used to identify general soil and rock types, regional depth to bedrock, depth to groundwater, aquifer properties, groundwater gradient and flow direction. Identify the aquifer(s) and/or surface water body(ies) which serves as the source(s) of water for the area and facility. Identify and evaluate the use(s) (drinking water, agricultural, surface water supply, etc.) of the uppermost and known impacted groundwater zones within 0.5 miles of the voluntary cleanup site.

Resource Use:

Investigate and describe past, current, and reasonably anticipated future land and water use of the site. Identify potential source areas (done as part of the site investigation), migration pathways, and receptors (on-site and off-site). If an actual or potential off-site receptor is identified, the potential risk to exposure of contaminants must be assessed. Determination of current and reasonably anticipated future resource use and zoning of the adjacent properties may be included as part of the CEAM. Document any ordinances or zoning which restrict use of water wells at or near the site. Determine where site and surrounding areas obtain water (local water wells, county supplied water from a surface water reservoir, etc.) and for what purposes it is used (drinking, agriculture, industrial).

Conduct a Receptor Survey

The receptor survey includes a field survey and a water well records inventory. A thorough survey is an important component for developing the initial CEAM. The identification of potential

receptors and exposure pathways is of paramount importance for developing a realistic CEAM. This information should be clearly presented on a vicinity map or an existing aerial photograph of appropriate scale.

Water Well Inventory:

Perform a records inventory of and map all water wells located within 0.5 miles of the site. Plot all inventoried wells on a current U. S. Geological Survey topographic map and provide all available information regarding well completion, age, use, and status.

Field Survey:

A field survey must be performed and mapped to identify the following:

- **!** Receptor/Point of Exposure Identification: Within a 1/4 mile radius of the site, locate all registered and unregistered water wells, schools, hospitals, residences, basements, day care centers, nursing homes, businesses, etc. Other sensitive receptors and potential points of exposure such as surface water bodies, parks, recreational areas, wildlife sanctuaries, flora and fauna, wetlands, and agricultural areas must also be identified in the field survey.

- **!** Migration Pathway Identification: On site and within a 500 foot radius of the site, identify and indicate the depth and location of all subsurface utilities and features (including geologic features, water wells, pipelines, drainage ditches, etc.) that may serve as possible migration pathways. In addition, pathways that may result from seepage, flow, etc., of contamination through environmental media (soil, groundwater, air, surface water, etc.) must be considered as part of the pathway identification process.

If an actual or reasonably anticipated future receptor (e.g., children at a nearby school) is identified from this survey, then the potential for the receptor to be exposed to site related contamination (current or reasonably anticipated future receptor) must be evaluated. If it is determined that a pathway of exposure does exist, the risk to exposure must be thoroughly investigated, including conducting a focused CEAM for the pathway. Ultimately, the investigation of a pathway must be sufficient to determine effective and achievable response action objectives which are protective of current or reasonably anticipated future receptors. To clarify for the reader, a point of exposure is the location where a receptor becomes exposed to contamination and can vary depending on the receptor being evaluated (e.g., a point of exposure to a person fishing, may be the contaminated fish he/she eats, whereas the point of exposure to the fish itself or for a swimmer in the same stream would be where contaminated groundwater from a site discharges into the stream).

Appendix B—Ecological Impact Assessment Guidance

ECOLOGICAL SCREENING EVALUATION FORM

I. Introduction

The purpose of this form is to characterize the ecological setting and identify potential exposure pathways between contaminants and environmental receptors. It is designed to aid the responsible person in determining if further ecological assessment is warranted. This screening evaluation will also be used by the TNRCC project coordinator to determine if potential environmental receptors have been adequately evaluated prior to approval of the final report. If necessary, additional information may be requested by the TNRCC pursuant to 30 TAC 335.8(c)(5) Closure and Remediation Obligations, 335.555 (f) Attainment of Risk Reduction Standard 2, 335.553 (b) (3) Required Information, 335.554(f) Attainment of Risk Reduction Standard 1.

This form may be voluntarily submitted prior to commencement of closure/remediation activities, or submitted with the final report for Risk Reduction Standard 2, or with the work plan or remedial investigation report for Standard 3. We recommend contacting the TNRCC project coordinator if any questions arise prior to completion of closure/remediation activities.

Due to the variety of situations to which this form is applicable, some of the requested information may appear redundant. Detailed technical explanations that have been previously submitted by the responsible person to the TNRCC may be referenced here rather than repeated. In these instances, a brief answer is appreciated.

Name of Facility _____

Site Location _____
_____
_____

Mailing Address _____
_____
_____

(If Applicable)
TNRCC SWR # _____
TNRCC Permit #s _____
EPA I.D. #s _____

II. SITE CHARACTERIZATION

(1) Describe the current land use of the facility/property.

____% urban
____% rural
____% industrial (___ light ___heavy)
____% commercial
____% residential
____% agricultural (crops:_____)
____% recreational
describe: note if it is a park, etc:

____% undisturbed
____% other; describe

(2) Describe the specific site of the closure/remediation activity. (For example: spill cleanup within tank farm; highway right-of-way with adjacent drainage ditch; real estate transaction in commercial area; surface impoundment closure near the boundary of a chemical manufacturing plant.)

(3) Describe the spills or releases associated with the site to be closed or remediated. If applicable, provide a brief description of waste management and materials handling activities associated with this site. Descriptions should include current and historic activities.

(4) The area surrounding the closure/remediation site is best described as (check all that apply):

____% wooded	____% prairie/meadow	____% urban
____% undeveloped	____% commercial/industrial	____% rural
____% agricultural	____% residential	____% wetlands
____% other, specify:		

(5) The nearest surface water body is _____feet/miles from the site to be closed/remediated. The water body is best described as a:

[ ] ditch
[ ] freshwater stream: ___ perennial (has water all year)
___ intermittent (dries up for at least 2 weeks a year)
[ ] tidal stream, bay, or estuary
[ ] freshwater swamp/marsh/wetland:

[ ] reservoir, lake or pond: approximate surface acres:_____
[ ] Other; specify:

Name the water body: _____

(6) Describe the general characteristics of the water body identified in question 5:

Date observed: ___/___/___

[ ] clear [ ] cloudy/turbid
[ ] flowing [ ] stagnant
[ ] sheen present [ ] sheen absent
[ ] sludge in sediments
[ ] aquatic life observed
[ ] no aquatic life observed
[ ] other, specify:

(7) Check the proposed clean-up standard to be attained:

[ ] Risk Reduction Standard 1
[ ] Risk Reduction Standard 2
[ ] Risk Reduction Standard 3

(8) Please attach USGS topographic map(s) of the site to this form.

(9) Are aerial or other site photographs available? ____ yes ____ no
If yes, please attach any available photo(s) to the checklist.

III. POTENTIAL ENVIRONMENTAL RECEPTORS

(10) Are birds, fish, other animals or plant communities sometimes present in the vicinity of the closure/remediation site?

[ ] No [ ] Yes; describe observations:

(11) **a)** Are any sensitive environmental areas, such as rookeries, wetlands, wildlife preserves, wildlife management areas, state or federal parks, freshwater springs, endangered or threatened plant or animal species and their habitats, present in or near the site undergoing closure/remediation?

[ ] No, [ ] Yes, [ ] Unknown

If yes, describe:

b) Please provide the source(s) of information used to identify these sensitive areas, and indicate their general location on the site map.

IV. POTENTIAL EXPOSURE PATHWAYS

(12) Are any visible, known, or suspected contaminants located in the area bordering the site?

[ ] No, [ ] Yes, If yes, describe the area of contamination:

(13) **a)** Have contaminants migrated from the immediate site undergoing closure/remediation to the surrounding area, including surface water?

[ ] No, [ ] Yes [ ] Unknown
Explain:

b) Could contaminants potentially leave the immediate site to surrounding areas after closure/remediation?

[ ] No [ ] Yes [ ] Unknown
Explain:

(14) Identify the mechanism(s) or potential mechanism(s) of contaminant release to environmental media (check all appropriate responses):

___ air emissions
___ releases to surface water
___ release to soil
___ infiltration to groundwater
___ ground water discharge to surface water
___ storm water runoff

___ flooding
___ other (describe):

(15) Have any of the contaminants associated with the site undergoing closure/remediation been detected in any of the environmental media?

____ surface water
____ groundwater
____ sediments
____ soils
____ air
[ ] not analyzed

IF "YES" TO QUESTIONS 11a, 12, 13, AND\OR 15, FURTHER (QUALITATIVE OR QUANTITATIVE) ECOLOGICAL ASSESSMENT SHOULD BE CONSIDERED. CONTACT THE TNRCC PROJECT COORDINATOR FOR FURTHER INFORMATION.

V. QUALITATIVE SUMMARY

(16) Please attach a brief statement of summary based on the information you have provided in this form. This summary should address any potential threat to environmental receptors posed by the area undergoing closure/remediation. If the conclusion is that environmental receptors have not been affected, or will not be exposed to contaminants in the future, clearly state and justify this in the summary. The assessor should make the initial decision regarding further environmental evaluation based upon the results of this screening evaluation and the investigation required by 30 TAC 335.553.

If, based on this assessment or other information, the TNRCC has reason to believe that releases of contaminants at the site have contaminated, or may reasonably be expected to contaminate media which may come in contact with environmental receptors, the potential for exposure is considered to exist and additional environmental evaluations may be necessary. The development of additional numeric cleanup criteria which are protective of environmental receptors pursuant to 30 TAC 335.556(b); 335.559 (d)(4); 335.559 (h); 335.562 (c)(3); and 335.563 (j)(3) may be required. Compliance with the clean-up standards in accordance with the Risk Reduction Rules does **not** release the responsible person from other spill and release notification obligations.

The TNRCC retains the authority to require additional information to enable the Executive Director to determine whether the closure or remediation is compliant with applicable regulations 30 TAC 335.8(b) and 30 TAC 335.8(c)(5).

I, _____, _____
typed or printed name of responsible person title

certify that the information submitted, to the best of my knowledge and belief, is true, accurate, and complete.

_____, _____
signature of responsible person date

Appendix C—Voluntary Cleanup Law

Texas Health and Safety Code
Chapter 361
Subchapter S—Voluntary Cleanup Program

Bill Number: TX74RHB 2296 Date: 5/29/95
ENROLLED

AN ACT

relating to the creation of a voluntary cleanup program for solid and hazardous wastes.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Chapter 361, Health and Safety Code, is amended by adding Subchapter S to read as follows:

SUBCHAPTER S. VOLUNTARY CLEANUP PROGRAM

Sec. 361.601. DEFINITIONS. In this subchapter:

(1) "Contaminant" includes:

(A) solid waste;

(B) hazardous waste;

(C) a hazardous waste constituent listed in 40 C.F.R. Part 261, Subpart D, or Table 1, 40 C.F.R. Section 261.24;

(D) a pollutant as defined in Section 26.001, Water Code; and

(E) a hazardous substance:

(i) as defined in Section 361.003; or

(ii) subject to Sections 26.261-26.268, Water Code.

(2) "Environmental assessment" means the assessment described by Section 361.604.

(3) "Response action" means the cleanup or removal of a hazardous substance or contaminant from the environment, excluding a waste, pollutant, or substance regulated by or that results from an activity under the jurisdiction of the Railroad Commission of Texas under Chapter 91 or 141, Natural Resources Code, or Chapter 27, Water Code.

(4) "Voluntary cleanup" means a response action taken under and in compliance with this subchapter.

Sec. 361.602. PURPOSE. The purpose of the voluntary cleanup program is to provide incentive to remediate property by removing liability of lenders and future landowners. The program does not replace other voluntary actions and is restricted to voluntary actions.

Sec. 361.603. ELIGIBILITY FOR VOLUNTARY CLEANUP PROGRAM. (a) Any site is eligible for participation in the voluntary cleanup program except the portion of a site that is subject to a commission permit or order.

(b) A person electing to participate in the voluntary

cleanup program must:

(1) enter into a voluntary cleanup agreement as provided by Section 361.606; and

(2) pay all costs of commission oversight of the voluntary cleanup.

Sec. 361.604. APPLICATION TO PARTICIPATE IN VOLUNTARY CLEANUP PROGRAM. (a) A person who desires to participate in the voluntary cleanup program under this subchapter must submit to the commission an application and an application fee as prescribed by this section.

(b) An application submitted under this section must:

(1) be on a form provided by the executive director;

(2) contain:

(A) general information concerning:

(i) the person and the person's capability, including the person's financial capability, to perform the voluntary cleanup; and

(ii) the site;

(B) other background information requested by the executive director; and

(C) an environmental assessment of the actual or threatened release of the hazardous substance or contaminant at the site;

(3) be accompanied by an application fee of $1,000; and

(4) be submitted according to schedules set by commission rule.

(c) The environmental assessment required by Subsection (b) must include:

(1) a legal description of the site;

(2) a description of the physical characteristics of the site;

(3) the operational history of the site to the extent that history is known by the applicant;

(4) information of which the applicant is aware concerning the nature and extent of any relevant contamination or release at the site and immediately contiguous to the site, or wherever the contamination came to be located; and

(5) relevant information of which the applicant is aware concerning the potential for human exposure to contamination at the site.

(d) An application shall be processed in the order in

which it is received.

(e) Fees collected under this section shall be deposited to the credit of the hazardous and solid waste remediation fee fund.

Sec. 361.605. REJECTION OF APPLICATION. (a) The executive director may reject an application submitted under Section 361.604 if:

(1) an administrative, state, or federal enforcement action is pending that concerns the remediation of the hazardous substance or contaminant described in the application;

(2) a federal grant requires an enforcement action at the site;

(3) the application is not complete or accurate; or

(4) the site is ineligible under Section 361.603.

(b) If an application is rejected because it is not complete or accurate, the executive director, not later than the 45th day after receipt of the application, shall provide the person with a list of all information needed to make the application complete or accurate. A person may resubmit an application without submitting an additional application fee.

(c) If the executive director rejects the application, the executive director shall:

(1) notify the person that the application has been rejected;

(2) explain the reasons for rejection of the application; and

(3) inform the person that the commission will refund half the person's application fee unless the person indicates a desire to resubmit an application.

Sec. 361.606. VOLUNTARY CLEANUP AGREEMENT. (a) Before the executive director evaluates any plan or report detailing the remediation goals and proposed methods of remediation, the person desiring to participate in the voluntary cleanup program must enter into a voluntary cleanup agreement that sets forth the terms and conditions of the evaluation of the reports and the implementation of work plans.

(b) A voluntary cleanup agreement must provide for:

(1) recovery by the commission of all reasonable costs:

(A) incurred by the commission in review and oversight of the person's work plan and reports and as a result

of the commission's field activities;

(B) attributable to the voluntary cleanup agreement; and

(C) in excess of the amount of fees submitted by the applicant under Section 361.604;

(2) a schedule of payments to the commission to be made by the person for recovery of all commission costs fairly attributable to the voluntary cleanup program, including direct and indirect costs of overhead, salaries, equipment, and utilities, and legal, management, and support costs; and

(3) appropriate tasks, deliverables, and schedules.

(c) The voluntary cleanup agreement shall:

(1) identify all statutes and rules that must be complied with;

(2) describe any work plan or report to be submitted for review by the executive director, including a final report that provides all information necessary to verify that all work contemplated by the voluntary cleanup agreement has been completed;

(3) include a schedule for submitting the information required by Subdivision (2); and

(4) state the technical standards to be applied in evaluating the work plans and reports, with reference to the proposed future land use to be achieved.

(d) If an agreement is not reached between a person desiring to participate in the voluntary cleanup program and the executive director on or before the 30th day after good faith negotiations have begun:

(1) the person or the executive director may withdraw from the negotiations; and

(2) the commission retains the person's application fee.

(e) The commission may not initiate an enforcement action against a person who is in compliance with this section for the contamination or release that is the subject of the voluntary cleanup agreement or for the activity that resulted in the contamination or release.

Sec. 361.607. TERMINATION OF AGREEMENT; COST RECOVERY. (a) The executive director or the person in its sole discretion may terminate the agreement by giving 15 days' advance written notice to the other. Only those costs incurred or obligated by the executive director before notice of termination of the

agreement are recoverable under the agreement if the agreement is terminated.

(b) Termination of the agreement does not affect any right the executive director has under other law to recover costs.

(c) If the person does not pay to the commission the state's costs associated with the voluntary cleanup before the 31st day after the date the person receives notice that the costs are due and owing, the attorney general, at the request of the executive director, shall bring an action in the name of the state in Travis County to recover the amount owed and reasonable legal expenses, including attorney's fees, witness costs, court costs, and deposition costs.

Sec. 361.608. VOLUNTARY CLEANUP WORK PLANS AND REPORTS. (a) After signing a voluntary cleanup agreement, the person shall prepare and submit the appropriate work plans and reports to the executive director.

(b) The executive director shall review and evaluate the work plans and reports for accuracy, quality, and completeness. The executive director may approve a voluntary cleanup work plan or report or, if a work plan or report is not approved, notify the person concerning additional information or commitments needed to obtain approval.

(c) At any time during the evaluation of a work plan or report, the executive director may request the person to submit additional or corrected information.

(d) After considering future land use, the executive director may approve work plans and reports submitted under this section that do not require removal or remedy of all discharges, releases, and threatened releases at a site if the partial response actions for the property:

(1) will be completed in a manner that protects human health and the environment;

(2) will not cause, contribute, or exacerbate discharges, releases, or threatened releases that are not required to be removed or remedied under the work plan; and

(3) will not interfere with or substantially increase the cost of response actions to address the remaining discharges, releases, or threatened releases.

Sec. 361.609. CERTIFICATE OF COMPLETION. (a) If the executive director determines that a person has successfully completed a voluntary cleanup approved under this subchapter, the executive director shall certify that the action has been

completed by issuing the person a certificate of completion.

(b) The certificate of completion shall:

(1) acknowledge the protection from liability provided by Section 361.610;

(2) indicate the proposed future land use; and

(3) include a legal description of the site and the name of the site's owner.

(c) The executive director shall file a copy of the certificate of completion in the real property records of the county in which the site is located.

(d) If the executive director determines that the person has not successfully completed a voluntary cleanup approved under this subchapter, the executive director shall notify the person who undertook the voluntary cleanup and the current owner of the site that is the subject of the cleanup of this determination.

Sec. 361.610. PERSONS RELEASED FROM LIABILITY. (a) A person who is not a responsible party under Section 361.271 or 361.275(g) at the time the person applies to perform a voluntary cleanup is released, on certification under Section 361.609, from all liability to the state for cleanup of areas of the site covered by the certification, except for releases and consequences that the person causes.

(b) The release from liability is not effective if a certificate of completion is acquired by fraud, misrepresentation, or knowing failure to disclose material information.

(c) If a certificate of completion for a site is issued by the commission, an owner who acquires the property on which the site is located or a lender who makes a loan secured by that property after the date of issuance of the certificate is released from all liability for cleanup of contamination released before the date of the certificate for the areas covered by the certificate unless the owner or lender was originally included as a responsible party under Section 361.271 or 361.275(g). A release of liability does not apply to a person who changes land use from the use specified in the certificate of completion if the new use may result in increased risks to human health or the environment.

Sec. 361.611. PERMIT NOT REQUIRED. (a) A state or local permit is not required for removal or remedial action conducted on a site as part of a voluntary cleanup under this subchapter. A person shall coordinate a voluntary cleanup with ongoing federal and state hazardous waste programs.

(b) The commission by rule shall require that the person conducting the voluntary cleanup comply with any federal or state standard, requirement, criterion, or limitation to which the remedial action would otherwise be subject if a permit were required.

Sec. 361.612. PUBLIC PARTICIPATION. The commission may adopt rules pertaining to public participation in voluntary cleanup decisions.

Sec. 361.613. COST REPORT; BUDGET ALLOCATION. (a) The executive director annually shall calculate the commission's costs to administer the voluntary cleanup program under this subchapter and shall publish in the Texas Register the rates established for the purposes of identifying the costs recoverable by the commission under this subchapter.

(b) Costs recovered under this subchapter and appropriated to the commission shall be budgeted and distributed to each organizational unit of the commission solely on the basis of costs fairly attributable to the voluntary cleanup program.

SECTION 2. Sections 361.133(b) and (c), Health and Safety Code, are amended to read as follows:

(b) The fund consists of money collected by the commission from:

(1) fees imposed on the owner or operator of an industrial solid waste or hazardous waste facility for commercial and noncommercial management or disposal of hazardous waste or commercial disposal of industrial solid waste under Section 361.136 and fees imposed under Section 361.138;

(2) interest and penalties imposed under Section 361.140 for late payment of a fee or late filing of a report;

(3) money paid by a person liable for facility cleanup and maintenance under Section 361.197;

(4) the interest received from the investment of this fund, in accounts under the charge of the treasurer, to be credited pro rata to the hazardous and solid waste remediation fee fund; [~~and~~]

(5) monies transferred from other agencies under provisions of this code or grants or other payments from any person made for the purpose of remediation of facilities under this chapter or the investigation, cleanup, or removal of a spill or release of a hazardous substance;

(6) fees imposed under Section 361.604; and

(7) federal grants received for the implementation or administration of state voluntary cleanup programs.

(c) The commission may use the money collected and deposited to the credit of the fund under this section, including interest credited under Subsection (b)(4), only for:

(1) necessary and appropriate removal and remedial action at sites at which solid waste or hazardous substances have been disposed if funds from a liable person, independent third person, or the federal government are not sufficient for the removal or remedial action;

(2) necessary and appropriate maintenance of removal and remedial actions for the expected life of those actions if:

(A) funds from a liable person have been collected and deposited to the credit of the fund for that purpose; or

(B) funds from a liable person, independent third person, or the federal government are not sufficient for the maintenance;

(3) expenses concerning compliance with:

(A) the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. Section 9601 et seq.) as amended;

(B) the federal Superfund Amendments and Reauthorization Act of 1986 (10 U.S.C. Section 2701 et seq.); and

(C) Subchapters F and I;

(4) expenses concerning the regulation and management of household hazardous substances and the prevention of pollution of the water resources of the state from the uncontrolled release of hazardous substances; [~~and~~]

(5) expenses concerning the cleanup or removal of a spill, release, or potential threat of release of a hazardous substance where immediate action is appropriate to protect human health and the environment; and

(6) expenses concerning implementation of the voluntary cleanup program under Subchapter S.

SECTION 3. This Act takes effect September 1, 1995.

SECTION 4. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended.

_____ _____

President of the Senate Speaker of the House

I certify that H.B. No. 2296 was passed by the House on May

12, 1995, by a non-record vote.

_____
Chief Clerk of the House

I certify that H.B. No. 2296 was passed by the Senate on May 27, 1995, by the following vote: Yeas 31, Nays 0.

_____
Secretary of the Senate

APPROVED: _____
Date

_____
Governor

Appendix D—Voluntary Cleanup Rules

Title 30, Chapter 333
Subchapter A

The Texas Natural Resource Conservation Commission (TNRCC, commission, or agency) adopts new §§333.1-333.11, concerning the Voluntary Cleanup Program (VCP). Sections 333.1–333.11 are adopted with changes to the proposed text as published in the November 7, 1995, issue of the *Texas Register* (20 TexReg 9255).

The statutory basis for the proposed rules is found in House Bill (HB) 2296, 74th Legislature, (the statute) which establishes the existence of a Voluntary Cleanup Program in Subchapter S of the Solid Waste Disposal Act (SWDA), Chapter 361, Health and Safety Code. The commission is developing a guidance document for the VCP concurrent with the development of the VCP rules. Subchapter S and the new rules will be included as attachments to the guidance document.

The commission has prepared a Takings Impact Assessment for these rules pursuant to Texas Government Code Annotated, §2007.043. The following is a summary of that Assessment. The specific purpose of the rule is to implement House Bill (HB) 2296, 74th Legislature, which created the voluntary cleanup program. The VCP was primarily created to provide incentives to encourage the cleanup of thousands of contaminated sites in Texas which require remedial actions in order to complete real estate transactions. The VCP rules will substantially advance this specific purpose by establishing rules where required by statute, clarifying statutory provisions, and providing flexibility in order to promote the redevelopment of contaminated sites. Promulgation and enforcement of these rules could affect private real property which is the subject of the rules.

However, the following exceptions to the application of the Texas Government Code, Chapter 2007 listed in Texas Government Code, §2007.003(b) apply to these rules: the action is taken in response to a real and substantial threat to public health and safety; the action significantly advances the health and safety purpose; and the action imposes no greater burden than is necessary. Sites to be addressed by the VCP represent a real and substantial threat to public health and safety through contaminated soil, groundwater, surface water, and air. Humans may be exposed to these contaminants through many different pathways such as ingestion, dermal contact, and inhalation. The health and safety purpose is significantly advanced because the VCP will promote the expeditious remediation of many contaminated sites in Texas. The rules do not present a greater burden than is necessary to promote the expeditious remediation of contaminated sites because the rules utilize agency risk-based regulatory programs which provide the necessary degree of investigation and remediation while being protective of human health and safety.

The commission accepted public comment on the proposed rules for 30 days following publication on November 7, 1995. A public hearing to accept verbal and written comment on the proposed rule was held at commission offices in Austin, Texas on December 5, 1995. The City of Houston provided oral comment at the public hearing. Written comments were received from the following: Brown McCarroll & Oaks Hartline (Brown McCarroll); Colonial Pipeline Company (Colonial); Cook-Joyce, Inc. (Cook-Joyce); Exxon Chemical Company (Exxon Chemical); City of Houston (COH); Jenkins & Gilchrist; Lloyd, Gosselink, Fowler, Blevins & Mathews, P.C. (Lloyd, Gosselink) on behalf of The Sabine Mining Co., City of Waco, City of Garland, Maxim Technologies, Inc., and Cook-Joyce, Inc.; Locke Purnell Rain Harrell (Locke Purnell) on behalf of itself and JPI Texas Development, Inc.; Railroad Commission of Texas (RRC); Texas Chemical Council (TCC); Texas General Land Office (GLO); Texas Utilities Services, Inc. (TU); the University of Texas System (UT); and Roy F. Weston, Inc (Weston).

In the proposal, the commission defined the term “person” and utilized the term “Texas Natural Resource Conservation” in the rule. The agency is currently attempting to streamline agency rules. Toward that end,

definitions of terms that are common across all agency programs are being consolidated into one new chapter, proposed 30 TAC Chapter 3. Chapter 3 is expected to be effective in May, 1996. "Person" is a term that will appear in new Chapter 3; therefore, it is not necessary to define that term in these rules. It does not appear in the final rule. In addition, the commission is attempting to more appropriately utilize the terms “commission” and “agency” while ceasing to use “TNRCC” or “Texas Natural Resource Conservation Commission” in its rules. In line with the philosophy, “Texas Natural Resource Conservation Commission” has been replaced with “commission” in the definition of “site subject to a commission permit or order.”

The commission received a number of general comments. TU expressed general support for the voluntary cleanup program, believing it will provide incentives for cleanup of contaminated sites by streamlining the cleanup process and providing important assurance regarding environmental liability for future owners. The commission received a request from TCC to incorporate the statutory requirements found in HB 2296 in order to make the requirements of the VCP more accessible. These comments were submitted as general comments and comments specific to proposed §§333.2-333.7, and §333.10. The commission responds that *Texas Register* guidance does not consider the adoption of statutes to be acceptable rulemaking, and therefore the commission believes it appropriate to keep the statute and the rule separate. As noted earlier the VCP Guidance Document will include copies of both the rule and the statute. This should alleviate concerns that separating the two creates confusion.

GLO requested that any documents subject to the Texas Open Records Act be made easily available upon request for public review. The commission responds that a standard procedure exists for responding to Texas Open Records Act requests. All documents submitted to the VCP are subject to the Texas Open Records Act and will be easily accessible. The commission has added the following language to the proposed §333.1 of the VCP rule to ensure that adequate copies are available: "(b) the applicant shall submit two copies of all documents, one of which the Voluntary Cleanup Program will file in the agency central records." The original proposed language in §333.1 is located in §333.1(a) in the final rule. In this regard, certain applicants must also notify the agency regional office of activity on a site. Persons entering the VCP and utilizing the Risk Reduction Rules must notify the appropriate agency Regional Office as required by §335.8(c) of 30 TAC Chapter 335.

Cook-Joyce and Lloyd, Gosselink suggested the establishment of a certification program similar to the Petroleum Storage Tank (PST) certification program for persons preparing the applications, workplans and remedial actions. The purpose of such a program would be to ensure quality control of materials submitted and work performed under the VCP and the Risk Reduction Rules found in 30 TAC Chapter 335, relating to Industrial Solid Waste and Municipal Hazardous Waste. The commission notes that the VCP will require applicants to meet PST requirements for certification of persons preparing PST work plans and reports. To remain consistent with other remediation programs using the Risk Reduction Rules, the VCP will not require certification of persons preparing work plans and reports under the Risk Reduction Rules; however, a certification program for environmental professionals may be considered in the future.

UT requested the addition of an applicability section to establish eligibility for the VCP to address how liability protection will be afforded to various categories of applicants, assignment of a voluntary cleanup agreement, liability protection for a subsequent buyer while remediation is ongoing, and when liability protection is effective for the original owner and the buyer. The commission responds that eligibility for entering the VCP is defined by statute. Two categories of applicants are of particular importance, Responsible Parties (RPs) and non-RPs. RPs are not eligible for receiving a liability release as defined by

statute. Non-RPs are eligible, but the date of the release depends on their actions. The commission would not allow assignment of a VCP agreement due to the statutory provision that applicants must submit an application and an application fee. Section 361.610(a) of the statute differentiates between applicants and future owners and lenders. Specifically, it states that an applicant "at the time the person applies to perform a voluntary cleanup is released, on certification under §361.609...". The commission interprets this language to allow an effective release date for applicants to be the date of application. However, concerning future owners and lenders, §361.610(c) of the statute states "an owner who acquires the property on which the site is located or a lender who makes a loan secured by the property after the date of issuance of the certificate is released from all liability for cleanup of contamination released before the date of the certificate." The commission believes that this language is clear that the effective date of release for these persons is the date of the certificate of completion. However, those non-RPs who are not original applicants and who wish to gain liability release prior to the certificate of completion must file a new application, pay the fee, and sign an agreement. This can occur even if there is a prior agreement on file. Thus for example, the VCP may accept an application and fee from a prospective purchaser who is not an RP at the time of their application prior to completion of remediation who will then receive a release of liability beginning at the date of their application upon issuance of the certificate of completion. The original owner is only able to receive the liability protection when they are not an RP; the same is true of a buyer.

Lloyd, Gosselink requested clarification on whether and to what extent compliance with the Texas VCP will satisfy the investigation and notice requirements mandated by the National Contingency Plan (NCP) for parties seeking contribution under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Parties may satisfy the requirements of the NCP under the VCP; however, the VCP may not require several actions required under the NCP (e.g. public participation, remedy selection, notification requirements) to preserve cost recovery. It will be the responsibility of parties wishing to preserve future cost recovery to ensure that NCP requirements are met under the terms of the VCP agreement.

Lloyd, Gosselink also supports agency's pursuit of an agreement with the Environmental Protection Agency (EPA) for every certificate of completion in order to prevent federal enforcement action. The commission responds that the VCP is attempting to gain the maximum assurances from EPA with respect to their endorsement of the Texas VCP. Negotiations are ongoing with EPA Region VI to develop a memorandum of agreement (MOA) which describes a partnership with EPA to accomplish the goal of promoting response actions through the VCP. A key point of the draft MOA states that if a certificate of completion is issued for a site, Region VI will not plan or anticipate any federal action under CERCLA unless Region VI determines the site poses an imminent and substantial endangerment or emergency situation. Also, EPA will suspend further action or take no action at sites being investigated or remediated under the VCP.

Lloyd, Gosselink commented that not all responsible persons should be excluded from the release of liability. The rules should only require that to be excluded from the protections afforded by a certificate of completion, the contamination caused by the RP must constitute an imminent and substantial endangerment. The commission notes that the VCP rule does not include any language regarding persons released from liability. All criteria concerning liability release are stated by statute. The VCP statute does not speak to the issue of imminent and substantial endangerment; therefore, the commission is not addressing this issue. It only references the Health and Safety Code, §§ 361.271 and 361.275(g), which discuss RP status. Lloyd, Gosselink also believes that the TNRCC has the authority to delineate situations in which lenders will be exempted from site liability if they are financing VCP activities, and further

believes the agency should address in guidance when lender activities and financing of cleanups may expose them as responsible persons. Persons released from liability are defined under of the Texas Health and Safety Code, Chapter 361. Unlike the Federal Superfund Statute (CERCLA), there is no secured creditor exemption in the Texas Health and Safety Code. However, lenders have other legal protection possibilities under the VCP statute. If the lender is concerned about liability due to a loan to a responsible party prior to a cleanup, the lender should become an applicant. The lender can then gain liability protection by becoming an applicant as contemplated in the statute. It should be noted that if the response actions are not completed, the lender may become a responsible party depending on their activities related to the site. If the response actions are successfully completed, the lender gains the liability release from the lender's application date once a certificate of completion is issued. Lenders who make a loan *after* a certificate of completion is issued automatically receive liability protection under the statute, after the date of issuance.

Lloyd, Gosselink requested a clarification of the relationship among the Texas Environmental, Health, and Safety Audit Privilege Act (Texas House Bill 2473, 74th Legislature Regular Session (1995)) (the audit bill), the proposed Spill Rules (30 TAC §327.1-327.5) and the VCP. The audit bill has an exclusion for documents required by law to be submitted to the commission. The VCP statute sets out the documentation required to be submitted to that program; therefore, those documents are not privileged when submitted for that program. Concerning the proposed spill rules, there is nothing in either the VCP rules or the spill rules which would preclude a spill cleanup from entering the VCP, once the emergency response to the spill has been completed according to the applicable rules.

Lloyd, Gosselink also requested that the commission create an internal policy stating that staff members will minimize costs as much as possible and provide free technical assistance to VCP applicants whenever requested. The commission believes the statute prevents VCP staff from reviewing plans and reports submitted to the VCP until the agreement is signed. In addition, §361.603(b)(2) of the statute states that a person participating in the VCP must pay all costs for commission oversight. VCP staff typically provide pre-application assistance through discussions regarding the VCP guidance documents. Staff will provide effective and efficient review of all submittals.

Lloyd, Gosselink requested clarification in the preamble on whether facilities not having a permit for their activities but participating in closure actions, which do not do so under enforcement action or order, are eligible for the VCP. Brown McCarroll requested clarification as to when a Resource Conservation and Recovery Act (RCRA) permitted facility can participate in the VCP. Both commenters believe that interim status hazardous waste facilities at the time interim status is acknowledged by the commission should be allowed into the VCP. This comment regarding interim status was made as a general comment as well as a comment specifically targeting certain sections in the proposed rule. Their concern is that the commission is being more restrictive than statutory authority by including interim status facilities in the definition of the phrase "subject to a permit." The agency wishes to clarify its position that interim status facilities do, in fact, meet that definition and are therefore excluded from the VCP. Interim status is a federal regulatory classification. As cited in §3005(a) and (e) of RCRA (Permit requirements for Hazardous Waste Management (HWM) facilities) and 40 CFR Parts 265.1 and 270, owners and operators of existing hazardous waste management facilities or of hazardous waste management facilities in existence on the effective date of statutory or regulatory amendments under the act render the facility subject to the requirement to have a RCRA permit. Facility owners and operators with interim status are treated as having been issued a permit (40 CFR Part 270) until either a permit is issued under 3005 of RCRA or until applicable Part 265 closure and post-closure responsibilities are fulfilled. Owners and operators of such facilities are eligible for interim status on an ongoing basis if the facility is in existence on the effective date

of any regulatory changes under RCRA which cause the facility to be subject to RCRA Subtitle C regulation. In addition, RCRA authorization prohibits the state from being less stringent than federal regulation. Because interim status facilities fall under federal definition and regulation, such a facility cannot be allowed to use less stringent state regulations to be relieved of federal regulatory requirements.

The commission understands the commenter's interpretation that the phrase "subject to permit" could be interpreted to mean a permit has been issued; however, the commission defines the phrase to include interim status facilities because existing federal regulatory requirements in RCRA, §3005 (a) and (e) state that such facilities "are required to have a permit" ... and "shall be treated as having been issued such permit". The intent of the VCP statute is that some RCRA regulated facilities, including interim status facilities, are subject to a permit and other applicable federal regulatory requirements and should be omitted from the VCP; RCRA federal requirements must take precedence over state authorized cleanup programs.

Concerning §333.1, the commission received one comment. The RRC would like the section amended to clarify the jurisdiction of the Railroad Commission of Texas over certain cleanups. The commission responds that jurisdiction is already clarified by statute, specifically SWDA, §361.601(3), and the Texas Water Code, §26.131; therefore, the commission does not believe it is necessary to amend the rules. However, persons wishing to enter the VCP should note that Chapter 333 does not apply to the cleanup or removal of any waste, pollutant, or substance regulated by or that results from exploration, development, and production of oil or gas or geothermal resources under the jurisdiction of the Railroad Commission.

The commission received several comments regarding the proposed definitions in §333.2. Concerning “Initiate an enforcement action," Jenkins & Gilchrist requested that the definition be limited to instances where the executive director’s Preliminary Enforcement Report has been issued, believing the Notice of Violation (NOV) stage is too early because the violation is only alleged, and no findings of violation have been made. The commission believes the commenter has confused the term "Initiate an enforcement action" with "Pending enforcement action". "Initiate an enforcement action" under the VCP rule provides clarification of the types of actions which the State is prevented from initiating while a party is complying with the terms of the Voluntary Cleanup (VC) agreement. On the other hand if there is a "Pending enforcement action" and the executive director, for example, finds that it is in the best interest of the agency or it will promote the effective use of agency resources or it will expedite a cleanup, the executive director may, but is not required to, allow applicants to enter the voluntary cleanup program. It should be noted that by the time an NOV has been issued, a great deal of agency effort has been expended. To begin again in the VCP would possibly be a significant duplication of effort. For this reason, the commission believes that this is the appropriate point in time to allow the executive director to determine the appropriate program to handle the cleanup. Specifically, regarding "Pending enforcement action," Brown McCarroll, Lloyd, Gosselink, and Jenkins & Gilchrist requested clarification that cleanups are ineligible for the VCP due to enforcement orders or pending orders only to the extent that such orders actually address the remediations at issue. The commission agrees, and the definition now reads "Concerning the remediation of the hazardous substance or contaminant described in the application, a notice of violation has been issued and further administrative, state, or federal enforcement action is under evaluation or an enforcement action is required by federal grant, or the State has incurred unreimbursed costs under the Texas Health and Safety Code, Chapter 361, Subchapter F."

Regarding the definition of “Exposure Assessment Model,” TCC requested that probabilistic models be included in the definition. The commission intends for persons to develop a conceptual model of the site based on site-specific exposures, and considers the term "conceptual model" in the current definition to be

sufficiently broad to allow the agency to accept any valid model. GLO requested clarification of the term “reasonably anticipated” in the definition. The VCP guidance documents will provide further clarification how "reasonably anticipated" is used in the VCP. Although no comments were received concerning "Partial response action," the commission believes that the proposed definition can be clarified by adding the statement, “if any” and replacing “site” with “partial response action area” in the definition so that it now reads, "A response action which is limited to an areal portion of the site and off-site areas, if any, contaminated due to releases which have migrated from the partial response action area onto property owned or controlled by others, inclusive of all media." Lloyd, Gosselink suggested the definition of "Site" should address portions of site. The commission responds that the statute separately addresses the terms "site" and "portion of a site;" therefore, they should not be combined in the rule. Consistent with general comments on the issue of interim status hazardous waste facilities, Lloyd, Gosselink commented that the definition of “Site subject to a commission permit or order” is overly restrictive given the statutory language of HB 2296, and interim status hazardous waste facilities should be allowed to enter into the VCP. The commission disagrees with this comment based upon the reasons elaborated earlier in the preamble; however, the language in the definition has been modified to alleviate confusion. The proposal stated that “these also include interim status hazardous waste facilities, at the time interim status is granted.” The final rule states, “these also include hazardous waste facilities, which are operating under interim status.”

Section 333.3 contains the stated purpose of the VCP rules. Several comments were received addressing this section. Lloyd, Gosselink and Weston requested that the rule be amended to state that the purpose also is intended to provide a timely and efficient process. The commission agrees and the language has been changed by adding the following language to the end of the section, ". . . and to provide a process by which voluntary response actions can be completed in a timely and efficient manner". The GLO commented that the VCP does not remove liability for injuries to natural resources by an unauthorized release of hazardous substances or discharge of petroleum under federal law. UT wanted clarification that the release of liability is only from the State and not from the federal government. The commission emphasizes that the statute only releases liability to the State under State law for cleanup of sites and does not affect federal liabilities. Release of liability by the State does not apply to natural resource damage or restoration under federal law. Finally, UT requested clarification as to whether the program removes liability of only future lenders or all lenders. The commission responds that future lenders who are not RPs will be released from liability, as set out in the statute. Also, lenders who are not RPs and are applicants will be released from liability upon issuance of the certificate of completion (see earlier discussion).

Section 333.4 concerns the application to participate in the VCP. Exxon Chemical suggested including a provision to allow the applicant the right to withdraw an application and cancel an agreement at any time during the review process. The commission does not believe such a change is necessary. The right to withdraw an application is discussed in the Texas Health and Safety Code, §361.606. If the applicant withdraws from the program, all commission costs incurred or obligated before notification of termination must be paid. Termination of an agreement is discussed in the Texas Health and Safety Code, §361.607.

Regarding the 45-day time limit for acceptance or rejection of the application, the commission received two comments. GLO requested that the time period to accept or reject an application should be longer, because 45 days is not adequate to coordinate with other agencies if necessary. UT wanted clarification on what happens if the agency does not respond in 45 days. The commission is statutorily obligated under the Texas Health and Safety Code, §361.605 to notify an applicant if the application is rejected, within 45 days after

application submittal. The management of the agency will oversee the timeliness of staff review. In addition, a Writ of Mandamus is available to force the agency to comply with the statutory deadlines.

Lloyd, Gosselink stated that the TNRCC should not initiate enforcement actions during the pendency of the review of VCP applications or immediately following rejection of an application. According to Lloyd, Gosselink's comment, the rule should also recognize that privileged information under the Texas Environmental, Health, and Safety Audit Privilege Act remains protected under the VCP, and the entity does not lose the benefits of any applicable immunities. The commission agrees with the first part of the comment. The section is amended by adding language that the agency shall not initiate enforcement action on a VCP applicant during the pendency of the agency review of an application. The commission does not agree to restrict itself after rejection of an application since there may be circumstances such as fraud where immediate enforcement action is appropriate. For the reasons stated earlier in this preamble, the commission does not believe the audit bill protects those documents required by statute to be submitted to the VCP for the contamination or release that is the subject of the Voluntary Cleanup Agreement.

Section 333.5 sets forth standards for rejecting an application. UT wanted clarification that the executive director may reject the application for only the two stated reasons identified in the proposed rule. The commission disagrees noting that §361.605 of the statute details other reasons for the executive director to reject an application. GLO believes an ongoing natural resource damage assessment (NRDA) or pre-assessment (PA) should be cause for rejecting an application because an ongoing assessment would indicate that significant natural resource injury has occurred or is suspected to have occurred. The commission notes that acceptance into the VCP does not preclude NRDA or PA actions from proceeding or being initiated since the VCP statute only prevents the commission from initiating enforcement action. It does not prohibit actions by other state agencies or actions pursuant to federal law. Therefore, the VCP will not reject applications based upon these reasons. The VCP will utilize the applicable rules and guidance to ensure that natural resources are adequately protected.

Concerning §333.5(1), TCC requested its removal because the paragraph is vague, and §361.603 and §361.605, the SWDA, and §333.5(2) are adequate. The commission agrees and the paragraph is not included in the final rule. Lloyd, Gosselink recommended any changes to the definition of “Pending enforcement action” and “Site” should be incorporated into this paragraph. The paragraph has been removed, and there is no need to make corresponding changes. Weston requested clarification of the term “Under enforcement.” According to the commenter, a property owner may be under enforcement without realizing it because there has been no response from the commission for an extended period of time. Weston further suggested setting up a single “hot line” so that someone may determine if they are under enforcement in any agency program. The commission responds that the term "under enforcement" is not used in the rule. However, "pending enforcement action" is defined in §333.2, and the commission has clarified in this preamble what is meant by the term. Persons may contact the Litigation Support Division to inquire whether or not their site is on the agency's enforcement log.

The commission received two comments regarding §333.5(2). UT wanted to know when all costs are recoverable and when payment must be made to the fund. The commission responds that payment must be made to the fund prior to acceptance of a VCP application. Lloyd, Gosselink suggested elimination of this paragraph as an option for rejecting an application, because it believes the agency’s authority under HB 2296 to assess costs retroactively is questionable. The commission disagrees and is retaining proposed paragraph (2) as an option for rejecting a VCP application. The commission further disagrees that it cannot collect past costs, believing that the SWDA provides that authority. Cost recovery is authorized in Health

and Safety Code, Chapter 361, Subchapter F. If its costs are not reimbursed voluntarily, the commission would seek to enforce an order compelling reimbursement; therefore, the commission considers that enforcement is "pending." However, the commission is amending the definition of "Pending enforcement action" to clarify its authority to reject an application for failure to pay such costs. The commission retains paragraph (2) as proposed; however, the removal of proposed paragraph (1) eliminates the necessity of a paragraph number.

Section 333.6 concerns the voluntary cleanup agreement. Colonial recommended that a cost schedule be developed to assist the responsible parties in identifying and estimating their potential project costs. In response, the agency can provide rough estimates of its oversight costs on a case-by-case basis per request from the applicant. Factors which may affect these costs include the complexity of the site and the quality and quantity of the work submitted to the VCP. Another comment suggested adding language requiring the agency to complete its technical review of workplans or reports submitted under a voluntary cleanup agreement within 45 days. Colonial suggested that within the 45-day period, the agency must approve the work plan/report, approve portions of the work plan/report, or disapprove the work plan/report. If the work plan/report is approved in whole or in part the applicant can move forward and undertake actions approved. If disapproved, the applicant has 45 days to revise the work plan/report. The commission responds that staff will make every attempt to review a submittal within 45 days, but it does not believe adopting a specific time frame as a rule is appropriate. The VCP must balance the work load and the number of staff in order to provide the most efficient review time and the lowest oversight cost.

Specifically regarding §333.6(a), the commission received two comments. UT recommended changing the term “both parties” to “TNRCC and the applicant.” The commission agrees with the concept, and has replaced the term "both parties" with " the applicant and the executive director or his representative." Brown, McCarroll and Exxon Chemical believe the statement that an agreement must be signed prior to any response action being implemented does not appear to allow owners of sites which have already undergone voluntary remediation to participate in the VCP. The commenters believe the rule should allow sites previously cleaned up under the guidance and direction of other TNRCC programs to enter into the VCP. If cleanup has previously been approved, the applicant should not be required to meet more stringent cleanup standards. The commission responds that parties who have gained agency final approval of the completed remediation prior to the effective date of the VCP rules may apply to enter the VCP. The executive director has the discretion to reject the application. However, if the application is accepted, the VCP will require submission of all information initially submitted for review to receive the prior approval and may require additional information regarding the site if the previously approved response action did not address all contaminants or contaminated media within the proposed site or partial response action area, if contaminant management practices were initiated or changed since the previous approval date, or regulatory requirements have changed since that approval. The proposed rule has been amended to clarify this. Additionally, the applicant shall pay the application fee and oversight costs. A VC agreement must be signed by the agency representative and the applicant prior to agency review. Sites initiating response actions after the effective date of these rules without signed VC agreements will not be allowed into the VCP. The requirement in §333.6(a) that the VC agreement be signed prior to the implementation of any response actions ensures that the response actions are clearly understood and agreed to by both the applicant and the agency representative. Site investigations may begin prior to completion of the application and agreement, although the commission encourages persons to coordinate these activities with the agency after completion of the application and agreement. The commission does agree with the commenters that a language change will clarify this. The following sentences have been added to the rule, "However, for response actions initiated or completed prior to the effective date of these rules, the executive

director at his discretion may allow sites to enter the Voluntary Cleanup Program. After the effective date of these rules, persons initiating response actions prior to a signed Voluntary Cleanup agreement may not enter the Voluntary Cleanup Program."

Section 333.7 discusses VCP work plans and reports. Lloyd, Gosselink supports this section as proposed. Exxon Chemical stated that the TNRCC should be required to provide an estimate of oversight costs at the time the commission approves the work plans and reports. In response, the VCP will provide non-binding estimates of oversight costs to the applicant at that time, upon request.

The commission received several comments specific to §333.7(a). UT stated that this section should be modified to state that the exposure assessment model shall examine all currently discovered and reasonably anticipated future exposure pathways for all **targeted** contaminants and media of concern. The commission responds that in developing a conceptual exposure assessment for a site prior to completing an investigation, it is inappropriate to exclude potential contaminants of concern without proper determination of exposure to human health and the environment. However, the results of a site investigation may provide sufficient information to target the contaminants of concern for remediation purposes. The recommended change is not included in the final rule. UT also requested clarification that “media of concern” refers to soil or groundwater rather than air, except in limited circumstances. The commenter provided no criteria for distinguishing between air, water, and soil. The commission is responsible for protection of human health and the environment including air; therefore, the commission has not changed the proposal.

GLO requested that the agency identify existing guidelines that will be used by the executive director to evaluate and maintain consistency in the evaluation of the **full** nature and extent of contamination at a site. The commission responds that the criteria for determining the nature and extent of contamination are described in the Risk Reduction Rules, PST guidance, and the VCP guidance. It should be noted, though, that the nature and extent of contamination may be determined on a site-by-site basis through the preparation of an exposure assessment model which may not require an investigation of the **full** nature and extent of contamination. Flexibility in determining the limits of an investigation based on an exposure assessment model is described in the PST and VCP guidance. Additionally, TCC wanted to know if models proposed by parties outside the agency will be accepted. Finally, TCC wanted to know how the agency will handle narrowing down the list of samples and constituents in the VCP to a reasonable number. The agency will determine the acceptability or appropriateness of proposed models based on whether the models provide an accurate assessment of the nature and extent of contamination. Because the second question is fact-specific and can only be answered upon site-specific review, no general comment on an approach to limit numbers of samples or constituents required can be given.

Regarding §333.7(b), COH suggested replacing “migrated onto property owned or controlled by other” with “migrated onto property where an interest is held by another person.” In response, the commission believes the inclusion of this language would effectively exclude parties from initiating partial response actions in areas such as cities with pervasive easements. However, we agree that persons who perform their work in easements, rights-of-way, etc. should be alerted to potential exposure to hazardous substances; therefore §333.11 has been modified to provide this notice.

Concerning §333.7(c)(1), Jenkins & Gilchrist requested that the agency clarify that the only inquiry is whether the person had some responsibility for the active release on the off site property, and that the issue of whether the person had passively allowed the release to migrate under his property is not at issue in this requirement. The commission agrees with this comment. For this reason, the language has been changed to

delete the terms "suffer" and "allow" from the rule. Persons should be aware that the certificate of completion will only pertain to contamination that exists before the date of the certificate and will not release persons for contamination which migrates onto the site after the issuance of the certificate. Persons should take all necessary actions to stop off-site contamination from continuing to migrate on-site to avoid future liabilities.

GLO commented on §333.7(c)(2) stating that the approach to cleanup allowed by this paragraph is flawed because the source of contamination may not be addressed. The commenter believes the TNRCC should address a site's entire contamination, including the source area of that contamination if it presents a risk to human health and the environment. In response, the commission believes the partial response action provides incentives to remediate properties which would not otherwise be remediated. The VCP agreement which precludes initiating an enforcement action will only pertain to the partial response action area, thus preserving the commission's enforcement authority for remaining contaminated areas including sources. Applicants wishing to address only portions of the site as a partial response action should also note §361.608(d) of the statute which limits situations in which partial response actions may be approved by the executive director.

Section 333.8 addresses response action standards. The commission received a number of comments on the proposed section. Concerning §333.8(a), the commission received two comments. GLO requested that all media which exceed ecological risk based cleanup levels should be addressed through response actions. Without these, the commenter contends that a person could still be liable for natural resource damages on the site or affected by the site. The commission understands the commenter's concern and the final rule states "... exceed the health-based and environmental cleanup levels..." As noted earlier, participation in the VCP does not prevent a natural resource damage action. UT noted that an exposure assessment model may reasonably demonstrate that an exposure pathway does not exist, but it cannot prove that a pathway does not exist. To clarify the use of exposure assessment models, the commission is removing the portion of §333.8(a) which discusses limitations associated with an exposure assessment model. Exposure assessment models are already discussed in §333.7(a) concerning the site investigation, which is the appropriate location to include the use of such models. Section 333.8(a) will now read "Excepting areal limitations with partial response actions, all media which exceed the health-based and environmental cleanup levels shall be addressed..."

UT requested clarification on the extent to which the applicant shall select a response action and what role TNRCC will have in selecting the response in §333.8(b). The commission responds that the applicant will have the ability to select the response action, and the agency will review the selected response action to ensure that the action is capable of meeting the response action objectives. For State Superfund sites, a public meeting to receive comments on the proposed remedy is required by statute. However, the remedy selection criteria set out in 30 TAC Chapter 335, Subchapter K (relating to Hazardous Substance Facilities Assessment and Remediation) are not applicable to sites in the Voluntary Cleanup Program. Lloyd, Gosselink requested that the applicant limit its evaluation to one proposed remedy rather than all possible remedies. The commission responds that as long as the proposed remedy meets the requirement of 333.8(b), the applicant is not required to evaluate additional remedies.

Specifically concerning §333.8(c), Lloyd, Gosselink recommended adding the following language to the end of the subsection, "unless such requirements are inconsistent with a specific provision of this subchapter." The commission partially agrees with the comment noting that these rules cannot supersede federal or state statutes, federal rules, or other agencies' rules. The following language has been added to the proposed rule,

"... unless such commission rule requirements are inconsistent with a specific provision of this subchapter". GLO stated that when contaminants have migrated or threaten to migrate onto state lands under the management of GLO, a surface easement must be obtained to support the remedial engineering proposed on those lands. The commission responds that this rule speaks only to permits, not the necessity for easements. Permission of the landowner is one method of achieving access to clean up a site. If access is denied, the commission may utilize its authority under the Texas Water Code and Texas Health and Safety Code to obtain access for the applicant. COH requested that the rule be amended to state that persons in the VCP are still required to comply with local codes and ordinances, and may need to obtain building, sewer, or fire permits. The commission believes that the rule requires clarification to limit the exemption from state and local permits to remedial actions and removals under the VCP. The proposed language has been amended to state, "State or local permits are not required for removal or remedial action under the Voluntary Cleanup Program..." to qualify when state or local permits are not required. The commission disagrees with the second half of the comment. The statute is clear that no state or local permits are required for this type of activity. Moreover, the statute does not require that the local substantive requirements are met, although the city may have other legal justification for the imposition of these requirements on an applicant. The commission believes that this issue is unsettled in law and will have to be determined by the courts or by negotiation. The language in the statute is virtually identical to that in the State Superfund Statute, Texas Health and Safety Code, §361.196, and is similar in relevant aspects to the exemption from permitting under CERCLA. The commission received a comment from Jenkins & Gilchrist that this subsection should specify whether state permits that are issued pursuant to federally delegated programs such as RCRA and Treatment, Storage and Disposal (TSD) permits are covered by the permitting exclusion. In response, permits must be obtained if required by federal law or regulation or by a federal program.

Section 333.9 concerns deed certification. For purposes of this discussion, "deed certification" and "deed recordation" are used interchangeably. Locke, Purnell strongly supported the section as proposed. UT believes that filing the certificate of completion in the deed records should satisfy the deed certification requirement of this section. The commission partially agrees with the commenter. In order to simplify the deed certification process, for applicants in the VCP the commission will only require one instrument, the certificate of completion, to be recorded into the deed record. Specific deed certification provisions of the applicable rules (i.e, petroleum storage tank or risk reduction rules) will be included in the certificate of completion, as appropriate. These specific provisions will be determined by the actions taken on the site by the applicant, such as the use of engineering controls, which will require a specific provision to be included in the certificate of completion. For those sites which do not rely upon engineering or institutional controls, or post-closure care or are maintaining remediation systems, no additional provisions will be included in the certificate of completion over what is required to meet the statutory requirements for certificates of completion. The proposed language has been changed to indicate that for the VCP the filing of the certificate of completion into the deed record, as required by statute, will satisfy the deed certification requirements of 30 TAC Chapters 334 and 335 (i.e, petroleum storage tank and risk reduction rules) for the areas covered by the certificate of completion. There are two types of certificates of completion. Final certificates are issued when no more response actions are necessary. Conditional certificates are issued when the applicant is satisfactorily maintaining the engineering controls, remediation systems, or post-closure care or non-permanent institutional controls are utilized pursuant to the Voluntary Cleanup agreement. The preamble further elaborates on final and conditional certificates of completion in the discussion concerning §333.10. GLO stated that deed certification should be required whenever any residual contamination is left on site; however, the certificate could specify that residential health based limits were achieved. The commission disagrees and believes that the stigma of deed certification inappropriately burdens the property title when no contaminants exist above health based levels. Lloyd,

Gosselink recommended that the rule be amended so that sites that achieve industrial health-based levels should not require deed certification. The commission partially agrees with the commenter. No additional "deed certification" provisions will be included in the certificate of completion, since the statute requires that the certificate of completion indicate the proposed future land use. Applicants should note the statutory language in §361.610(c) which states "a release of liability does not apply to a person who changes land use from the use specified in the certificate of completion if the new use may result in increased risks to human health or the environment." Thus a future owner who does not maintain compliance with the terms of the certificate of completion will be changing the use of the site and will lose his release of liability. Since the situation that led to the certificate of completion may not be restorable after such a change in use, subsequent purchasers also do not receive a release of liability. However, they may re-enter the VCP prior to purchase and receive liability protection due to their own actions which may include additional response actions. Locke Purnell suggested adding a statement that deed recordation will not be required under the Risk Reduction Rules if health-based levels are achieved. This comment was addressed above, in that the certificate of completion will satisfy the deed recordation requirements for the areas covered by the certificate of completion; for areas not covered by the certificate of completion (i.e. potentially off-site areas), deed certification will be required under 30 TAC Chapters 334 and 335 when residential health-based levels are not achieved and/or non-permanent institutional controls (e.g, zoning), post-closure care, remediation systems, or engineering controls are utilized.

Jenkins & Gilchrist suggested notice be given to future landowners, both residential and non-residential, in place of deed recordation. In addition, deed recordation for off-site properties should not be required. The commenter believes this will eliminate the stigma created by deed recordation, and, in the case of off-site properties, eliminate a possible cause of action by the owner of that property. The commission disagrees and believes deed certification is an appropriate requirement under the circumstances noted earlier. In addition, the filing of a certificate of completion is required by statute. The commission has attempted to minimize filing requirements by allowing the certificates of completion to serve as deed certification. Finally, the commission believes that the filing of the certificate of completion should not damage properties but may enhance the value of the property due to evidence of approval by the State of the cleanup action and the statement of liability release for future lenders and owners of the property. Exposure to a cause of action by the off-site landowner is the choice of the applicant selecting a remedy which is not satisfactory to the off-site interest holder.

Brown McCarroll recommended amending the section to allow sites that have previously achieved a residential health-based level under the 30 TAC Chapter 335, Subchapter S, Risk Reduction Rules to supplement the deed record with a statement that the deed certification was made under circumstances that no longer require deed certification. As noted earlier, the amended language no longer requires deed certification for the areas covered by the certificate of completion. Moreover, The commission agrees with the comment and responds that upon filing of the certificate of completion, the party may supplement the deed record with a statement that the certificate of completion will supersede prior deed recordation requirements pertaining to the area described in the certificate of completion. The rule has been changed to reflect that possibility by adding new subsection (e) to §333.10 which states, "The executive director may allow the applicant to file a statement in the deed records stating that the certificate of completion supersedes prior deed certification requirements."

The commission received many comments on proposed §333.10 which discusses the certificate of completion. Lloyd, Gosselink supports the language as proposed. In conjunction with other comments regarding previous sections, Brown McCarroll requested that the section be amended to add a certificate of

completion specifically for sites previously remediated under the Risk Reduction Rules. The commission responds that it does not have the authority to issue retroactive certificates of completion for sites previously approved by the agency. However, sites which have received agency review and approval prior to the effective date of the VCP rule may enter the VCP for evaluation to determine if current response action requirements are satisfied. The agency will issue a certificate of completion for previously approved sites only if currently appropriate response actions for all contaminants within the area described in the certificate of completion have been completed. The final rule contains a new, §333.10(c) which includes this provision. Proposed §333.10(c) is §333.10(d) in the final rule.

Brown McCarroll also requested a provision in the Health and Safety Code, §361.610, be added to the rule. The specific language states that a “released” party cannot ever be held responsible by the State for existing contamination at the site that was not detected in the course of the voluntary cleanup investigation unless there was fraud, misrepresentation, or knowing failure to disclose material information. The commenter believes this will clarify that those who are not RPs at the time the certificate of completion is issued are released from undiscovered contamination at a site where a good faith investigation of contamination has been made. The commission agrees with the commenter that a released party cannot ever be held responsible by the State for existing contamination at the site unless the conditions stated under the Health and Safety Code, §361.610(b) exist or the previously released person changes the land use from that in the certificate of completion if the new use may result in increased risks to human health and the environment as stated in §361.610(c). In this regard, a non-RP may become liable in spite of the liability release if he changes the land use to one which may result in increased risks. A change in use includes not maintaining an engineering control, remediation system, or post closure care, or non-permanent institutional controls. The commission believes that it is not necessary to adopt the statutory language in the rule. However, the commission is adding a definition of "Change in land use" to clarify the intent of the statutory language in §361.610(c). GLO commented that the certificate of completion should not release a site from natural resource liability under federal law. The commission agrees and notes that parties are not released from federal liabilities under the VCP statute.

The commission received several comments regarding the specific subsections of §333.10. Concerning §333.10(a), COH suggested additional language to clarify that there are some minimum standards and approval necessary for a final report. The commission agrees and the language in the paragraph has been changed to read, “If reports acceptable to the executive director that are submitted...” Regarding §333.10(b), UT wanted clarification that the term “legal description” does not necessarily require a survey but must only provide adequate detail such that the areal extent and location of the site is obvious. The commission disagrees with this comment. The certificate will be recorded in the county property records. Without an adequate legal description of the property affected, those who rely upon the property records, such as title companies, may be misled. The legal description should consist of a metes and bounds survey completed by a registered professional surveyor. Jenkins & Gilchrist submitted a comment on proposed §333.10(c) stating that the certificate of completion should only be filed in deed records on property owned by the applicant. In response, the statute requires that the certificate of completion be filed in the real property records for the site. If contamination is addressed for off-site properties, the commission will extend the certificate of completion to those areas, unless the applicant requests otherwise. However, if the certificate of completion is not recorded for the offsite properties, the deed certification requirements, if any, of other applicable rules (e.g, risk reduction rules) must be met for cleanups which do not achieve residential health-based levels in all media of concern and/or cleanups that include engineering controls, remediation systems, or post-closure care or non-permanent institutional controls. As noted earlier, exposure to a cause of action by the offsite landowner is the choice of the applicant selecting a remedy

which is not satisfactory to the off-site interest holder. The commission wishes to clarify the intent of proposed §333.10(c). The commission understands that certain transactions are time-sensitive, and §333.10(c) was proposed to allow applicants the opportunity to expedite the process of filing a certificate of completion. The commission believes that additional language is necessary to ensure that the commission's intent is clear in the rule. Therefore, the following language has been added to proposed §333.10(c), "The applicant must file the copy of the certificate of completion prior to the sale or transfer of the property, but not later than 60 days after the date of issuance of the certificate of completion." As stated earlier, proposed §333.10(c) in the proposed rule, is §333.10(d) in the final rule.

In the preamble to the proposed rule, the commission requested comment on the concepts of conditional certificates of completion and certificates of completion for phased cleanups. The commission has determined that it will designate certificates as either final certificates or conditional certificates. Final certificates are issued when no more response actions are necessary. Conditional certificates are issued when the applicant is satisfactorily maintaining the engineering controls, remediation systems, or post-closure care, or non-permanent institutional controls are utilized pursuant to the Voluntary Cleanup agreement. For example, demonstration of "satisfactorily maintaining a remediation system" for a ground-water cleanup can be accomplished by showing declining contaminant concentrations and hydraulic control over the contaminant plume, in dedicated monitoring wells. Conditional certificates would be issued prior to final completion of the response action in instances where long-term actions or engineering controls (e.g., groundwater pump and treat, cap and monitoring, non-permanent institutional controls) are necessary. As noted in the preamble to the proposal, the statute does not specifically authorize the issuance of a certificate of completion prior to attainment of final remediation goals when long-term response actions or engineering controls are implemented. However, the commission believes the purpose of the statute, to provide incentives to remediate property by removing liability of non-RP applicants, future landowners, and lenders would be advanced by issuing conditional certificates of completion in these instances. The commission would issue a final certificate of completion when the response actions have met the final remediation goals for the site. The phased approach would allow parties to divide remediation of a contaminated area into separate phases with separate schedules under a single voluntary cleanup agreement. Authorization to conduct a phased response action will be granted only when, in the executive director's evaluation, the schedule is reasonable, and §333.10(a) in the final rule includes this qualification for approval of a phased approach. At the completion of each phase, a certificate of completion would be issued for the portion of the contaminated area that has been remediated. The certificates in a phased project may be either final or conditional certificates of completion, depending upon the specific circumstances of each phase. The commission believes issuing conditional certificates and allowing phased cleanups will provide parties the flexibility to prioritize cleanup activities for portions of contaminated areas but still be responsible for remediating the entire area.

The commission received several comments in response to its requests. All comments supported both the conditional certificate of completion and certificates for phased projects. Several commenters had specific recommendations. Regarding the conditional certificate of completion, Weston recommended issuing the conditional certificate once a remediation system has been installed. This would allow the property transfer to take place. The commenter stated that if the system fails, it should be clear the TNRCC will pursue the original owner and not a new owner or new lender. The commission disagrees with the comment and notes the statute of the Texas Health and Safety Code, §361.610(b) and (c) states the conditions for liability for non-RP applicants, future owners or lenders once a certificate has been issued. The original owner and other responsible parties (under the Health and Safety Code, §361.271 and §361.275(g)), as well as those who change land use, would be targeted for enforcement if the remediation is not completed per the terms

of the voluntary cleanup agreement. Otherwise, the release from liability granted to non-RP applicants, lenders, and subsequent purchasers would not be revoked. UT suggested three different types of conditional certificates. Option 1 would create a separate engineering controls agreement requiring the applicant to post a performance bond or deposit money into an escrow account sufficient to ensure completion of the engineering controls. Option 2 would allow a subsequent buyer to file an amended application without paying the application fee and become a co-applicant. The co-applicant would then be held responsible for completion of the work. The commission has addressed this comment in response to a general comment earlier in the preamble. Option 3 would simply grant a partial certificate of completion for all work except the engineering controls. The commission believes that its proposed solution is preferable to Option 3, since this will result in a full certificate of completion with full liability release. The commission disagrees with Option 1 concerning the need to create a separate "engineering controls" agreement, however a demonstration of financial capacity to complete the response action will be required. The commission believes that the statutory provision in the SWDA, §361.604, which requires that the applicant submit information concerning their financial capability to perform the voluntary cleanup allows the VCP to request documentation for demonstrating financial capacity for long-term response actions. In addition, the commission retains its enforcement power against the responsible parties. The commission interprets §361.606(e) of the statute to only protect RPs from enforcement during the term of the agreement. After the agreement is terminated, an RP is subject to enforcement should cleanup standards change or additional contamination be discovered. The commission will monitor the success of these controls in the future and if they are found to be inadequate, may propose statutory provisions related to financial assurance. Lloyd, Gosselink believes it is appropriate for the agency to cut off an applicant's ability to unreasonably delay the completion of a response action for a final certificate of completion; however, the commenter is concerned that the proposal preamble did not provide guidance on how long an applicant had to complete a response action. For this reason the commenter requested that TNRCC provide guidance that sets out some general criteria that will allow applicants to adequately predict applicable time constraints, but the commenter believes that specific time lines do not seem realistic given the wide range of possible response actions. The commission agrees. The VCP will negotiate schedules for achieving the response actions based on site-specific considerations. This schedule will enable the agency to ensure that voluntary parties are actively remediating sites. If schedules are not met, the commission may terminate a voluntary cleanup agreement under §361.607 of the statute.

The commission received several comments specific to the certificates of completion for phased projects. Weston believes they are necessary to expedite property transactions, and further notes a certificate issued under this scenario should not be voided if additional phases are not completed. If a transaction has occurred and the phased project is not completed, the original owner should be held accountable, not the purchaser or the purchaser’s lender. The commission agrees with the comment. In the proposal preamble, the commission proposed an alternative of requiring the off-site contamination to be remediated or the on-site certificate becomes void. Lloyd, Gosselink opposed this because the commenter believes it will serve as a disincentive to those wanting to enter the VCP. The commission agrees with this comment and is not pursuing this alternative. The first phase certificate will not become void if the second phase is not remediated. Locke Purnell believes the statute allows TNRCC the discretion to allow both conditional and phased projects. According to their comments, to do otherwise would defeat the entire purpose of the program since most sites will probably require some type of engineering or control or monitoring. The commenter further stated that HB 2296 does not expressly require all non-permanent institutional or engineering controls to be removed before the certificate of completion is issued. As noted earlier, the commission agrees with the commenter that to not allow conditional certificates would seriously undermine the intent of the program; however, the statute uses the terms "successfully completed" and "has been

completed" as prerequisites for issuing a certificate of completion. Therefore, the commission is adding a new definition of "completion" to the rule. "Completion" means that no more response actions are necessary or the applicant is satisfactorily maintaining the engineering controls, remediation systems, or post-closure care, or non-permanent institutional controls are utilized pursuant to the Voluntary Cleanup agreement. Section 333.10(a) is amended by stating, "If reports acceptable to the executive director that are submitted under this subchapter demonstrate that no further action is required to protect human health and the environment, the executive director shall certify such facts by issuing the person a final certificate of completion. If the applicant is satisfactorily maintaining the engineering controls, remediation systems, or post-closure care, or non-permanent institutional controls are utilized pursuant to an agreement, the executive director shall certify such facts by issuing the applicant a conditional certificate of completion."

Section 333.11 addresses public participation in the VCP process. The commission received a number of comments on this section. UT stated that the section should be entitled "Public notice." The commission agrees with this comment and is adopting this section under its general rulemaking authority. The statute states that the commission may adopt rules concerning public participation, but it is choosing not to at this time in order to expedite response actions under the VCP. GLO stated that notice to the public should be placed in local newspapers and the Texas Register 30 days prior to signing a voluntary cleanup agreement, and public comment should be requested. Along those lines, UT recommended amending the proposed rule to establish a time period for receipt of comments from other landowners. The commission disagrees with this comment and does not believe that notifying the public and receiving comments prior to the signing of a voluntary cleanup agreement is warranted in the Voluntary Cleanup Program. The suggested language would result in unnecessary delays in site cleanups. In spite of the lack of a rule for commenting by landowners, an off-site property owner may use all available legal remedies to require the responsible person to alter a remediation plan. For public entities, COH recommended notice be given to the chief clerk or city secretary

Several other comments were received requesting additional notice requirements. GLO requested amendment of the section to require certified return receipt requested letter to the Commissioner of the GLO whenever the site in the VCP is located adjacent to state owned lands. GLO also requested that TNRCC project managers should be required to notify the Director of the NRDA program at GLO of VCP applications by certified mail return receipt requested. The commission disagrees. The commission does not consider it necessary to notify persons when no contamination has been released to adjacent properties. Where contamination has been released to an off-site property, the final rule requires various forms of notification depending on the level of contamination which has migrated off-site. COH requested that the rule require a good faith effort to give personal notice first.

Other comments received believe that less public notice is warranted. Weston believes public participation should be limited to adjacent landowners where contamination has migrated unless specifically required by other regulations or statutes such as RCRA, CERCLA, etc. Jenkins & Gilchrist believes that notification should be limited to property owners where contamination exists above residential health-based levels in any media of concern or where engineering or institutional controls are required. UT requested that the rules state minimum requirements for a sufficient notice including the type of publication, frequency, and deadlines, but the type of notification would be subject to the discretion of the executive director. Finally, Lloyd, Gosselink believes that public notice should be limited to letters to individual households and personal contacts, and TNRCC should not advertise the list of VCP applications on the agency electronic bulletin board service.

The commission believes that notice should be provided to all affected property owners, not just adjacent landowners, including non-adjacent landowners where contamination has migrated, as well as the owner of the site when the applicant is a lessee. The proposed rule has been changed to require that applicants shall use the notification form as provided by the executive director at a minimum, but may include additional language as desired. The applicant shall notify property owners with concentrations of contaminants on their property at or below the residential health-based levels for any media. However, notification will not be required when concentrations are at or below background. This notice will occur prior to initiation of the on-site response actions and within two weeks after agency approval of the Site Investigation Report or other final report confirming the nature and extent of contamination at the site. The notice will indicate that the contaminants are at concentrations protective of any future land use and that the commission will not require further investigation or remediation off-site. The notice shall also state the availability for inspection and copying of reports in the commission files concerning the site. For notification under these circumstances, the applicant will have the option of providing public notice in local newspapers, block advertisements, letters to individual households and businesses, or other personal contacts. Proof of such notice is required in the final rule. The final rule requires direct notice in the form of letters to individual households, businesses, and other interest holders when concentrations of contaminants exceeding residential health-based levels have migrated off-site. The notice shall state that concentrations of contaminants exceed the residential health-based level on the off-site property. The notice shall also state the availability for inspection and copying of the reports in the commission files concerning the site. The commission agrees that the frequency and deadlines for notification should be specified. Once the investigation confirms that concentrations of contaminants exceed residential health-based levels off-site, the applicant must provide the direct notice to all affected property owners and interest holders and submit copies of the notice letter delivered with the recipient's signature and date of delivery to the agency within two weeks after initial discovery of the off-site contamination or within two weeks after the effective date of the VCP agreement. If any initial notification attempts are unsuccessful, the applicant shall repeat the process monthly until all affected parties are notified or at least four failed attempts are documented to the satisfaction of the executive director. Proof of such notification is required in the final rule. Notice to governmental entities shall be delivered to the chief clerk or city secretary. The proposed rules have been amended to incorporate these recommended changes. Furthermore, §333.11 has been organized into two paragraphs: paragraph (1) addresses notification requirements for off-site migration at or below residential health-based levels; and paragraph (2) addresses notification requirements for off-site migration above residential health-based levels. The agency currently provides access to the VCP site database through the agency electronic bulletin board service.

COH recommended revising the language in §333.11 to address persons who hold an interest in a piece of property other than owners of property such as leaseholders, easements, etc. In addition, COH commented that the executive director "shall require verification" rather than "may require verification." The commission agrees and has changed the language to reflect these concerns.

The new sections are adopted under the Texas Water Code, §5.103 and §26.011, which provide the commission with authority to adopt any rules necessary to carry out its powers, duties, and policies and to protect water quality in the state. The sections are also adopted under the Texas Solid Waste Disposal Act, Texas Health and Safety Code, §361.017, and §361.024, which provide the commission the authority to regulate industrial solid waste and municipal hazardous wastes and all other powers necessary or convenient to carry out its responsibilities. Additional authority is provided in §382.017, Texas Health and Safety Code. The Texas Solid Waste Disposal Act, Texas Health and Safety Code, §361.604, §361.611, and §361.612 provide specific authority to promulgate the sections for the Voluntary Cleanup Program.

SUBCHAPTER A: VOLUNTARY CLEANUP PROGRAM SECTION §§333.1-333.11

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§333.1. Requirements.

(a) The requirements of the Voluntary Cleanup Program are found in this Subchapter and in the Texas Solid Waste Disposal Act, Subchapter S, Texas Health and Safety Code, Chapter 361.

(b) The applicant shall submit two copies of all documents, one of which the Voluntary Cleanup Program will file in the agency central records.

§333.2. Definitions.

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

Change in land use—A change in use from a less protective risk classification to a more protective risk classification (e.g., non-residential to residential) or not maintaining an engineering control, remediation system, or post-closure care or non-permanent institutional control as set out in the conditional Certificate.

Completion—No more response actions are necessary or the applicant is satisfactorily maintaining the engineering controls, remediation systems, or post-closure care or non-permanent institutional controls are utilized pursuant to the Voluntary Cleanup agreement.

Exposure assessment model—A conceptual model of the physical site conditions, contaminants of concern by media, release mechanisms, environmental fate and transport, and potential receptors, and the interaction of each as it relates to site risk. The model identifies the universe of on-site and off-site current and reasonably anticipated future human and environmental exposure pathways and receptors. The purpose of the model is to design and focus site investigations and to assist in the determination of site response action objectives.

Initiate an enforcement action—The issuance of a notice of violation by the executive director or referral to the United States Environmental Protection Agency or Attorney General's Office for a possible enforcement action.

Partial response action—A response action which is limited to an areal portion of the site and off-site areas, if any, contaminated due to releases which have migrated from the partial response action area onto property owned or controlled by others, inclusive of all media.

Partial response action area—The area of the site and off-site within which the partial response action will be conducted in accordance with a plan approved by the executive director.

Pending enforcement action—Concerning the remediation of the hazardous substance or contaminant described in the application, a notice of violation has been issued and further administrative, state, or federal enforcement action is under evaluation or an enforcement action is required by federal grant, or the state has incurred unreimbursed costs under the Texas Health and Safety Code, Chapter 361, Subchapter F.

Response action objectives—The goals of the response actions, which may include both qualitative and quantitative goals.

Site—The property as described in the legal description provided in the voluntary cleanup agreement.

Site subject to a commission permit or order— A site or portion of a site concerning which an order or permit has been issued by the commission. These also include hazardous waste facilities, which are operating under interim status.

§333.3. Purpose.

The purpose of the Voluntary Cleanup Program is to provide incentives to remediate property by removing liability of future landowners and lenders and to provide a process by which voluntary response actions can be completed in a timely and efficient manner.

§333.4. Application to Participate in the Voluntary Cleanup Program (VCP).

An application submitted to the Voluntary Cleanup Program must be accepted or rejected within 45 days of receipt by the commission. The commission shall not initiate enforcement action on a Voluntary Cleanup Program applicant during the pendency of the agency review of an application for the contamination or release that is the subject of the Voluntary Cleanup agreement or the activity that resulted in the contamination or release.

§333.5. Rejection of Application.

The executive director may reject an application submitted to the Voluntary Cleanup Program when all costs recoverable under the Texas Solid Waste Disposal Act, Subchapter F, Texas Health and Safety Code, Chapter 361 (State Superfund) for the site are not paid in full to the hazardous and solid waste remediation fee fund by the applicant.

§333.6. Voluntary Cleanup Agreement.

(a) The voluntary cleanup agreement must be signed by the applicant and the executive director or his representative prior to initiation of any response action being implemented, with the exception of emergency measures which should be coordinated with the appropriate emergency response authorities. However, for response actions initiated or completed prior to the effective date of these rules, the executive director at his discretion may allow sites to enter the Voluntary Cleanup Program. After the effective date of these rules, persons initiating response actions prior to a signed Voluntary Cleanup Agreement may not enter the Voluntary Cleanup Program. A certificate of completion may not be issued for sites which have received agency approval for response actions completed prior to the effective date of the rule if:

(1) the action did not address all contaminants or contaminated media within the site or partial response action area;

(2) contaminant management practices were initiated or changed since the previous approval date; or

(3) regulatory requirements have changed since the approval date.

(b) In the case of partial response actions, the commission retains the authority to issue an enforcement action regarding releases or contamination not addressed by the partial response action.

§333.7. Voluntary Cleanup Work Plans and Reports.

(a) Voluntary cleanup work plans and reports shall include an investigation of the full nature and extent of contamination in all media unless the person demonstrates to the satisfaction of the executive director that site conditions warrant a focused investigation. This may be demonstrated with an exposure assessment model. The exposure assessment model shall examine all currently discovered and reasonably anticipated future exposure pathways for all contaminants and media of concern. Contaminated media within the investigation area shall be addressed according to the appropriate established technical standards.

(b) The requirements of subsection (a) of this section apply to a partial response action when a contaminant release originating from a partial response action area has migrated onto property owned or controlled by others.

(c) The requirements of subsection (a) of this section apply to all voluntary cleanup response actions with the following exceptions:

(1) when a person demonstrates to the satisfaction of the executive director that the source of contamination is from off-site and the person did not cause the release, the person may address only contamination on the site or the partial response action area within the site according to the appropriate established technical standards.

(2) when a contaminant release is present outside the site or partial response action area, but on property owned or otherwise controlled by the applicant, addressing the areal extent of contamination outside the site or partial response action area is not required under the Voluntary Cleanup Program; however, the contaminant release within the partial response action area shall be addressed according to the appropriate established technical standards.

§333.8. Response Action Standards.

(a) Excepting areal limitations with partial response actions, all media which exceed the health-based and environmental cleanup levels shall be addressed through the appropriate response action and in accordance with the appropriate technical standards based upon the site characteristics and site contaminants.

(b) The applicant shall select a response action for the response action area which will achieve the response action objectives.

(c) State or local permits are not required for removal or remedial action under the Voluntary Cleanup Program. The person conducting the voluntary cleanup shall comply with any federal or state standard, requirement, criterion, or limitation to which the response action would otherwise be subject if a permit were required unless such commission rule requirements are inconsistent with a specific provision of this subchapter.

§333.9. Deed Certification.

The filing of the certificate of completion into the deed record shall satisfy the deed certification requirements of Chapter 334 of this title (relating to Underground and Aboveground Storage Tanks) and Chapter 335 of this title (relating to Industrial Solid Waste and Municipal Hazardous Waste) for the areas covered by the certificate of completion. However, if the certificate of completion is not recorded for the off-site properties, the deed certification requirements, if any, of other applicable rules must be met for cleanups which do not achieve residential health-based levels in all media of concern and/or cleanups that include engineering controls, remediation systems, or post-closure care or non-permanent institutional controls.

§333.10. Certificate of Completion.

(a) If reports acceptable to the executive director that are submitted under this subchapter demonstrate that no further action is required to protect human health and the environment, the executive director shall certify such facts by issuing the person a final certificate of completion. If the applicant is satisfactorily maintaining the engineering controls, remediation systems, or post-closure care, or if non-permanent institutional controls are utilized pursuant to an agreement, the executive director shall certify such facts by issuing the applicant a conditional certificate of completion. The executive director may authorize an applicant to conduct a phased response action only when, in the executive director's evaluation, the schedule is reasonable.

(b) For partial response actions, the certificate of completion shall pertain only to the partial response action area and shall include a legal description of that area.

(c) For sites approved prior to the effective date of this rule, agency will issue a certificate of completion for sites only if currently appropriate response actions for all contaminants within the area described in the certificate of completion have been completed.

(d) The executive director may allow the applicant to file the copy of the certificate of completion into the site deed record on the executive director's behalf if the applicant provides subsequent documentation of the filing. The applicant must file the copy of the certificate of completion prior to the sale or transfer of the property, but not later than 60 days after the date of issuance of the certificate of completion.

(e) The executive director may allow the applicant to file a statement in the deed records stating that the certificate of completion supersedes prior deed certification requirements.

§333.11. Public Notice.

Where contamination is located on property owned by another person or on property where an interest such as a fee ownership, leasehold, easement, or right-of-way is held by another person, the applicant must provide notification to all such property owners and interest holders. At a minimum, applicants shall use the notification form provided by the executive director, but may include additional language as desired.

(1) Notice to property owners and interest holders, who more likely than not due to migration off-site have concentrations of contaminants on their property at or below the residential health-based levels for any media, shall occur within two weeks after agency approval of a report describing the nature and extent of contamination at the site, and prior to initiation of response actions. However, notification will not be required when concentrations are at or below background. The notice will indicate that the contaminants are at concentrations protective of any future land use and that the TNRCC will not require further investigation or remediation off-site. The notice shall also state the availability for inspection and copying of reports in the commission files concerning the site. Under these circumstances, the applicant may provide notice in local newspapers, block advertisements, letters to individual households and businesses, or other personal contacts. The executive director shall require verification that such activity has been completed.

(2) Direct notice is required, in the form of letters to affected individual households, businesses, and other interest holders, when concentrations of contaminants exceeding residential health-based levels have migrated off-site. The notice shall state that concentrations of contaminants exceed the residential health-based levels on the off-site property. The notice shall also state the availability for inspection and copying of reports in the commission files concerning the site. The applicant shall submit copies of the notice letter delivered with the recipient's signature and date of delivery to the agency within two weeks after initial discovery of the off-site contamination or two weeks after the effective date of the VCP agreement. If initial notification attempts are unsuccessful, the applicant shall repeat the process monthly until all affected parties are notified or at least four failed attempts are documented to the satisfaction of the executive director. Notice to governmental entities shall be delivered to the chief clerk or city secretary.

This agency hereby certifies that the rule as adopted has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on