



April 18, 2016

BOARD OF DIRECTORS

Laurel Lockett
President
*Carlton Fields Jordan Burt,
P.A.*

Michael Sznajstajler
President-Elect
Cobb Cole

Tom Lewis
Secretary
Cardno

Jason Lichtstein
Treasurer
Akerman

Amy Guilfoyle
PPM Consultants, Inc.

Andy Lawn
HSW Engineering

Janet Peterson
*Bureau Veritas North
America, Inc.*

Ken Pinnix
PTW Associates

Belinda Richard
Terracon

Nadia Locke
Past President, FBA
E Sciences, Inc.

Advisory Board Members:

Lena Young

E. Christian Wells
*Director, USF Center for
Brownfields Research &
Redevelopment*

Mr. Brian Dougherty
Environmental Administrator
Florida Department of Environmental Protection
Bureau of Waste Cleanup
Division of Waste Management
2600 Blair Stone Road MS 4535
Tallahassee, Florida 32399-2400

Via: E-Mail

Re: Florida Brownfields Association comments on FDEP 04-04-16
Draft Revisions to Chapter 62-780, FAC

Dear Brian:

On behalf of the Florida Brownfields Association, we are submitting the following recommendations and attached proposed draft revisions to Chapter 62-780, FAC. Comments are divided into three overall groupings involving toxicology / risk evaluation, general technical comments, and site rehabilitation at sites including old landfills (as more particularly described below). A copy of the Department's Workshop draft revised to reflect the FBA recommended revisions is attached. The bulk of the FBA's proposed revisions are highlighted in aqua (relating to Sections I and II, below). Suggested revisions relating to site rehabilitation relating to old landfills are highlighted in gray.

I. Toxicology and Risk Evaluation Comments

1. 62-780.650(1)(a)(4)(b) Risk Assessment. Consideration of non-site-specific exposure factors "applicable to Florida exposure scenario" is too limiting. The FBA recommends removing "applicable to a Florida exposure scenario" and replacing with the phrase "relevant or applicable to the actual conditions of exposure".

2. 62-780.650(1)(b)(2) Risk Assessment. The use of multiple tiers of specific information sources for developing toxicity values for quantifying human health risks and for developing alternative CTLs is overly complicated and potentially too limiting. The FBA recommends removal of the multiple "tiers" and instead listing the following three sources, in order of preference:

- (I) USEPA Integrated Risk Information System (IRIS) database,
- (II) Provisional Peer Reviewed Toxicity Values (PPRTV) derived by EPA's Superfund Technical Support Center for the USEPA Superfund program.
- (III) Values proposed by a PRSR and accepted by FDEP that meet statutory requirements.

The addition of subsection (III) as proposed allows the PRSR the flexibility to use a toxicity value not in IRIS or PPRTV with Department approval. The science should dictate the use/implementation of toxicity factors. The 'gold standard' for toxicity

factor is the USEPA IRIS database. The values derived by EPA under the IRIS program receive a high level of review for suitability as toxicity inputs for risk-based use. Alternative sources may not reflect the current scientific understanding. The proposed language allows the use of alternative values when USEPA approved values are unavailable but provides the Department an opportunity to review the proposed values for scientific validity. If the multiple tiers are removed as requested, then subsections (12) – (20) of 62-780.100 Referenced Guidelines and Information Sources, also should also be removed.

3. 62-780.650(3)(b) Risk Assessment. The FBA has concerns that the addition of language on sensitive populations such as “children and pregnant women” or “any identified sub-populations” is problematic and open to misuse or overly complicated interpretation. Toxicity factors developed under the USEPA IRIS program have an inherent consideration for sensitive subpopulations¹. No additional segregation of sensitive populations is warranted to account for differences in individual sensitivity to exposures. However, the FBA expects the Department to continue using the risk paradigm where the exposure to non-carcinogenic compounds is focused on the child receptor (consistent with USEPA guidance and the existing FDEP methodology).

Language was included in the most recent draft that specifies that the 90th percentile of the ‘variability distribution’ be considered. The inclusion of the term ‘variability’ is problematic as the model, as proposed, includes both variability and uncertainty (uncertainty surrounds practically every exposure input). In a strict reading of this language, a PRSR would not even be able to conduct a proper PRA (variability alone). This language also complicates the inclusion of uncertainty factors such as relative bioavailability within a PRA, but provides no insight on how such factor might otherwise be included.

The FBA recommends keeping the language substantially as it was (prior to proposed rule revisions) with the following limited revisions from the Workshop as follows:

“(b) The selection of the alternative CTL shall be the value that is protective for the pathways and routes by which human and environmental receptors may be exposed representing the 90th percentile of the final exposure or risk distribution produced by the model (~~equivalent to~~ the 10th percentile of the CTL distribution if demonstrated to be equivalent).”

II. General Technical Comments

1. Implementation SB 100. As discussed during the Workshop, revisions in the Workshop draft relating to implementation of SB 100 as it related to applicability of alternative groundwater CTLs were broader than the enabling legislation. We concur with the Department’s comments during the Workshop that those sections of the rule would be revised to conform to the scope of applicability set forth in SB 100.

2. 62-780.200(XX) Acronym and Definitions (Conceptual Site Model): The FBA recommends inserting the word “mitigation” between “support remedial alternatives(s),” and “cleanup technology evaluations”. The CSM also should be used to develop and evaluate mitigation and engineering control strategies, which do not constitute “remediation.”

3. 62-780.220(7) Notice requirements for “Closure Using Institutional, Engineering Controls

¹ For example, USEPA defines the Reference Dose (RfD) is an estimate (with uncertainty spanning perhaps an order of magnitude) of daily exposure [RfD] to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious noncancer effects during a lifetime.

or Alternative CTLs. The FBA recommends removing the specific use of “mail”, “mailing”, and “mailed” and replace with the broader term “written notice” in this section. From the Workshop we understand that the Department does not intend to require “actual notice” as that term is defined, based on the express language of 376.30701(20(c) and (d). If proof of delivery is not required, then the language should accommodate the reality that there are other alternatives to “mail”, such as commercial courier services or hand delivery that would effectual such notice.

4. 62-780.525(5)(c) Interim Source Removal. The FBA recommends insertion of the phrase “or related short-term extraction technology” language on Interim Soil Vapor Extraction technology being a viable remedial option as an Interim Source Removal activity prior to approval of a Remedial Action Plan should be broadened to account for multi-phase extraction and similar activities where localized impacted groundwater is also removed for a short duration.

5. 62-780.560(1), (2) Petroleum or Petroleum Product De Minimis Discharges. FBA members have reported circumstances where there have been varying interpretations of the applicability of the de minimis provisions in the case of releases to impervious surfaces. The FBA recommends adding the phrase “or that migrates onto a pervious surface from an impervious surface” in sections (1) and (2) as noted in the attached draft.

6. 62-780.680(1)(b)(1)(d)(III) No Further Action and No Further Action with Controls. The FBA recommends modification of subsection (III) to allow alternative exposure unit sizes where the CSM reflects an alternative exposure unit that is protective of human health and the environment.

7. 62-780.680(3) Risk Management Options Level III. The second sentence of the first paragraph of the Section appears to have inadvertently omitted a reference to the ability to rely on engineering controls (as well as institutional controls) in developing ACTLs. The FBA recommends insertion of references to “engineering controls” in the second sentence as noted in our revised draft (attached).

III. Site Rehabilitation Related to Old Landfills

A number of our members have expressed concern that Chapter 62-780, F.A.C. as currently drafted does not facilitate the assessment and cleanup (and ultimately redevelopment) of old landfills. Virtually every local government is affected by the problems posed by old solid waste disposal sites, which often have related groundwater contamination issues, generate no tax revenue and are not conducive to redevelopment. As discussed during the Workshop, the FBA believes that the Legislative authority to address landfill cleanup and redevelopment through the existing brownfield program exists (See Section 220.1845, F.S.), subject to the Legislature’s express prohibition on Voluntary Cleanup Tax Credits (VCTC) eligibility for removal of solid waste in certain enumerated circumstances.

In light of the foregoing, the FBA recommends the following “surgical” revisions to 62-780, F.A.C., which we believe will facilitate old landfill assessment and cleanup under the brownfield program, without requiring revisions to 62-701, F.A.C. Given the level of effort needed to reopen 62-780, F.A.C., we urge the Department to incorporate appropriate revisions in this round of rule changes, rather than to defer this to some later time. We look forward to discussing these suggestions with you at your convenience.

1. 62-780.100 Referenced Guidelines and Information Sources. Add a new section (“X” - TBD):

“(X) [Guidance for Disturbance and Use of Old Closed Landfills or Waste Disposal Areas in Florida Version 2.1 Final, February 3, 2011.](#)”

See paragraph 3, below for additional explanation. This guidance document would likely require some modification.

2. 62-780.150 Applicability. Modify paragraph (3) as follows:

“(3) Any person who voluntarily rehabilitates a site shall comply with the provisions of this chapter if that person wishes the Department to review any documents concerning site rehabilitation or issue any order with respect to completion of the rehabilitation tasks. The cleanup criteria contained in this chapter shall apply to voluntary cleanups conducted at all sites contaminated with drycleaning solvents including site rehabilitation at drycleaning facilities or wholesale supply facilities governed by the terms of a Voluntary Cleanup Agreement (VCA) executed by the Person Responsible for Site Rehabilitation (PRSR) and the Department pursuant to Section 376.3078(11), F.S. The cleanup criteria contained in this chapter also shall apply to any voluntary brownfield site rehabilitation that is governed by the terms of a Brownfield Site Rehabilitation Agreement (BSRA), within a designated brownfield area, including without limitation any site comprising land used for management or disposal of solid waste that ceased accepting solid waste for management or disposal prior to July 1, 1997 and: (i) is or was exempt from permitting under Chapter 62-701, F.A.C., or predecessor regulations, or (ii) has escheated to the County; or (iii) has contamination outside the boundaries of the permitted solid waste management facility; or (iv) where the PRSR did not receive monetary compensation for disposal of solid waste at a solid waste disposal area located on the site. The BSRA shall be executed by the person responsible for brownfield site rehabilitation (i.e., the PRSR) and the Department pursuant to Section 376.80(5), F.S.”

While the Legislative authority may be broader than set forth above, we believe the inclusion of the above language would address most types of problem sites as identified by our members. The inclusion of the July 1, 1997 date is based on the brownfield eligibility provision of 376.82(1), F.S. Inclusion of this language requires revisions to the definitional section, as described in paragraph 4, below.

3. 62-780.150 Applicability. Add a new paragraph (12) as follows:

“(12) For sites that are subject to a BSRA, the PRSR may propose and the Department may agree to accomplish any step in site rehabilitation pursuant to 62-780.700, F.A.C. in solid waste areas at a site or any part of a site under the guidance referenced in subsection 62-780.100(21), F.A.C.”

This insert will allow a streamlined approach to management of solid waste at BSRA sites consistent with existing guidance, in order to facilitate VCTCs. Changes to the referenced guidance document may be necessary.

4. 62-780.200 Acronyms and Definitions. Add the following additional statutory cross-references at the beginning of 62-780.200, F.A.C., to accommodate the language added in 62-780.150(3), F.A.C., as discussed in paragraph 2, above.

“All words and phrases defined in Sections 376.301 and 376.79, F.S., shall have the same meaning when used in this chapter unless specifically stated otherwise in this chapter. See Section 403.703, F.S. for definition of “Solid waste.” See Section 220.1845, F.S. for definition of “Monetary compensation.” See Sections 376.301 and 376.79, F.S., for definitions of the following terms...”

5. 62-780.200 Acronyms and Definitions. Revise paragraph (45) “Source removal” as follows:

(45) "Source removal" means (a) the removal of free product, contaminated groundwater, contaminated sediment, or contaminated soil, or (b) the removal of solid waste, contaminants from soil or sediment that has been contaminated to the extent that leaching or other impact to groundwater or surface water has occurred or is occurring, after approval of a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C.

Note that the above revision would capture the circumstance where the presence of solid waste has caused impacts to groundwater that are not the result of leaching from the waste itself.

6. 62-780.600(3) Site Assessment. Insert the following additional objective under paragraph (3):

"(1) To determine the extent of buried solid waste, if any."

7. 62-780.600(5)(a) Site Assessment. Modify site assessment tasks, as applicable, as follows:

"(a) Use of geophysical equipment such as magnetometers, ground penetrating radar, or metal detectors to detect storage tank system(s) or buried solid waste;"

...

"(t) Performance of a professional land survey of a petroleum contamination site in order to develop an accurate base map, if the Department determines that the site map provided in a report is not accurate; ~~and~~

(u) Establishment of the parameters or exposure assumptions that will be used to develop the alternative CTLs pursuant to Rule 62-780.650, F.A.C., if the PRSR chooses this option; ~~and~~ (v) Use of visual observations to determine the presence and extent of solid waste."

8. 62-780.600(8) Site Assessment. Modify site assessment report requirements to include a new subsection 29:

"29. A scaled site map that shows the estimated extent of buried solid waste on the site."

9. 62-780.700(1) Active Remediation. Modify paragraph (1) as follows:

"(1) If the conditions at a site do not satisfy the No Further Action criteria of Rule 62-780.680, F.A.C., or the Natural Attenuation Monitoring criteria of Rule 62-780.690, F.A.C., within the time frames specified in Table A, located at the end of Rule 62-780.900, F.A.C., or the CAD, the PRSR shall prepare and submit to the Department for review an electronic or paper copy of a Remedial Action Plan. The Remedial Action Plan shall be prepared pursuant to this rule and shall contain all of the information required herein. The objective of the active remediation shall be to meet the applicable No Further Action criteria of Rule 62-780.680, F.A.C., or the Natural Attenuation Monitoring criteria of Rule 62-780.690, F.A.C. The Remedial Action Plan shall provide a design that addresses cleanup of all contaminated soil, sediment, groundwater, ~~or~~ surface water, or for sites that are subject to a BSRA, solid waste, as a result of the discharge for which the PRSR is conducting site rehabilitation."

Please do not hesitate to contact any of us if you have questions regarding our submittal.

Yours sincerely,



Laurel Lockett, Carlton Fields, FBA President
813-229-4139

Jon S

Tom Lewis, Cardo, Technical Committee Co-Chair
850-385-8232

Nicole Penichet

Nicole Penichet, Geosyntec, Technical Committee Co-Chair
813-558-0995

Enclosures

cc: FBA Board & Technical Committee

Workshop Draft for April 5, 2016

Note 03-28-16: This version incorporates comments and suggestions from 11-04-15 workshop. Edits highlighted in green and double-strikethrough or double-underline.

Note on 11-04-15 Workshop Draft: This draft is a markup of the prior workshop drafts. Changes made in this draft are highlighted in yellow. All comments and suggested changes received have been placed in their respective locations throughout the document. All comments have been included as submitted.

Commented [NP1]: Edits highlighted in Aqua and Gray are FBA recommendations.

Aqua are revisions/comments on the rule generally
Gray are revisions related to Brownfield/Solid waste issues.

CHAPTER 62-780
CONTAMINATED SITE CLEANUP CRITERIA

4	62-780.100	Referenced Guidelines and Information Sources
5	62-780.110	Purpose, Intent, and General Principles (Repealed)
6	62-780.150	Applicability
7	62-780.200	Acronyms and Definitions
8	62-780.210	Contamination Reporting
9	62-780.220	Notices
10	62-780.300	Quality Assurance Requirements
11	62-780.400	Professional Certifications
12	62-780.450	Combined Document
13	62-780.500	Emergency Response Action or Interim Source Removal
14	62-780.525	Interim Source Removal
15	62-780.550	Nonpetroleum De Minimis Discharges
16	62-780.560	Petroleum or Petroleum Product De Minimis Discharges
17	62-780.600	Site Assessment
18	62-780.610	Fate and Transport Model and Statistical Method Requirements
19	62-780.650	Risk Assessment
20	62-780.680	No Further Action and No Further Action with Controls
21	62-780.690	Natural Attenuation Monitoring
22	62-780.700	Active Remediation
23	62-780.750	Post Active Remediation Monitoring
24	62-780.790	Time Schedules
25	62-780.900	Forms

62-780.100 Referenced Guidelines and Information Sources.

Specific references to the guidelines and information sources listed below are made within this chapter. The guidelines and information sources are not standards as defined in Section 403.803, F.S. Use of these guidelines and information sources is not mandatory and not enforceable; the guidelines and information sources are included for informational purposes only.

(1) Approach to the Assessment of Sediment Quality in Florida Coastal Water, Volumes 1-4, dated November 1994.

(2) Technical Report: Development of Cleanup Target Levels (CTLs) for Chapter 62-777, F.A.C., Final Report, dated February 2005.

(3) Chapter 62-780, F.A.C., Contaminated Site Risk-Based Corrective Action (RBCA) Flow Process charts, dated March 21, 2013.

(4) American Society for Testing and Materials (ASTM) RBCA Fate and Transport Models: Compendium and Selection Guidance, dated 1999.

(5) Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits, dated October 12, 2004.

(6) Development and Evaluation of Numerical Sediment Quality Assessment Guidelines for Florida Inland Waters, dated January 2003.

(7) Institutional Controls Procedures Guidance, Division of Waste Management, Florida Department of Environmental Protection, dated November 2013.

(8) Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration, Environmental Protection Agency, draft Interim Guidance, dated September 1993. (Note: USEPA terminology used in this publication may be

Commented [A2]: Ed. note: will need to update to latest version.

45 inconsistent with Department language used in this rule chapter.)
46 (9) Toxicity Test Methods, Florida Department of Environmental Protection Interoffice Memorandum, dated June 24,
47 2004.

- 48 (10) USEPA Integrated Risk Information System (IRIS) database.
49 (11) Provisional Peer Reviewed Toxicity Values (PPRTV) derived by the USEPA's Superfund Technical Support Center
50 for the USEPA Superfund program.
51 (12) Agency for Toxic Substances and Disease Registry Minimal Risk Levels (MRLs).
52 (13) Tolerable Upper Intake Levels issued by the Institute of Medicine, National Academy of Sciences.
53 (14) USEPA Health Effects Assessment Summary Tables (HEAST).
54 (15) Human Health Benchmarks for Pesticides and other toxicity values in technical documents available from the
55 USEPA Office of Pesticide Programs.
56 (16) USEPA Office of Water, Drinking Water Regulations and Health Advisory Levels.
57 (17) California Environmental Protection Agency Office of Environmental Health Hazard Assessment's Chronic
58 Reference Exposure Levels and Cancer Potency Values.
59 (18) World Health Organization Tolerable Daily Intake values.
60 (19) International Toxicity Estimates for Risk.
61 (20) Values listed as "Withdrawn" in the IRIS database.

62 (21) ITRC (Interstate Technology & Regulatory Council). 2012. *Incremental Sampling Methodology*. ISM-1.
63 Washington, D.C.: Interstate Technology & Regulatory Council, Incremental Sampling Methodology Team.
64 www.itrcweb.org.

- 65 (22) Mineral Oil Dielectric Fluid Emergency Response Action Protocol, dated April 11, 2007.
66 (23) Heavy Fuel Oil Discharge Response Actions, dated April 11, 2007.
67 (24) Guidance for the use of Dose Additivity in Evaluating the Additive and Synergistic Effects of Contaminants, dated
68 MMMM DD, YYYY.
69 (25) *Guidance for Disturbance and Use of Old Closed Landfills or Waste Disposal Areas in Florida Version 2.1 Final*,
70 February 3, 2011.

71
72 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81 FS. Law Implemented 376.3071, 376.30701, 376.3078(4),*
73 *376.81 FS. History--New 4-17-05, Amended 6-12-13, 2-4-14.*
74 *Editorial Note: Portions of this rule were copied from 62-770.140; 62-782.100; and 62-785.100.*

75 **62-780.110 Purpose, Intent, and General Principles.**

76 *Rulemaking Authority 376.30701 FS. Law Implemented 376.30701 FS. History--New 4-17-05, Repealed 2-16-12.*

77 **62-780.150 Applicability.**

78 (1) This chapter applies to site rehabilitation conducted at sites contaminated with pollutants, hazardous substances,
79 drycleaning solvents, petroleum and petroleum products, and supersedes Chapters 62-770, 62-782, and 62-785, F.A.C.,
80 subject to the grandfathering provisions of subsection 62-780.150(5), F.A.C. Any correspondence, reports, cleanup
81 agreement documents, contracts or similar documents that reference superseded rules are not required to be amended to
82 remain valid and in force.

83 (2) Every person who has legal responsibility for site rehabilitation pursuant to Chapter 376 or 403, F.S., except those
84 specifically excluded herein, shall comply with the provisions of this chapter and are subject to enforcement to compel
85 compliance with the provisions of this chapter.

86 (3) Any person who voluntarily rehabilitates a site shall comply with the provisions of this chapter if that person wishes
87 the Department to review any documents concerning site rehabilitation or issue any order with respect to completion of the
88 rehabilitation tasks. The cleanup criteria contained in this chapter shall apply to voluntary cleanups conducted at all sites
89 contaminated with drycleaning solvents including site rehabilitation at drycleaning facilities or wholesale supply facilities
90 governed by the terms of a Voluntary Cleanup Agreement (VCA) executed by the Person Responsible for Site Rehabilitation

Commented [DB3]: Check for updated version.
Requested update from Dave Whiting 01-28-16; I gave needed
delivery timeframe of "June", expect sooner

Commented [DB4]: Memo dates will need to be updated.
-MODEF memo requires 1 edit in reporting section
-HFO - No update to 780 rule references required (However
GCTLs and SCTLs in table 1 may need to be updated with 62-
777.)

91 (PRSR) and the Department pursuant to Section 376.3078(11), F.S. The cleanup criteria contained in this chapter also shall
92 apply to any voluntary brownfield site rehabilitation that is governed by the terms of a Brownfield Site Rehabilitation
93 Agreement (BSRA), within a designated brownfield area, including without limitation any site comprising land used for
94 management or disposal of solid waste that ceased accepting solid waste for management or disposal prior to July 1, 1997
95 and: (i) is or was exempt from permitting under Chapter 62-701, F.A.C., or predecessor regulations, or (ii) has escheated to
96 the County; or (iii) has contamination outside the boundaries of the permitted solid waste management facility; or (iv) where
97 the PRSR did not receive monetary compensation for disposal of solid waste at a solid waste disposal area located on the site.
98 The BSRA shall be executed by the person responsible for brownfield site rehabilitation (i.e., the PRSR) and the Department
99 pursuant to Section 376.80(5), F.S.

100 (4) This chapter applies to site rehabilitation conducted as a state-managed cleanup by the Department.

101 (5) This chapter and the CTLs developed pursuant to this chapter apply to site rehabilitation whether the release or
102 discharge causing or contributing to the contamination occurred prior to, on, or after the effective date of this chapter, unless:

103 (a) The Department has accepted CTLs for a site in an approved technical document (for example, a Risk Assessment
104 Report, a Natural Attenuation Monitoring Plan, or a Remedial Action Plan), Brownfields Site Rehabilitation Agreement
105 current permit, Superfund Record of Decision with which the Department has concurred, or other cleanup agreement
106 document (CAD) with the Department, and the PRSR continues the activities necessary to achieve those CTLs in accordance
107 with the approved technical document, permit, Superfund Record of Decision, or other CAD until those CTLs are achieved;
108 or

109 (b) The site has received a “No Further Action” determination or a Site Rehabilitation Completion Order from the
110 Department prior to April 17, 2005. However, the PRSR may elect to have the criteria of this chapter, including CTLs
111 established pursuant thereto, apply in lieu of those in an approved technical document, current permit, or other CAD.

112 (6) This chapter shall be applied in conjunction with Chapter 62-777, F.A.C., to determine the appropriate CTLs for a
113 contaminated site. Chapter 62-777, F.A.C., provides default groundwater, surface water, and soil CTLs, as well as natural
114 attenuation default concentrations for groundwater. Chapter 62-777, F.A.C. also includes a listing of soil properties and test
115 methods, a listing of site-specific conditions and geochemical parameters, and default parameters and equations that may be
116 used to establish CTLs for discharged pollutants, chemicals or other substances that are contaminants not listed in Chapter
117 62-777, F.A.C., or to develop alternative groundwater and soil CTLs for listed contaminants.

118 (7) CTLs for each contaminant found in groundwater, surface water, or soil, as specified in Chapter 62-777, F.A.C.,
119 Tables I and II, or derived pursuant to Chapter 62-777, F.A.C., or alternative CTLs that may be established pursuant to Rule
120 62-780.650 or 62-780.680, F.A.C., are applicable in implementing the provisions of this chapter and are enforceable by the
121 Department pursuant to this chapter at contaminated sites at which legal responsibility for site rehabilitation exists.

122 (8) For contaminants found at the site about which information regarding the actual circumstances of exposure has been
123 provided to the PRSR, the CTLs for the affected medium or media, except where a state water quality standard is applicable,
124 shall be adjusted (if appropriate) to take into account the site-specific exposure conditions including multiple pathways of
125 exposure that affect the same individual or subpopulation, and site-specific CTLs shall be calculated taking into account
126 ~~through apportionment, potential dose additivity-additive effects~~ of contaminants.

127 (9) If a Consent Order, ~~or permit or CAD~~ that requires assessment and rehabilitation of a site has been entered into with
128 the Department prior April 17, 2005, compliance with the terms of the Consent Order or permit shall constitute compliance
129 with the provisions of this chapter.

130 (10) This chapter does not apply to the rehabilitation of sites contaminated with radiological substances to the extent that
131 such rehabilitation is governed by Chapter 404, F.S., or the Federal Atomic Energy Act of 1954, Chapter 1073, Statute 923,
132 as amended.

133 (11) Receipt of approval pursuant to this chapter does not relieve the PRSR from the obligation to comply with other
134 Department rules (for example, Chapters 62-701, 62-713, and 62-730, F.A.C.) regarding disposal, relocation, or treatment of
135 contaminated media. The PRSR is advised that other federal, state, or local laws and regulations may apply to these activities.

136 (12) For sites that are subject to a BSRA, the PRSR may propose and the Department may agree to accomplish any step
137 in site rehabilitation pursuant to 62-780.700, F.A.C. in solid waste areas at a site or any part of a site, under the guidance
138 referenced in subsection 62-780.100(25), F.A.C.

139

Commented [A5]: Public Comments:
There could be other documents, like a brownfield site BSRA, that could also serve as an appropriate grandfathering document. Suggests including “CAD” in (5)(b)

Commented [A6]: Add additional closure language?
Doesn't see warranted based on April 17, 2005 date. Doesn't seem that we need to change this date because everything since then should have addressed compliance with 62-780 (or other applicable rule).

Commented [DB7]: Public comment:
Remove subsection (8)
Explanation: Subsection (8) introduced apportionment. Recommended that Department reconsider its application of apportionment to only include similarly situated contaminants as part of “dose additivity.” The statement here says apportionment should be used when calculating CTLs; however, the word apportionment is not in the statute and it is recommended that additional clarification on the meaning of additive effects be added below and additional direction on how to address the statutory requirement for “additive effects” be handled in the technical guidance (The Technical Report: Development of Cleanup Target Levels (CTLs) for Chapter 62-777, F.A.C., Final Report, dated February 2005 (that will need to be updated to address).

Commented [DB8]: 1) Changes made to shift from apportionment to dose additivity. See definition for “Dose Additivity” in 62-780.200(2)
2) Developing guidance document for dose additivity because won't be feasible to update technical report for this rule revision.

Commented [A9]: Public Comments:
As above for 62-780.150(5)
Added additional language to include “CAD” – See above comment under (5); Was suggested to update the date but not sure that is necessary.

140 Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81 F.S. Law Implemented 376.3071, 376.30701, 376.3078(4),
141 376.81 F.S. History--New 4-17-05, Amended 6-12-13 _____.

142 Editorial Note: Portions of this rule were copied from 62-770.160, Formerly 17-70.004 and Formerly 17-770.160; 62-782.150; and 62-
143 785.150.

144 **62-780.200 Acronyms and Definitions.**

145 All words and phrases defined in Sections 376.301 and 376.79, F.S., shall have the same meaning when used in this chapter
146 unless specifically stated otherwise in this chapter. See Section 403.703, F.S. for definition of "Solid waste." See Section
147 220.1845, F.S. for definition of "Monetary compensation." See Sections 376.301 and 376.79, F.S., for definitions of the
148 following terms: "Additive effects," "Antagonistic effects," "Brownfield area," "Brownfield site," "Cleanup target level,"
149 "Contaminant," "Contaminated site," "Discharge," "Drycleaning facility," "Drycleaning solvents," "Hazardous substances,"
150 "Institutional control," "Long-term natural attenuation," "Natural attenuation," "Person responsible for brownfield site
151 rehabilitation," "Petroleum," "Petroleum product," "Pollutants," "Risk reduction," "Site rehabilitation," "Synergistic effects,"
152 "Temporary point of compliance," and "Wholesale supply facility." The following words and phrases used in this chapter
153 shall, unless the context clearly indicates otherwise, have the following meanings:

154 (1) "Action level" means a specified concentration of a contaminant that, if exceeded during natural attenuation with
155 monitoring or post active remediation monitoring, may require additional site assessment or active remediation. Action levels
156 are established during the approval process for Natural Attenuation Monitoring Plans pursuant to Rule 62-780.690, F.A.C.,
157 and Post Active Remediation Monitoring Plans pursuant to Rule 62-780.750, F.A.C. "Action levels" are not equivalent to
158 "cleanup target levels".

159 (2) "Dose Additivity" "Dose additive effects" is the calculated additive effect of chemicals that share the same mechanism
160 of toxicity. Guidance on the chemicals encompassed and methods for assessing dose additivity is provided in the "Dose
161 Additivity" document referenced in subsection 62-780.100(XX), F.A.C.

162 "Apportioned" means CTLs adjusted such that for non-carcinogenic contaminants with the same target organ(s)/systems
163 or effects, the hazard index (sum of the hazard quotients) is 1, and for carcinogens, the cumulative lifetime excess cancer risk
164 level is LOE-6, as applicable.

165 (3) "Background concentrations" means concentrations of contaminants that are naturally occurring or resulting from
166 anthropogenic impacts unrelated to the discharge of pollutants or hazardous substances at a contaminated site undergoing site
167 rehabilitation, in the groundwater, surface water, soil, or sediment in the vicinity of the site.

168 (4) "Best achievable detection limit" means the practical quantitation limit. [Refer to the PQL guidelines referenced in
169 subsection 62-780.100(5), F.A.C., for guidance.]

170 (5) "Brownfield Site Rehabilitation Agreement" (BSRA) means an agreement entered into between the person
171 responsible for brownfield site rehabilitation and the Department. The BSRA shall at a minimum establish the time frames,
172 schedules, and milestones for completion of site rehabilitation tasks and submission of technical reports, and other
173 commitments or provisions pursuant to Section 376.80(5), F.S., and this chapter.

174 (6) "BSRA" means Brownfield Site Rehabilitation Agreement. Contamination

175 (7) "CAD" means cleanup agreement document.

176 (8) "Cleanup agreement document" (CAD) means any order or agreement issued to or entered into by the Department
177 with a Person Responsible for Site Rehabilitation, including a voluntary cleanup agreement, permit, consent order, final
178 order, or final judgment. For brownfield sites subject to a BSRA, CAD shall mean the BSRA. The CAD shall at a minimum
179 establish the time frames, schedules, and milestones for completion of site rehabilitation tasks and submission of technical
180 documents, and other commitments or provisions pursuant to this chapter.

181 (XX) "Conceptual Site Model" (CSM) means a written and/or graphic representation of the physical, chemical and
182 biological processes that affect the transport, migration and actual or potential exposure to impacts of contamination in all
183 affected media to human and ecological receptors. The CSM The Conceptual Site Model is used to develop and refine the
184 extent of site assessment, support remedial alternative(s), mitigation and cleanup technology evaluations, and support risk
185 management decisions.

186 (9) "Contaminated" or "contamination" means the presence of free product or any contaminant in surface water,
187 groundwater, soil, sediment, or upon the land, in concentrations that exceed the applicable CTLs specified in Chapter 62-777,

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Page 4 of 62

106782133.1

Commented [DB10]: Addition to reflect pending legislation in SB 0092 01-07-16

Commented [DB11]: "Additive Effects" is defined in statute: 376.301(2) "Additive effects" means a scientific principle that the toxicity that occurs as a result of exposure is the sum of the toxicities of the individual chemicals to which the individual is exposed.

Commented [DB12]: Provided definition to clarify the appropriate basis for considering additive effects.

A guidance document is being developed to provide additional direction to address additive effects through Dose Additivity (instead of Effect Additivity). This will be applicable to compounds with a similar mechanism of action, for example PAHs and Dioxins (e.g., benzo(a)pyrene equivalents/ TEQs)

Commented [DB13]: Removed definition of "apportioned". The additive effects of chemicals will be addressed in a guidance document.

Commented [DB14]: Added language from SB 0100 03-10-16 OR can delete definition from rule and list as statutory definition above

Commented [DB15]: May be useful to expand to address issues in "applicability" above?
- Doesn't seem definition needs to be expanded with regard to 'grandfathering' provisions in 62-780.150(5)(b) & (9)

Commented [DB16]: Included a regulatory definition for the Conceptual Site Model (CSM) to assist a PRSR with making risk-based corrective action decisions based upon actual circumstances of exposure. The utility of the CSM can be applied to sections governing Site Assessment (780.600), Risk Assessment (780.650), No Further Action and No Further Action with Controls (780.680) and Active Remediation (780.700).

188 F.A.C., or water quality standards in Chapter 62-302 or 62-520, F.A.C., or in concentrations that may result in contaminated
189 sediment. This definition is solely for use within Chapter 62-780, F.A.C., and pursuant to Section 376.30701(1)(a), F.S., shall
190 not be used to establish legal responsibility for conducting site rehabilitation.

191 (10) "Contaminated sediment" means sediment that is contaminated as determined by the concentrations of the
192 contaminants, actual circumstances of exposure, biological diversity studies, toxicity testing, or other evidence of harmful
193 effects, as applicable. [Refer to the sediment guidelines referenced in subsections 62-780.100(1) and (6), F.A.C., for guidance
194 on the evaluation of contaminant concentrations, sediment quality conditions, and testing methods.]

195 ~~(XX) "CSM" means conceptual site model.~~

196 (11) "CTL" means cleanup target level as defined in Section 376.301, F.S.

197 (12) "Department" means the FDEP, or a county or Department of Health local program established under a contract
198 pursuant to Section 376.3073, F.S., to assist the FDEP in the administration of the petroleum contamination site cleanup
199 program, or a local pollution control program that has received delegated authority from the FDEP pursuant to Sections
200 376.80(9) and 403.182, F.S., to administer all or part of the brownfields program. For more information, visit the FDEP
201 website.

202 (13) ~~"Emergency response action" means activities initiated as an interim source removal conducted pursuant to Rule 62-~~
203 ~~780.500, F.A.C., initiated prior to contact with the Department and within 24 hours of discovery of an unexpected situation or~~
204 ~~sudden occurrence of a serious and urgent nature that demands immediate action to alleviate a threat to human health, public~~
205 ~~safety, or the environment.~~

206 (14) "Engineering control" means use of existing features (such as buildings) or modifications to a site to reduce or
207 eliminate the potential for migration of, or exposure to, contaminants. Examples of modifications include physical or
208 hydraulic control measures, capping, point-of-use treatments, or slurry walls.

209 (15) "Excessively contaminated soil" for the purposes of Section ~~376.3071(12)(b)~~376.3071(11)(b)2., F.S., ~~that only~~
210 ~~applies to sites scored 29 or less (unless laboratory results verify that the organic vapor analysis data are not relevant),~~ means
211 soil saturated with petroleum or petroleum products or soil that causes a total corrected hydrocarbon measurement of 500
212 parts per million (ppm) or higher for Gasoline Analytical Group or 50 ppm or higher for Kerosene Analytical Group.
213 Readings shall be obtained at the site on an organic vapor analysis instrument with a flame ionization detector in the survey
214 mode upon sampling the headspace in half-filled, 8-ounce or 16-ounce jars. Each soil sample shall be split into two jars, the
215 two subsamples shall be brought to a temperature of between 20° C. (68° F.) and 32° C. (90° F.), and the readings shall be
216 obtained 5 to 30 minutes thereafter. One of the readings shall be obtained with the use of an activated charcoal filter unless
217 the unfiltered reading is nondetect. The total corrected hydrocarbon measurement shall be determined by subtracting the
218 filtered reading from the unfiltered reading. Instruments with a photo ionization detector may be used, but shall not be used in
219 situations where humidity will interfere with the instruments' sensitivity (including periods of rain, measuring wet or moist
220 soil). If an instrument with a photo ionization detector is used, a filtered reading is not warranted and therefore sample
221 splitting is not necessary. Analytical instruments shall be calibrated in accordance with the manufacturer's instructions.

222 (16) "Exposure unit" means an area over which receptors are expected to have equal and random exposure.

223 (17) "FDEP" means the Florida Department of Environmental Protection.

224 (18) "Free product" means the presence of a non-aqueous phase liquid in the environment in excess of 0.01 foot in
225 thickness, measured at its thickest point ~~or a hazardous substance that is present as a solid or liquid in its original form as a~~
226 ~~product or waste material.~~

227 (19) "Gasoline Analytical Group" means aviation gasoline, gasohol, and motor gasoline or equivalent petroleum
228 products.

229 (20) "Groundwater" means water beneath the surface of the ground within a zone of saturation, whether or not flowing
230 through known or definite channels.

231 ~~(XX) "Incremental Sampling Methodology" means a structured composite sampling and processing protocol that~~
232 ~~reduces data variability and provides a reasonably unbiased estimate of mean contaminant concentrations in a volume of soil.~~
233 ~~[Refer to "Incremental Sampling Methodology" referenced in subsection 62-780.100(21), F.A.C., for guidance.]~~

234 (21) "Innovative technology" means a process that has been tested and used as a treatment for contamination, but lacks
235 an established history of full-scale use and information about its cost and how well it works sufficient to support prediction of
236 its performance under a variety of operating conditions..

Commented [DB17]: Further define "emergency response"
See discussion below at 500

Commented [A18]: Frequently emergency response actions are
taken after the department has been notified and OER directs the
responsible party to take action. 62-780.500(1) also references
emergency response actions taken after notification from the
Department.

237 (22) “Interim source removal” means the removal of free product, contaminated groundwater, contaminated sediment, or
238 contaminated soil, or the removal of contaminants from soil or sediment that has been contaminated to the extent that
239 leaching to groundwater or surface water has occurred or is occurring, prior to approval of a Remedial Action Plan pursuant
240 to Rule 62-780.700, F.A.C.

241 **XX** “ISM” means Incremental Sampling Methodology

242 (23) “Kerosene Analytical Group” means diesel, Jet-A, Jet-B, JP-4, JP-5, and kerosene or equivalent petroleum products.

243 (24) “Low yield” means groundwater that is contained in an aquifer that has an average hydraulic conductivity of less
244 than one foot per day, determined by performing slug tests or an equivalent method for determining hydraulic conductivity
245 on a minimum of three monitoring wells in each affected monitoring zone; and a maximum yield of 80 gallons per day,
246 determined by pumping a four-inch well screened across the cross-section of the plume, for a minimum of two hours.

247 (25) “Monitoring well” means a well constructed with a surface seal and a sand filter pack in order to provide for the
248 collection of representative groundwater samples for laboratory analyses. Such wells may also be used to detect the presence
249 of free product or collect water-level elevation data to aid in determining the direction of groundwater flow.

250 (26) “MTBE” means Methyl tert-butyl ether.

251 (27) “Newspaper of general circulation” means a newspaper published at least on a weekly basis and printed in the
252 language most commonly spoken in the area within which it circulates, but does not include a newspaper intended primarily
253 for members of a particular professional or occupational group, a newspaper whose primary function is to carry legal notices,
254 or a newspaper that is given away primarily to distribute advertising.

255 (28) “Organoleptic” means pertaining to, or perceived by, a sensory organ (i.e., color, taste, or odor).

256 (29) “PAHs” means Polycyclic Aromatic Hydrocarbons.

257 (30) “PCBs” means Polychlorinated Biphenyls.

258 (31) “Person Responsible for Site Rehabilitation” (PRSR) means the Department when conducting site rehabilitation, or
259 any of the following, which may include an agent or authorized representative, unless prohibited by statute or rule:

260 (a) Any person who has legal responsibility for site rehabilitation pursuant to Chapter 376 or 403, F.S., or any person
261 who voluntarily rehabilitates a site pursuant to the requirements of this chapter and seeks an acknowledgement from the
262 Department for approval of site rehabilitation program tasks;

263 (b) The individual or entity that is designated by a local government in its resolution establishing a brownfield area to
264 enter into the brownfield site rehabilitation agreement with the Department, and that enters into an agreement with the local
265 government for redevelopment of the site pursuant to Section 376.80(5)(i), F.S.;

266 (c) The real property owner, the facility owner, the facility operator, the discharger, or other person or entity responsible
267 for site rehabilitation, or the Department when the Department is conducting the site rehabilitation at facilities with
268 discharges eligible for state-funded cleanup pursuant to Sections 376.305(6), 376.3071(9), 376.3071(13), and 376.3072, F.S.;

269 or
270 (d) A responsible party, a real property owner, or any individual or entity that has entered into a Voluntary Cleanup
271 Agreement with the Department pursuant to Section 376.3078(11)(b), F.S., that is conducting site rehabilitation at a
272 drycleaning solvent contaminated site pursuant to this chapter.

273 (32) “Petroleum products’ contaminants of concern” means the contaminants listed in Table B of this chapter (tables are
274 located at the end of Rule 62-780.900, F.A.C.), and similar chemicals found in additives, provided the contaminants are
275 present as a result of a discharge of petroleum or petroleum products as defined in Section 376.301, F.S.

276 (33) “Piezometer” means a permanent or temporary well that may be designed and constructed without the surface
277 sealing or sand filter pack requirements of a monitoring well. This type of well is primarily used to detect the presence of free
278 product or collect water-level elevation data to aid in determining the direction of groundwater flow.

279 (34) “Plume” means the portion of an aquifer or aquifers in which groundwater contamination above applicable CTLs,
280 and background concentrations as defined in subsection 62-780.200(3), F.A.C., has been detected.

281 (35) “Poor quality” means groundwater within the affected monitoring zone with background concentrations, as defined
282 in subsection 62-780.200(3), F.A.C., that exceed any of Florida’s Primary or Secondary Drinking Water Standards referenced
283 in Chapter 62-550, F.A.C.

284 (36) “PQL” means practical quantitation limit.

Commented [DB19]: Evaluate Guidance Document for “Poor quality”

285 (37) “Practical quantitation limit” (PQL) means the lowest level that can be reliably measured during routine laboratory
286 operating conditions within specified limits of precision and accuracy. [Refer to the PQL guidelines referenced in subsection
287 62-780.100(5), F.A.C., for guidance.]

288 (38) “Product recovery” means the removal of free product.

289 (39) “PRSR” means person responsible for site rehabilitation.

290 (40) “Real property owner” means the person or entity that is vested with ownership, dominion, or legal or rightful title
291 to the real property. For a drycleaning facility, this includes an individual or entity that has a ground lease interest in the real
292 property, on which a drycleaning facility or wholesale supply facility is or has ever been located.

293 (41) “Response Action Contractor” means a person who is carrying out any emergency response action activities
294 pursuant to Rule 62-780.500, F.A.C., including a person retained or hired by such person to provide services relating to an
295 emergency response action.

296 (42) “Sediment” means the unconsolidated solid matrix occurring immediately beneath any surface water body. The
297 surface water body may be present part or all of the time and may support a wetland environment or vegetation.

298 (43) “Site” means “contaminated site” as defined in Section 376.301, F.S.

299 (44) “Site assessment” means the performance of any of the tasks or activities as described in Rules ~~62-780.52562-~~
300 ~~780.500~~ and 62-780.600, F.A.C.

301 (45) “Source removal” means (a) the removal of free product, contaminated groundwater, contaminated sediment, or
302 contaminated soil, or (b) the removal of solid waste, contaminants from soil or sediment that has been contaminated to the
303 extent that leaching or other impact to groundwater or surface water has occurred or is occurring, after approval of a
304 Remedial Action Plan pursuant to Rule 62-780.700, F.A.C.

305 (46) “Surface water” means water upon the surface of the earth, whether contained in bounds created naturally or
306 artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the
307 earth's surface.

308 (47) “TPOC” means temporary point of compliance.

309 (48) “TRPHs” means Total Recoverable Petroleum Hydrocarbons.

310 (49) “UCL” means upper confidence limit estimate of the arithmetic mean.

311 (50) “Used oil” means any lubricants for use in internal combustion engines that have been refined from crude oil and, as
312 a result of use, storage, or handling, have become unsuitable for their original purpose due to the presence of impurities or
313 loss of properties, but that may be suitable for further use as a fuel or are economically recyclable for use as a fuel. “Used oil”
314 shall not include any used oil that has been mixed with any material that is a hazardous waste, unless the material is a
315 hazardous waste solely due to the characteristic of ignitability as defined in 40 CFR Part 261, Subpart C (7-1-12 Edition),
316 hereby adopted and incorporated by reference (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02417>).

317 (51) “VCA” means Voluntary Cleanup Agreement.

318 (52) “VOHs” means Volatile Organic Halocarbons.

319 (53) “Voluntary Cleanup Agreement” (VCA) means an agreement entered into between a PRSR and the Department for
320 the purpose of rehabilitating a site contaminated with drycleaning solvents. The VCA shall at a minimum establish the time
321 frames, schedules, and milestones for completion of site rehabilitation tasks and submission of technical reports, and other
322 commitments or provisions pursuant to Section 376.3078(11), F.S., and this chapter.

323 (54) “Waters” or “waters of the state” means waters as defined in Section 403.031, F.S.

324 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81 FS. Law Implemented 376.3071, 376.30701, 376.3078(4),*
325 *376.81 FS. History—New 4-17-05, Amended 6-12-13 _____.*

326 *Editorial Note: Portions of this rule were copied from 62-770.200, Formerly 17-70.003 and Formerly 17-770.200; 62-782.200; and 62-*
327 *785.200.*

328 **62-780.210 Contamination Reporting.**

329 (1) Upon discovery of petroleum or petroleum products contamination (unless the contamination is the result of a
330 previously reported discharge for which site rehabilitation completion has not been achieved) or upon a discharge of
331 petroleum or petroleum products, notification shall be submitted using the Discharge Report Form incorporated in Rule 62-

332 761.900, F.A.C. [Form Number 62-761.900(1)], unless the discharge was less than 25 gallons onto a pervious surface and
333 will be addressed pursuant to subsection 62-780.560(1), F.A.C. If the discharge will be addressed **as an Emergency Response**
334 **Action (Rule 62-780.500, F.A.C.) or Interim Source Removal (Rule 62-780.525, F.A.C.)**, under the ~~de minimis provisions of~~
335 ~~subsection 62-780.560(2), F.A.C.~~, the discharge shall be reported to the State Watch Office and the Discharge Report Form
336 shall be submitted to the FDEP Office of Emergency Response.

337 (a) If the discharge was from a storage tank system regulated pursuant to Chapter 62-761 or 62-762, F.A.C., the
338 discharge shall be reported by the facility owner or operator pursuant to the applicable requirements of Chapters 62-761 and
339 62-762, F.A.C.; or

340 (b) All other discharges of petroleum or petroleum products of less than 25 gallons that are not addressed pursuant to
341 subsection 62-780.560(1), F.A.C., shall be reported within one week of discovery. Discharges of petroleum or petroleum
342 products equal to, or exceeding, 25 gallons onto pervious surfaces or any discharge to surface waters shall be reported to the
343 State Watch Office or FDEP Office of Emergency Response as soon as possible, but no later than 24 hours after occurrence.
344 The discharge shall be reported by:

- 345 1. The discharger; or
- 346 2. The owner or operator if the discharger is unknown or if the discovery was the result of a previously unreported
347 discharge.

348 (2) A discharge of drycleaning solvents greater than one quart outside of a containment structure shall be reported to the
349 state through the State Watch Office pursuant to Section 376.3078(9)(c), F.S.

350 (3) Except as provided in subsection (2), discharges of pollutants or hazardous substances, other than petroleum or
351 petroleum products, that are being addressed pursuant to Chapter 62-780, F.A.C., are not subject to the notification and
352 reporting requirements of this rule section. A discharge of petroleum or petroleum products contaminated with significant
353 quantities of other substances is also not subject to the notification and reporting requirements of this rule section.

354 (4) Notwithstanding the provisions of subsections 62-780.210(1)-(3), F.A.C., nothing in this chapter shall be construed to
355 negate reporting requirements under other local, state or federal laws, such as Chapter 62-150, F.A.C., Hazardous Substance
356 Release Notification, the Emergency Planning and Community Right-To-Know Act, Title III of the Superfund Amendments
357 and Reauthorization Act of 1986, 42 U.S.C. s. 11001, et seq. (SARA), the Florida Hazardous Materials Emergency Response
358 and Community Right-to-Know Act of 1988, Chapter 252, Part II, F.S., and the reporting requirements for discharges of oil
359 to navigable waters pursuant to 40 C.F.R. Parts 110 and 112.

360 (5) For the purposes of Rule 62-780.210, F.A.C.:

361 (a) "Discharger" means the person who has dominion or control over the petroleum or petroleum products at the time of
362 the discharge into the environment.

363 (b) "Discovery" means:

364 1. Observance or detection of free product in boreholes, wells, open drainage ditches, open excavations or trenches, or on
365 nearby surface water, or petroleum or petroleum products in excess of 0.01 foot in thickness in sewer lines, subsurface utility
366 conduits or vaults, unless the product has been removed and it was confirmed that a release into the environment did not
367 occur;

368 2. Observance of visually stained soil or odor of petroleum products resulting from a discharge of used oil equal to, or
369 exceeding, 25 gallons on a pervious surface [see subsection 62-780.560(1), F.A.C., for cleanup requirements applicable to
370 discharges of less than 25 gallons];

371 3. Discharges of petroleum or petroleum products equal to, or exceeding, 25 gallons on a pervious surface [see
372 subsection 62-780.560(1), F.A.C., for cleanup requirements applicable to discharges of less than 25 gallons];

373 4. Results of analytical test on a groundwater sample that exceed the CTLs referenced in Chapter 62-777, F.A.C., Table
374 I, groundwater criteria column for the petroleum products' contaminants of concern listed in Table B of this chapter (located
375 at the end of Rule 62-780.900, F.A.C.); or

376 5. Results of analytical test on a soil sample that exceed the lower of the direct exposure residential CTLs and
377 leachability based on groundwater criteria CTLs specified in Chapter 62-777, F.A.C., Table II for the petroleum products'
378 contaminants of concern listed in Table B of this chapter.

Commented [A20]: Recommend that the de minimis provisions of 62-780.560(2) be deleted as unnecessary.

379 Rulemaking Authority 376.303, 376.3071, 376.3078 FS. Law Implemented 376.305, 376.3071, 376.30701, 376.3078 FS. History--New 6-
380 12-13 **Amended**.

381 Editorial Note: Portions of this rule were copied from 62-770.250, Formerly 17-770.250.

382 **62-780.220 Notices.**

383 (1) Notice of Field Activities. Within the time frames specified in Table A (located at the end of Rule 62-780.900,
384 F.A.C.) or the CAD, the PRSR, its agent, or authorized representative shall provide written notice to the Department prior to
385 performing field activities such as interim source removal activities, installing monitoring or recovery well(s), performing
386 sampling, installing remediation equipment, or installing an engineering control. Personnel from the Department shall be
387 allowed the opportunity to observe these field activities and to take sub-samples. If the Department chooses to be present
388 when field activities are being performed, the Department shall be responsible for confirming that the field activities are
389 being performed in accordance with the schedule provided in the written notification.

390 (2) Initial Notice of Contamination Beyond Property Boundaries. Section 376.30702, F.S., provides specific notice
391 requirements upon a PRSR's discovery from laboratory analytical results that comply with appropriate quality assurance
392 protocols pursuant to Chapter 62-160, F.A.C., that contamination exists in any medium beyond the boundaries of the property
393 at which site rehabilitation was initiated pursuant to this chapter. Upon such discovery, the PRSR shall notify the FDEP as
394 soon as possible, but not later than 10 days after discovery. The notice shall be provided on Form 62-780.900(1) titled "Initial
395 Notice of Contamination Beyond Property Boundaries" effective date 6-12-13, hereby adopted and incorporated by reference
396 (<http://www.flrules.org/Gateway/reference.asp?No=Ref-01488>). Forms may be obtained from the Division of Waste
397 Management website at www.dep.state.fl.us/waste. The PRSR shall simultaneously mail a copy of such notice to the
398 appropriate FDEP district office, county health department, and all known lessees and tenants of the source property. Refer to
399 Section 376.30702(2), F.S., for additional details about this requirement and the information that must be included in the
400 notice.

401 (3) Subsequent Notice of Contamination Beyond Source Property Boundaries for Establishment of a Temporary Point of
402 Compliance (TPOC). Pursuant to Section 376.30701(2)(b), F.S., Prior to the Department authorizing a temporary extension
403 of the point of compliance beyond the boundary of the source property (i.e., the location from which the contamination
404 originates) in conjunction with Natural Attenuation Monitoring pursuant to Rule 62-780.690, F.A.C., or Active Remediation
405 pursuant to Rule 62-780.700, F.A.C., the PRSR shall provide "actual notice" to local governments and the owners of any
406 property into which the point of compliance is allowed to extend and "constructive notice" to residents and business tenants
407 of the property into which the point of compliance is allowed to extend. Persons receiving such notice shall have the
408 opportunity to comment within 30 days after receipt of the notice. For the purposes of this Section 62-780.220, F.A.C.,
409 "actual notice" and "constructive notice" shall mean as follows: the following notices.

410 (a) Actual notice in written form mailed by "Certified Mail, Return Receipt Requested" or other form of delivery that
411 provides confirmation of receipt to the appropriate County Health Department and all record owners of any real property into
412 which the point of compliance is allowed to extend (mailed to the owner's address listed in the current county property tax
413 office records). The notice shall include the following information:

- 414 1. The type of proposed agency action (i.e., temporary extension of the point of compliance);
- 415 2. A description of the location of the subject site and the name and address of the PRSR;
- 416 3. The location where complete copies of any relevant documents concerning the site and the proposed remedial strategy,
417 including temporary extension of the point of compliance, are available for public inspection;
- 418 4. The name and address of a contact person at the Department who is the project manager for the site rehabilitation, to
419 whom comments should be directed, and from whom copies of the Department's actions regarding the site may be requested;
420 and
- 421 5. A paragraph including the statement: "Persons receiving this notice shall have the opportunity to comment on the
422 Department's proposed action within 30 days of receipt of the notice." For purposes of actual notice, the 30-day comment
423 period shall commence on the delivery date stamped on the return receipt; and

424 (b) Constructive notice to residents [if different from the real property owner(s) notified pursuant to paragraph 62-
425 780.220(3)(a), F.A.C.] and business tenants of any real property into which the point of compliance is allowed to extend.
426 Such constructive notice is not required for site rehabilitation being conducted for petroleum or petroleum products

Commented [DB21]: Request made at workshop to allow electronic delivery.

Commented [DB22]: This would likely require statutory change in 376.30702(2):

"The actual notice shall be provided on a form adopted by department rule and mailed by certified mail, return receipt requested. The person responsible for site rehabilitation shall simultaneously mail a copy of such notice to the appropriate department district office, county health department, and all known lessees and tenants of the source property."

Commented [DB23]: Add reference to the applicable statutory provisions. This concept is repeated below in subsection (7),

Commented [DB24]: Consolidate all "notice requirements" related to closure into this section 62-780.220.

The inserted text repeats the critical statutory requirements. In order to minimize changes to the rule as a whole, it is recommended to leave the "definitions" of "actual notice" and "constructive notice" in its existing position in this subsection (3).

427 contamination not associated with a brownfield site. Such constructive notice, which shall include the same information as
428 required in the actual notice, shall be provided by complying with the following:

429 1. Publishing the notice one time, at least two columns wide by 10 inches long with a headline in a type no smaller than
430 18-point font and the body of the notice in a type no smaller than 10-point font, in a standard-size newspaper of general
431 circulation;

432 2. Including a statement in the notice indicating the 30-day deadline by which comments must be received. For purposes
433 of constructive notice, the 30-day comment period shall commence on the date the notice is published in the newspaper.

434 (c) Copies of notices, both actual and constructive, must be provided to the Department as proof of compliance with this
435 subsection. For purposes of the constructive notice, the PRSR shall provide a copy of the version printed in the newspaper or
436 submit the actual newspaper page itself.

437 (4) Status Update 5-Year Notice. When utilizing a TPOC beyond the boundary of the source property to facilitate natural
438 attenuation monitoring or active remediation, an additional notice concerning the status of the site rehabilitation shall be
439 similarly provided every five years to the classes of persons who received notice pursuant to subsection 62-780.220(3),
440 F.A.C., unless in the intervening time, such persons have been informed that the contamination no longer affects the property
441 into which the point of compliance was allowed to extend.

442 (5) Warning Signs at Hazardous Waste Sites. At sites where a risk of exposure to the public exists due to contamination
443 of the soil, sediment, or surface water with hazardous waste as defined in Section 403.703(13), F.S., the PRSR shall place
444 warning signs pursuant to Section 403.7255, F.S.

445 (6) Notice Requirements for Schools. If the property at which contamination has been discovered is the site of a school
446 as defined in Section 1003.01, F.S., regardless of whether the school property is the site at which site rehabilitation was
447 initiated, then the school board of the district in which the property is located shall provide actual notice of the contamination
448 to teachers and parents or guardians of students attending the school during the period of site rehabilitation. Such notice must
449 be provided within 30 days of discovery or receipt of notification from the Department, whichever is earlier, and shall
450 conform to the requirements in Section 376.30702(2)(a), (c), and (d), F.S. At least annually during the period of site
451 rehabilitation, the school board of the district in which the property is located shall continue to provide such actual notice of
452 the contamination, updated as appropriate, to teachers and parents or guardians of students attending the school. A
453 representative copy of all notices shall be submitted to the Department at the time the notice is provided to the teachers and
454 parents or guardians.

455 (7) ~~Notice Requirements for Closure Using Institutional, Engineering Controls or Alternative CTLs. Sections~~
456 ~~376.30701(2)(c) and (d), F.S., provide specific notice requirements for conditional closure using institutional controls,~~
457 ~~engineering controls or alternative CTLs. Prior to the Department's approval of a No Further Action Proposal with~~
458 ~~institutional controls, or with institutional and engineering controls, or alternative CTLs, whether for a No Further Action~~
459 ~~Proposal or as an interim measure, the PRSR shall provide written and provide constructive notice of the Department's~~
460 ~~intent for such approval to the local government(s) with jurisdiction over the property(ies) subject to the institutional or~~
461 ~~engineering control, to real property owner(s) of any property subject to the institutional or engineering control, to any party~~
462 ~~holding an easement for the area subject to the institutional or engineering control, and to any resident or business tenant, and~~
463 ~~Where there are multiple residences (e.g., a condominium), businesses or tenants on any property subject to the institutional~~
464 ~~or engineering control, the PRSR may publish notice in lieu of providing written notice mailing to such residences~~
465 ~~businesses or tenants. Written notice and publication of notice. The notice shall be mailed or published by the PRSR within 30~~
466 ~~days after the Department's provisional approval of the No Further Action Proposal with institutional or engineering controls.~~
467 ~~The PRSR shall provide the Department with a copy of the mailed-written notice and a list of names and addresses to whom~~
468 ~~the notice was sent and the date it was sent. For published notice, proof of such notice that meets the requirements of~~
469 ~~subsections 62-110.106(5), (8), and (9), F.A.C., shall be provided except that the notice shall be prepared and published by~~
470 ~~the PRSR within 30 days after the Department's provisional approval of the No Further Action Proposal with institutional~~
471 ~~controls. The notice shall provide the local government(s) with jurisdiction over the property(ies) subject to the institutional~~
472 ~~controls, real property owner(s) of any property subject to the institutional controls, residents of any property subject to the~~
473 ~~institutional controls, any party holding an easement for the area subject to the institutional or engineering control, and~~
474 ~~business tenants of any property subject to the controls, the opportunity to comment to the Department within 30 days after~~
475 ~~receipt of the notice of the Department's intent of approval. Where subsection 62-110.106(8), F.A.C., requires For a~~

Commented [DB25]: Request during workshop to add "staff" would require statutory change to 376.30702(3)

Commented [A26]: 1.) Establishing off-site ACTL language Institutional Controls

Commented [DB27]: This paragraph only seems to allow exceedance of CTLs temporarily while cleanup is ongoing. Does not address conditional closure. Not much different than TPOC in 376.30701(2)(b)

Commented [DB28]: Workshop comment that this language does not track 376.30701(2)

Commented [DB29]: Other than explanatory language on how to meet requirement, this does seem to track statute fairly well (see 376.30701(2)(d)).

Commented [DB30]: May have been intentional. Deletion makes language generic to any use of IC/EC.

476 description of the agency action proposed, the notice shall contain “to issue a Site Rehabilitation Completion Order with
477 institutional controls for a contaminated site.” ~~or “to manage potential exposure to contaminated media while site
478 rehabilitation is on going” as appropriate.~~ Additionally, the notice of rights language shall be replaced with “Local
479 governments, real property owner(s) of any property subject to the institutional ~~or engineering~~ control, and residents of any
480 property subject to the institutional ~~or engineering~~ control have 30 days from ~~receipt (or~~ publication of this notice to provide
481 comments to the Department.” The notice shall ~~also~~ provide the appropriate mailing address, ~~and if warranted~~
482 ~~electronic mail address~~ to which comments should be sent. See subsection 62-780.100(7), Institutional Controls Procedures
483 Guidance, for sample notice templates.

484 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.30702, 376.3078(4), 376.81, 403.7255 FS. Law Implemented 376.3071,*
485 *376.30701, 376.30702, 376.3078(4), 376.81, 403.7255 FS. History—New 4-17-05, Amended 12-27-07, 6-12-13* _____.

486 *Editorial Note: Portions of this rule were copied from 62-770.220; 62-782.220; and 62-785.220.*

487 **62-780.300 Quality Assurance Requirements.**

488 (1) Persons performing sampling and analyses pursuant to this chapter shall comply with the applicable requirements of
489 Chapter 62-160, F.A.C., Quality Assurance.

490 (2) Unless otherwise specified in this chapter, reports that are submitted to the Department and that contain analytical
491 data shall include the following forms and information, as applicable:

492 (a) Laboratory reports that include all applicable information specified in subsections 62-160.340(1) and (2), F.A.C. (Soil
493 analytical results shall be reported on a dry-weight basis.);

494 (b) Copies of the completed chain of custody record form(s) [Form 62-780.900(2), effective date 6-12-13, hereby
495 adopted and incorporated by reference (<http://www.flrules.org/Gateway/reference.asp?No=Ref-01489>), or an equivalent
496 chain of custody form that includes all the items required by Form 62-780.900(2)]. Forms may be obtained from the Division
497 of Waste Management website at www.dep.state.fl.us/waste;

498 (c) Copies of the completed groundwater sampling log(s) (Form FD 9000-24) referenced in the Groundwater Sampling
499 SOP, FS 2200; and

500 (d) Results from screening tests or on-site analyses performed pursuant to this chapter.

501 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81, 403.0877 FS. Law Implemented 376.3071, 376.30701,*
502 *376.3078(4), 376.81 FS. History—New 4-17-05, Amended 6-12-13.*

503 *Editorial Note: Portions of this rule were copied from 62-770.400, Formerly 17-70.007 and Formerly 17-770.400; 62-782.300; and 62-*
504 *785.300.*

505 **62-780.400 Professional Certifications.**

506 (1) Applicable portions of technical documents submitted by the PRSR to the Department shall be signed and sealed by a
507 professional engineer registered pursuant to Chapter 471, F.S., or a professional geologist registered pursuant to Chapter 492,
508 F.S., certifying that the applicable portions of the technical document and associated work comply with standard professional
509 practices, this chapter and other rules of the Department, and any other applicable laws and rules governing the profession. If
510 a laboratory report is submitted separately from any other technical document submittal, this requirement shall not apply to
511 that laboratory report.

512 (2) Upon completion of the approved remedial action, the Department shall require a professional engineer registered
513 pursuant to Chapter 471, F.S., or a professional geologist registered pursuant to Chapter 492, F.S., to certify that the
514 applicable portions of the remedial action were, to the best of his or her knowledge and ability, completed in accordance with
515 this chapter and in conformance with the plans and specifications approved by the Department.

516 *Rulemaking Authority 376.3071, 376.30701, 376.3078(4), 376.81, 403.0877 FS. Law Implemented 376.3071, 376.30701, 376.3078(4),*
517 *376.80, 376.81, 403.0877 FS. History—New 4-17-05, Amended 6-12-13 .*

518 *Editorial Note: Portions of this rule were copied from 62-770.490; 62-782.400; and 62-785.400.*

519 **62-780.450 Combined Document.**

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Commented [DB31]: Request made to include e-mail address here. Not clear if e-mail alone would be sufficient, also does not appear to be prohibited, so as an addition could be OK.

Commented [A32]: Are professional certifications applicable to Emergency Response Actions and Interim Source Removals?

From workshop: Specifically during interim source removal, does it need to be professionally certified? What is the practice of the profession. Emergency Response professional vs. Closure professional.

Commented [DB33]: Following internal discussion, it was concluded that this language correctly identifies the need for professional certifications and relies on the professional judgment of the registered professional to determine when certification is required.

520 (1) ~~The Except for petroleum contamination sites, the~~ Interim Source Removal Report, the Site Assessment Report, the
521 Risk Assessment Report, and the Remedial Action Plan, as applicable, may be submitted by the PRSR to the Department for
522 review either separately as each program task is completed, or as a combined document. Other individual program task
523 documents may be included in a combined document if agreed to in writing by the Department. ~~A combined document may~~
524 ~~be submitted for cleanup of a petroleum contamination site subject to a BSRA.~~

525 (2) The combined document may incorporate, as applicable, the required content for the Interim Source Removal Report,
526 Site Assessment Report, Risk Assessment Report, and Remedial Action Plan program tasks pursuant to Rules 62-780.500,
527 62-780.600, 62-780.650, and 62-780.700, F.A.C., respectively, including an Interim Source Removal Proposal, a No Further
528 Action Proposal, or a Natural Attenuation with Monitoring Plan associated with the Site Assessment Report or the Risk
529 Assessment Report.

530 (3) If the PRSR elects to prepare a combined document in lieu of individual program task documents, ~~the decision shall~~
531 ~~be documented in the CAD or the PRSR shall notify the Department in writing once the decision is made.~~ [The time for filing
532 any combined document shall be governed by the earliest submission deadline for any component, unless the Department
533 agrees to a different schedule in advance, and in writing.

534 (4) Within the time frames of Table A (~~located at the end of Rule 62-780.900, F.A.C.~~) or the CAD, the PRSR shall
535 submit an electronic or paper copy of the combined document to the Department for review, including all applicable
536 professional certifications as required pursuant to Rule 62-780.400, F.A.C.

537 (5) The Department shall:

538 (a) Provide the PRSR with written approval of the individual program task or the combined document; or

539 (b) Notify the PRSR in writing, stating:

540 1. The reason(s) why one or more individual program tasks or the combined document does not conform with the
541 requirements of the applicable criteria of Rule 62-780.500, 62-780.600, 62-780.650, or 62-780.700, F.A.C.; or

542 2. The reason(s) why a No Further Action Proposal or a Natural Attenuation Monitoring Plan does not meet the
543 applicable criteria of Rule 62-780.680 or 62-780.690, F.A.C., respectively.

544 (6) If the individual program task or combined document is incomplete in any respect, or is insufficient to satisfy the
545 requirements of the applicable criteria of Rule 62-780.500, 62-780.600, 62-780.650, or 62-780.700, F.A.C., the Department
546 shall inform the PRSR pursuant to paragraph 62-780.450(5)(b), F.A.C., and the PRSR shall submit to the Department for
547 review an electronic or paper copy of a Combined Document Addendum that addresses the deficiencies within 60 days after
548 receipt of the notice.

549 *Rulemaking Authority 376.3071, 376.30701, 376.3078(4), 376.81, 403.0877 FS. Law Implemented 376.3071, 376.30701, 376.3078(4),*
550 *376.81, 403.0877 FS. History—New 4-17-05, Amended 6-12-13.*

551 *Editorial Note: Portions of this rule were copied from 62-782.450; and 62-785.450.*

552 **62-780.500 Emergency Response Action or Interim Source Removal.**

553 (1) Within 24 hours of discovery of an unexpected situation or sudden occurrence of a serious and urgent nature that
554 demands immediate action to alleviate a threat to human health, public safety, or the environment, or within 24 hours after
555 being notified by the Department of such a condition, the PRSR shall commence an emergency response action. For purposes
556 of an emergency response action, “commence” means that the PRSR has employed or contracted with a response action
557 contractor to evaluate, design, plan, engineer, construct, implement, and complete the requirements of the emergency
558 response action, and has given the contractor the authority to proceed with the required work. The emergency response action
559 shall include performing all tasks described in this section that are necessary to eliminate the immediate and serious threat
560 posed by the site conditions. ~~In addition, any PRSR may conduct an interim source removal in accordance with this section.~~
561 ~~The objectives of the emergency response action or interim source removal are is to remove specific known contaminant~~
562 ~~source(s) and provide temporary control to prevent or minimize contaminant migration, and to protect human health and the~~
563 ~~environment, prior to the approval of a Remedial Action Plan prepared and submitted pursuant to Rule 62-780.700, F.A.C.~~

564 (2) ~~Discharge-Free Product and Removal and Disposal.~~

565 (a) ~~For the purposes of this section “hazardous substance” shall include any material that is present in the environment as~~
566 ~~a solid or liquid in its original form as a product or waste material that has been released due to an unexpected situation or~~

Commented [A34]: Noted that FDEP proposes to bifurcate the current emergency response and interim source removal rule section (Rule 62-780.500) into two separate rule sections addressing emergency response and interim source removal activities, respectively. While conceptually do not oppose this separation, want to confirm that the existing Mineral Oil Dielectric Fluid (MODEF) and Heavy Fuel Oil (HFO) response action protocols will not be eliminated or otherwise modified as a result of FDEP's establishment of these rule sections. [And see further discussion in original comment document.]

Commented [DB35]: Confirm memos reference correct rule sections
-MODEF memo requires 1 edit in reporting section
-HFO – No update to 780 rule references required (However GCTLs and SCTLs in table 1 may need to be updated with 62-777.)
-Plan is to update memos as necessary and include as referenced guidelines in 62-780.100

Commented [A36]: From workshop: Timeframe of discharge and inclusion of de minimus definition

Commented [A37]: The criteria upon which such a decision should be based (e.g., volume, mass, concentration, chemical characteristics), and identification of the entity that should make that decision are not clear in existing rule language. Recommend that these points be clarified in this rule subsection.

Commented [DB38]: -There was some discussion of this during the workshop but didn't get the sense there was a lot of concern with clarifying what is meant by an emergency. Would not want to create a definition where OER was constrained in their response.
-Following subsequent internal discussion have elected not to amend this paragraph.

BUT
This concern was re-iterated in current comments

567 sudden occurrence of a serious and urgent nature;

568 (a) The PRSR may, and for emergency response actions shall, if necessary to alleviate a threat to human health, public
569 safety, or the environment, perform removal of pollutants or hazardous substances free product recovery consistent with the
570 following requirements:

571 1. The PRSR shall provide to the Department a written notification in accordance with the time schedule in Table A,
572 located at the end of Rule 62-780.900, F.A.C., (Notices for Field Activities) or the CAD that includes a description of the
573 type and estimated volume of pollutants or hazardous substances free product to be removed, and proposed free product
574 recovery and disposal methods to be utilized;

575 2. The free product recovery shall not spread contamination into previously uncontaminated or less contaminated areas
576 through untreated discharges, improper treatment, improper disposal, or improper storage;

577 3. Flammable products shall be handled in a safe manner; and

578 4. The recovered product shall be characterized and properly disposed or recycled; and all sampling and analyses shall be
579 performed pursuant to Rule 62-780.300, F.A.C.

580 (b) The following passive and active methods of free product recovery may be implemented without requesting approval
581 from the Department:

582 1. Excavation

583 2. Removal;

584 3. ~~2.~~ Absorbent pads;

585 4. ~~2.~~ Skimmer pumps that include pumps with mechanical, electrical, or hand-bailed purging operations;

586 5. ~~3.~~ Hand or mechanical bailing; and

587 6. ~~4.~~ Fluid or solid vacuum techniques (for example, vacuum pump trucks) or total fluid displacement pumps, as long as
588 the technique used shall not smear or spread free product, or contaminate previously uncontaminated or less contaminated
589 media. If this method is used for petroleum or petroleum product contamination sites (except sites subject to a BSRA), the
590 volume of groundwater recovered shall not be greater than two times the volume of free product recovered, except that the
591 first 1,000 gallons of the total fluid recovered per discharge are exempt from meeting the required ratio of groundwater to
592 free product.

593 (c) In addition to the free product recovery methods specified in paragraph 62-780.500(2)(b), F.A.C., the PRSR may
594 evaluate, propose, and submit other product recovery methods to the Department for approval prior to implementation. The
595 proposal submittal, as an Interim Source Removal Proposal, shall include the results of the evaluation performed to determine
596 the potential for product smearing or spreading and the potential for air emissions. The free product recovery methods
597 proposed may include:

598 1. Dewatering or groundwater extractions that may influence the depth to the water table;

599 2. Air/fluid extraction with air emissions treatment; or

600 3. Excavation of soil saturated with non-aqueous phase liquid into, or below, the water table.

601 4. Recovery of petroleum or petroleum products that exceeds the water-to-product ratio indicated in subparagraph 62-
602 780.500(2)(b)4., F.A.C.; or

603 5. On-site treatment and discharge of contaminated water that results from dewatering to excavate free product from
604 below the water table, or on-site treatment and discharge of contaminated water that is separated from recovered free product.

605 (d) The Department shall:

606 1. Provide the PRSR with written approval of the Free Product recovery Recovery Interim Source Removal Proposal; or

607 2. Notify the PRSR in writing, stating the reason(s) why the Free Product recovery Recovery Interim Source Removal
608 Proposal does not contain information adequate to support a free product recovery method pursuant to paragraph 62-
609 780.500(2)(c), F.A.C.

610 (e) The free product recovery as an Interim Source Removal task shall be deemed complete when the objectives of
611 subsection 62-780.500(1), F.A.C., have been met.

612 (f) Within the time frames specified in Table A or the CAD, written notification of initiation of free product recovery
613 shall be provided by the PRSR to the Department.

614 (g) Within the time frames and frequencies specified in Table A or the CAD, the PRSR shall submit to the Department
615 for review an electronic or paper copy of an Interim Source Removal Status Report documenting the recovery progress and

Commented [A39]: Here and elsewhere in this rule section the issue of whether determinations, notifications, approvals, or denials must be made in writing to the Department or from the Department arises. In some parts of this rule section, written decisions are required, in others they are not. The Department should clearly determine in each instance whether such written verification is required or not, and discussion should be undertaken at the next rule development workshop regarding the basis for requiring it or not requiring it.

Commented [DB40]: Need to follow up with OER on this. Does seem to be a bit of variability in how we acknowledge various submittals. Understandable given nature of emergency response but would be good to document responses. OER is probably already doing this in some way and we just need to capture it.

616 summarizing all recovery activities for a specified period.

617 (3) Short-term Groundwater Recovery.

618 (a) The PRSR may, and for emergency response actions shall, if necessary to alleviate a threat to human health, public
619 safety, or the environment, perform a short-term groundwater recovery event as an interim source removal activity.
620 Groundwater recovery from well(s) within the plume with screened intervals that intercept the water table, with the intent of
621 achieving cleanup progress, may be performed prior to Department approval of a Remedial Action Plan submitted pursuant
622 to Rule 62-780.700, F.A.C., provided the following criteria are met:

623 1. Prior to initiation, the PRSR shall provide to the Department a written notification in accordance with the time frames
624 in Table A (Notices for Field Activities) or the CAD that includes a description of the type of contamination, estimated
625 volume of groundwater to be removed, and proposed disposal methods to be utilized;

626 2. The groundwater contamination has been established to be less than one-fourth (1/4) acre and confined to shallow
627 aquifer well(s) with screened intervals that intercept the water table, such that the pumping of a shallow aquifer well(s) within
628 the plume may result in the site meeting the No Further Action criteria of Rule 62-780.680, F.A.C., or the Natural
629 Attenuation with Monitoring criteria of Rule 62-780.690, F.A.C.;

630 3. Free product is not present;

631 4. The duration of the groundwater recovery does not exceed 30 days, unless the PRSR demonstrates to the Department
632 that extended groundwater recovery will not result in the spread of contamination;

633 5. The recovered groundwater is not treated on-site and is properly disposed at a permitted industrial water treatment
634 facility, at a publicly owned treatment works with the approval of the sanitary sewer authority, or at a permitted Hazardous
635 Waste Treatment, Storage, or Disposal facility if the recovered groundwater is a hazardous waste; and

636 6. Sampling of representative monitoring wells to determine the effectiveness of the Short-term Groundwater Recovery
637 event shall be performed at least 30 days after completion of the groundwater recovery.

638 (b) Within the time frames and frequencies specified in Table A or the CAD, the PRSR shall submit to the Department
639 for review an electronic or paper copy of an Interim Source Removal Status Report that documents the recovery progress and
640 summarizes all recovery activities for a specified period.

641 (4) Interim Groundwater Remediation.

642 (a) Prior to approval of a Remedial Action Plan prepared and submitted pursuant to Rule 62-780.700, F.A.C., when any
643 of the criteria of subparagraphs 62-780.500(3)(a)2. through 4., F.A.C., are not met, the PRSR may perform groundwater
644 recovery and on-site treatment and disposal or any other means of interim in situ groundwater remediation, provided the
645 PRSR submits an Interim Source Removal Proposal that includes the same level of engineering detail as a Remedial Action
646 Plan pursuant to Rule 62-780.700, F.A.C. Applicable sections shall be signed and sealed pursuant to Rule 62-780.400, F.A.C.

647 (b) The Department shall:

648 1. Provide the PRSR with written approval of the proposal; or

649 2. Notify the PRSR in writing, stating the reason(s) why the proposal does not contain information adequate to perform
650 groundwater recovery pursuant to paragraph 62-780.500(4)(a), F.A.C.

651 (c) Within the time frames and frequencies specified in Table A or the CAD, the PRSR shall submit to the Department
652 for review an electronic or paper copy of an Interim Source Removal Status Report documenting the recovery progress and
653 summarizing all recovery activities for a specified period.

654 (3)(5) Soil and Sediment Removal, Treatment, and Disposal.

655 (a) The PRSR may, and for emergency response actions shall, if necessary to alleviate a threat to human health, public
656 safety, or the environment, excavate contaminated soil or contaminated sediment for proper treatment or proper disposal as
657 an interim source removal activity provided the following criteria are met:

658 1. Prior to initiation, the PRSR shall provide to the Department a written notification in accordance with the time
659 frames in Table A or the CAD, that includes a description of the type of contamination, estimated volume of soil or sediment
660 to be removed, and proposed disposal methods to be utilized;

661 2. Contamination shall not be spread into previously uncontaminated areas or less contaminated areas through untreated
662 discharges, improper treatment, improper disposal, or improper storage;

663 3. Flammable products shall be handled in a safe manner;

664 4. When a soil vacuum extraction system is necessary to abate an imminent threat to human life, health, or safety within

Commented [A41]: As above, this paragraph should include the
qualifier" ... , if necessary to alleviate a threat to human health,
public safety, or the environment, ..." inserted prior to the word"
excavate".

665 a structure or utility conduit, then the vacuum extraction system shall be designed and operated only to abate the imminent
666 threat. The Department shall be notified, within 24 hours, of the imminent threat and the intent to use a soil vacuum
667 extraction system. The air emissions monitoring and frequency of monitoring shall be performed pursuant to paragraphs 62-
668 780.700(4)(a) and (11)(i), F.A.C.;

669 5. Contaminated soilSource removal shall be completed within 30 days of the discovery of a release or spill of a
670 nonpetroleum product (pollutants or hazardous substances other than petroleum or petroleum products as defined in Section
671 376.301, F.S.). Excavation of a source to a depth of 1 foot below visually stained soil or sediment, if present, is permissible
672 above the groundwater table and may be conducted without confirmatory soil or sediment sampling and analysis. When
673 required, s When visual staining is not present, soil screening methods may be used for confirming that excavation is
674 complete above the groundwater table provided the soil screening method is applicable to the pollutant or hazardous
675 substance that has been discharged. When soil screening methods are not used, soil samples shall be collected at the bottom
676 of the excavation (unless the bottom is below the water table) and walls or perimeter of the excavation. When required,
677 sSediment samples shall be collected at the bottom and perimeter of the excavation, if appropriate. IfShould source removal
678 begins after or extends beyond 30 days of discovery, or if CTLs or background concentrations pursuant to subsection 62-
679 780.680(1), F.A.C. are still exceeded after the contaminated soil removal, the source was not removed from the soil and
680 sediment to CTLs or background concentrations pursuant to subsection 62-780.680(1), F.A.C.; soil and sediment removal,
681 treatment, and disposal shall be conducted in accordance with Rule 62-780.525, F.A.C.;

682 6. Contaminated soilSource removal shall be completed within 3014 days of the discovery of a release or spill of
683 petroleum products as defined in Section 376.301(31), F.S., (i.e. gasoline or kerosene). During excavation activities readings
684 must be obtained on an organic vapor analysis (OVA) instrument, as outlined in subsection 62-780.200(15), F.A.C. If one of
685 the objectives of the interim source removal is to excavate all the contaminated soil or sediment, confirmatory soil or
686 sediment samples shall be collected. Soil or sediment OVA samples shallmustshall be collected at the bottom of the
687 excavation (unless the bottom is below the water table) and walls or perimeter of the excavation that are characteristic of the
688 area(s) impacted. Representative sSediment samples shall be collected at the bottom and perimeter of the excavation, if
689 applicable. If all post-excavation OVA readings are < 10 ppm, confirmatory soil or sediment sampling and analysis are not
690 required. IfShould source removal begins after or extends beyond 3014 days of discovery, or if groundwater is encountered,
691 soil and sediment removal, treatment, and disposal shall be conducted in accordance with Rule 62-780.525, F.A.C.;

692 7. Contaminated soilSource removal shall be completed within 3014 days of the discovery of a release or spill of
693 petroleum product as defined in Section 376.301(30), F.S., (i.e. oil and used oil). Excavation of a source to a depth of 1 foot
694 below visually stained soil or sediment is permissible above the groundwater table and may be conducted without
695 confirmatory soil or sediment sampling and analysis. If source removal begins after or extends beyond 3014 days of
696 discovery; soil and sediment removal, treatment, and disposal shall be conducted in accordance with Rule 62-780.525,
697 F.A.C.;

698 8. When groundwater is encountered during excavation activities, a temporary monitor well(s) shall be installed and
699 sampled for contaminants of concern within the area(s) of excavation. Well placement should be sufficient to characterize
700 the area(s) of impact.

701 9.6. A determination shall be made as to whether or not the contaminated soil or sediment contains hazardous waste and
702 shall be conducted in accordance with subsection 62-780.525(5)(a)6, F.A.C. If the soil or sediment is known to be
703 contaminated by hazardous waste, listed in 40 CFR Part 261 Subpart D (7-1-12 Edition), hereby adopted and incorporated by
704 reference (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02418>), testing is not required to make the determination.
705 If the soil or sediment is not known to be contaminated with listed hazardous waste, but is contaminated with any of the toxic
706 constituents identified in 40 CFR 261.24(7-1-12 Edition), hereby adopted and incorporated by reference
707 (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02418>), (and the contamination does not result solely from
708 manufactured gas plant waste), then USEPA Test Method 1311, Toxicity Characteristic Leaching Procedure (TCLP) and
709 subsequent analysis of the leachate, shall be performed on a number of samples sufficient to determine whether or not the
710 contaminated soil or sediment exceeds maximum concentrations for the toxicity characteristics. Pursuant to 40 CFR
711 261.4(b)(10), Subpart A (7-1-12 Edition), hereby adopted and incorporated by reference
712 (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02419>), petroleum-contaminated media and debris, associated with
713 an underground storage tank system, that fail the test for the Toxicity Characteristic of 40 CFR 261.24, Subpart C (Hazardous

Commented [A42]: These paragraphs refer specifically to contaminated soil removal. Other source removal activities (such as groundwater) are not included

Commented [A43]: FDEP has proposed draft rule language in the context of emergency response action source removal of a petroleum product spill ... maintain that this concept is equally applicable to emergency response action source removal of non-petroleum products. Accordingly, the proposed language should also be inserted as a new sentence, before the word "[S]oil."

Commented [A44]: Provide guidance on soils that are contaminated but not visually stained. Cover additional scenario where visual staining doesn't exist.

Commented [DB45]: During workshop discussed that 'visually stained' not reliable for nonpetroleum products. Added language below to address other situations

Commented [DB46]: Suggested amendment to partially address concerns with products where visual staining is not a reliable indicator

Commented [A48]: The time period revised to 30 days to be consistent with the time period proposed for emergency response source removal of non-petroleum products.

Commented [A49]: Provide Guidance Document to go along with OVA and incidents where the placement of a well is necessary

Commented [DB50]: See if petroleum has existing guidance (beyond what is in .200(15)). Not sure how prescriptive we want to be with requirements for well installation.

Commented [A51]: Excavation below water table is allowed as an Emergency Response Action with installation of monitor well(s) and/or short term groundwater recovery. So encountering groundwater per se shouldn't necessarily require cleanup under Interim Source Removal.

714 ~~Waste Codes D018 through D043 only) are solid waste, not hazardous waste. Contaminated soil associated with an~~
715 ~~underground storage tank system, which will be managed as solid waste, is not subject to the requirement that TCLP~~
716 ~~extraction and subsequent analysis of the leachate be performed; and~~

717 ~~10.7. When excavated contaminated soil or sediment is temporarily stored or stockpiled on-site, the soil or sediment shall~~
718 ~~be placed on an impermeable surface to prevent leachate infiltration and secured in a manner that prevents human exposure to~~
719 ~~contaminated soil or sediment and prevents soil or sediment exposure to precipitation that may cause surface runoff. Any~~
720 ~~excavation shall be secured to prevent entry by the public. Excavated contaminated soil [including excessively contaminated~~
721 ~~soil as defined in subsection 62-780.200(15), F.A.C.,] may be returned to the original excavation when petroleum storage~~
722 ~~tank systems have been removed or replaced, and when contaminated soil is encountered during construction activities at a~~
723 ~~petroleum storage or dispensing facility, to be addressed later pursuant to Rule 62-780.700, F.A.C. The temporary storage or~~
724 ~~stockpiling of excavated contaminated soil or sediment shall not exceed 60 days, unless it is stockpiled on a right-of-way, in~~
725 ~~which case it shall be removed for proper treatment or proper disposal as soon as practical but no later than 30 days after~~
726 ~~excavation, or unless the excavated contaminated soil or sediment contains hazardous waste and a different time frame is~~
727 ~~authorized pursuant to Chapter 62-730, F.A.C. Excavated petroleum contaminated soil [including excessively contaminated~~
728 ~~soil as defined in subsection 62-780.200(15), F.A.C.,] may be containerized in water tight drums and stored on-site for 90~~
729 ~~days, after which time proper treatment or proper disposal of the contaminated soil shall occur, or it may be land farmed~~
730 ~~pursuant to paragraph 62-780.525500(5)(b), F.A.C. The PRSR is advised that other federal or local laws and regulations may~~
731 ~~apply to these activities.~~

732 ~~(b) Land farming of soil contaminated by petroleum products is allowed, provided the land farming operation is located~~
733 ~~on the same property as the source of contaminated soil unless it is land farmed at a permitted stationary facility. The~~
734 ~~following criteria shall be met for contaminated soil land farmed on the source property:~~

735 ~~1. The land farm operation shall be at least 200 feet from any residence, school, or park;~~
736 ~~2. An area large enough to spread the soil to a thickness of 6 to 12 inches shall be available;~~
737 ~~3. The land farming area shall be secured in a manner that prevents entry by the public and prevents human exposure to~~
738 ~~contaminated soil;~~

739 ~~4. The materials used to construct the land farm treatment area shall withstand the rigors of the land farming and~~
740 ~~weather;~~

741 ~~5. The land farmed soil shall be placed over an impermeable liner or surface, and surrounded at all times by an~~
742 ~~impermeable liner supported by berms;~~

743 ~~6. The land farmed soil shall be tilled at least biweekly;~~

744 ~~7. The land farmed soil shall be covered when not being tilled to prevent water from entering or leaving the area;~~

745 ~~8. A monitoring and sampling program shall be established to evaluate the effectiveness of the land farming operation~~
746 ~~and the effect on the environment, including monitoring of groundwater to confirm leaching is not occurring and of off-gas~~
747 ~~emissions for air regulatory compliance. Before the land farming operation commences, the PRSR shall submit to the~~
748 ~~Department for review the monitoring and sampling program, design specifications of the treatment area, and types and~~
749 ~~amounts of any proposed additives to the soil, to demonstrate that the objectives of this subparagraph will be met. Prior~~
750 ~~approval is not required for quantities less than 20 cubic yards, but the design specifications and results of the monitoring and~~
751 ~~sampling program shall be submitted in the Interim Source Removal Report;~~

752 ~~9. Land farming of soil is limited to 180 days, at the end of which time proper disposal is required except if written~~
753 ~~approval pursuant to the provisions of subsection 62-780.790(3), F.A.C., to exceed this time frame is obtained from the~~
754 ~~Department; and~~

755 ~~10. Land farmed soil that does not exceed the lower of the direct exposure residential CTLs and leachability based on~~
756 ~~groundwater criteria CTLs specified in Chapter 62-777, F.A.C., Table II may be disposed on-site or off-site. The PRSR is~~
757 ~~advised that other federal or local laws and regulations may apply to these activities. Land farmed soil that exceeds the~~
758 ~~applicable CTLs specified in Chapter 62-777, F.A.C., Table II shall not be disposed or returned to the original excavation~~
759 ~~without obtaining approval from the Department.~~

760 ~~(e) Consistent with the goals set forth in Section 403.061(33), F.S., the Department encourages treatment over disposal~~
761 ~~options to address contaminated soil.~~

762 ~~(c)(d) Soil or sediment treatment, storage, or disposal techniques not authorized by applicable rules of the Department~~

763 require approval in an ~~Interim~~ a Source Removal Proposal submitted pursuant to paragraph 62-780.500(5)(e), F.A.C., ~~or in a~~
764 ~~Remedial Action Plan submitted pursuant to Rule 62-780.700, F.A.C.~~

765 (d)(e) The Interim Source Removal Proposal shall include the information outlined in subsections 62-780.700(3) and (4),
766 F.A.C., as applicable.

767 (e)(f) The Department shall:

768 1. Provide the PRSR with ~~written~~ approval of the ~~Interim~~ Source Removal Proposal submitted pursuant to paragraph 62-
769 780.500(5)(e), F.A.C.; or

770 2. Notify the PRSR ~~in writing~~, stating the reason(s) why the ~~Interim~~ Source Removal Proposal does not contain
771 information adequate to support the selection of an alternative soil or sediment treatment or disposal technique.

772 (4) Short-term Groundwater Recovery.

773 (a) The PRSR ~~may, and for emergency response actions shall, if necessary to alleviate a threat to human health, public~~
774 ~~safety, or the environment, perform a short-term groundwater recovery event as a source removal activity provided the~~
775 ~~following criteria are met:~~

776 1. Prior to initiation, the PRSR shall provide to the Department notification in accordance with the time frames in Table
777 A (Notices for Field Activities) that includes a description of the type of contamination, estimated volume of groundwater to
778 be removed, and proposed disposal methods to be ~~used~~utilized.

779 ~~2.4.~~ The groundwater contamination has been established to be less than one-fourth (1/4) acre and confined to the shallow
780 aquifer such that the pumping of a shallow aquifer well(s) within the plume may result in the site meeting the No Further
781 Action criteria of Rule 62-780.680, F.A.C.

782 ~~3.4.~~ The duration of the groundwater recovery does not exceed 30 days, unless the PRSR demonstrates to the
783 Department that extended groundwater recovery will not result in the spread of contamination;

784 ~~4.2.~~ The recovered groundwater is not treated on-site and is properly disposed at a permitted industrial water treatment
785 facility, at a publicly-owned treatment works with the approval of the sanitary sewer authority, or at a permitted Hazardous
786 Waste Treatment, Storage, or Disposal facility if the recovered groundwater is a hazardous waste; and

787 ~~5.3.~~ Sampling of representative monitoring wells to determine the effectiveness of the Short-term Groundwater Recovery
788 event shall be performed ~~no sooner than~~at least 30 days after completion of the groundwater recovery.

789 (5)(6) Authorization or receipt of approval pursuant to Rule 62-780.500, F.A.C., does not relieve the PRSR from the
790 obligation to comply with other Department rules (for example, Chapters 62-701 and 62-730, F.A.C.) for product recovery,
791 product disposal, groundwater recovery, or the handling, storage, disposal, or treatment of contaminated media. The PRSR is
792 advised that other federal or local laws and regulations may apply to these activities.

793 (6)(7) Emergency~~Interim~~ Source Removal Report.

794 (a) Within the time frames specified in Table A ~~or the CAD~~, the PRSR shall submit an electronic or paper copy of an
795 Emergency~~Interim~~ Source Removal Report to the Department for review. ~~Applicable portions of the Emergency Source~~
796 ~~Removal Report shall be professionally sealed in accordance with the provisions of rule 62-780.400, F.A.C.~~ If analytical
797 results obtained pursuant to subparagraphs ~~62-780.500(3)(a)6~~, ~~62-780.500(5)(a)5~~, and ~~62-780.600(5)(m)3~~, F.A.C., as
798 applicable, after completion of the interim source removal, demonstrate that the No Further Action criteria of subsection 62-
799 780.680(1), F.A.C., are met, a Site Assessment Report pursuant to subsection 62-780.600(7), F.A.C., may be submitted in
800 lieu of an ~~Interim Source Removal Report~~. The ~~Emergency~~Interim Source Removal Report shall contain the following
801 information in detail, as applicable:

802 1. The type and an estimated volume of ~~free product~~non-aqueous phase liquids that ~~was~~were discharged to the
803 environment, if known;

804 2. The volume of non-aqueous phase liquids and the volume of groundwater recovered;

805 3. The volume of contaminated soil or sediment excavated and treated or properly disposed;

806 4. The disposal or recycling methods for non-aqueous phase liquids and contaminated soil or sediment;

807 5. The disposal methods for other contaminated media and any investigation-derived waste;

808 6. A scaled site map (including a graphical representation of the scale used) that shows the location(s) of all known on-
809 site structures (including any buildings, underground storage tanks, storm drain systems, and septic tanks), locations where
810 free product was recovered and the area of soil removal or treatment, and the approximate locations where all samples were
811 collected;

Commented [DB52]: Suggested deletion.

Ed. Note: Language unnecessary due to splitting of ER and ISR rules.

812 7. A table that summarizes free product thickness in each monitoring well or piezometer, the total depth and screened
813 interval of each monitoring well or piezometer, and the dates the measurements were made;

814 8. The type of field screening instrument, analytical methods, or other methods used and associated calibration logs;

815 9. The dimensions of the excavation(s) and location(s), integrity, capacities and last known contents of storage tanks,
816 integral piping, dispensers, or appurtenances removed;

817 10. Photographs of the spill area and cleanup (before, during and after). Photographs shall be labeled with the
818 date, direction of view, and the information that is conveyed in the photograph. Whenever possible, the photographs
819 shall include nearby structures or other prominent features in relation to the spill area.

820 ~~11.40.~~ A table that indicates the identification, depth, and field soil screening results of each sample collected;

821 ~~12.44.~~ Separate tables by media that summarize all available soil, sediment, groundwater, and surface water analytical
822 results, detection limits achieved for non-detected analytes, and analyses performed (listing all contaminants analyzed and
823 their corresponding CTLs);

824 ~~13.42.~~ If applicable, a benzo(a)pyrene conversion table for each soil sample where at least one of the carcinogenic PAHs
825 [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and
826 indeno(1,2,3 cd)pyrene] was detected in a sample at a concentration equal to or greater than the Method Detection Limit
827 (MDL).

828 14. Depth to groundwater at the time of each excavation, measurement locations, and method used to obtain that
829 information;

830 15. GPS coordinates of the spill area and measurements (measuring wheel or tape, in feet) from structures or other
831 prominent features (road exit or street signs, billboards, mileage markers, large tree, storm drainage inlets, buildings, etc.)
832 that can be used to locate the spill area in the future.

833 ~~16.43.~~ A scaled site map (including a graphical representation of the scale used) that shows the locations and results of
834 confirmatory soil or sediment samples in relation to the area of the soil or sediment removal; and

835 ~~17.44.~~ Documentation or certification that confirms the proper treatment or proper disposal of the non-aqueous phase
836 liquids, contaminated groundwater, contaminated soil, or contaminated sediment, including disposal manifests for non-
837 aqueous phase liquids or hazardous waste, and a copy of the documentation or certification of treatment or acceptance of the
838 contaminated soil or contaminated sediment; and

839 ~~15.~~ For land farmed soil, a copy of the pre-treatment and post-treatment analytical results.

840 (b) The Department shall:

841 1. Provide the PRSR with written approval of the ~~Emergency~~ Interim Source Removal Report submitted pursuant to the
842 criteria of paragraph 62-780.500(7)(a), F.A.C.; or

843 2. Notify the PRSR in writing, stating the reason(s) why the ~~Emergency~~ Interim Source Removal Report does not
844 conform with the applicable ~~Emergency~~ Interim Source Removal criteria of paragraph 62-780.500(7)(a), F.A.C.

845 ~~(7)(8)~~ If the ~~Emergency~~ Interim Source Removal Report is incomplete in any respect, or is insufficient to satisfy the
846 criteria of paragraph 62-780.500(7)(a), F.A.C., the Department shall inform the PRSR pursuant to subparagraph 62-
847 780.500(7)(b)2., F.A.C., and the PRSR shall submit to the Department for review an electronic or paper copy of an
848 ~~Emergency~~ Interim Source Removal Report Addendum that addresses the deficiencies within 60 days after receipt of the
849 notice.

850 ~~(8)~~ If the information presented in the Emergency Source Removal Report confirms that no contamination remains at the
851 conclusion of the emergency response action, the Department will indicate in writing that information provided on a
852 Discharge Reporting Form, incorporated in Rule 62-761.900, F.A.C. [Form Number 62-761.900(1)], or other discharge
853 record will no longer be tracked by the Division of Waste Management and that no other site rehabilitation requirements of
854 this chapter are required to be followed.

855 ~~(9)~~ If the interim source removal is performed after submittal of the Site Assessment Report, the PRSR shall submit to
856 the Department for review an electronic or paper copy of a Site Assessment Report Addendum that updates the Site
857 Assessment Report by summarizing the interim source removal activities and all sampling results obtained after submittal of
858 the Site Assessment Report, and that includes a recommendation pursuant to paragraph 62-780.600(8)(b), F.A.C.:

859 Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.3078(9), 376.81 FS. Law Implemented 376.3071, 376.30701,
860 376.30711, 376.3078(4), 376.3078(9), 376.81 FS. History—New 4-17-05, Amended 6-12-13 _____.

861 Editorial Note: Portions of this rule were copied from 62-770.300, Formerly 17-70.006 and Formerly 17-770.300; 62-782.500; and 62-
862 785.500.

Commented [DB53]: Although this is still true, the rule has been substantially re-written. Does this note still belong here? Also added it to .525

863 **62-780.525 Interim Source Removal.**

864 (1) Any PRSR may conduct an interim source removal in accordance with this section. The objectives of the interim
865 source removal is to remove specific known contaminant source(s) and provide temporary control to prevent or minimize
866 contaminant migration, and to protect human health and the environment prior to the approval of a Remedial Action Plan
867 prepared and submitted pursuant to Rule 62-780.700, F.A.C., or in the cleanup of de minimis discharges pursuant to Rules
868 62-780.550 and 63.780.560.

869 F.A.C.

870 (2) Free Product Removal and Disposal.

871 (a) The PRSR may, if necessary to alleviate a threat to human health, public safety, or the environment, perform free
872 product recovery consistent with the following requirements:

873 1. The PRSR shall provide to the Department a written notification in accordance with the time schedule in Table A,
874 located at the end of Rule 62-780.900, F.A.C., (Notices for Field Activities) or the CAD that includes a description of the
875 type and estimated volume of free product to be removed, and proposed free product recovery and disposal methods to be
876 utilized;

877 2. The free product recovery shall not spread contamination into previously uncontaminated or less contaminated areas
878 through untreated discharges, improper treatment, improper disposal, or improper storage;

879 3. Flammable products shall be handled in a safe manner; and

880 4. The recovered product shall be characterized and properly disposed or recycled; and all sampling and analyses shall be
881 performed pursuant to Rule 62-780.300, F.A.C.

882 (b) The following passive and active methods of free product recovery may be implemented without requesting approval
883 from the Department:

884 1. Excavation

885 2. Absorbent pads;

886 3. Skimmer pumps that include pumps with mechanical, electrical, or hand-bailed purging operations;

887 4. Hand or mechanical bailing; and

888 5. Fluid vacuum techniques (for example, vacuum pump trucks) or total fluid displacement pumps, as long as the
889 technique used shall not smear or spread free product, or contaminate previously uncontaminated or less contaminated media.
890 If this method is used for petroleum or petroleum product contamination sites (except sites subject to a BSRA), the volume of
891 groundwater recovered shall not be greater than two times the volume of free product recovered, except that the first 1,000
892 gallons of the total fluid recovered per discharge are exempt from meeting the required ratio of groundwater to free product.

893 (c) In addition to the free product recovery methods specified in paragraph 62-780.525(2)(b), F.A.C., the PRSR may
894 evaluate, propose, and submit other product recovery methods to the Department for approval prior to implementation. The
895 submittal, as an Interim Source Removal Proposal, shall include the results of the evaluation performed to determine the
896 potential for product smearing or spreading and the potential for air emissions. The free product recovery methods proposed
897 may include:

898 1. Dewatering or groundwater extractions that may influence the depth to the water table;

899 2. Air/fluid extraction with air emissions treatment; or

900 3. Excavation of soil saturated with non-aqueous phase liquid into, or below, the water table.

901 4. Recovery of petroleum or petroleum products that exceeds the water-to-product ratio indicated in subparagraph 62-
902 780.525(2)(b)5., F.A.C.; or

903 5. On-site treatment and discharge of contaminated water that results from dewatering to excavate free product from
904 below the water table, or on-site treatment and discharge of contaminated water that is separated from recovered free product.

905 (d) The Department shall:

906 1. Provide the PRSR with written approval of the Interim Source Removal Proposal; or

907 2. Notify the PRSR in writing, stating the reason(s) why the Interim Source Removal Proposal does not contain
908 information adequate to support a free product recovery method pursuant to paragraph 62-780.525(2)(c), F.A.C.

Commented [A54]: Recommend that clarifying language be added to the end of this subsection regarding the use of interim source removal in de minimis discharge cleanup under Rules 62-780.550 and 62-780.560, F.A.C. To this end, suggest that the phrase", or in the cleanup of de minimis discharges pursuant to Rules 62-780.550 and 63.780.560, F.A.C." be added.

909 (e) Free product recovery as an Interim Source Removal task shall be deemed complete when the objectives of
910 subsection 62-780.525(1), F.A.C., have been met.

911 (f) Within the time frames specified in Table A or the CAD, written notification of initiation of free product recovery
912 shall be provided by the PRSR to the Department.

913 (g) Within the time frames and frequencies specified in Table A or the CAD, the PRSR shall submit to the Department
914 for review an electronic or paper copy of an Interim Source Removal Status Report documenting the recovery progress and
915 summarizing all recovery activities for a specified period.

916 (3) Short-term Groundwater Recovery.

917 (a) The PRSR may, ~~if necessary to alleviate a threat to human health, public safety, or the environment,~~ perform a
918 short-term groundwater recovery event as an interim source removal activity. Groundwater recovery from well(s) within the
919 plume with screened intervals that intercept the water table, with the intent of achieving cleanup progress, may be performed
920 prior to Department approval of a Remedial Action Plan submitted pursuant to Rule 62-780.700, F.A.C., provided the
921 following criteria are met:

922 1. Prior to initiation, the PRSR shall provide to the Department a written notification in accordance with the time frames
923 in Table A (Notices for Field Activities) or the CAD that includes a description of the type of contamination, estimated
924 volume of groundwater to be removed, and proposed disposal methods to be utilized;

925 2. The groundwater contamination has been established to be less than one-fourth (1/4) acre and confined to shallow
926 aquifer well(s) with screened intervals that intercept the water table, such that the pumping of a shallow aquifer well(s) within
927 the plume may result in the site meeting the No Further Action criteria of Rule 62-780.680, F.A.C., or the Natural
928 Attenuation with Monitoring criteria of Rule 62-780.690, F.A.C.;

929 3. Free product is not present;

930 4. The duration of the groundwater recovery does not exceed 30 days, unless the PRSR demonstrates to the Department
931 that extended groundwater recovery will not result in the spread of contamination;

932 5. The recovered groundwater is not treated on-site and is properly disposed at a permitted industrial water treatment
933 facility, at a publicly-owned treatment works with the approval of the sanitary sewer authority, or at a permitted Hazardous
934 Waste Treatment, Storage, or Disposal facility if the recovered groundwater is a hazardous waste; and

935 6. Sampling of representative monitoring wells to determine the effectiveness of the Short-term Groundwater Recovery
936 event shall be performed ~~no sooner than~~ ~~at least~~ 30 days after completion of the groundwater recovery.

937 (b) Within the time frames and frequencies specified in Table A or the CAD, the PRSR shall submit to the Department
938 for review an electronic or paper copy of an Interim Source Removal Status Report that documents the recovery progress and
939 summarizes all recovery activities for a specified period.

940 (4) Interim Groundwater Remediation.

941 (a) Prior to approval of a Remedial Action Plan prepared and submitted pursuant to Rule 62-780.700, F.A.C., when any
942 of the criteria of subparagraphs 62-780.525(3)(a)2. through 4., F.A.C., are not met, the PRSR may perform groundwater
943 recovery and on-site treatment and disposal or any other means of interim in situ groundwater remediation, provided the
944 PRSR submits an Interim Source Removal Proposal that includes the same level of engineering detail as a Remedial Action
945 Plan pursuant to Rule 62-780.700, F.A.C. Applicable sections shall be signed and sealed pursuant to Rule 62-780.400, F.A.C.

946 (b) The Department shall:

947 1. Provide the PRSR with written approval of the proposal; or

948 2. Notify the PRSR in writing, stating the reason(s) why the proposal does not contain information adequate to perform
949 groundwater recovery pursuant to paragraph 62-780.525(4)(a), F.A.C.

950 (c) Within the time frames and frequencies specified in Table A or the CAD, the PRSR shall submit to the Department
951 for review an electronic or paper copy of an Interim Source Removal Status Report documenting the recovery progress and
952 summarizing all recovery activities for a specified period.

953 (5) ~~Soil and Sediment Removal, Treatment, and Disposal.~~

954 (a) The PRSR may excavate contaminated soil or contaminated sediment for proper treatment or proper disposal as an
955 interim source removal activity provided the following criteria are met:

956 1. Prior to initiation, the PRSR shall provide to the Department a written notification in accordance with the time frames
957 in Table A or the CAD, that includes a description of the type of contamination, estimated volume of soil or sediment to be

Commented [DB55]: Suggested change

Commented [A56]: Recommend allowance of Soil Vapor Extraction (SVE) as an interim remedy under this section, provided the PRSR submits an Interim Source Removal Proposal that includes the same level of engineering detail as a Remedial Action Plan pursuant to Rule 62 780.700, F.A.C. Applicable sections shall be signed and sealed pursuant to Rule 62 780.400, F.A.C.

Commented [A57]: Recommend allowance of Soil Vapor Extraction (SVE) as an interim remedy under this section, provided the PRSR submits an Interim Source Removal Proposal that includes the same level of engineering detail as a Remedial Action Plan pursuant to Rule 62 780.700, F.A.C. Applicable sections shall be signed and sealed pursuant to Rule 62 780.400, F.A.C.

958 removed, and proposed disposal methods to be utilized;

959 2. Contamination shall not be spread into previously uncontaminated areas or less contaminated areas through untreated
960 discharges, improper treatment, improper disposal, or improper storage;

961 3. Flammable products shall be handled in a safe manner;

962 4. When a soil vacuum extraction system is necessary to abate an imminent threat to human life, health, or safety within
963 a structure or utility conduit, then the vacuum extraction system shall be designed and operated only to abate the imminent
964 threat. The Department shall be notified, within 24 hours, of the imminent threat and the intent to use a soil vacuum
965 extraction system. The air emissions monitoring and frequency of monitoring shall be performed pursuant to paragraphs
966 62-780.700(4)(a) and (11)(i), F.A.C.;

967 5. If one of the objectives of the interim source removal is to excavate all the contaminated soil or sediment,
968 confirmatory soil or sediment samples shall be collected, unless the excavation of the source occurs above the groundwater
969 table to a depth of 1 foot below and 1 foot laterally of visually stained soil or sediment, if present. When visual staining is
970 not present, soil screening methods may be used for confirming that excavation is complete above the groundwater table
971 provided the soil screening method is applicable to the pollutant or hazardous substance that has been discharged. When soil
972 screening methods are not used, soil samples shall be collected at the bottom of the excavation (unless the bottom is below
973 the water table) and walls or perimeter of the excavation. Sediment samples shall be collected at the bottom and perimeter of
974 the excavation, if applicable;

975 6. A determination shall be made as to whether or not the contaminated soil or sediment contains hazardous waste. If the
976 soil or sediment is known to be contaminated by hazardous waste, listed in 40 CFR Part 261 Subpart D (7-1-12 Edition),
977 hereby adopted and incorporated by reference (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02418>), testing is not
978 required to make the determination. If the soil or sediment is not known to be contaminated with listed hazardous waste, but
979 is contaminated with any of the toxic constituents identified in 40 CFR 261.24(7-1-12 Edition), hereby adopted and
980 incorporated by reference (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02418>), (and the contamination does not
981 result solely from manufactured gas plant waste), then USEPA Test Method 1311, Toxicity Characteristic Leaching
982 Procedure (TCLP) and subsequent analysis of the leachate, shall be performed on a number of samples sufficient to
983 determine whether or not the contaminated soil or sediment exceeds maximum concentrations for the toxicity characteristics.
984 Pursuant to 40 CFR 261.4(b)(10), Subpart A (7-1-12 Edition), hereby adopted and incorporated by reference
985 (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02419>), petroleum contaminated media and debris, associated with
986 an underground storage tank system, that fail the test for the Toxicity Characteristic of 40 CFR 261.24, Subpart C (Hazardous
987 Waste Codes D018 through D043 only) are solid waste, not hazardous waste. Contaminated soil associated with an
988 underground storage tank system, which will be managed as solid waste, is not subject to the requirement that TCLP
989 extraction and subsequent analysis of the leachate be performed; and

990 7. When excavated contaminated soil or sediment is temporarily stored or stockpiled on-site, the soil or sediment shall be
991 placed on an impermeable surface to prevent leachate infiltration and secured in a manner that prevents human exposure to
992 contaminated soil or sediment and prevents soil or sediment exposure to precipitation that may cause surface runoff. Any
993 excavation shall be secured to prevent entry by the public. Excavated contaminated soil [including excessively contaminated
994 soil as defined in subsection 62-780.200(15), F.A.C.] may be returned to the original excavation when petroleum storage
995 tank systems have been removed or replaced, and when contaminated soil is encountered during construction activities at a
996 petroleum storage or dispensing facility, to be addressed later pursuant to Rule 62-780.700, F.A.C. The temporary storage or
997 stockpiling of excavated contaminated soil or sediment shall not exceed 60 days, unless it is stockpiled on a right-of-way, in
998 which case it shall be removed for proper treatment or proper disposal as soon as practical but no later than 30 days after
999 excavation, or unless the excavated contaminated soil or sediment contains hazardous waste and a different time frame is
1000 authorized pursuant to Chapter 62-730, F.A.C. Excavated petroleum contaminated soil [including excessively contaminated
1001 soil as defined in subsection 62-780.200(15), F.A.C.] may be containerized in water tight drums and stored on-site for 90
1002 days, after which time proper treatment or proper disposal of the contaminated soil shall occur, or it may be land farmed
1003 pursuant to paragraph 62-780.525(5)(b), F.A.C. The PRSR is advised that other federal or local laws and regulations may
1004 apply to these activities.

1005 (b) Land farming of soil contaminated by petroleum products is allowed, provided the land farming operation is located
1006 on the same property as the source of contaminated soil unless it is land farmed at a permitted stationary facility. The
1007 following criteria shall be met for contaminated soil land farmed on the source property:

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Commented [A59]: FDEP has proposed draft rule language in the context of emergency response action source removal of a petroleum product spill ... this concept should be implemented for interim source removal activities to be addressed in proposed new Rule 62-780.525. Specifically, this concept should be inserted in Rule 62-780.525(5)(a)5., after the word "collected" by including the phrase ", unless the excavation of the source occurs above the groundwater table to a depth of 1 foot below and 1 foot laterally of visually stained soil or sediment."

Commented [DB60]: As above, need to address use of visually stained soil for substances that do not have any distinctive color.

Commented [DB61]: Suggested change.

1008 1. The land farm operation shall be at least 200 feet from any residence, school, or park;
1009 2. An area large enough to spread the soil to a thickness of 6 to 12 inches shall be available;
1010 3. The land farming area shall be secured in a manner that prevents entry by the public and prevents human exposure to
1011 contaminated soil;
1012 4. The materials used to construct the land farm treatment area shall withstand the rigors of the land farming and
1013 weather;
1014 5. The land farmed soil shall be placed over an impermeable liner or surface, and surrounded at all times by an
1015 impermeable liner supported by berms;
1016 6. The land farmed soil shall be tilled at least biweekly;
1017 7. The land farmed soil shall be covered when not being tilled to prevent water from entering or leaving the area;
1018 8. A monitoring and sampling program shall be established to evaluate the effectiveness of the land farming operation
1019 and the effect on the environment, including monitoring of groundwater to confirm leaching is not occurring and of off-gas
1020 emissions for air regulatory compliance. Before the land farming operation commences, the PRSR shall submit to the
1021 Department for review the monitoring and sampling program, design specifications of the treatment area, and types and
1022 amounts of any proposed additives to the soil, to demonstrate that the objectives of this subparagraph will be met. Prior
1023 approval is not required for quantities less than 20 cubic yards, but the design specifications and results of the monitoring and
1024 sampling program shall be submitted in the Interim Source Removal Report;
1025 9. Land farming of soil is limited to 180 days, at the end of which time proper disposal is required except if written
1026 approval pursuant to the provisions of subsection 62-780.790(3), F.A.C., to exceed this time frame is obtained from the
1027 Department; and
1028 10. Land farmed soil that does not exceed the lower of the direct exposure residential CTLs and leachability based on
1029 groundwater criteria CTLs specified in Chapter 62-777, F.A.C., Table II may be disposed on-site or off-site. The PRSR is
1030 advised that other federal or local laws and regulations may apply to these activities. Land farmed soil that exceeds the
1031 applicable CTLs specified in Chapter 62-777, F.A.C., Table II shall not be disposed or returned to the original excavation
1032 without obtaining approval from the Department.
1033 (c) Interim Soil Vapor Extraction or related short-term extraction technology may be performed by the PRSR as an
1034 interim source removal activity prior to approval of a Remedial Action Plan prepared and submitted pursuant to Rule 62-
1035 780.700, F.A.C., provided the PRSR submits an Interim Source Removal Proposal that includes the same level of
1036 engineering detail as a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C. Applicable sections shall be signed and
1037 sealed pursuant to Rule 62-780.400, F.A.C.
1038 (d)(e) Consistent with the goals set forth in Section 403.061(33), F.S., the Department encourages treatment over
1039 disposal options to address contaminated soil.
1040 (e)(f) Soil or sediment treatment, storage, or disposal techniques not authorized by applicable rules of the Department
1041 require approval in an Interim Source Removal Proposal submitted pursuant to paragraph 62-780.525(5)(e), F.A.C., or in a
1042 Remedial Action Plan submitted pursuant to Rule 62-780.700, F.A.C.
1043 (f)(e) The Interim Source Removal Proposal shall include the information outlined in subsections 62-780.700(3) and (4),
1044 F.A.C., as applicable.
1045 (g)(f) The Department shall:
1046 1. Provide the PRSR with written approval of the Interim Source Removal Proposal submitted pursuant to paragraph
1047 62-780.525(5)(e), F.A.C.; or
1048 2. Notify the PRSR in writing, stating the reason(s) why the Interim Source Removal Proposal does not contain
1049 information adequate to support the selection of an alternative soil or sediment treatment or disposal technique.
1050 (6) Authorization or receipt of approval pursuant to Rule 62-780.525, F.A.C., does not relieve the PRSR from the
1051 obligation to comply with other Department rules (for example, Chapters 62-701 and 62-730, F.A.C.) for product recovery,
1052 product disposal, groundwater recovery, or the handling, storage, disposal, or treatment of contaminated media. The PRSR is
1053 advised that other federal or local laws and regulations may apply to these activities.
1054 (7) Interim Source Removal Report.
1055 (a) Within the time frames specified in Table A or the CAD, the PRSR shall submit an electronic or paper copy of an
1056 Interim Source Removal Report to the Department for review. If analytical results obtained pursuant to subparagraphs
1057 62-780.525(3)(a)6., 62-780.525(5)(a)5., and 62-780.600(5)(m)3., F.A.C., as applicable, after completion of the interim source

1058 removal, demonstrate that the No Further Action criteria of subsection 62-780.680(1), F.A.C., are met, a Site Assessment
1059 Report pursuant to subsection 62-780.600(7), F.A.C., may be submitted in lieu of an Interim Source Removal Report. The
1060 Interim Source Removal Report shall contain the following information in detail, as applicable:

- 1061 1. The type and an estimated volume of non-aqueous phase liquids that were discharged to the environment, if known;
 - 1062 2. The volume of non-aqueous phase liquids and the volume of groundwater recovered;
 - 1063 3. The volume of contaminated soil or sediment excavated and treated or properly disposed;
 - 1064 4. The disposal or recycling methods for non-aqueous phase liquids and contaminated soil or sediment;
 - 1065 5. The disposal methods for other contaminated media and any investigation-derived waste;
 - 1066 6. A scaled site map (including a graphical representation of the scale used) that shows the location(s) of all known
1067 on-site structures (including any buildings, underground storage tanks, storm drain systems, and septic tanks), locations
1068 where free product was recovered and the area of soil removal or treatment, and the approximate locations where all samples
1069 were collected;
 - 1070 7. A table that summarizes free product thickness in each monitoring well or piezometer, the total depth and screened
1071 interval of each monitoring well or piezometer, and the dates the measurements were made;
 - 1072 8. The type of field screening instrument, analytical methods, or other methods used;
 - 1073 9. The dimensions of the excavation(s) and location(s), integrity, capacities and last known contents of storage tanks,
1074 integral piping, dispensers, or appurtenances removed;
 - 1075 10. A table that indicates the identification, depth, and field soil screening results of each sample collected;
 - 1076 11. Separate tables by media that summarize all available soil, sediment, groundwater, and surface water analytical
1077 results, detection limits achieved for non-detected analytes, and analyses performed (listing all contaminants analyzed and
1078 their corresponding CTLs);
 - 1079 12. Depth to groundwater at the time of each excavation, measurement locations, and method used to obtain that
1080 information;
 - 1081 13. A scaled site map (including a graphical representation of the scale used) that shows the locations and results of
1082 confirmatory soil or sediment samples in relation to the area of the soil or sediment removal; and
 - 1083 14. Documentation or certification that confirms the proper treatment or proper disposal of the non-aqueous phase
1084 liquids, contaminated groundwater, contaminated soil, or contaminated sediment, including disposal manifests for
1085 non-aqueous phase liquids or hazardous waste, and a copy of the documentation or certification of treatment or acceptance of
1086 the contaminated soil or contaminated sediment; and
 - 1087 15. For land farmed soil, a copy of the pre-treatment and post-treatment analytical results.
- 1088 (b) The Department shall:
- 1089 1. Provide the PRSR with written approval of the Interim Source Removal Report submitted pursuant to the criteria of
1090 paragraph 62-780.525(7)(a), F.A.C.; or
 - 1091 2. Notify the PRSR in writing, stating the reason(s) why the Interim Source Removal Report does not conform with the
1092 applicable Interim Source Removal criteria of paragraph 62-780.525(7)(a), F.A.C.
- 1093 (8) If the Interim Source Removal Report is incomplete in any respect, or is insufficient to satisfy the criteria of
1094 paragraph 62-780.525(7)(a), F.A.C., the Department shall inform the PRSR pursuant to subparagraph 62-780.525(7)(b)2.,
1095 F.A.C., and the PRSR shall submit to the Department for review an electronic or paper copy of an Interim Source Removal
1096 Report Addendum that addresses the deficiencies within 60 days after receipt of the notice.
- 1097 (9) If the interim source removal is performed after submittal of the Site Assessment Report, the PRSR shall submit to
1098 the Department for review an electronic or paper copy of a Site Assessment Report Addendum that updates the Site
1099 Assessment Report by summarizing the interim source removal activities and all sampling results obtained after submittal of
1100 the Site Assessment Report, and that includes a recommendation pursuant to paragraph 62-780.600(8)(b), F.A.C.

1101 Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.3078(9), 376.81 FS. Law Implemented 376.3071, 376.30701,
1102 376.30711, 376.3078(4), 376.3078(9), 376.81 FS. History—New _____ ~~6-17-05; Amended 6-12-12~~

- 1103
- 1104 **62-780.550 Nonpetroleum De Minimis Discharges.**
- 1105 (1) For purposes of this rule section, a “nonpetroleum de minimis discharge” means a discharge of pollutants or

Commented [A62]: GPS requirement for consistency with requirements for Emergency Response report?

Commented [DB63]: Not sure it is applicable on this specific line, but should we require GPS coordinates for sample locations such as those for items 10., 11. and 13. below?

1106 hazardous substances other than petroleum or petroleum products as defined in Section 376.301, F.S., that is removed from
1107 the soil, sediment, surface water, and groundwater to CTLs or background concentrations pursuant to subsection 62-
1108 780.680(1), F.A.C., within a period of 30 days from the discovery of the discharge.

1109 (2) Nonpetroleum de minimis discharges shall be addressed ~~as an interim source removal~~ ~~in an emergency response~~
1110 ~~removal~~ ~~emergency response removal~~ and shall be subject to the applicable requirements of Rules ~~62-780.500 or~~
1111 ~~62-780.525~~ ~~62-780.500~~, F.A.C., except for the notification and reporting requirements of that ~~Rule section~~ and the notification
1112 requirements of subsection 62-780.220(1), F.A.C. De minimis discharges of drycleaning solvents shall not be exempt from
1113 the reporting requirements of subsection 62-780.210(2), F.A.C.

1114 (3) The PRSR shall maintain records of the actions that were taken in response to the discharge including the information
1115 required pursuant to paragraph ~~62-780.500(6)(7)(a), F.A.C. or 62-780.525(7)(a) as applicable~~ for five years from the date of
1116 the discharge. The records shall be made available to the Department upon request.

1117 *Rulemaking Authority 376.30701, 376.3078(4), 376.81 FS. Law Implemented 376.30701, 376.3078(4), 376.81 FS. History—New 4-17-05,*
1118 *Amended 6-12-13.*

1119 *Editorial Note: Portions of this rule were copied from 62-770.300, Formerly 17-70.006 and Formerly 17-770.300; 62-782.500; and 62-*
1120 *785.500.*

1121 **62-780.560 Petroleum or Petroleum Product De Minimis Discharges.**

1122 (1) For purposes of this rule section, a “petroleum or petroleum product de minimis discharge” means a discharge of
1123 petroleum or petroleum products of less than 25 gallons onto a pervious surface ~~or that migrates onto a pervious surface~~
1124 ~~from an impervious surface.~~ Such discharge is exempt from the notification requirements of subsection 62-780.220(1), ~~and~~
1125 Rule 62-780.500, ~~and 62-780.525~~, F.A.C., as long as the discharge is removed and properly treated or properly disposed, or
1126 otherwise remediated, pursuant to the applicable provisions of Rule 62-780.500 ~~or 62-780.525~~, F.A.C., so that CTLs or
1127 background concentrations pursuant to subsection 62-780.680(1), F.A.C., are achieved.

1128 (2) For purposes of this rule section, a “petroleum or petroleum product de minimis discharge” also means a discharge of
1129 petroleum or petroleum products of 25 to 500 gallons onto a pervious surface ~~or that migrates onto a pervious surface from~~
1130 ~~an impervious surface~~ that is not associated with a regulated petroleum storage system and has not impacted groundwater,
1131 and for which the FDEP Office of Emergency Response oversees the response actions, if at the conclusion of the emergency
1132 response action, CTLs or background concentrations pursuant to subsection 62-780.680(1), F.A.C., are achieved. These de
1133 minimis discharges shall be addressed as an ~~emergency response removal~~ ~~or interim source removal~~ ~~interim source removal~~
1134 and shall be subject to the applicable requirements of Rule 62-780.500 ~~or 62-780.525~~, F.A.C., including notification and
1135 reporting. If the information presented in the ~~Emergency Source Removal Report or Interim Source Removal Report~~
1136 confirms that no contamination remains at the conclusion of the emergency response action, the Department will indicate in
1137 writing that information provided on a Discharge Reporting Form, incorporated in Rule 62-761.900, F.A.C. [Form Number
1138 62-761.900(1)], or other discharge record will no longer be tracked by the Division of Waste Management and that no other
1139 site rehabilitation requirements of this chapter are required to be followed.

1140 *[Ed. note: Alternate (2) suggested by OER:]*

1141 (2) The PRSR shall maintain records of the actions that were taken in response to the discharge including the
1142 information required pursuant to paragraph 62-780.500(7)(a), F.A.C., for five years from the date of the discharge. The
1143 records shall be made available to the Department upon request.
1144

1145 *Rulemaking Authority 376.303, 376.3071 FS. Law Implemented 376.303, 376.315, 376.3071 FS. History—New 6-12-13, Amended*

1146 **62-780.600 Site Assessment.**

1147 (1) For all sites except brownfield sites, unless the discharge is a de minimis discharge addressed pursuant to the
1148 requirements of Rule 62-780.550 or 62-780.560, F.A.C., the PRSR shall commence a site assessment within 60 days after a
1149 discharge is discovered. For purposes of a site assessment, “commence” means that the PRSR has employed or contracted
1150 with a professional engineer or geologist to design, implement, and complete the requirements of this section, and has given
1151 the professional the authority to proceed with the required work. The PRSR shall conduct the site assessment in accordance
1152 with the requirements of this rule and the time frames of Table A, located at the end of Rule 62-780.900, F.A.C., or the CAD,

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Page 24 of 62

106782133.1

Commented [DB64]: There were suggestions to link this paragraph to .500 (emergency response) and .525 (interim source removal). Edits made here only refer to .525 to preserve the original intent of the de minimis provisions – i.e., quick, complete cleanup without department oversight. Linking these provisions to .500 would have necessarily invoked department oversight from OER, which group might not even be the appropriate entity for oversight of the de minimis action. Further, linking to .500 may have led to a conflict with regard to the exemption from reporting intended under de minimis.

This construction may create situations in which the ability to pursue a de minimis cleanup is essentially overridden if the discharge creates an emergency situation (and therefore would come under, .500), however, in such instances, the department would likely be requesting the documentation pursuant to .550(3) and so the distinction is somewhat inconsequential.

Commented [DB65]: Copied from .500 above. Are 62-770 and 62-70 references valid, or do they belong with 62-780.560?

Commented [A66]: Suggested that paragraph .560(2) is unnecessary due to changes in .500. Also suggested addition of alternate (2) below.

Commented [DB67]: Seems that except for the volume restriction, the existing language in .560(2) is all covered in proposed .500. If Current (2) is kept, should proposed (2) be moved to (1)?

Commented [A68]: Remove volume restrictions? Check Petroleum numbers

Commented [DB69]: I have been unable to find any documentation with regard to the upper limit of 500 gallons.

Commented [DB70]: This seems OK in this context because prior sentence requires OER oversight for these cleanups

Commented [DB72]: Suggested addition

Commented [A73]: Note that CSM is not individual submittal but part of the approved Site Assessment and part of a “living document” (see comment chain from discussion). Note amendments to 62-780.600(2) and 62-780.600(3)(k)

1153 if applicable. For brownfield sites, because site assessment or assessment activities may have already been completed at a
1154 brownfield site or sites within a designated brownfield area prior to the execution of a BSRA, a PRSR may choose to submit
1155 to the Department for review the associated assessment documents as its Site Assessment Report pursuant to subsection 62-
1156 780.600(8), F.A.C. If site assessment work is necessary to define the nature and extent of contamination at a brownfield site
1157 or sites within a designated brownfield area, the site assessment shall be completed in accordance with the time frames
1158 specified in the BSRA.

1159 (2) To facilitate the site assessment process, the PRSR may have discussions with the Department at various decision
1160 points to establish the scope and methodology of the site assessment, applicable exposure factors and the remedial strategy
1161 for the site, and risk management options based on the current and projected land use(s) at the site. **These discussions may**
1162 **include the development and refinement of the Conceptual Site Model to help inform decisions with regard to site**
1163 **assessment, remedial strategy evaluation, risk management and site closure, including the use of engineering or institutional**
1164 **controls where warranted.**

1165 (3) The objectives of the site assessment shall be the following, as applicable based on site-specific circumstances:

1166 (a) To evaluate the current exposure and potential risk of exposure to humans and the environment, including multiple
1167 pathways of exposure. The physical, chemical, and biological characteristics of each contaminant and the individual site
1168 characteristics shall be considered. The individual site characteristics include:

- 1169 1. The current and projected use of the affected groundwater and surface water in the vicinity of the site;
- 1170 2. The current and projected land use of the area affected by the contamination;
- 1171 3. The exposed human population and ecological receptors including the presence of threatened or endangered species
1172 (flora and fauna). A general literature review and analysis based on site-specific conditions may be sufficient;
- 1173 4. The location of the plume;
- 1174 5. The degree and extent of contamination;
- 1175 6. The rate and direction of migration of the plume;
- 1176 7. The apparent or potential rate of degradation of contaminants through natural attenuation; and
- 1177 8. The potential for further migration in relation to the source property boundary;

1178 (b) To determine whether contamination is present and the types of contaminants present, and to determine the horizontal
1179 and vertical extent of contamination in every medium found to be contaminated (for soil in the unsaturated zone, to the more
1180 stringent of the direct exposure residential soil CTLs and the applicable leachability-based soil CTLs provided in Chapter 62-
1181 777, F.A.C., Table II; and for groundwater, to the groundwater CTLs or to the surface water CTLs provided in Chapter 62-
1182 777, F.A.C., Table I, as applicable);

1183 (c) To determine or confirm the origin(s) of the source(s) of contamination, if technologically feasible. For discharges of
1184 petroleum or petroleum products, to determine or confirm the source(s) of contamination to the extent practicable and to
1185 estimate the volume of petroleum or petroleum products that was released. That confirmation shall include a determination of
1186 the structural integrity, in accordance with the testing procedures specified in Chapters 62-761 and 62-762, F.A.C., of any
1187 petroleum storage tank system that exists at the property and is likely to be the source of the contamination;

1188 (d) To establish the background concentrations;

1189 (e) To establish the horizontal extent and thickness of free product, if technologically feasible. If the soil concentration of
1190 a contaminant is above its soil saturation concentration (Csat), free product may be present. [Refer to the technical report
1191 referenced in subsection 62-780.100(2), F.A.C., for development of soil CTLs based on Csat.];

1192 (f) To determine whether source removal, in addition to any interim source removal already performed pursuant to Rule
1193 62-780.500, F.A.C., is warranted;

1194 (g) To describe relevant geologic and hydrogeologic characteristics that influence migration and transport of
1195 contaminants at the site, unless the site meets the No Further Action criteria of subsection 62-780.680(1), F.A.C.:

1196 1. To describe the lithology and horizontal and vertical continuity of units, such as the presence of karst features,
1197 bedrock, native soil, and fill material, in the areas affected and expected to be affected by the discharge(s);

1198 2. To identify the aquifer or aquifers and confining units affected and expected to be affected by the discharge(s) and to
1199 determine the groundwater classification, hydraulic conductivity, transmissivity, and storativity of the aquifer or aquifers;

1200 3. To identify and characterize any perched zone, if present;

1201 4. To determine the horizontal and vertical rate and direction of groundwater flow (at all affected depths, as appropriate),
1202 to determine the extent of water table fluctuation, to evaluate the potential effect of seasonal variations and vertical

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Commented [A74]: Tie back in with CSM language in order to encourage use, but not require CSM: Encourage closure options in beginning stages of Site Assessment

1203 groundwater flow components on the rate and direction of groundwater flow, to determine the hydraulic interaction between
1204 groundwater and any surface water within the vicinity of the site, and to determine whether there are any tidal effects for sites
1205 located near marine surface water; and

1206 5. To determine other mechanisms of transport of contaminants in the immediate vicinity of the site, including rate and
1207 direction of movement of contaminants in sewer lines, subsurface utility conduits or vaults, soil, sediments, and surface
1208 water, as applicable;

1209 (h) To determine by means of a well survey whether any public water supply wells, as defined in Chapter 62-550,
1210 F.A.C., are present within a 1/2 mile radius of the site, whether the site is located within the regulated wellhead protection
1211 zone of a public water supply well or well field, and whether any private water supply wells (including potable, irrigation,
1212 and industrial wells) are present within a 1/4 mile radius of the site, unless the site meets the No Further Action criteria of
1213 subsection 62-780.680(1), F.A.C. If contamination beyond the boundaries of the property at which site rehabilitation was
1214 initiated pursuant to this chapter is discovered at any time, within 60 days of such discovery the PRSR shall conduct the well
1215 survey pursuant to paragraph 62-780.600(5)(o), F.A.C., and submit a report to the Department and to the County Health
1216 Department that provides the results of the well survey in accordance with the requirements of subparagraphs 62-
1217 780.600(8)(a)10. and 62-780.600(8)(a)11., F.A.C., and that provides the results of any required sampling pursuant to
1218 paragraph 62-780.600(5)(p), F.A.C., based on the results of the well survey. These results shall include a listing of the
1219 sampled wells, the rationale for their selection, the contaminants analyzed, and the analytical results;

1220 (i) To determine whether any surface water will be exposed to contamination that migrates beyond the boundaries of the
1221 property at which site rehabilitation was initiated pursuant to this chapter;

1222 (j) To report any off-property activities (for example, dewatering, active remediation, or flood control pumping) in the
1223 immediate vicinity of the site that may have an effect on the groundwater flow at the site, unless the site meets the No Further
1224 Action criteria of subsection 62-780.680(1), F.A.C.; and

1225 (k) To facilitate the selection of a remediation strategy for the site that is protective of human health and the
1226 environment, and considers the proposed property use, identifies risks posed by the contamination based on the proposed use,
1227 and describes how those risks will be managed, including the use of engineering or institutional controls, as appropriate,
1228 unless No Further Action is deemed appropriate pursuant to the provisions of subsection 62-780.680(1), F.A.C. The results
1229 of the Site Assessment may be incorporated into the Conceptual Site Model to inform and support the remedial strategy and
1230 risk management decisions.

1231 (l) To determine the extent of buried solid waste, if any.

1232 (4) The analyses for contaminants in surface water, groundwater, soil, and sediment samples, as applicable, shall be
1233 performed using the appropriate analytical procedures referenced or listed in Chapter 62-160, F.A.C. The initial analyses of
1234 contaminants, including their reaction and degradation products, shall be based on the site history.

1235 (a) For discharges of drycleaning solvents, analyses shall be performed for the applicable contaminants of concern listed
1236 in Table B of this chapter, located at the end of Rule 62-780.900, F.A.C.

1237 (b) For discharges of petroleum or petroleum products, analyses shall be performed for the applicable contaminants of
1238 concern listed in Table B of this chapter, as follows:

1239 1. If petroleum product discharges are from the Gasoline or Kerosene Analytical Groups, analyses shall be performed as
1240 described in Table C, located at the end of Rule 62-780.900, F.A.C., except that:

1241 a. If the site is anticipated to meet the No Further Action criteria of Rule 62-780.680, F.A.C., and the site is contaminated
1242 by products solely from the Gasoline Analytical Group, analytical screening of the monitoring wells for Benzene,
1243 Ethylbenzene, Toluene, total Xylenes, MTBE, and PAHs (using applicable methods in Table C) may be performed; or

1244 b. If the site is anticipated to meet the No Further Action criteria of Rule 62-780.680, F.A.C., and the site is contaminated
1245 by products from the Kerosene Analytical Group, analytical screening of the monitoring wells for Benzene, Ethylbenzene,
1246 Toluene, total Xylenes, MTBE, PAHs, and TRPHs (using applicable methods in Table C) may be performed.

1247 2. If petroleum product discharges are from used oil, from an identified product not listed in the Gasoline or Kerosene
1248 Analytical Groups, or from a product for which the specific identity is unknown, analyses shall be performed as described in
1249 Table D, located at the end of Rule 62-780.900, F.A.C.

1250 3. If the contamination is derived from petroleum, analyses shall be performed as described in Table E, located at the end
1251 of Rule 62-780.900, F.A.C.

1252 (5) The site assessment shall include tasks that are necessary to achieve objectives described in subsection 62-
Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Commented [DB75]: Added per public comments:
"In subsection (3)(k), on line 1171, after "proposed property use,"
insert "and whether engineering and institutional controls are
appropriate."

Commented [A76]: See above comment

1253 780.600(3), F.A.C., and include the following, as applicable based on site-specific circumstances:

1254 (a) Use of geophysical equipment such as magnetometers, ground penetrating radar, or metal detectors to detect storage
1255 tank system(s) or buried solid waste;

1256 (b) Use of borehole geophysical equipment and methods to determine geologic and hydrogeologic characteristics of
1257 affected and potentially affected hydrogeologic zones;

1258 (c) Sampling of soil from the unsaturated zone for the following criteria, as applicable:

1259 1. Appropriate laboratory analyses to determine the degree and extent of soil contamination and, as applicable, the
1260 background concentrations. ~~A sufficient number of soil samples shall be collected from a sufficient number of locations in~~
1261 vertical intervals unless the sampling intervals are adjusted, as necessary, to account for factors such as discrete variations in
1262 the lithology, depth to the water table, the point of discharge, and the chemical and physical properties of the contaminants. If
1263 a surficial discharge of metals or semi-volatile organic compounds is known or suspected, the vertical sampling intervals
1264 shall be as follows: land surface to six inches, six inches to two feet, and two-foot intervals thereafter to the extent necessary
1265 to define the soil contamination. If the 95% Upper Confidence Limit (UCL) approach pursuant to subparagraphs 62-
1266 780.680(1)(b)1., 62-780.680(2)(b)1., and 62-780.680(3)(b)1., F.A.C., is used, the soil sampling shall be sufficient to
1267 identify the area(s) of highest contaminant concentrations and to allow the calculation of an exposure unit average
1268 concentration. [Refer to the technical report referenced in subsection 62-780.100(2), F.A.C., for guidance.];

1269 2. Measurement of appropriate soil properties such as texture, pH, moisture content, dry bulk density, organic carbon
1270 content, and infiltration rate using the test methods specified in Chapter 62-777, F.A.C., Table III, if such properties are
1271 chosen for the development of alternative soil CTLs in accordance with the technical report referenced in subsection 62-
1272 780.100(2), F.A.C. If soil properties are chosen to be used, measurements shall be made on soil from within the contaminated
1273 area when feasible. If measurement from within the contaminated area is not feasible, measurements may be made on soil
1274 from an alternative location that has the same soil type using the U.S. Department of Agriculture, Natural Resource
1275 Conservation Service soil survey maps or the Unified Soil Classification System, or the PRSR may propose the use of other
1276 data on soil properties;

1277 3. Fractionation laboratory analyses of TRPHs to determine if the site-specific concentrations of the TRPH fractions
1278 exceed the soil CTLs of the TRPH fractions developed using one of the sub-classification methodologies described in
1279 Appendix C of the technical report referenced in subsection 62-780.100(2), F.A.C. Fractionation and FL-PRO analyses of
1280 TRPHs shall be performed on sub-samples from at least one ~~grab~~-soil sample collected from each source area that exceeds
1281 the applicable default soil CTLs for TRPHs specified in Chapter 62-777, F.A.C., Table II, or alternative soil CTLs for TRPHs
1282 established pursuant to Rule 62-780.680, F.A.C., with the actual number of samples based on the horizontal and vertical
1283 extent of contamination and the site-specific stratigraphy;

1284 4. Direct leachability testing by USEPA Test Method 1312, Synthetic Precipitation Leaching Procedure (SPLP)
1285 extraction, or USEPA Test Method 1311, Toxicity Characteristic Leaching Procedure (TCLP) extraction if the contamination
1286 is derived from used oil or similar petroleum products, followed by the appropriate analyses of the leachate. Leachability and
1287 total soil concentration analysis for the appropriate laboratory analyses shall be performed on sub-samples from at least one
1288 ~~grab~~-soil sample collected from each source area that exceeds the applicable leachability-based soil CTLs specified in
1289 subparagraph 62-780.680(1)(b)2., F.A.C., or established pursuant to subparagraph 62-780.680(2)(b)2. or (3)(b)2., F.A.C.,
1290 with the actual number of samples based on the horizontal and vertical extent of contamination and the site-specific
1291 stratigraphy; or

1292 5. Hazardous waste characterization by USEPA Test Method 1311 TCLP extraction followed by the appropriate analysis
1293 of the leachate, if the information indicates that the soil has the potential to be a hazardous waste (and the contamination does
1294 not result solely from manufactured gas plant waste);

1295 (d) Sampling of undisturbed soil above and below the water table using hand augers, hollow stem augers with split
1296 spoons or Shelby tubes, direct push technology, or other available technologies to obtain information on site stratigraphy and
1297 non-aqueous phase liquids entrapped below the water table, to determine geotechnical parameters and vertical hydraulic
1298 conductivity of confining or semi-confining zones, and to assess the appropriateness of natural attenuation monitoring;

1299 (e) Use of fracture trace analysis to discover linear zones in which discrete flow could take place;

1300 (f) Use of field soil screening techniques, which shall be demonstrated to be appropriate for the site conditions and the
1301

1302 physical and chemical characteristics of the contaminants, to determine the optimal locations for collection of samples for
1303 laboratory analyses. This demonstration analyses shall be performed on a minimum of three grab samples with high,
1304 medium, and low screening results for the site. The demonstration analyses shall be performed per source area and per
1305 sampling event, except that only one representative sample collected from the area most likely to be contaminated shall be
1306 sufficient if the field screening results indicate that contaminated soil is not present. The actual number of laboratory samples
1307 shall be based on the horizontal and vertical extent of contamination and the degree of correlation between field soil
1308 screening and laboratory results;

1309 (g) Use of visual observations to determine whether soil contaminated or saturated with used oil is present. If the
1310 presence of soil contaminated or saturated with used oil is identified, then at least one grab sample from the most visibly
1311 stained area shall be collected for analyses for the used oil parameters as listed in Table D. If no visual signs of used oil
1312 contamination are identified, then a soil sample for laboratory analyses is not required unless used oil contamination was
1313 previously reported, in which case at least one grab sample shall be collected for laboratory analyses from the location where
1314 used oil contamination was identified in the past, and shall be analyzed for VOHs, PAHs, TRPHs, PCBs, arsenic, cadmium,
1315 chromium, and lead. If soil visually stained or saturated with used oil is excavated pursuant to paragraph 62-780.500(5)(a)
1316 F.A.C., then at least one grab sample from the bottom of the excavation (if the water table was not reached) and at least one
1317 grab sample from the wall of the excavation at an equivalent depth to the stained or saturated soil that was removed, shall be
1318 collected for analyses. Sample(s) shall be analyzed for the contaminants detected in the sample collected from the most
1319 visibly stained area or in the sample(s) collected for disposal purposes, to confirm that all contaminated soil was removed;

1320 (h) Use of piezometers or monitoring wells to determine the frequency of occurrence, horizontal and vertical extent, and
1321 thickness of free product;

1322 (i) Use of monitoring wells, piezometers, or other sampling and measurement techniques to obtain a three-dimensional
1323 evaluation of the source of contamination, of the migration of contaminants below the water table, of groundwater flow, and
1324 of relevant hydrologic parameters;

1325 (j) Use of piezometers or monitoring wells to determine horizontal direction(s) of groundwater flow and horizontal and
1326 vertical hydraulic gradients, as applicable (groundwater level measurements shall be made within a 24-hour period);

1327 (k) Survey of every top-of-casing to the National Geodetic Vertical Datum (NGVD) of 1929 or to the North American
1328 Vertical Datum (NAVD) of 1988 or, for petroleum or petroleum product discharges, to a single benchmark of an arbitrary
1329 elevation. If the latter option is used, the survey shall be completed by closing the loop for each pair of adjacent monitoring
1330 wells or piezometers or with the first top-of-casing surveyed;

1331 (l) Use of field screening techniques (for example, use of temporary wells, piezometers, or direct push technology to
1332 obtain groundwater samples for on-site analyses using gas chromatography) to optimize monitoring well placement;

1333 (m) Sampling of monitoring wells for the appropriate laboratory analyses, with the most recent sampling of
1334 representative monitoring wells having occurred no more than 270 days prior to Site Assessment Report submittal, to
1335 determine the degree and extent of groundwater contamination and the background concentrations, if applicable, such that:

1336 1. Drill cuttings and drilling mud generated during monitoring well installation shall be handled and disposed of in such
1337 a manner that contamination is not spread into previously uncontaminated or less contaminated media. Authorization
1338 pursuant to this rule does not relieve the PRSR from the obligation to comply with other Department rules (for example,
1339 Chapters 62-701 and 62-730, F.A.C.) for handling and disposal of contaminated media. The PRSR is advised that other
1340 federal or local laws and regulations may apply; and

1341 2. Development water and purge water shall be handled and disposed of in such a manner that contamination is not
1342 spread into previously uncontaminated or less contaminated media. Authorization pursuant to this rule does not relieve the
1343 PRSR from the obligation to comply with other Department rules (for example, Chapters 62-701 and 62-730, F.A.C.) for
1344 handling and disposal of contaminated media. The PRSR is advised that other federal or local laws and regulations may
1345 apply; and

1346 3. If an interim source removal was performed and No Further Action pursuant to subsection 62-780.680(1), F.A.C., will
1347 be recommended, one of the following criteria shall be met pursuant to Rule 62-780.690, F.A.C.:

1348 a. If groundwater contamination was present prior to the interim source removal, groundwater concentrations shall meet
1349 the No Further Action criteria of subsection 62-780.680(1), F.A.C., for at least two consecutive sampling events of
1350 representative monitoring wells, performed a minimum of three months apart; or

1351 b. If soil contamination was only present in the unsaturated zone prior to the interim source removal, groundwater

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Commented [DB77]: Amended to conform with changes to
Emergency Response and Interim Source Removal.

1352 concentrations shall meet the No Further Action criteria of subsection 62-780.680(1), F.A.C., during only one sampling event
1353 of representative monitoring wells;

1354 (n) Sampling of surface water and sediment for the appropriate laboratory analyses to determine the degree and extent of
1355 surface water and sediment contamination and the background concentrations, if applicable;

1356 (o) Inspection of public records (such as those at the local Department of Health office, at the appropriate Water
1357 Management District office, and at local municipalities) and performance of a field reconnaissance, as appropriate, to locate
1358 all water supply wells (including potable, irrigation, and industrial wells) pursuant to paragraph 62-780.600(3)(h), F.A.C.,
1359 and injection wells or drainage wells as defined in Chapter 62-528, F.A.C.;

1360 (p) If the possibility exists that the contamination may have affected public or private water supply wells, sampling of the
1361 well or wells for the appropriate laboratory analyses, with the consent of the owner(s), to determine whether any
1362 contamination is present;

1363 (q) Use of available and appropriate literature in conjunction with site-specific lithologic logs to identify aquifers present
1364 beneath the site. An analysis for Total Dissolved Solids shall be used if the PRSR chooses to demonstrate to the Department
1365 that the background quality of the groundwater on-site would allow it to be classified as an area of G-III groundwater;

1366 (r) Performance of tests to determine aquifer characteristics, if appropriate, on different strata of the surficial aquifer or
1367 of different aquifers, if applicable, using water-table monitoring wells, intermediate depth monitoring wells, and vertical
1368 extent monitoring wells. Performance of a pumping test may be deferred until the Remedial Action Plan phase if
1369 groundwater extraction is proposed pursuant to the provisions of Rule 62-780.700, F.A.C. If a pumping test is performed
1370 within the plume, at least two samples of the groundwater withdrawn during the test shall be collected and analyzed for the
1371 appropriate contaminants and physical properties (for example, Hardness, Iron, Total Dissolved Solids, and Total Suspended
1372 Solids) that may affect the treatment system and disposal options. At a minimum, one sample shall be collected at the mid-
1373 point of the pumping test and one at the end of the pumping test;

1374 (s) Review of historical land use records and existing aerial photographs to determine past uses of the property(ies) and
1375 location(s) of previous storage systems;

1376 (t) Performance of a professional land survey of a petroleum contamination site in order to develop an accurate base
1377 map, if the Department determines that the site map provided in a report is not accurate; and

1378 (u) Establishment of the parameters or exposure assumptions that will be used to develop the alternative CTLs pursuant
1379 to Rule 62-780.650, F.A.C., if the PRSR chooses this option; and

1380 (v) Use of visual observations to determine the presence and extent of solid waste.

1381 (6) If there is no historical evidence of certain contaminants being used within the site and if initial testing of
1382 representative monitoring well(s), performed pursuant to subsections 62-780.600(4) and (5), F.A.C., does not indicate the
1383 presence of any contaminants within a specific analytical procedure, or indicates that the presence of a contaminant is due to
1384 a background concentration, subsequent testing at the site need not include that analytical procedure.

1385 (7) Within the time frames specified in Table A or the CAD, the PRSR shall submit to the Department for review an
1386 electronic or paper copy of a Site Assessment Report (that may reference previously submitted documents) for review.

1387 (8) The Site Assessment Report shall:

1388 (a) Summarize all tasks that were completed pursuant to subsections 62-780.600(3), (4), and (5), F.A.C., and summarize
1389 the results obtained. All maps shall indicate the North direction, be drawn to scale, and include a graphical representation of
1390 the scale used. The following shall be included, when applicable, to the discharge(s) being assessed:

1391 1. A detailed summary of site history and operations, including:

1392 a. An identification of present real property and facility owners;

1393 b. A description of past and present operations, including those that involve the storage, treatment, use, disposal,
1394 processing, or manufacture of materials that may be potential contaminant sources;

1395 c. A description of all known products used or manufactured and of all known by-products and wastes (including waste
1396 constituents) generated during the life of the facility;

1397 d. A summary of current and past environmental permits and enforcement actions; and

1398 e. A summary of known spills or releases of materials, including permitted releases, that may be potential contaminant
1399 sources;

1400 2. A copy of the portion of the most recent USGS topographic map(s), including quadrangle name and scale with contour

- 1401 interval(s) labeled, that clearly identifies the site in relation to the surrounding area;
- 1402 3. A vicinity map that shows pertinent features, such as local drainage features, land cover, property boundaries, supply
1403 wells and, particularly, any potential off-property sources of contamination identified during the assessment (if applicable
1404 and available, FDEP identification numbers shall be provided). If the PRSR prefers, aerial photographs may be submitted to
1405 complement the vicinity map. If the subject site meets the No Further Action criteria of subsection 62-780.680(1), F.A.C., a
1406 vicinity map is not required;
- 1407 4. One or more scaled site maps that show pertinent surface and subsurface features such as buildings, former and
1408 current tank farms, integral piping, dispensers, utilities, sewers, floor drains, drain lines, above and underground structures,
1409 storage areas, monitoring wells, land cover, streets, rights-of-way, locations and elevations (if significantly different) of
1410 property boundaries and surrounding properties, present in the immediate vicinity of the contamination;
- 1411 5. A map of individual contaminant discharge locations, including the latitude and longitude coordinates of the known
1412 discharge locations;
- 1413 6. Details of any preliminary assessment or interim source removal activities performed at the site, such as free product
1414 recovery, groundwater recovery, contaminated soil removal, and contaminated sediment removal (summarized in graphical
1415 and tabular form);
- 1416 7. Data and calculations used to determine the top-of-casing elevations and the accuracy of the survey performed
1417 pursuant to paragraph 62-780.600(5)(k), F.A.C.;
- 1418 8. Tables that list the top-of-casing elevations, screened intervals, depths to groundwater, water-level elevations obtained
1419 at least twice, at least one month apart, and the dates the data were obtained;
- 1420 9. Scaled site maps that illustrate the water-level elevations calculated at each monitoring well, piezometer, and staff
1421 gauge where surface water is a concern, and depicting the estimated elevation contours and an interpretation of groundwater
1422 flow direction. If different strata of the same aquifer, or if different aquifers, are affected, separate figures shall be submitted
1423 for each date on which measurements were recorded, depicting flow in each stratum or aquifer. If the site's groundwater is
1424 tidally-influenced, separate figures shall be submitted depicting flow at high and low tide. If the site is affected by seasonal
1425 groundwater variations, separate figures shall be submitted depicting the seasonal changes in the groundwater flow direction;
- 1426 10. A table that summarizes the use and well construction details, if available, and locational information (i.e., the
1427 nearest street address, if available, or latitude and longitude coordinates, if the street address is not available), of all the water
1428 supply wells identified during the well survey performed pursuant to paragraph 62-780.600(3)(h), F.A.C.;
- 1429 11. A map that shows the approximate location(s) of the water supply well(s) identified during the well survey
1430 performed pursuant to paragraph 62-780.600(3)(h), F.A.C., in relation to the subject site;
- 1431 12. The results from slug tests on a minimum of three monitoring wells or from a pumping test, performed in each
1432 affected aquifer zone monitored to determine aquifer properties, and including a description of methods used, assumptions
1433 made, field data, and calculations, unless the site meets the No Further Action criteria of subsection 62-780.680(1), F.A.C.;
- 1434 13. The result of a calculation of horizontal groundwater flow velocity (v) for the site, using the formula $v=KI/n$, where
1435 K is the average horizontal hydraulic conductivity, I is the average horizontal hydraulic gradient, and n is the estimated
1436 effective soil porosity, unless the site meets the No Further Action criteria of subsection 62-780.680(1), F.A.C.;
- 1437 14. The result of a calculation of vertical groundwater flow velocity (v) for the site, using the formula $v=KI/n$, where K
1438 is the average vertical hydraulic conductivity of a confining or semi-confining zone, I is the average vertical hydraulic
1439 gradient, and n is the estimated effective soil porosity, unless the site meets the No Further Action criteria of subsection 62-
1440 780.680(1), F.A.C.;
- 1441 15. A description of any geophysical methods used for the project;
- 1442 16. A description of the site-specific stratigraphy, based on the lithologic logs prepared during soil assessment and
1443 monitoring well installation and on standard penetration test borings (including composition, thickness, and continuity of
1444 various lithologic units);
- 1445 17. At least two cross-sections relative to NGVD of 1929 or NAVD of 1988 or, for petroleum or petroleum product
1446 discharges, to a single benchmark of an arbitrary elevation, that illustrate the site-specific stratigraphy and approximate
1447 concentrations of applicable contaminants;
- 1448 18. Details of any other assessment methodology used at the site, including any field screening techniques and measures
1449 of biological activity (for example, dissolved oxygen or nutrient levels);

1450 19. A table that summarizes the field soil screening results obtained at each sampling location and depth, and a listing of
1451 the date(s) the work was performed;

1452 20. One or more scaled site maps that show all soil sampling locations for field screening or laboratory analyses, in
1453 relation to the former and current sources of contamination and any excavated areas, and that illustrate the horizontal and
1454 vertical extent of unsaturated zone soil contamination when soil contamination is detected;

1455 21. Piezometer, monitoring well, and recovery well construction details and construction diagrams, including methods
1456 and materials, field sampling data sheets, lithologic logs, and methods and volumes of groundwater removed during well
1457 development;

1458 22. A description of the treatment or disposal methods of any investigation-derived waste generated during the
1459 assessment phase and any documentation that confirms the proper treatment or proper disposal of the waste, as applicable;

1460 23. A table that is updated any time additional piezometers, monitoring wells, or recovery wells are installed and that
1461 summarizes the well construction details (including the top-of-casing elevation referenced to NGVD of 1929 or NAVD of
1462 1988 or, for petroleum or petroleum product discharges, to a single benchmark of an arbitrary elevation, depth of the top of
1463 the screen below land surface, total depth and screen length, and ground surface elevation referenced to NGVD of 1929 or
1464 NAVD of 1988 or, for petroleum or petroleum product discharges, to a single benchmark of an arbitrary elevation) of all
1465 monitoring wells (including storage tank compliance wells or other compliance wells required by permit), piezometers, and
1466 recovery wells;

1467 24. A current table that summarizes free product thickness measured, volumes recovered, and date(s) measurements were
1468 recorded, if applicable;

1469 25. A scaled site map that shows the estimated horizontal extent of free product;

1470 26. All applicable information required by subsection 62-780.300(2), F.A.C.;

1471 27. Separate tables by medium (soil, sediment, groundwater, and surface water) that list all contaminants detected, their
1472 corresponding CTLs and the basis or reason for any alternative CTLs, detection limits achieved for non-detected analytes,
1473 and analyses performed, and that summarize all available analytical results; and

1474 28. One or more scaled site maps that show any areas excavated and all groundwater and surface water sampling
1475 locations, and that illustrate the degree and extent of groundwater and surface water contamination using sufficient
1476 isoconcentration lines to help identify source area(s) as well as the extent of the plume(s).

1477 29. A scaled site map that shows the estimated extent of buried solid waste on the site.

1478 (b) Summarize conclusions regarding site assessment objectives outlined in subsection 62-780.600(3), F.A.C., and
1479 include one of the following:

1480 1. A No Further Action Proposal without institutional controls or without institutional and engineering controls shall be
1481 included if the site meets the applicable No Further Action criteria of subsection 62-780.680(1), F.A.C., or a No Further
1482 Action Proposal with institutional controls or both institutional and engineering controls may be included if the site meets the
1483 applicable No Further Action criteria of subsection 62-780.680(2) or (3), F.A.C.;

1484 2. A Natural Attenuation Monitoring Plan may be included if the site meets the Natural Attenuation Monitoring criteria
1485 of Rule 62-780.690, F.A.C.;

1486 3. A recommendation to prepare a Risk Assessment or a Risk Assessment Work Plan shall be included if the PRSR
1487 chooses to justify alternative CTLs using risk assessment studies demonstrating that human health, public safety, and the
1488 environment are protected to at least the degree provided by Sections 376.30701, 376.3071, 376.3078, or 376.81, F.S., as
1489 applicable. The work plan shall include a schedule for completion of a Risk Assessment and documentation adequate to
1490 support the request to do one or more of the task elements of subsection 62-780.650(1), F.A.C., and shall specify the
1491 parameters or exposure assumptions that will be used to develop the alternative CTLs pursuant to Rule 62-780.650, F.A.C.;

1492 or

1493 4. A recommendation to prepare a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C., shall be included, unless
1494 a recommendation pursuant to subparagraph 62-780.600(8)(b)1., 2., or 3., F.A.C., is included.

1495 (9) The Department shall:

1496 (a) Provide the PRSR with written approval of the Site Assessment Report and:

1497 1. If the No Further Action Proposal is approved, with a Site Rehabilitation Completion Order as referenced in
1498 subsection 62-780.680(7), F.A.C.;

1499 2. If the Natural Attenuation Monitoring Plan is approved, with a Natural Attenuation Monitoring Plan Approval as
1500 referenced in paragraph 62-780.690(5)(a), F.A.C.;

1501 3. If the Risk Assessment Work Plan or the recommendation to prepare a Risk Assessment is approved, with a written
1502 notification that the Risk Assessment shall be prepared pursuant to Rule 62-780.650, F.A.C.; or

1503 4. If the recommendation to prepare a Remedial Action Plan is approved, with a written notification that the Remedial
1504 Action Plan shall be prepared pursuant to Rule 62-780.700, F.A.C.; or

1505 (b) Notify the PRSR in writing, stating:

1506 1. The reason(s) why the Site Assessment Report does not contain information adequate to support the conclusions
1507 regarding the applicable site assessment objectives outlined in subsection 62-780.600(3), F.A.C.; or

1508 2. The reason(s) why the proposal, plan, or recommendation submitted pursuant to paragraph 62-780.600(8)(b), F.A.C.,
1509 is not supported by the applicable criteria.

1510 (10) If the Site Assessment Report is incomplete in any respect, or is insufficient to satisfy the objectives of subsection
1511 62-780.600(3), F.A.C., the Department shall inform the PRSR pursuant to paragraph 62-780.600(9)(b), F.A.C., and the PRSR
1512 shall submit to the Department for review an electronic or paper copy of a Site Assessment Report Addendum that addresses
1513 the deficiencies within 60 days after receipt of the notice.

1514 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81, 403.0877 FS. Law Implemented 376.3071, 376.30701,*
1515 *376.3078(4), 376.81, 403.0877 FS. History—New 4-17-05, Amended 6-12-13, 2-4-14*

1516 *Editorial Note: Portions of this rule were copied from 62-770.600, Formerly 17-70.008 and Formerly 17-770.600; 62-782.600; and 62-*
1517 *785.600.*

1518 **62-780.610 Fate and Transport Model and Statistical Method Requirements.**

1519 (1) Fate and Transport Models.

1520 (a) Any fate and transport model used to support an evaluation pursuant to the provisions of Rules 62-780.650, 62-
1521 780.680, and 62-780.690, F.A.C., shall be a fate and transport model with the ability to adequately simulate movement and
1522 degradation of contaminants in the aquifer over time and distance, taking into account attenuation mechanisms including
1523 biological, physical, and chemical processes. The model shall be appropriate for the site conditions and shall be selected from
1524 the ASTM document referenced in subsection 62-780.100(4), F.A.C., or from the list of approved fate and transport models
1525 maintained by the Department, a copy of which is available upon request.

1526 (b) Fate and transport models not listed in the ASTM document referenced in subsection 62-780.100(4), F.A.C., or on
1527 the list of approved fate and transport models maintained by the Department, may be submitted to the Department for
1528 approval and for inclusion on the list of approved fate and transport models maintained by the Department. Any such request
1529 for Department approval shall set forth at a minimum the following information:

1530 1. The fate and transport model type;

1531 2. The name and address of the developer;

1532 3. The fate and transport model description;

1533 4. A list of input parameters;

1534 5. The applicable boundary conditions and limitations on the appropriate use of the fate and transport model;

1535 6. A description of the methods available for fate and transport model calibration and examples of calibration of the
1536 model with measured site data;

1537 7. Documentation of code testing that has been done (for example, hand calculations to demonstrate that the model
1538 formulas were programmed correctly);

1539 8. At least one independent reference knowledgeable of the theory, or experienced in the use, of fate and transport
1540 models, who must be a Professional Engineer registered pursuant to Chapter 471, F.S., or a Professional Geologist registered
1541 pursuant to Chapter 492, F.S.; and

1542 9. Any approvals or denials of the fate and transport model received from other states or from a federal agency.

1543 (2) Statistical Methods.

1544 (a) Any statistical method used to support an evaluation pursuant to the provisions of subparagraph 62-780.680(1)(b)1.,
1545 62-780.680(2)(b)1., or 62-780.680(3)(b)1., F.A.C., shall be a statistical method appropriately based on statistical properties of
1546 the site-specific data set such as the number of samples, distribution of the data set, and the percent of non-detect sample

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

1547 results. The statistical method shall be appropriate for the site conditions and shall be selected from the list of approved
1548 statistical methods maintained by the Department, a copy of which is available upon request.

1549 (b) Statistical methods not on the list of approved statistical methods maintained by the Department may be submitted to
1550 the Department for approval and for inclusion on the list of approved statistical methods maintained by the Department. Any
1551 such request for Department approval shall set forth at a minimum the following information:

- 1552 1. The statistical method type;
- 1553 2. The name and address of the developer;
- 1554 3. The statistical method description;
- 1555 4. A list of input parameters;
- 1556 5. The limitations on the appropriate use of the statistical method;
- 1557 6. A list of assumptions underlying the construction of the statistical method and the methodology used to validate the
1558 assumptions;
- 1559 7. Documentation of code testing that has been done (for example, hand calculations to demonstrate that the statistical
1560 method formulas were programmed correctly);
- 1561 8. At least one independent reference knowledgeable of the theory of the proposed statistical method, and trained in the
1562 theory, or experienced in the use, of statistical methods, who must have an advanced degree in statistics or mathematics; or
1563 documentation that the proposed statistical methods are readily available, in wide use, and have been published in
1564 professional journals or reviewed in a statistical textbook; and
- 1565 9. Any approvals or denials of the statistical method received from other states or from a federal agency.

1566 (3) Within 60 days of the receipt of a request for approval of a fate and transport model, or within 180 days of a request
1567 for approval of a new statistical method, the Department shall issue an Order:

- 1568 (a) Providing the requester with approval of the fate and transport model or statistical method, or
- 1569 (b) Notifying the requester of the reason(s) why the request does not adequately demonstrate that the requirements of
1570 subsection 62-780.610(1) or 62-780.610(2), F.A.C., as applicable, have been met.

1571 (4) If the Fate and Transport Model or Statistical Method submittal is incomplete in any respect, or is insufficient to
1572 satisfy the objectives of subsection 62-780.610(1) or 62-780.610(2), F.A.C., as applicable, the Department shall inform the
1573 requester pursuant to paragraph 62-780.610(3)(b), F.A.C., and the requester shall submit to the Department a revised request
1574 that addresses the deficiencies within 60 days after receipt of the notice. If the deficiencies are not timely corrected, or cannot
1575 be corrected, the fate and transport model or statistical method submitted for approval by the Department shall not be used.

1576 (5) The Department's Order shall be agency action, reviewable pursuant to Sections 120.569 and 120.57, F.S.

1577 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81, 403.0877 FS. Law Implemented 376.3071, 376.30701,*
1578 *376.3078(4), 376.81, 403.0877 FS. History—New 4-17-05, Amended 6-12-13.*

1579 *Editorial Note: Portions of this rule were copied from 62-770.610; 62-782.610; and 62-785.610.*

1580 **62-780.650 Risk Assessment.**

1581 (1) If the PRSR elects to perform a risk assessment, then during the risk assessment process, the PRSR is encouraged to
1582 have discussions with the Department at various decision points to establish applicable exposure factors, relevant receptors,
1583 and risk management options based on the current and projected land use(s) at the site. If a risk assessment is performed, the
1584 following risk assessment task elements shall be performed, as applicable:

1585 (a) An exposure assessment that identifies pathways and routes by which human and environmental receptors may be
1586 exposed to contaminants and determines levels of contaminants to which human and environmental receptors may be
1587 exposed. The exposure assessment shall:

- 1588 1. Identify actual and potential exposure pathways and routes;
- 1589 2. Identify actual and potential human and environmental receptors for each exposure pathway, and sensitive sub-
1590 populations such as children, where applicable;
- 1591 3. Determine expected concentrations of contaminants to which actual and potential human and environmental receptors
1592 may be exposed, with the most recent sampling of representative monitoring wells having occurred no more than 270 days
1593 prior to Risk Assessment Report submittal;
- 1594 4. Determine exposure factors (e.g., exposure duration, exposure frequency, body weight and ingestion rate) based on:

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

1595 a. Site-specific characteristics, including consideration of current and plausible projected land uses. Institutional and
1596 engineering controls may be proposed in order to ensure that exposure factors do not change; or
1597 b. Non-site-specific exposure factors contained in the USEPA Exposure Factors Handbook (2011 Edition), hereby
1598 adopted and incorporated by reference, (<http://www.flrules.org/Gateway/reference.asp?No=Ref-03403>), or other information
1599 on exposure factors applicable to a Florida exposure scenario relevant or applicable to the actual conditions of exposure.
1600 5. Estimate the contaminant doses received by relevant receptors.
1601 (b) A toxicity assessment that determines human health and environmental criteria for contaminants found at the site.
1602 1. The criteria, taking into consideration acute and chronic health effects associated with short-term and long-term
1603 exposure, shall be applicable to exposure pathways and routes identified in the exposure assessment, including, as applicable:
1604 a. Potable water exposure from ingestion, dermal contact, and inhalation of vapors and mists;
1605 b. Non-potable water exposure from dermal contact, inhalation of vapors and mists, ingestion of food crops irrigated
1606 with such water, lawn watering, and other related exposures, and exposures to pets and livestock from ingestion;
1607 c. Soil exposure from ingestion, dermal contact, inhalation, and ingestion by humans or animals of food crops grown in
1608 contaminated soil; and
1609 d. Non-potable surface water exposure from ingestion, dermal contact, and inhalation of vapors and mists. Adverse
1610 effects on freshwater or marine biota (including any bio-accumulative effects in the food chain) and on humans (for example,
1611 through incidental ingestion and dermal contact while using the resource for recreational purposes or fish consumption) shall
1612 be considered.
1613 2. Input assumptions different from those used to develop default CTLs may be used to propose alternative CTLs. The
1614 appropriate equations from Chapter 62-777, F.A.C., must be used in calculating the alternative CTLs. Toxicity values for
1615 quantifying human health risks and for developing alternative CTLs may be taken from the following information sources
1616 listed in Rule 62-780.100, F.A.C., in order of preference.
1617 a. Tier 1, in order of preference:
1618 (I) USEPA Integrated Risk Information System (IRIS) database,
1619 (II) Provisional Peer Reviewed Toxicity Values (PPRTV) derived by EPA's Superfund Technical Support Center for the
1620 USEPA Superfund program,
1621 (III) Values from sources that are either selected by FDEP or proposed by a PRSR and accepted by FDEP that meet
1622 statutory requirements.
1623 b. Tier 2, in order of preference:
1624 (I) Agency for Toxic Substances and Disease Registry Minimal Risk Levels (MRLs),
1625 (II) Tolerable Upper Intake Levels issued by the Institute of Medicine, National Academy of Sciences,
1626 (III) USEPA Health Effects Assessment Summary Tables (HEAST),
1627 (IV) Human Health Benchmarks for Pesticides and other toxicity values in technical documents available from the
1628 USEPA Office of Pesticide Programs, or
1629 (V) USEPA Office of Water, Drinking Water Regulations and Health Advisory Levels.
1630 e. Tier 3. If a toxicity value is available from more than one source in this tier, the value based upon the most recent
1631 review of the toxicological literature and accompanying dose response analysis should be selected.
1632 (f) ~~(I) California Environmental Protection Agency Office of Environmental Health Hazard Assessment's Chronic~~
1633 ~~Reference Exposure Levels and Cancer Potency Values,~~
1634 ~~(II) World Health Organization Tolerable Daily Intake values,~~
1635 ~~(III) International Toxicity Estimates for Risk,~~
1636 ~~(IV) Values listed as "Withdrawn" in the IRIS database, or~~
1637 ~~(V)~~
1638 (c) A risk characterization that utilizes the results of the exposure assessment, the toxicity assessment, and any other
1639 relevant public health and epidemiological assessments, to characterize cumulative risks to the affected population(s) and the
1640 environment from contaminants found at the site. Based on the concentrations of contaminants found at the site, the
1641 characterization shall include:
1642 1. Risks to human health and safety from exposure to the contamination;
1643 2. Risks from the contamination to non-human species and ecosystems; and

1644 3. Derivation of ~~apportioned~~ alternative CTLs, as applicable. [Refer to Appendix C of the technical report referenced in
1645 subsection 62-780.100(2), F.A.C., for guidance on the derivation of alternative CTLs for TRPHs based on a sub-classification
1646 methodology; and to Chapter 62-777, F.A.C., Table III for methods that may be used in determining soil properties for the
1647 derivation of alternative CTLs based on site-specific soil characteristics, if soil properties are used to derive alternative
1648 CTLs.] In developing alternative CTLs, ~~the dose additivity of chemicals shall be considered [Refer to the "Dose Additivity"~~
1649 ~~document referenced in subsection 62-780.100(24), F.A.C.], when scientific data are available the potential for additive,~~
1650 ~~synergistic, or antagonistic interactions among contaminants and the potential for exposure to contaminants via multiple~~
1651 ~~pathways shall be considered based on target organ(s) affected, mechanism(s) of toxicity, and empirical observations from~~
1652 ~~clinical and laboratory studies. The default assumptions shall be that non-carcinogenic chemicals affecting the same target~~
1653 ~~organ(s)/systems have additive effects and that carcinogenic risk, regardless of target organ, is additive. However, non-~~
1654 ~~default target organ(s)/system(s) or effects may be justified through a detailed toxicological analysis of the contaminants~~
1655 ~~present at a specific site.~~

1656 (d) A justification for ~~apportioned~~ alternative CTLs, as applicable, for groundwater or soil. The justification for the
1657 alternative CTLs shall be based upon site-specific data, modeling results, risk assessment studies, risk reduction techniques or
1658 a combination thereof. In establishing the alternative CTLs for groundwater or soil, the following factors shall be used, as
1659 applicable: calculations using a lifetime excess cancer risk level of 1.0E-6 and a hazard index of 1, and (for groundwater
1660 only) nuisance, organoleptic, and aesthetic considerations. However, the Department shall not require site rehabilitation to
1661 achieve a CTL for an individual contaminant that is more stringent than the site-specific background concentration for that
1662 contaminant or the best achievable detection limit for that contaminant. The justification shall be based on:

- 1663 1. State-wide, as applicable, or site-specific characteristics pertinent to the site, including:
 - 1664 a. The present and projected uses of the affected aquifer(s) and adjacent surface water, with particular consideration of
1665 the probability that the contamination is substantially affecting, or will migrate to and substantially affect, a known public or
1666 private source of potable water;
 - 1667 b. The technical feasibility of achieving the soil or water quality criteria based on a review of available technology; and
 - 1668 c. Site soil characteristics; and
- 1669 2. The results of the exposure assessment, toxicity assessment, and risk characterization pursuant to paragraphs 62-
1670 780.650(1)(a), 62-780.650(1)(b), and 62-780.650(1)(c), F.A.C.

1671 (2) Fate and transport models for contaminants may be employed, pursuant to Rule 62-780.610, F.A.C., to document that
1672 human health and environmental risks are acceptable, and to document that potential risks associated with the establishment
1673 of alternative CTLs are acceptable. If a fate and transport model for contaminants is used, the model shall be validated during
1674 subsequent monitoring to justify a No Further Action Proposal, or during natural attenuation monitoring or active
1675 remediation monitoring, and adjusted as appropriate using empirical data as the data are obtained.

1676 (3) Where a PRSR elects to perform a risk assessment pursuant to subsection 62-780.650(1), F.A.C., Probabilistic Risk
1677 Assessments may be employed to document that human health and environmental risks are acceptable, and to document that
1678 potential risks associated with the establishment of alternative CTLs are acceptable provided:

1679 (a) The equations in Chapter 62-777 Figures (1)-(10), as applicable, shall be used as the basis for calculation of
1680 cumulative risks and for the calculation of the alternative CTL.

1681 (b) The selection of the alternative CTL shall be the value that is protective for the pathways and routes by which human
1682 and environmental receptors may be exposed representing the 90th percentile of the final exposure or risk variability
1683 distributions produced by the model ~~for the general population, or for any identified sensitive subpopulations, when~~
1684 ~~applicable of special interest such as children and pregnant women (or equivalent to the 10th percentile of the CTL~~
1685 ~~distribution if demonstrated to be equivalent); and~~

1686 (c) The following information regarding the Probabilistic Risk Assessment model is submitted to and approved by the
1687 Department pursuant to subsection 62-780.610(2), F.A.C.:

- 1688 1. All information required by paragraph 62-780.610(2)(b), F.A.C.;
- 1689 2. The type of simulation used;
- 1690 3. Whether the simulation used is an open-source model or a proprietary model;
- 1691 4. The source(s) for the distribution(s), as well as any point values, used in the model;
- 1692 5. ~~A description of the applicability and scientific basis for each.~~Any information describing the applicability or

Commented [DB78]: Remove the word 'apportioned' from this statement for consistency with previous changes to use dose additivity rather than apportionment.

Commented [DB79]: Remove language beginning with "when scientific data..." and ending with "present at a specific site."

Explanation: The implementation of dealing with the additive effects of chemicals will be handled in a guidance document.

Commented [DB80]: The proposed draft language suggests that the 90th percentile of the final exposure or risk distribution specifically should apply to a perceived sensitive population. The Probabilistic Risk Assessment (PRA) process is designed and operated to take into account age and population-specific characteristics that themselves serve to represent the subgroups of interest (e.g., children and pregnant women). When a PRA is conducted wherein the input distributions represent exposure variability among a representative population of receptors, the 90th percentile of risk corresponds to the 90th percentile of the dose (mass of contaminant absorbed relative to body weight). Thus, the 90th percentile of risk inherently represents the subgroup of the population that has high contaminant uptake rates and low body weights. It is therefore appropriate to say that when a concentration generates 1.0x10⁻⁶ lifetime incremental cancer risk (LICR) at the 90th percentile of the distribution of all receptors, sensitive subgroups (those with high doses) are protected. Artificially imposing additional constraints on the process (e.g., forcing all exposure intervals to begin in childhood, or assuming that all receptors are pregnant females) distorts the intent and application of the PRA process. The proposed draft language should be removed.

Commented [DB81]: Language modified

1693 ~~limitations~~ of the distribution(s) and point values used in the model;

1694 6. ~~Any assumptions made regarding~~ The shapes and parameters of distribution(s) used in the model and the basis for
1695 these assumptions; and

1696 7. The extent of correlation, if any, assumed between specific input distributions and the scientific rationale for that
1697 correlation;

1698 ~~8.7.~~ Any default model parameter values that were replaced with other values for the purposes of the Probabilistic Risk
1699 Assessment and the rationale for such replacement, specifically including any ~~methods used~~ change made to the algorithms
1700 for sampling or resampling from the input distributions. The PRSR may submit the information listed in paragraph 62-
1701 780.650(3)(c), F.A.C., above for review and approval in advance of the submittal of the model results; and

1702 ~~9.8.~~ A discussion of the uncertainties associated with the models and inputs used in the probabilistic risk assessment,
1703 including contributions from:

1704 a. The nature and sources of exposure and toxicity information;

1705 b. The shape of input distributions and limits, and choice of point value inputs, if any, used in the analysis; and

1706 c. The selection of specific models used in the analysis.

1707 d. If the uncertainty discussion includes quantitative information, it may be presented in the form of a parameter
1708 sensitivity analysis, or calculation of risk in two dimensions where uncertainty is expressed as the confidence bounds on the
1709 risk variability distribution.

1710 10. A quantitative assessment of uncertainty is not required, but if submitted as part of the risk assessment, should
1711 quantify how alternative inputs and models would change the 90th percentile risk (and associated CTL) for the population(s)
1712 of interest. ~~This could be presented as alternative 90th percentile risks associated with different specific inputs or models, or~~
1713 ~~when uncertainties for one or more inputs are expressed as distributions in a second dimension, as 95% confidence bounds on~~
1714 ~~the 90th percentile risk.~~

1715 (4) Within the time frames specified in Table A, located at the end of Rule 62-780.900, F.A.C., or the CAD, the PRSR
1716 shall submit to the Department for review an electronic or paper copy of the Risk Assessment Report.

1717 (5) The Risk Assessment Report shall contain a description of the task elements undertaken, summarize the conclusions
1718 obtained, include the tables required pursuant to subparagraph 62-780.600(8)(a)27., F.A.C., updated as applicable, include a
1719 scaled site map for each contaminated medium, that illustrates the degree and extent of contamination (and, for groundwater,
1720 the flow direction), and include one of the following:

1721 (a) A No Further Action Proposal without institutional and engineering controls shall be included if the site meets the
1722 applicable No Further Action criteria of subsection 62-780.680(1), F.A.C., or a No Further Action Proposal with institutional
1723 controls or both institutional and engineering controls may be included if the site meets the applicable No Further Action
1724 criteria of subsection 62-780.680(2), F.A.C., or a No Further Action Proposal with or without institutional controls or both
1725 institutional and engineering controls may be included if the site meets the applicable No Further Action criteria of
1726 subsection 62-780.680(3), F.A.C.

1727 (b) A Natural Attenuation Monitoring Plan may be included if the site meets the Natural Attenuation Monitoring criteria
1728 of Rule 62-780.690, F.A.C.; or

1729 (c) A recommendation to prepare a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C., shall be included, unless
1730 a recommendation pursuant to paragraph 62-780.650(4)(a) or 62-780.650(4)(b), F.A.C., is included.

1731 (6) The Department shall:

1732 (a) Provide the PRSR with written approval of the Risk Assessment Report and:

1733 1. If the No Further Action Proposal is approved, with a Site Rehabilitation Completion Order as referenced in
1734 subsection 62-780.680(7), F.A.C.;

1735 2. If the Natural Attenuation Monitoring Plan is approved, with a Natural Attenuation Monitoring Plan Approval as
1736 referenced in paragraph 62-780.690(5)(a), F.A.C.; or

1737 3. If the recommendation to prepare a Remedial Action Plan is approved, with a written notification that the Remedial
1738 Action Plan shall be prepared pursuant to Rule 62-780.700, F.A.C.; or

1739 (b) Notify the PRSR in writing, stating:

1740 1. The reason(s) why the Risk Assessment Report does not contain information adequate to support the proposed
1741 alternative CTLs; or

Commented [A82]: The sentence beginning with "This could be presented ..." seems awkward for "typical" agency rule language. It is only an example of the type of uncertainty analysis that could be employed. However, its inclusion has the effect of implying that it is the preferred alternative. A professional applying this element of the rule can operate adequately with only the initial sentence in subparagraph 10.

1742 2. The reason(s) why the proposal, plan, or recommendation submitted pursuant to subsection 62-780.650(3), F.A.C., is
1743 not supported by the applicable criteria.

1744 (7) If a Risk Assessment Report or Risk Assessment Report Addendum is incomplete in any respect, or is insufficient to
1745 satisfy the objectives set forth in subsection 62-780.650(5), F.A.C., the Department shall inform the PRSR pursuant to
1746 paragraph 62-780.650(6)(b), F.A.C., of the basis for a rejection or determination of insufficiency, including the technical and
1747 scientific basis for any such rejection. The PRSR shall submit to the Department for review an electronic or paper copy of a
1748 Risk Assessment Report Addendum that addresses the deficiencies within 60 days after receipt of the notice.

1749 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81, 403.061 FS. Law Implemented 376.3071, 376.30701,*
1750 *376.3078(4), 376.81, 403.021, 403.061, 403.062 FS. History--New 4-17-05, Amended 6-12-13, 2-4-14 _____.*

1751 *Editorial Note: Portions of this rule were copied from 62-770.650; 62-782.650; and 62-785.650.*

1752 **62-780.680 No Further Action and No Further Action with Controls.**

1753 (1) Risk Management Options Level 1 – A No Further Action without institutional controls or without institutional and
1754 engineering controls shall apply if the following conditions are met:

1755 (a) Free product is not present and no fire or explosive hazard exists as a result of a release of non-aqueous phase liquids;

1756 (b) Contaminated soil is not present in the unsaturated zone, as demonstrated by the analyses of soil samples collected
1757 from representative sampling locations (unless the Department has concurred that soil sampling is unnecessary based on the
1758 site-specific conditions), that show that one or more of the criteria for direct exposure and one or more of the criteria for
1759 leachability are met, as applicable:

1760 1. Criteria for direct exposure are as follows:

1761 a. Soil contaminant concentrations, or average soil contaminant concentrations calculated based on the 95% UCL
1762 approach pursuant to sub-subparagraph 62-780.680(1)(b)1.d., F.A.C., do not exceed the less stringent of:

1763 (I) ~~The residential soil CTLs specified in Chapter 62-777, F.A.C., Table II—except that if the 95% UCL approach is
1764 utilized for any contaminant, then the soil contaminant concentrations shall not exceed the apportioned soil CTLs calculated
1765 pursuant to sub-sub-subparagraph 62-780.680(1)(b)1.d.(V), F.A.C.;~~

1766 (II) The background concentrations; or

1767 (III) The best achievable detection limits;

1768 b. Soil contaminant concentrations, or average soil contaminant concentrations calculated based on the 95% UCL
1769 approach pursuant to sub-subparagraph 62-780.680(1)(b)1.d., F.A.C., do not exceed the alternative residential soil CTLs
1770 established using site-specific soil properties pursuant to subparagraph 62-780.600(5)(c)2., F.A.C., and the equations and
1771 default residential exposure assumptions specified in Chapter 62-777, F.A.C., Figures 4, 5, 6, and 7 and Table VI—~~except that
1772 if the 95% UCL approach is utilized for any contaminant, then the soil concentrations shall not exceed the apportioned soil
1773 CTLs calculated pursuant to sub-sub-subparagraph 62-780.680(1)(b)1.d.(V), F.A.C.;~~

1774 c. Soil concentrations of the site-specific fractions of TRPHs established pursuant to subparagraph 62-780.600(5)(c)3.,
1775 F.A.C., or average soil concentrations of the site-specific fractions of TRPHs calculated based on the 95% UCL approach
1776 pursuant to sub-subparagraph 62-780.680(1)(b)1.d., F.A.C., utilizing the soil concentrations of the site-specific fractions of
1777 TRPHs established pursuant to subparagraph 62-780.600(5)(c)3., F.A.C., do not exceed the residential soil CTLs for the
1778 TRPH fractions provided in Appendix C of the technical report referenced in subsection 62-780.100(2), F.A.C.—~~except that if
1779 the 95% UCL approach is utilized for any contaminant, then the soil contaminant concentrations shall not exceed the
1780 apportioned soil CTLs calculated pursuant to sub-sub-subparagraph 62-780.680(1)(b)1.d.(V), F.A.C.;~~ and

1781 d. If the 95% UCL approach is utilized to calculate average soil contaminant concentrations pursuant to sub-
1782 subparagraph 62-780.680(1)(b)1.a., 62-780.680(1)(b)1.b., or 62-780.680(1)(b)1.c., F.A.C. [refer to the technical report
1783 referenced in subsection 62-780.100(2), F.A.C., for guidance], the following criteria shall be met:

1784 (I) ~~An~~ The Florida UCL tool or other approved statistical method pursuant to subsection 62-780.610(2), F.A.C., shall be
1785 used to perform the 95% UCL calculations;

1786 (II) ~~The maximum soil contaminant concentrations shall not exceed any CTL based on acute toxicity and shall not
1787 exceed three times the applicable direct exposure soil CTLs based on chronic toxicity pursuant to sub-subparagraphs 62-
1788 780.680(1)(b)1.a., 62-780.680(1)(b)1.b., and 62-780.680(1)(b)1.c., F.A.C.;~~

Commented [DB83]: No longer applicable when using dose additivity. Also deleted the cross-referenced sub-paragraph below. We would have a single CTL for comparison under dose additivity (sim to how we do dioxins, PaHs now).

Commented [A84]: Support the Department's proposed deletion of existing rule language requiring that maximum soil contaminant concentrations at a site not exceed 3 times the applicable direct exposure soil cleanup target level. As the Department has proposed here, the same change should be made for Rule 62-780.680(3)(b)1.b.

1789 ~~(II)(H)~~ The exposure unit shall not exceed ¼ acre unless the approved Conceptual Site Model adequately demonstrates that
1790 contaminants are uniformly distributed such that a 95% UCL based on an alternative exposure unit size will be sufficiently
1791 reflects an alternative exposure unit that is protective of human health, public safety, and the environment, ~~dictates a more~~
1792 ~~reasonable exposure unit area.~~ The exposure unit(s) shall be located within the source property boundaries;

Commented [A85]: In favor of more flexible language regarding the exposure unit. Proposed language shown.

Commented [DB86]: Additional edits made to provide some flexibility with regard to exposure unit size.

1793 The exposure unit shall not exceed 1/4 acre and shall be located within the source property boundaries;

1794 (III)(IV) A minimum of 10 representative soil samples is required when discrete sample data are used and three
1795 representative soil samples when ISM sample data are used ~~the Florida UCL tool is utilized; and~~

1796 ~~(IV)(V) If more than one contaminant is present in the soil in the unsaturated zone at the site, the soil CTLs for all~~
1797 ~~contaminants detected in soil samples at the site shall be apportioned, as applicable [refer to Appendix D of the technical~~
1798 ~~report referenced in subsection 62-780.100(2), F.A.C., for guidance on apportioning soil CTLs]; and~~

1799 (IV) The average soil concentration shall not be compared with any CTL based upon acute toxicity. For acute toxicity
1800 CTLs comparisons must be made with discrete sampling data.

1801 2. Criteria for leachability are as follows:

1802 a. Soil contaminant concentrations measured with discrete samples, or average soil contaminant concentrations based
1803 upon the 95% UCL approach from discrete or ISM sampling data do not exceed the less stringent of:

1804 (I) The groundwater and, if applicable, surface water leachability-based soil CTLs specified in Chapter 62-777, F.A.C.,
1805 Table II;

1806 (II) The background concentrations; or

1807 (III) The best achievable detection limits;

1808 b. Soil contaminant concentrations measured with discrete samples, or average soil contaminant concentrations based
1809 upon the 95% UCL approach from discrete or ISM sampling data do not exceed the alternative leachability-based soil CTLs
1810 established using the equation and default assumptions specified in Chapter 62-777, F.A.C., Figure 8, the alternative
1811 groundwater CTLs based on the site-specific background concentrations [refer to sub-subparagraph 62-780.680(1)(c)1.b.,
1812 F.A.C.], and, if applicable, the alternative surface water CTLs based on the site-specific background concentrations [refer to
1813 subparagraph 62-780.680(1)(d)2., F.A.C.];

1814 c. Direct leachability testing results pursuant to subparagraph 62-780.600(5)(c)4., F.A.C., demonstrate that leachate
1815 concentrations do not exceed the appropriate groundwater CTLs pursuant to paragraph 62-780.680(1)(c), F.A.C., and, if
1816 applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

1817 d. Soil contaminant concentrations do not exceed the alternative leachability-based soil CTLs established using site-
1818 specific soil properties pursuant to subparagraph 62-780.600(5)(c)2., F.A.C., the equation and appropriate default
1819 assumptions specified in Chapter 62-777, F.A.C., Figure 8, and the appropriate groundwater CTLs pursuant to paragraph 62-
1820 780.680(1)(c), F.A.C.; and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d),
1821 F.A.C.;

1822 e. Soil concentrations of the site-specific fractions of TRPHs established pursuant to subparagraph 62-780.600(5)(c)3.,
1823 F.A.C., do not exceed the leachability-based soil CTLs for the TRPH fractions provided in Appendix C of the technical
1824 report referenced in subsection 62-780.100(2), F.A.C.; ~~and~~

1825 f. For soil that is and has been exposed to the elements (i.e., open ground, not covered by impermeable or semi-
1826 permeable cover) and subject to infiltration throughout the entire unsaturated zone for a minimum of two years, it has been
1827 subsequently demonstrated to the Department by a minimum of one year of groundwater monitoring data that contaminants
1828 will not leach into the groundwater at concentrations that exceed the appropriate groundwater CTLs pursuant to paragraph
1829 62-780.680(1)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d),
1830 F.A.C. This demonstration shall consider site-specific characteristics such as the thickness of the unsaturated zone, depth and
1831 mass of soil contaminants, soil lithology, actual precipitation, concentration gradients, and the chemical and physical
1832 characteristics of the contaminants; or

1833 (c) Contaminated groundwater is not present, as demonstrated by the analyses of groundwater samples collected from
1834 representative sampling locations (unless the Department has concurred that groundwater sampling is unnecessary based on
1835 the site-specific conditions), that show that criteria 1. and 2. are met:

1836 1. Groundwater contaminant concentrations do not exceed the less stringent of:

1837 a. The groundwater CTLs specified in Chapter 62-777, F.A.C., Table I groundwater criteria column, except that ~~for~~
1838 ~~brownfields~~ groundwater contaminant concentrations may exceed the groundwater CTLs derived from nuisance,

Commented [DB87]: Stricken to reflect proposed legislation in SB 0100 03-10-16

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

1839 organoleptic, or aesthetic considerations if the following additional criteria are met:

1840 (I) Concentrations of contaminants meet all applicable health-based groundwater CTLs provided in Chapter 62-777,

1841 F.A.C., Table I groundwater criteria column, and Chapter 62-780, F.A.C., Table F, located at the end of Rule 62-780.900,

1842 F.A.C., and if applicable, surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

1843 (II) The PRSR has demonstrated by a minimum of one year of groundwater monitoring data that groundwater

1844 concentrations at the property boundary do not, and will not, exceed the groundwater CTLs pursuant to subparagraphs 62-

1845 780.680(1)(c)1. or 2., F.A.C., and, if applicable, the surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

1846 (III) The property has access to and is connected to an off-site water supply for domestic purposes and private wells are

1847 not used for domestic purposes. For purposes of this rule, "domestic purposes" means that the water is used for human

1848 consumption such as bathing, cooking, or drinking, and is provided through pipes or other constructed conveyances; and

1849 (IV) The real property owner provides written acceptance of the No Further Action Proposal to the Department;

1850 b. The background concentrations; or

1851 c. The best achievable detection limits; and

1852 2. Groundwater contaminant concentrations do not exceed the surface water CTLs specified in Chapter 62-777, F.A.C.,

1853 Table I freshwater surface water criteria column or marine surface water criteria column, as applicable, if the site's

1854 groundwater contaminant concentrations are affecting or may potentially affect a surface water body based on monitoring

1855 well data, groundwater flow rate and direction, or fate and transport modeling;

1856 (d) Contaminated surface water is not present, as demonstrated by the analyses of surface water samples collected from

1857 representative sampling locations (unless the Department has concurred that surface water sampling is unnecessary based on

1858 the site-specific conditions), that show that contaminant concentrations do not exceed the less stringent of:

1859 1. The applicable surface water CTLs specified in Chapter 62-777, F.A.C., Table I freshwater surface water criteria

1860 column or marine surface water criteria column;

1861 2. The background concentrations; or

1862 3. The best achievable detection limits; and

1863 (e) Contaminated sediment is not present, as demonstrated by the analyses of sediment samples collected from

1864 representative sampling locations (unless the Department has concurred that sediment sampling is unnecessary based on the

1865 site-specific conditions), or the concentrations of contaminants in sediment do not exceed the background concentrations.

1866 (2) Risk Management Options Level II - A No Further Action with institutional controls ~~whether such institutional~~

1867 ~~controls are recorded in the public records of the County in which the site is located, or are non-recorded institutional~~

1868 ~~controls) and, if appropriate, engineering controls shall apply if the controls are protective of human health, public safety, and~~

1869 ~~the environment and are agreed to by the current real property owner(s) of the source property subject to the institutional or~~

1870 ~~engineering controls. Notice of the use of institutional or engineering controls shall be provided in accordance with paragraph~~

1871 ~~62-780.220(7), F.A.C.~~ Fate and transport models, as defined in Rule 62-780.610, F.A.C., supported by a minimum of one

1872 year of monitoring data, may be utilized to justify the No Further Action Proposal. It shall be demonstrated to the Department

1873 that the following conditions are met for those contaminants that do not meet Risk Management Options Level I criteria of

1874 subsection 62-780.680(1), F.A.C.:

1875 (a) Criteria for ~~evaluation of free product are as follows:~~

1876 1. Free product is not present and no fire or explosive hazard exists as a result of a release of non-aqueous phase liquids,

1877 or;

1878 2. Free product removal is not technologically feasible ~~or not cost effective;~~ and;

1879 3. Free product is not migrating and does not pose a risk to human health, public safety or the environment.

1880 (b) Alternative soil CTLs have been established by the PRSR and one or more of the criteria for direct exposure and one

1881 or more of the criteria for leachability are met for soil in the unsaturated zone, as applicable:

1882 1. Criteria for direct exposure are as follows:

1883 a. Soil contaminant concentrations ~~measured~~ or average soil contaminant concentrations

1884 calculated based on the 95% UCL approach ~~from discrete or ISM sampling data pursuant to sub-subparagraph 62-~~

1885 ~~780.680(2)(b)1.e., F.A.C.~~, do not exceed the commercial/industrial soil CTLs specified in Chapter 62-777, F.A.C., Table II,

1886 except that if the 95% UCL approach is utilized for any contaminant, then the soil contaminant concentrations shall not

1887 exceed the apportioned soil CTLs calculated pursuant to sub-sub-subparagraph 62-780.680(2)(b)1.e.(V), F.A.C.;

Commented [DB88]: This text was suggested for 62-780.680(3) [RMO III], added here for consistency.

Commented [DB89]: Suggested :Delete this text because it is inconsistent with 376.30701. All notice requirements have been moved to 62-780.220

Commented [DB90]: Suggested amendment

Commented [DB91]: Suggested amendment

Commented [A92]: The Department's draft language addressing the 95% UCL for soil sampling data [under RMO I] should also be inserted at the corresponding place in Risk Management Option Level II (Rule 62-780.680(2)(b)2.a.

1888 b. An engineering control that prevents human exposure (for example, permanent cover material or a minimum of two
1889 feet of soil) is implemented, in which case the contaminant concentrations in the soil below the permanent cover or two or
1890 more feet below land surface may exceed the direct exposure soil CTLs. Prior to Department approval of a No Further Action
1891 with engineering controls, the PRSR shall provide certification by a registered Professional Engineer that to the best of his or
1892 her knowledge the engineering control is consistent with commonly accepted engineering practices, is appropriately designed
1893 and constructed for its intended purpose, and has been implemented;

1894 c. Soil contaminant concentrations, or average soil contaminant concentrations calculated based on the 95% UCL
1895 approach pursuant to sub-subparagraph 62-780.680(2)(b)1.e., F.A.C., do not exceed the alternative commercial/industrial soil
1896 CTLs calculated using site-specific soil properties pursuant to subparagraph 62-780.600(5)(c)2., F.A.C., and the equations
1897 and default commercial/industrial exposure assumptions specified in Chapter 62-777, F.A.C., Figures 4, 5, 6, and 7 and Table
1898 VI, ~~except that if the 95% UCL approach is utilized for any contaminant, then the soil contaminant concentrations shall not~~
1899 ~~exceed the apportioned soil CTLs calculated pursuant to sub-sub-subparagraph 62-780.680(2)(b)1.e.(V), F.A.C.;~~

1900 d. Soil concentrations of the site-specific fractions of TRPHs established pursuant to subparagraph 62-780.600(5)(c)3.,
1901 F.A.C., or average soil contaminant concentrations of the site-specific fractions of TRPHs calculated based on the 95% UCL
1902 approach pursuant to sub-subparagraph 62-780.680(2)(b)1.e., F.A.C., utilizing the soil concentrations of the site-specific
1903 fractions of TRPHs established pursuant to subparagraph 62-780.600(5)(c)3., F.A.C., do not exceed the
1904 commercial/industrial soil CTLs for the TRPH fractions provided in Appendix C of the technical report referenced in
1905 subsection 62-780.100(2), F.A.C., ~~except that if the 95% UCL approach is utilized for any contaminant, then the soil~~
1906 ~~contaminant concentrations shall not exceed the apportioned soil CTLs calculated pursuant to sub-sub-subparagraph 62-~~
1907 ~~780.680(2)(b)1.e.(V), F.A.C.;~~ and

1908 e. If the 95% UCL approach is utilized to calculate average soil contaminant concentrations pursuant to sub-
1909 subparagraph 62-780.680(2)(b)1.a., 62-780.680(2)(b)1.c., or 62-780.680(2)(b)1.d., F.A.C., [refer to the technical report
1910 referenced in subsection 62-780.100(2), F.A.C., for guidance], the following criteria shall be met:

1911 (I) ~~An~~The Florida UCL tool or other approved statistical method pursuant to subsection 62-780.610(2), F.A.C., shall be
1912 used to perform the 95% UCL calculations;

1913 (II) ~~The maximum soil contaminant concentrations shall not exceed three times the applicable soil CTLs pursuant to sub-~~
1914 ~~subparagraphs 62-780.680(2)(b)1.a., c., and d., F.A.C.;~~

1915 (III) ~~The~~exposure unit shall be located within the source property boundaries and reflect normal activity patterns for
1916 the existing commercial/industrial land use with supporting institutional controls. The institutional controls shall require
1917 recalculation of the 95% UCL if the property is subdivided or land use changes such that the exposure unit utilized in the
1918 original calculation is no longer appropriate; ~~and~~

1919 (IV) ~~A~~minimum of 10 representative soil samples is required when discrete sampling data are used and three
1920 ~~representative soil samples when ISM data are used~~the Florida UCL tool is utilized; ~~and~~

1921 (V) ~~If more than one contaminant is present in the soil in the unsaturated zone at the site, the soil CTLs for all~~
1922 ~~contaminants detected in soil samples at the site shall be apportioned, as applicable [refer to Appendix D of the technical~~
1923 ~~report referenced in subsection 62-780.100(2), F.A.C., for guidance on apportioning soil CTLs].~~

1924 2. Criteria for leachability are as follows:

1925 a. Soil contaminant concentrations do not exceed the alternative leachability-based soil CTLs established using the
1926 equations and default assumptions specified in Chapter 62-777, F.A.C., Figure 8, the alternative groundwater CTLs derived
1927 pursuant to paragraph 62-780.680(2)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph
1928 62-780.680(1)(d), F.A.C.;

1929 b. Direct leachability testing results pursuant to subparagraph 62-780.600(5)(c)4., F.A.C., demonstrate that leachate
1930 concentrations do not exceed the alternative groundwater CTLs established pursuant to paragraph 62-780.680(2)(c), F.A.C.,
1931 and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

1932 c. An engineering control that prevents infiltration (for example, permanent impermeable cover material) is
1933 implemented, in which case the contaminant concentrations in the soil below the impermeable cover may exceed the
1934 leachability-based soil CTLs. Prior to Department approval of a No Further Action with engineering controls, the PRSR shall
1935 provide certification by a registered Professional Engineer that, to the best of his or her knowledge, the engineering control is
1936 consistent with commonly accepted engineering practices, is appropriately designed and constructed for its intended purpose,

1937 and has been implemented. It shall be demonstrated to the Department by a minimum of one year of groundwater monitoring
1938 data that contaminants will not leach into the groundwater at concentrations that exceed the appropriate groundwater CTLs
1939 pursuant to paragraph 62-780.680(1)(c), F.A.C., or, if the groundwater is already contaminated, at concentrations that exceed
1940 the alternative groundwater CTLs established pursuant to paragraph 62-780.680(2)(c), F.A.C., and, if applicable, the
1941 appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

1942 d. Soil contaminant concentrations measured with discrete samples, or average soil contaminant concentrations based
1943 upon the 95% UCL approach from discrete or ISM sampling data do not exceed the alternative leachability-based soil CTLs
1944 established using site-specific soil properties pursuant to subparagraph 62-780.600(5)(c)2., F.A.C., the equation and
1945 appropriate default assumptions specified in Chapter 62-777, F.A.C., Figure 8, the alternative groundwater CTLs established
1946 pursuant to paragraph 62-780.680(2)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph
1947 62-780.680(1)(d), F.A.C.;

1948 e. Soil concentrations of the site-specific fractions of TRPHs established pursuant to subparagraph 62-780.600(5)(c)3.,
1949 F.A.C., do not exceed the alternative leachability-based soil CTLs for the TRPH fractions established using the equation and
1950 assumptions specified in Chapter 62-777, F.A.C., Figure 8, the chemical/physical parameters provided in Appendix C of the
1951 technical report referenced in subsection 62-780.100(2), F.A.C., the alternative groundwater CTL for TRPHs established
1952 pursuant to paragraph 62-780.680(2)(c), F.A.C., and, if applicable, the appropriate surface water CTL for TRPHs pursuant to
1953 paragraph 62-780.680(1)(d), F.A.C.; and

1954 f. It has been demonstrated to the Department by a minimum of one year of groundwater monitoring data and, if
1955 applicable, fate and transport modeling results that, based upon the site-specific conditions, contaminants will not leach into
1956 the groundwater at concentrations that exceed the appropriate groundwater CTLs established pursuant to paragraph 62-
1957 780.680(1)(c), F.A.C., or if the groundwater is already contaminated, at concentrations that exceed the alternative
1958 groundwater CTLs established pursuant to paragraph 62-780.680(2)(c), F.A.C., and, if applicable, the appropriate surface
1959 water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.; and

1960 (c) Alternative groundwater CTLs have been established by the PRSR depending on the current and projected use of
1961 groundwater in the vicinity of the site and one or more of the following criteria are met, as applicable:

1962 1. For contamination of groundwater of low yield or poor quality, the CTLs specified in Chapter 62-777, F.A.C., Table I
1963 groundwater of low yield/poor quality criteria column shall apply to groundwater within the property boundaries, provided
1964 that it has been demonstrated to the Department by a minimum of one year of groundwater monitoring data that groundwater
1965 contaminant concentrations at the property boundaries do not, and will not, exceed the appropriate groundwater CTLs
1966 specified in subparagraph 62-780.680(1)(c)1., F.A.C., and that the plume has not affected, and will not affect, a freshwater or
1967 marine surface water body pursuant to subparagraph 62-780.680(1)(c)2., F.A.C.;

1968 2. An engineering control that prevents migration of the plume (for example, a permanent containment such as a barrier
1969 wall) is implemented, and it has been demonstrated to the Department by a minimum of one year of groundwater monitoring
1970 data that groundwater contaminant concentrations at the property boundaries do not, and will not, exceed the appropriate
1971 groundwater CTLs specified in subparagraph 62-780.680(1)(c)1., F.A.C., and that the plume has not affected, and will not
1972 affect, a freshwater or marine surface water body pursuant to subparagraph 62-780.680(1)(c)2., F.A.C. Periodic monitoring
1973 of the engineering control by the PRSR shall be required to verify the effectiveness of the engineering control in preventing
1974 migration of the plume. The PRSR shall report to the Department any failures of the engineering control to prevent migration
1975 of the plume within 30 days of discovery of a failure. Prior to Department approval of a No Further Action with engineering
1976 controls, the PRSR shall provide certification by a registered Professional Engineer that to the best of his or her knowledge
1977 the engineering control is consistent with commonly accepted engineering practices, is appropriately designed and
1978 constructed for its intended purpose, and has been implemented;

1979 3. For groundwater contamination that is affecting or may potentially affect only a marine surface water body with no
1980 other properties or freshwater surface water bodies located between the source property boundary and the marine surface
1981 water body, the CTLs specified in Chapter 62-777, F.A.C., Table I marine surface water criteria column shall apply to
1982 groundwater; and

1983 4. For groundwater contamination that is contained within the property boundaries and limited to the immediate vicinity
1984 of the source area, and the area of groundwater contamination is less than 1/4 acre, where it has been demonstrated to the
1985 Department by a minimum of one year of groundwater monitoring data and, if applicable, fate and transport modeling results,

1986 that the groundwater contamination is not migrating away from such localized source area (the plume is stable or shrinking)
1987 and has not affected, and will not affect, a freshwater or marine surface water body pursuant to subparagraph 62-
1988 780.680(1)(c)2., F.A.C., alternative groundwater CTLs shall be established using the monitoring data and, if applicable,
1989 modeling results.

1990 (3) Risk Management Options Level III – A No Further Action with institutional controls, ~~whether such institutional~~
1991 ~~controls are recorded in the public records of the County in which the site is located, or are non-recorded institutional~~
1992 ~~controls~~, if needed, and, if appropriate, engineering controls shall apply if the controls are protective of human health, public
1993 safety, and the environment ~~and are agreed to by the current real property owner(s) of all properties subject to the institutional~~
1994 ~~or engineering controls. Notice of the use of institutional or engineering controls shall be provided in accordance with~~
1995 ~~paragraph 62-780.220(7), F.A.C.~~ Alternative CTLs that are based on limitations to land use must be used in conjunction with
1996 institutional controls, ~~and if appropriate, engineering controls~~, to ensure that the limited land use upon which the exposure
1997 duration and frequency assumptions were based remains in effect ~~in perpetuity until the PRSR submits information to the~~
1998 ~~Department that supports removal or modification of the recorded institutional controls or engineering control, if applicable,~~
1999 ~~or that reliance on a non-recorded institutional control or engineering control is no longer required.~~ The PRSR may also use
2000 scientific studies or reports to support a No Further Action Proposal without institutional controls under this subsection.
2001 Proposals may be based on information about a contaminant's toxicity or carcinogenicity, provided such information is
2002 consistent with the requirements of subparagraph 62-780.650(1)(b)2., F.A.C. Proposals for no further action without controls
2003 may also be based on information about non-site-specific exposure factors, provided such information is consistent with the
2004 requirements of sub-subparagraph 62-780.650(1)(a)4.b., F.A.C. Fate and transport models, as defined in Rule 62-780.610,
2005 F.A.C., supported by a minimum of one year of monitoring data, may be utilized to justify the No Further Action Proposal. It
2006 shall be demonstrated to the Department that the following conditions are met for those contaminants that do not meet Risk
2007 Management Options Level I or Level II criteria of subsection 62-780.680(1) or 62-780.680(2), F.A.C.:

2008 (a) ~~Criteria for evaluation of free product are as follows:~~

- 2009 1. Free product is not present and no fire or explosive hazard exists as a result of a release of non-aqueous phase liquids,
2010 or,
2011 2. Free product removal is not technologically feasible ~~or not cost effective, and, or~~
2012 3. Free product is not migrating and does not pose a risk to human health, public safety or the environment ~~and all~~
2013 ~~affected property owners agree to allow the free product to remain.~~

2014 (b) Alternative soil CTLs have been established by the PRSR and the following criteria are met for soil in the unsaturated
2015 zone:

2016 1. Soil contaminant concentrations ~~measured with discrete samples, or average soil contaminant concentrations~~
2017 ~~calculated based on the 95% UCL approach from discrete or ISM sampling data pursuant to this subparagraph,~~ do not exceed
2018 the alternative direct exposure soil CTLs established pursuant to paragraph 62-780.650(1)(d), F.A.C. ~~If more than one~~
2019 ~~contaminant is present in the soil in the unsaturated zone at the site, the soil CTLs for all contaminants detected in soil~~
2020 ~~samples at the site shall be apportioned, as applicable [refer to Appendix D of the technical report referenced in subsection~~
2021 ~~62-780.100(2), F.A.C., for guidance on apportioning soil CTLs].~~ If the 95% UCL approach is utilized to calculate average
2022 soil contaminant concentrations pursuant to this subparagraph [refer to the technical report referenced in subsection 62-
2023 780.100(2), F.A.C., for guidance], the following criteria shall be met:

2024 a. ~~An~~ The Florida UCL tool or other approved statistical method pursuant to subsection 62-780.610(2), F.A.C., shall be
2025 used to perform the 95% UCL calculations;

2026 b. ~~The proposed maximum soil concentrations~~ The maximum soil contaminant concentrations shall not exceed three
2027 times the applicable soil CTLs (apportioned pursuant to subparagraph 62-780.680(3)(b)1., F.A.C., if applicable); higher
2028 maximum soil contaminant concentrations may be utilized ~~provided the maximum concentrations~~ address the potential risk
2029 based on exposure to contaminants which may cause acute toxicity, and the potential for direct contact within the exposure
2030 unit that is not equal and random; and

2031 c. The exposure unit shall reflect normal activity patterns for the existing land use, with supporting institutional controls
2032 if the exposure unit exceeds 1/4 acre. The institutional controls shall require recalculation of the 95% UCL if the property is
2033 subdivided or land use changes such that the exposure unit utilized in the original calculation is no longer appropriate; and

2034 2. One or more of the following criteria for leachability are met, as applicable:

Commented [DB93]: Insert this text to clarify applicability to both recorded and non-recorded ICs.

Public Comments:
Supports inclusion of ""Governmental controls that impose restrictions on land use or resource use"" as alternative IC (ref 11/1/13 memo); also "recommend and advocate" use of delineated areas pursuant to Ch. 62-524

Commented [DB94]: Does new language address these concerns?

Commented [DB95]: Delete this text because it is inconsistent with 376.30701. All notice requirements have been moved to 62-780.220

Commented [DB96]: These changes are to accommodate closure in reliance on non-recorded ICs. The phrase "in perpetuity" generally is associated with an instrument that has been recorded in the public records, but is not consistent with reliance upon ordinances, comp plans, MOA's etc.

Commented [A97]: Suggest adding the phrase "evaluation of" prior to "free product."

Commented [A98]: Chapter 376.30701 F.S states, "In establishing these rules, the department shall apply, to the maximum extent feasible, a risk-based corrective action process to achieve protection of human health and safety and the environment in a cost-effective manner based on the principles set forth in this subsection. The Statute goes on to state that, "The department shall require source removal as a risk reduction measure if warranted and cost-effective." This language governs how Chapter 62-780 FAC considers the determination of technical impracticability for achieving site rehabilitation pursuant to Chapter 376 or 403 FS. Suggest a guidance document to clarify the development of a rationale for technical impracticability.

Commented [A99]: Recommend amendment to say Free product removal is not technologically feasible.

Commented [DB100]: Suggested Change

Commented [A101]: Added "or not cost effective", note criteria are joined by "and"

Commented [DB102]: Suggested deletion

Commented [A103]: Consider implications and be mindful of statutory language

Commented [DB104]: See "flush left" paragraph following 376.30701(2)(i)3. For statutory language with regard to source removal. "Free Product" is only defined within this rule, although 376.3071 (petroleum) has several references to free product but no definition.

Commented [A105]: Addition of ISM?

Commented [DB106]: ISM should fall under "average soil contaminant concentrations calculated based on the 95% UCL"

Commented [A107]: As the Department proposed, the phrase "The Florida UCL tool or other" should be deleted and replaced with the word "An."

Commented [A108]: [Ed. note: Amended to address following comment:]; support the Department's proposed deletion of existing rule language requiring that maximum soil contaminant concentrations at a site not exceed 3 times the applicable direct exposure soil cleanup target level.

2035 a. Soil contaminant concentrations do not exceed the alternative leachability-based soil CTLs established using the
2036 alternative groundwater CTLs derived pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable, the appropriate
2037 surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

2038 b. Direct leachability testing results pursuant to subparagraph 62-780.600(5)(c)4., F.A.C., demonstrate that leachate
2039 concentrations do not exceed the alternative groundwater CTLs established pursuant to paragraph 62-780.680(3)(c), F.A.C.,
2040 and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

2041 c. An engineering control that prevents infiltration (for example, permanent impermeable cover material) is
2042 implemented, in which case the contaminant concentrations in the soil below the impermeable cover may exceed the
2043 leachability-based soil CTLs. Prior to Department approval of a No Further Action with engineering controls, the PRSR shall
2044 provide certification by a registered Professional Engineer that, to the best of his or her knowledge, the engineering control is
2045 consistent with commonly accepted engineering practices, is appropriately designed and constructed for its intended purpose,
2046 and has been implemented. It shall be demonstrated to the Department by a minimum of one year of groundwater monitoring
2047 data that contaminants will not leach into the groundwater at concentrations that exceed the appropriate groundwater CTLs
2048 established pursuant to paragraph 62-780.680(1)(c), F.A.C., or, if the groundwater is already contaminated, at concentrations
2049 that exceed the alternative groundwater CTLs established pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable,
2050 the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d), F.A.C.;

2051 d. Soil contaminant concentrations measured with discrete samples, or average soil contaminant concentrations based
2052 upon the 95% UCL approach from discrete or ISM sampling data do not exceed the alternative leachability-based soil CTLs
2053 established using site-specific soil properties pursuant to subparagraph 62-780.600(5)(c)2., F.A.C., the equation and
2054 appropriate default assumptions specified in Chapter 62-777, F.A.C., Figure 8, the alternative groundwater CTLs established
2055 pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph
2056 62-780.680(1)(d), F.A.C.;

2057 e. Soil concentrations of the site-specific fractions of TRPHs established pursuant to subparagraph 62-780.600(5)(c)3.,
2058 F.A.C., do not exceed the alternative leachability-based soil CTLs for the TRPH fractions established using the equation and
2059 default assumptions specified in Chapter 62-777, F.A.C., Figure 8, the chemical/physical parameters provided in Appendix C
2060 of the technical report referenced in subsection 62-780.100(2), F.A.C., the alternative groundwater CTL for TRPHs
2061 established pursuant to paragraph 62-780.680(3)(c), F.A.C., and, if applicable, the appropriate surface water CTL for TRPHs
2062 pursuant to paragraph 62-780.680(1)(d), F.A.C.; and

2063 f. It has been demonstrated to the Department by a minimum of one year of groundwater monitoring data and, if
2064 applicable, fate and transport modeling results that, based upon the site-specific conditions, contaminants will not leach into
2065 the groundwater at concentrations that exceed the alternative groundwater CTLs established pursuant to paragraph 62-
2066 780.680(3)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-780.680(1)(d),
2067 F.A.C.; and

2068 (c) Alternative groundwater CTLs have been established by the PRSR depending on the current and projected use of
2069 groundwater in the vicinity of the site, and the following criteria are met:

2070 1. Groundwater contaminant concentrations do not exceed the alternative groundwater CTLs established pursuant to
2071 paragraph 62-780.650(1)(d), F.A.C. ~~apportioned, if applicable, refer to Appendix E of the technical report referenced in~~
2072 ~~subsection 62-780.100(2), F.A.C., for guidance on apportioning groundwater CTLs~~, and the plume has not affected, and will
2073 not affect, a freshwater or marine surface water body pursuant to subparagraph 62-780.680(1)(c)2., F.A.C.; and

2074 2. It has been demonstrated to the Department by a minimum of one year of groundwater monitoring data and, if
2075 applicable, fate and transport modeling results, that the plume is stable or shrinking, and groundwater contaminant
2076 concentrations at the institutional control boundary do not, and will not, exceed the appropriate groundwater CTLs pursuant
2077 to paragraph 62-780.680(1)(c), F.A.C., and, if applicable, the appropriate surface water CTLs pursuant to paragraph 62-
2078 780.680(1)(d), F.A.C.

2079 (4) Unless the No Further Action Proposal is included in a Site Assessment Report pursuant to subparagraph 62-
2080 780.600(8)(b)1., F.A.C., or a Risk Assessment Report pursuant to paragraph 62-780.650(4)(a), F.A.C., or a Site
2081 Rehabilitation Completion Report pursuant to subsection 62-780.690(10) or 62-780.750(6), F.A.C., the PRSR shall submit to
2082 the Department for review an electronic or paper copy of the No Further Action Proposal when the criteria for No Further
2083 Action have been met. The No Further Action Proposal shall include the tables required pursuant to subparagraph 62-

2084 780.600(8)(a)27., F.A.C., updated as applicable. Prior to approval of a No Further Action Proposal with an institutional
2085 control or an engineering control accompanied by an institutional control, documentation of completion of notification
2086 pursuant to 62-780.220(7), F.A.C., the agreement with the real property owner(s) of all properties subject to the institutional
2087 or engineering controls shall be submitted to the Department.

2088 (5) The Department shall:

2089 (a) Provide the PRSR with a Site Rehabilitation Completion Order that approves the No Further Action Proposal; or

2090 (b) Notify the PRSR in writing, stating the reason(s) why the No Further Action Proposal does not contain information
2091 adequate to support the conclusion that the applicable No Further Action criteria of Rule 62-780.680, F.A.C., have been met.
2092 Site rehabilitation activities shall not be deemed complete until such time as a No Further Action Proposal is approved.

2093 (6) If the No Further Action Proposal is incomplete in any respect, or is insufficient to satisfy the objectives of
2094 subsection 62-780.680(1), 62-780.680(2), or 62-780.680(3), F.A.C., the Department shall inform the PRSR pursuant to
2095 paragraph 62-780.680(5)(b), F.A.C., of the basis for a rejection or determination of insufficiency, including the technical and
2096 scientific basis for any such rejection. The PRSR shall submit to the Department for review an electronic or paper copy of a
2097 revised No Further Action Proposal that addresses the deficiencies within 30 days after receipt of the notice. If the
2098 deficiencies are not timely corrected, or cannot be corrected, the PRSR shall submit to the Department for review, as
2099 appropriate, an electronic or paper copy of a Natural Attenuation Monitoring Plan pursuant to Rule 62-780.690, F.A.C., or an
2100 electronic or paper copy of a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C., within 60 days after receipt of the
2101 notice.

2102 (7) When a No Further Action Proposal is approved pursuant to subparagraph 62-780.600(9)(a)1. or 62-780.650(5)(a)1.,
2103 F.A.C., or paragraph 62-780.680(5)(a), 62-780.690(11)(a), or 62-780.750(7)(a), F.A.C., the Site Rehabilitation Completion
2104 Order shall contain, at a minimum, the following information:

2105 (a) The facility identification number or other FDEP or USEPA tracking number, as applicable, that identifies the
2106 property where the source(s) of the contaminated site is(are) or was(were) located;

2107 (b) The street address of the property where the source(s) of the contaminated site is(are) or was(were) located;

2108 (c) The date(s) of the discharge(s), if known, that resulted in the contaminated site;

2109 (d) A reference to an attached map or legal description that depicts or describes the contaminated site for which the Site
2110 Rehabilitation Completion Order is being issued;

2111 (e) The most recent tables generated by the PRSR pursuant to subparagraph 62-780.600(8)(a)27., F.A.C., or subsection
2112 62-780.650(4), 62-780.680(4), 62-780.690(10), or 62-780.750(6), F.A.C.;

2113 (f) If applicable, a reference to all engineering and institutional controls that were implemented or relied upon at the
2114 contaminated site. For engineering controls, a brief description of the physical control and any maintenance or monitoring
2115 requirements shall be included. For recorded institutional controls, a copy of the restrictive covenant (or other recorded
2116 instrument) including a reference to the book and page numbers where recorded shall be attached. and For non-recorded
2117 institutional controls, a citation to the rule(s), ordinance(s), legal authority, or other instruments that comprise the institutional
2118 control, shall be included together with a copy of the pertinent sections of the instruments; for non-restrictive covenant types
2119 of institutional controls, citation to the rule or ordinance upon which the institutional control is based, and, if using the
2120 Memorandum of Understanding between the Florida Department of Environmental Protection and the Florida Department of
2121 Transportation that became effective June 16, 2014, the pertinent details shall be included.

2122 (g) If applicable, a statement that the Site Rehabilitation Completion Order is conditioned upon such engineering and
2123 institutional controls being effective, properly maintained, and remaining in place. If applicable, the following statement shall
2124 be included: "If the real property owner proposes to remove the institutional controls or engineering controls, the real
2125 property owner shall obtain prior written approval from the Department. The removal of the controls shall be accompanied
2126 by the immediate resumption of site rehabilitation, or implementation of other approved controls, unless it is demonstrated to
2127 the Department that the criteria of subsection 62-780.680(1), F.A.C., are met.;" and

2128 (h) A statement that the Site Rehabilitation Completion Order is subject to specific statutory re-openers and a listing of
2129 those re-openers found in Section 376.30701(4), F.S.

2130 (8) Prior to the Department's approval of a No Further Action Proposal with institutional controls or with institutional
2131 and engineering controls or alternative CTLs, the PRSR shall provide constructive notice of the Department's intent for such
2132 approval in accordance with subsection 62-780.220(7), F.A.C.

Commented [DB109]: Amended to reflect notification requirements.

Commented [A110]: Suggest clarification of the agreement forms that can be accepted based on the various circumstances (i.e. in certain circumstances actual and constructive notice to 3rd party offsite owners, and to which no objection is rec'd, should be sufficient to allow reliance on non-recorded IC when DEP has concluded that remedy is adequately protective of HHE)

Commented [DB111]: See amendments to 62-780.220(7)

Commented [DB112]: This text is inserted to accommodate reliance on non-recorded ICs.

Commented [DB113]: The suggested revisions should be sufficient to capture the universe of non-recorded ICs without being so specific that it becomes limiting by trying to anticipate all the various options that the Department may find are sufficiently protective.

For the same reason, suggest that a specific reference to the FDEP/FDOT MOA is unnecessary.

Is a citation to the ordinance or rule sufficient or should a copy be attached?

Commented [DB114]: Suggested change.

Commented [DB115]: Other citation possibilities? (Do not limit non-recorded institutional control etc.)
Public comments: strike "rule or ordinance" and insert "legal authority"

Commented [DB116]: Does new language above adequately address these concerns?

Commented [DB117]: The suggested insert is needed as the current rule does not affirmatively address closure in reliance on ACTLs. Notice requirements are set forth in 62-780.220(7).

Missing text not verbatim with notes for ACTLs. See notes at 62-780.220(7).

2133 (9) The Site Rehabilitation Completion Order shall constitute final agency action regarding cleanup activities at the site.

2134 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81, 403.061, 403.0877 FS. Law Implemented 376.3071, 376.30701,*
2135 *376.3078(4), 376.81, 403.0877 FS. History—New 4-17-05, Amended 6-12-13, 2-4-14.*

2136 *Editorial Note: Portions of this rule were copied from 62-770.680; 62-782.680; and 62-785.680.*

2137 **62-780.690 Natural Attenuation Monitoring.**

2138 (1) Natural Attenuation Monitoring ~~and long-term natural attenuation monitoring are~~ allowable strategies for site
2139 rehabilitation depending on the individual site characteristics, provided human health, public safety, and the environment are
2140 protected. The individual site characteristics may include the current and projected use of the affected groundwater and
2141 surface water in the vicinity of the site, the current and projected land use of the area affected by the contamination, the
2142 exposed population, the location of the plume, the degree and extent of contamination, the rate of migration of the plume, the
2143 apparent or potential rate of degradation of contaminants through natural attenuation, and the potential for further migration
2144 in relation to the site's property boundary. Fate and transport models as defined in Rule 62-780.610, F.A.C., may be utilized
2145 to support the appropriateness of natural attenuation monitoring. Natural attenuation monitoring is allowable provided the
2146 following criteria are met:

2147 (a) Free product is not present or free product removal is not technologically feasible and no fire or explosive hazard
2148 exists as a result of a release of non-aqueous phase liquids;

2149 (b) Contaminated soil is not present in the unsaturated zone, except that applicable leachability-based soil CTLs may be
2150 exceeded if it is demonstrated to the Department that the soil does not constitute a continuing source of contamination to the
2151 groundwater at concentrations that pose a threat to human health, public safety, and the environment, and it is demonstrated
2152 that the rate of natural attenuation of contaminants in the groundwater exceeds the rate at which contaminants are leaching
2153 from the soil. The determination shall be based upon individual site characteristics and demonstrated by USEPA Test Method
2154 1312 (SPLP), or USEPA Test Method 1311 (TCLP) if the contamination is derived from used oil or similar petroleum
2155 products, followed by the appropriate analyses of the leachate, and based upon groundwater modeling, site stratigraphy, or
2156 site assessment results;

2157 (c) Contaminants present in the groundwater above background concentrations or applicable CTLs are not migrating
2158 beyond the temporary point of compliance or migrating vertically, which may contaminate other aquifers or surface water
2159 resources or result in increased site rehabilitation time;

2160 (d) The physical, chemical, ~~or~~ and biological characteristics of each contaminant and its transformation product(s) are
2161 conducive to natural attenuation;

2162 (e) The available data show an overall decrease in the contamination; and

2163 (f) One of the following is met:

2164 1. The site is anticipated to meet the applicable No Further Action criteria of Rule 62-780.680, F.A.C., as a result of
2165 natural attenuation ~~in five years or less~~, the background concentrations or the applicable CTLs are not exceeded at the
2166 temporary point of compliance as established pursuant to subsection 62-780.690(2) or 62-780.690(3), F.A.C., and ~~current~~
2167 contaminant concentrations do not exceed the criteria specified in Chapter 62-777, F.A.C., Table V; or

2168 2. If the criteria of subparagraph 62-780.690(1)(f)1., F.A.C., are not met, the appropriateness of natural attenuation
2169 monitoring may be demonstrated by the following:

2170 a. A technical evaluation of groundwater and soil characteristics, chemistry, and biological activity that verifies that the
2171 contaminants have the capacity to degrade under the site-specific conditions. A listing of the site-specific conditions and
2172 geochemical parameters, as applicable, is provided in Chapter 62-777, F.A.C., Table IV;

2173 b. A scientific evaluation (historical data or modeling results, as appropriate; the model used shall be demonstrated to be
2174 appropriate for the site conditions) of the plume migration in relation to the temporary point of compliance as established
2175 pursuant to subsection 62-780.690(2) or 62-780.690(3), F.A.C., an estimation of expected annual reductions in contaminant
2176 concentrations in monitoring wells, and an estimation of the time required to meet the applicable No Further Action criteria
2177 of Rule 62-780.680, F.A.C. Available technical information (including historical water quality data) shall be used for model
2178 calibration; and

2179 c. A life-cycle cost analysis of remedial alternatives.

2180 (2) Provided human health, public safety, and the environment are protected, the point of compliance may be temporarily

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Commented [DB118]: Added to incorporate pending statutory changes pursuant to SB 0100 03-10-16

Commented [A119]: Believe that the 5 year time period for monitored natural attenuation (MNA) to result in contaminant concentration reductions to background or applicable CTLs should be eliminated. The projected time period for MNA should be determined based on the contaminants of concern at a site and related site-specific hydrogeologic conditions and should not arbitrarily be limited to a 5 year time period.

Commented [A120]: It is not clear from the context of the existing rule language what a definition for "current" would be, nor is it specified at what "age" a dataset would be unacceptable. It would be appropriate to tie the term "current" to a specific submittal, such as a Natural Attenuation Monitoring Plan (NAMP) or other appropriate technical submittal.

[Ed. note: The word "current" was an addition in the 06-30-15 draft, it is shown stricken here to address comment above. Effect is to return this language to original rule language.]

2181 moved from the source of the contamination.

2182 (a) The location of the temporary point of compliance shall be based on the individual site characteristics listed in
2183 subsection 62-780.690(1), F.A.C.

2184 (b) The point of compliance may be temporarily moved to the property boundary, or to the edge of the plume when the
2185 plume is within the property boundary, while cleanup, including cleanup through natural attenuation processes in conjunction
2186 with appropriate monitoring, is proceeding.

2187 (c) The temporary point of compliance may extend beyond the property boundary when accompanied by monitoring, if
2188 such extension is needed to facilitate monitoring of natural attenuation or to address the current conditions of the plume,
2189 provided human health, public safety, and the environment are protected. If the point of compliance is proposed to be
2190 temporarily extended beyond the property boundary, it cannot be extended further than the lateral extent of the plume at the
2191 time of execution of a CAD, if known, or the lateral extent of the plume as defined at the time of the approved site
2192 assessment. Prior to the Department authorizing a temporary extension of the point of compliance beyond the property
2193 boundary, the PRSR shall provide notice and an opportunity to comment pursuant to subsection 62-780.220(3), F.A.C.

2194 (d) Pursuant to subsection 62-780.220(4), F.A.C., additional notice concerning the status of the natural attenuation
2195 processes shall be similarly provided every five years to persons receiving notice pursuant to paragraph 62-780.690(2)(c),
2196 F.A.C.

2197 (3) Where surface water is or may be exposed to contaminated groundwater (based on monitoring well data, groundwater
2198 flow rate and direction, or fate and transport modeling), the point of measuring compliance with the surface water standards
2199 shall be in the groundwater from the landward side immediately adjacent to the surface water body unless it has been
2200 demonstrated that the contaminants do not cause or contribute to the exceedance of applicable surface water quality criteria.

2201 (4) If the criteria of subsection 62-780.690(1), F.A.C., are met, a Natural Attenuation with Monitoring Plan, prepared
2202 pursuant to subsection 62-780.690(8), F.A.C., may be submitted. Unless the Natural Attenuation with Monitoring Plan is
2203 included in a Site Assessment Report pursuant to subparagraph 62-780.600(8)(b)2., F.A.C., or in a Risk Assessment Report
2204 pursuant to paragraph 62-780.650(4)(b), F.A.C., the PRSR shall submit to the Department for review an electronic or paper
2205 copy of the Natural Attenuation Monitoring Plan.

2206 (5) The Department shall:

2207 (a) Provide the PRSR with written approval of the Natural Attenuation Monitoring Plan; or

2208 (b) Notify the PRSR in writing, stating the reason(s) why the Natural Attenuation Monitoring Plan does not contain
2209 information adequate to support the conclusion that the applicable Natural Attenuation Monitoring criteria of Rule 62-
2210 780.690, F.A.C., have been met.

2211 (6) If the Natural Attenuation Monitoring Plan is incomplete in any respect, or is insufficient to satisfy the criteria of
2212 subsection 62-780.690(1), F.A.C., the Department shall inform the PRSR pursuant to paragraph 62-780.690(5)(b), F.A.C.,
2213 and the PRSR shall submit to the Department for review an electronic or paper copy of a revised Natural Attenuation
2214 Monitoring Plan that addresses the deficiencies within 30 days after receipt of the notice. If the deficiencies are not timely
2215 corrected, or cannot be corrected, the PRSR shall, as appropriate, continue the implementation of the approved Remedial
2216 Action Plan or submit to the Department for review an electronic or paper copy of a Remedial Action Plan pursuant to Rule
2217 62-780.700, F.A.C., within 60 days after receipt of the notice.

2218 (7) If the Natural Attenuation Monitoring Plan meets the criteria of subsection 62-780.690(1), F.A.C., a Natural
2219 Attenuation Monitoring Plan approval shall be issued. The objective of the monitoring program shall be to meet the
2220 applicable No Further Action criteria of Rule 62-780.680, F.A.C.

2221 (8) The monitoring program shall be performed as specified in the Natural Attenuation Monitoring Plan approval, as
2222 follows:

2223 (a) A minimum of two monitoring wells is required:

2224 1. At least one well shall be located at the downgradient edge of the plume; and

2225 2. At least one well shall be located in the area(s) of highest groundwater contamination or directly adjacent to it if the
2226 area of highest groundwater contamination is inaccessible (for example, under a structure);

2227 (b) The designated monitoring wells shall be sampled for analyses of applicable contaminants as specified in the Natural
2228 Attenuation Monitoring Plan approval but no more frequent than quarterly, as specified in the Natural Attenuation
2229 Monitoring Plan approval;

Commented [DB121]: In accordance with SB0100 03-10-16

2230 (c) Water-level measurements in all designated wells and piezometers shall be made within 24 hours of initiating each
2231 sampling event;

2232 (d) Within the time frames specified in Table A, ~~located at the end of Rule 62-780.900, F.A.C.,~~ or the CAD, the PRSR
2233 shall submit to the Department for review an electronic or paper copy of a Natural Attenuation Monitoring Report. The report
2234 shall include the analytical results (laboratory report), chain of custody record form [Form 62-780.900(2) or an equivalent
2235 chain of custody form that includes all the items required by Form 62-780.900(2)], the tables required pursuant to
2236 subparagraph 62-780.600(8)(a)27., F.A.C., updated as applicable, site maps that illustrate the analytical results, and the
2237 water-level elevation information (summary table and flow map);

2238 (e) If analyses of groundwater samples indicate that concentrations of applicable contaminants exceed any action levels
2239 specified in the Natural Attenuation Monitoring Plan approval, ~~the well or wells shall be resampled no later than 30 days~~
2240 ~~after the initial positive result is known. If the results of the resampling confirm that the applicable action levels are exceeded,~~
2241 then the monitoring report referenced in paragraph 62-780.690(8)(d), F.A.C., shall be signed and sealed by an appropriate
2242 registered professional pursuant to Rule 62-780.400, F.A.C., and shall include a proposal to:

2243 1. Perform a supplemental site assessment and submit a supplemental Site Assessment Report pursuant to Rule 62-
2244 780.600, F.A.C.;

2245 2. Continue the implementation of the approved Natural Attenuation Monitoring Plan; or

2246 3. Prepare and submit a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C.; **or**

2247 **4. Other action as approved by the department**

2248 (f) As specified in the approved Natural Attenuation Monitoring Plan, the analytical data shall be evaluated in reference
2249 to the expected reductions in contaminant concentrations in monitoring wells pursuant to subparagraph 62-780.690(1)(f)1.,
2250 F.A.C., or sub-subparagraph 62-780.690(1)(f)2.b., F.A.C., as applicable, to verify progress of site rehabilitation by natural
2251 attenuation. If the rate of expected cleanup progress is not achieved, then the monitoring report referenced in paragraph 62-
2252 780.690(8)(d), F.A.C., shall be signed and sealed by an appropriate registered professional pursuant to Rule 62-780.400,
2253 F.A.C., and shall include a proposal to:

2254 1. Perform a supplemental site assessment and submit a supplemental Site Assessment Report pursuant to Rule 62-
2255 780.600, F.A.C.;

2256 2. Continue the implementation of the approved Natural Attenuation Monitoring Plan; or

2257 3. Prepare and submit a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C.; **or**

2258 **4. Other action as approved by the department** and

2259 (g) If natural attenuation monitoring follows site assessment, a minimum of two sampling events is required and site
2260 rehabilitation shall be considered complete when the No Further Action criteria of subsection 62-780.680(1), 62-780.680(2),
2261 or 62-780.680(3), F.A.C., have been met for two consecutive sampling events. If natural attenuation monitoring follows
2262 active remediation, a minimum of four sampling events is required and site rehabilitation shall be considered complete when
2263 the No Further Action criteria of subsection 62-780.680(1), 62-780.680(2), or 62-780.680(3), F.A.C., have been met for at
2264 least the last two sampling events. If soil contamination was present at the beginning of the monitoring program, prior to
2265 submitting the Site Rehabilitation Completion Report soil samples shall be collected at appropriate locations and depths and
2266 analyzed for the applicable contaminants to demonstrate to the Department that applicable soil CTLs are met.

2267 (9) If during implementation of the Natural Attenuation Monitoring Plan the PRSR submits to the Department for review
2268 a Remedial Action Plan pursuant to subsection 62-780.700(6), F.A.C., to enhance natural attenuation processes, and the
2269 Remedial Action Plan is approved, natural attenuation monitoring shall be suspended during the implementation of the
2270 enhancement and the PRSR shall perform active remediation monitoring pursuant to the approved Remedial Action Plan.

2271 (10) When Natural Attenuation Monitoring is considered complete pursuant to paragraph 62-780.690(8)(g), F.A.C.,
2272 within the time frames specified in Table A or the CAD the PRSR shall submit to the Department for review an electronic or
2273 paper copy of a Site Rehabilitation Completion Report with a No Further Action Proposal. The Site Rehabilitation
2274 Completion Report shall include the documentation required in paragraph 62-780.690(8)(d), F.A.C., to support the opinion
2275 that site cleanup objectives have been achieved.

2276 (11) The Department shall:

2277 (a) Provide the PRSR with a Site Rehabilitation Completion Order as referenced in subsection 62-780.680(7), F.A.C.,
2278 that approves the Site Rehabilitation Completion Report with the No Further Action Proposal; or

Commented [DB122]: include option for reduced scope RAI similar to ISR

Commented [DB123]: Language in 4. Intended to address.

2279 (b) Notify the PRSR in writing, stating the reason(s) why the Site Rehabilitation Completion Report does not contain
2280 information adequate to support the opinion that cleanup objectives have been achieved. Site rehabilitation activities shall not
2281 be deemed complete until such time as a Site Rehabilitation Completion Report with a No Further Action Proposal is
2282 approved.

2283 (12) If the Site Rehabilitation Completion Report is incomplete in any respect, or is insufficient to satisfy the objectives
2284 of subsection 62-780.690(10), F.A.C., the Department shall inform the PRSR pursuant to paragraph 62-780.690(11)(b),
2285 F.A.C., and the PRSR shall submit to the Department for review an electronic or paper copy of a revised Site Rehabilitation
2286 Completion Report that addresses the deficiencies within 30 days after receipt of the notice. If the deficiencies are not timely
2287 corrected, or cannot be corrected, the PRSR shall resume the implementation of the approved Natural Attenuation Monitoring
2288 Plan within 30 days after receipt of the notice.

2289 (13) For brownfield sites, the Site Rehabilitation Completion Order shall contain the following statement, as applicable:
2290 "Based upon the information provided by (real property owner) concerning property located at (insert address), it is the
2291 opinion of the Florida Department of Environmental Protection that (party) has successfully and satisfactorily implemented
2292 the approved brownfield site rehabilitation agreement schedule and, accordingly, no further action is required to assure that
2293 any land use identified in the brownfield site rehabilitation agreement is consistent with existing and proposed uses. If the
2294 real property owner proposes to remove the institutional or engineering controls, the real property owner shall obtain prior
2295 approval from the Department. The removal of the controls shall be accompanied by the immediate resumption of site
2296 rehabilitation, or implementation of other approved controls, unless the criteria of subsection 62-780.680(1), F.A.C., are
2297 met."

2298 (14) The Site Rehabilitation Completion Order shall constitute final agency action regarding cleanup activities at the site.

2299 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81, 403.061, 403.0877 FS. Law Implemented 376.3071, 376.30701,*
2300 *376.3078(4), 376.81, 403.0877 FS. History—New 4-17-05, Amended 6-12-13 _____.*

2301 *Editorial Note: Portions of this rule were copied from 62-770.690; 62-782.690; and 62-785.690.*

2302 **62-780.700 Active Remediation.**

2303 (1) If the conditions at a site do not satisfy the No Further Action criteria of Rule 62-780.680, F.A.C., or the Natural
2304 Attenuation Monitoring criteria of Rule 62-780.690, F.A.C., within the time frames specified in Table A, located at the end of
2305 Rule 62-780.900, F.A.C., or the CAD, the PRSR shall prepare and submit to the Department for review an electronic or paper
2306 copy of a Remedial Action Plan. The Remedial Action Plan shall be prepared pursuant to this rule and shall contain all of the
2307 information required herein. The objective of the active remediation shall be to meet the applicable No Further Action criteria
2308 of Rule 62-780.680, F.A.C., or the Natural Attenuation Monitoring criteria of Rule 62-780.690, F.A.C. The Remedial Action
2309 Plan shall provide a design that addresses cleanup of all contaminated soil, sediment, groundwater, ~~or~~ surface water, or for
2310 sites that are subject to a BSRA, solid waste, as a result of the discharge for which the PRSR is conducting site rehabilitation.
2311 Additionally, if the Remedial Action Plan addresses contamination that has migrated into any medium beyond the boundary
2312 of the source property (i.e., the location from which the contamination is emanating), then the point of compliance may be
2313 temporarily extended beyond the property boundary with appropriate monitoring, if such extension is needed to address the
2314 current conditions of the plume, provided human health, public safety, and the environment are protected. If the point of
2315 compliance is proposed to be temporarily extended beyond the property boundary, it cannot be extended further than the
2316 lateral extent of the plume at the time of execution of a CAD, if known, or the lateral extent of the plume as defined at the
2317 time of the approved site assessment. Prior to the Department authorizing a temporary extension of the point of compliance
2318 beyond the property boundary, the PRSR shall provide notice and an opportunity to comment pursuant to subsection 62-
2319 780.220(3), F.A.C.

2320 (2) Prior to performing any pilot study, within the time frames specified in Table A or the CAD the PRSR shall submit to
2321 the Department for review an electronic or paper copy of a Pilot Study Work Plan to determine the need for any applicable
2322 Department permits or authorizations (for example, underground injection control, National Pollutant Discharge Elimination
2323 System, or air emissions), and to ensure that human health and the environment are adequately protected. The Department
2324 shall:

2325 (a) Provide the PRSR with written approval of the Pilot Study Work Plan; or

2326 (b) Notify the PRSR in writing, stating the reason(s) why the Pilot Study Work Plan does not contain information
2327 adequate to support the conclusion that the pilot study will comply with all applicable requirements of subsection 62-
2328 780.700(2), F.A.C.

2329 (3) The Remedial Action Plan shall:

2330 (a) Include all applicable information required by subsection 62-780.300(2), F.A.C.;

2331 (b) Summarize the Site Assessment Report conclusions and any additional data obtained since its submittal to the
2332 Department;

2333 (c) If groundwater contamination is present, include results from a round of groundwater sampling and analyses from a
2334 number of monitoring wells adequate to determine the highest concentrations of contaminants, to verify the horizontal and
2335 vertical extent of the plume, and to provide design data for the Remedial Action Plan. If the latest analytical data were
2336 obtained greater than 270 days prior to submittal of the Remedial Action Plan then a confirmatory round of sampling and
2337 analyses is required. If the results from the confirmatory round of sampling contradict earlier results, then the applicable site
2338 assessment tasks specified in Rule 62-780.600, F.A.C., shall be performed to evaluate the current site conditions;

2339 (d) Explain the rationale for the active remediation methods selected, which shall include at a minimum:

2340 1. Results from any pilot studies or bench tests; and

2341 2. Results of an evaluation of remedial alternatives (including source removal), and a discussion of why other remedial
2342 alternatives considered were rejected, based on the following criteria:

2343 a. Long-term and short-term human health and environmental effects;

2344 b. Implementability, which may include ease of construction, site access, and necessity for permits;

2345 c. Operation and maintenance requirements;

2346 d. Reliability;

2347 e. Feasibility;

2348 f. Estimated time required to achieve cleanup; and

2349 g. Cost-effectiveness of installation, operation, and maintenance, when compared to other site remediation alternatives;

2350 (e) Include an evaluation of the known production of breakdown contaminants or by-products resulting from
2351 bioremediation, oxidation, or other natural processes, as applicable;

2352 (f) Summarize the design, construction details, and operational details of the equipment to be used during active
2353 remediation, including, if applicable:

2354 1. The disposition of any effluent;

2355 2. The expected concentrations of contaminants in the effluent;

2356 3. The method of air emissions treatment and the expected quantities in pounds per day of any contaminants discharged
2357 into air as a result of all the on-site active remediation systems. A separate air permit will not be required if the total air
2358 emissions from all the on-site remediation equipment system(s) do not exceed 5.5 lbs/day for any single Hazardous Air
2359 Pollutant (HAP) or 13.7 pounds per day for total HAPs. For on-site remediation equipment system(s) located at a facility that
2360 is a Title V source pursuant to Chapter 62-213, F.A.C., a separate permit pursuant to that chapter may be required;

2361 4. The rates of application and concentrations of any in situ chemical or biological enhancement technologies
2362 implemented; and

2363 5. The schedule for maintenance and monitoring of the remediation system;

2364 (g) If groundwater contamination is present:

2365 1. For remedial systems that include groundwater recovery, include a list of contaminants to be monitored in the
2366 recovery well(s) and in the effluent from the treatment system (based on the type of treatment employed and disposition of
2367 the effluent), the designation of recovery well(s) to be sampled, and a proposal for their sampling frequency. Contaminants
2368 that do not exceed the background concentrations or the applicable CTLs in samples from the recovery wells for two
2369 consecutive sampling events with a sampling frequency not less than quarterly may be excluded from subsequent monitoring
2370 events;

2371 2. Include a list of contaminants to be monitored, the designation of a representative number of monitoring wells and, if
2372 applicable, surface water bodies to be sampled, and a proposal for their sampling frequency adequate to monitor the cleanup
2373 progress during active remediation, and the description of the methodology proposed to evaluate the effectiveness and
2374 efficiency of the remediation system. The designated wells shall include at least one well located at the downgradient edge of

2375 the plume and one well in the area of maximum groundwater contamination or directly adjacent to it if the area of highest
2376 groundwater contamination is inaccessible (for example, under a structure). For cleanups expected to last greater than two
2377 years, wells shall be sampled quarterly for the first year and semiannually thereafter. For cleanups expected to last less than
2378 two years, wells shall be sampled quarterly. For all cleanups, an alternative sampling frequency can be approved based upon
2379 site-specific conditions. ~~or at an alternative frequency as proposed in the approved Remedial Action Plan~~ A reporting
2380 frequency should be established that is sufficient to evaluate the progress of the cleanup and a single report can be used to
2381 summarize multiple sampling events, as approved based upon site-specific conditions;

2382 3. Include a list of contaminants to be monitored and the designation of a representative number of currently and
2383 previously contaminated monitoring wells that shall be sampled once a year during active remediation in order to redefine the
2384 plume and fully evaluate the effectiveness and efficiency of the remediation system; and

2385 4. Include the designation of a representative number of monitoring wells, piezometers, and, if applicable, staff gauge
2386 locations to collect water-level data each time groundwater samples are collected; and

2387 (h) Provide the details of any proposed treatment or disposition of contaminated soil or sediment. If contaminated soil
2388 exists at the site and active remediation does not include treatment or removal of such soil, the Remedial Action Plan shall
2389 include a proposal to implement an institutional control or both an institutional and an engineering control, pursuant to
2390 subsection 62-780.680(2) or 62-780.680(3), F.A.C., unless only leachability-based soil CTLs are exceeded and the site is
2391 expected to meet the criteria for Natural Attenuation Monitoring after active remediation has been implemented.

2392 (4) Other requirements to be included in the Remedial Action Plan, if applicable, include the following:

2393 (a) Vacuum extraction systems shall be equipped with a means of air emissions treatment for at least the first 30 days of
2394 system operation. Air emissions treatment may be discontinued after the first 30 days of system operation if the total air
2395 emissions from all the on-site remediation equipment system(s) do not exceed 5.5 lbs/day for any single HAP or 13.7 pounds
2396 per day for total HAPs;

2397 (b) Bioventing systems shall be equipped with a means of air emissions treatment unless the Remedial Action Plan
2398 design is based on respiration rates and optimum air flow that result in soil remediation primarily by bioremediation with
2399 minimal volatilization of contaminants. This objective shall be confirmed by emissions sampling during startup;

2400 (c) In situ air sparging systems shall be designed and operated in conjunction with air emissions treatment system(s)
2401 unless the Remedial Action Plan design is based on sparging rates and optimum air flow with minimal volatilization of
2402 contaminants. This objective shall be confirmed by emissions sampling during startup. If a vacuum extraction system is used,
2403 the vacuum extraction system shall operate at an air flow rate at least 50% greater than the sparging air flow rate, and the
2404 vacuum extraction system shall be provided with air emissions control as described in paragraph 62-780.700(4)(a), F.A.C.;

2405 (d) Biosparging systems shall be equipped with a means of air emissions control unless the Remedial Action Plan design
2406 is based on the optimum air sparging rates that promote biological activity with minimal volatilization of contaminants. This
2407 objective shall be confirmed by emissions sampling during startup;

2408 (e) Multi-phase extraction systems shall be equipped with a means of air emissions treatment for at least the first 30 days
2409 of system operation. Air emissions treatment may be discontinued after the first 30 days of system operation if the total air
2410 emissions from all the on-site remediation equipment system(s) do not exceed 5.5 lbs/day for any single HAP or 13.7 pounds
2411 per day for total HAPs; and

2412 (f) A sampling and reporting schedule shall be specified for monitoring vacuum extraction systems, in situ sparging,
2413 bioremediation, or other in situ means of remediation of soil and groundwater. The reporting schedule should reflect the
2414 overall requirements of the Remedial Action Plan and, as appropriate and approved in the Remedial Action Plan, multiple
2415 sampling events can be combined in a single report.

2416 (5) The Remedial Action Plan may propose active remediation followed by natural attenuation with monitoring. The
2417 active remediation may consist solely of soil remediation, short-term or intermittent groundwater remediation, other remedial
2418 enhancements, or combinations of these. The discontinuation of active remediation may be appropriate at any time depending
2419 on the site-specific characteristics and conditions. The Remedial Action Plan shall include a discussion of when the active
2420 remediation will be discontinued. If the PRSR chooses to utilize the provisions of this subsection, natural attenuation
2421 monitoring shall be performed pursuant to subsection 62-780.690(8), F.A.C., when the Natural Attenuation Monitoring
2422 criteria of Rule 62-780.690, F.A.C., have been met.

2423 (6) The Remedial Action Plan may propose the use of new and innovative technologies or approaches to meet the No

2424 Further Action criteria of Rule 62-780.680, F.A.C., or the Natural Attenuation with Monitoring criteria of Rule 62-780.690,
2425 F.A.C. The Remedial Action Plan shall include a demonstration that the proposed technology or approach meets the criteria
2426 of subsections 62-780.700(1)-(5), F.A.C. These technologies or approaches may include low-cost enhancements to natural
2427 attenuation. Natural attenuation with monitoring shall be suspended during the implementation of the enhancement, pursuant
2428 to subsection 62-780.690(9), F.A.C.

2429 (7) The Department shall:

2430 (a) Provide the PRSR with a Remedial Action Plan Approval Order approving the Remedial Action Plan; or

2431 (b) Notify the PRSR in writing, stating:

2432 1. The reason(s) why the Remedial Action Plan does not contain information adequate to support the conclusion that the
2433 active remediation objectives will comply with all applicable requirements of Rule 62-780.700, F.A.C.; or

2434 2. The reason(s) why the proposal, plan, or recommendation included in the Remedial Action Plan is not supported by
2435 the applicable criteria.

2436 (8) If the Remedial Action Plan is incomplete in any respect, or is insufficient to satisfy the objectives of subsection 62-
2437 780.700(3), F.A.C., the Department shall inform the PRSR pursuant to paragraph 62-780.700(7)(b), F.A.C., and the PRSR
2438 shall submit to the Department for review an electronic or paper copy of a Remedial Action Plan Addendum that addresses
2439 the deficiencies within 60 days after receipt of the notice.

2440 (9) Prior to implementation of the Remedial Action Plan, the PRSR shall obtain all applicable Department permits or
2441 authorizations required for site rehabilitation activities (for example, separate permits for underground injection control,
2442 National Pollutant Discharge Elimination System, or air emissions), if not included in the Remedial Action Plan approval.
2443 The PRSR is advised that other federal or local laws and regulations may apply to these activities.

2444 (10) Within the time frames specified in Table A or the CAD, an electronic or paper copy engineering drawings (As-
2445 Built Drawings) for installed mechanical remediation systems and associated structures (e.g., slurry wall, permeable reactive
2446 barrier) shall be submitted by the PRSR to the Department. The engineering drawings shall include all construction and
2447 equipment design specifications of the installed active remediation system(s) and any operational parameters different from
2448 those in the approved Remedial Action Plan. A summary of the system(s) startup activities shall be attached to the
2449 engineering drawings. For other types of remedial action including episodic treatment with mobile equipment, injection of
2450 chemical or biological remediation products, or contaminated soil excavation, revised site figures shall be provided indicating
2451 placement of remediation wells, injection wells, or boundaries of excavation.

2452 (11) Within the time frames specified in Table A or the CAD, the operation of the active remediation system(s) shall be
2453 initiated unless, after the exercise of reasonable diligence, applicable permits required pursuant to subsection 62-780.700(9),
2454 F.A.C., have not been obtained. The following shall be obtained or determined during active remediation at the specified
2455 frequencies and turnaround times, as applicable, unless otherwise provided in the approved Remedial Action Plan:

2456 (a) Water-level data collected from all designated wells, piezometers, and staff gauge locations each time monitoring
2457 wells and recovery wells are sampled (water-level measurements shall be made within a 24-hour period). If water-level data
2458 or operational parameters remain unchanged, the PRSR may propose, pursuant to paragraph 62-780.700(14)(b), F.A.C., that
2459 the requirement be modified or discontinued;

2460 (b) Total volume of free product recovered and the thickness and horizontal extent of free product during the reporting
2461 period until free product recovery is completed;

2462 (c) Total volume of groundwater recovered from each recovery well during each month of the operating period for the
2463 first year, and quarterly thereafter or at an alternative frequency as proposed in the approved Remedial Action Plan;

2464 (d) Concentrations of applicable contaminants based on analyses performed on the effluent from the groundwater
2465 treatment system, daily for the first three days with a 24-hour turnaround on analytical results of the samples collected the
2466 first two days, weekly for the next three weeks, monthly for the next two months, quarterly for the next two years, and
2467 semiannually thereafter or at an alternative frequency as proposed in the approved Remedial Action Plan;

2468 (e) Concentrations of applicable contaminants based on analyses performed on the untreated groundwater from the
2469 selected individual recovery well(s), as proposed in the approved Remedial Action Plan, weekly for the first month, monthly
2470 for the next two months, quarterly for the next two years, and semiannually thereafter or at an alternative frequency as
2471 proposed in the approved Remedial Action Plan. Sampling of groundwater from individual multi-phase extraction wells to
2472 evaluate the performance of the recovery and treatment system shall be performed as necessary; as approved in the Remedial

2473 Action Plan;

2474 (f) Analytical data from all monitoring wells sampled during the remediation year to monitor rehabilitation progress
2475 during active remediation, including all applicable information required by subsection 62-780.300(2), F.A.C.;

2476 (g) Operational parameters for in situ system(s), which include measurements of biological, chemical, or physical
2477 indicators that will verify radius of influence at representative monitoring locations, weekly for the first month, monthly for
2478 the next two months, quarterly for the first two years, and semiannually thereafter. If a demonstration is provided to the
2479 Department that operational parameters remain unchanged, the PRSR may propose, pursuant to paragraph 62-
2480 780.700(14)(b), F.A.C., that the monitoring be modified or discontinued;

2481 (h) Operational parameters for bioremediation system(s), including measurements of dissolved oxygen at representative
2482 monitoring locations; rates of biological, chemical, or nutrient enhancement additions; and any other indicators of biological
2483 activity as proposed in the approved Remedial Action Plan; weekly for the first month, monthly for the next two months, and
2484 quarterly thereafter or at an alternative frequency as proposed in the approved Remedial Action Plan. If a demonstration is
2485 provided to the Department that operational parameters remain unchanged, the PRSR may propose, pursuant to paragraph 62-
2486 780.700(14)(b), F.A.C., that the monitoring be modified or discontinued;

2487 (i) Concentrations of recovered vapors from a vacuum extraction system, and post-treatment air emissions if air
2488 emissions treatment is provided, weekly for the first month, monthly for the next two months, and quarterly thereafter or at
2489 an alternative frequency as proposed in the approved Remedial Action Plan (if applicable air quality standards are not
2490 exceeded for two consecutive monthly or quarterly sampling events, the PRSR may submit to the Department for review a
2491 proposal for a different sampling frequency; for activated carbon off-gas treatment, additional sampling events may be
2492 performed based on the estimated time of breakthrough), as follows:

2493 1. Concentrations of recovered vapors from individual wells shall be determined using an organic vapor analyzer with a
2494 flame ionization detector, or other applicable field detection device, in order to optimize the airflow rate and contaminant
2495 recovery;

2496 2. Influent and effluent samples shall be collected using appropriate air sampling protocols and shall be analyzed for
2497 contaminants using an appropriate analytical method referenced in the approved Remedial Action Plan.

2498 (j) Percentage of system operation time and the treatment efficiency for all operating treatment systems, including the
2499 dates when the site was visited and whether the system was operating upon arrival at the site and upon departure from the
2500 site; and

2501 (k) Results of analyses of soil samples taken to verify that the applicable No Further Action criteria of Rule 62-780.680,
2502 F.A.C., or the applicable Natural Attenuation Monitoring criteria of Rule 62-780.690, F.A.C., have been met, based on one of
2503 the following:

2504 1. When both field screening and laboratory results using the most sensitive method for the constituents being analyzed
2505 for vacuum extraction systems indicate no detectable concentrations of contaminants in the recovered vapors;

2506 2. When the screening for bioventing parameters indicates that the bioventing is complete; or

2507 3. If alternative soil CTLs were established pursuant to Rule 62-780.650, F.A.C., when system performance or
2508 monitoring using the applicable analytical methods for the appropriate constituents indicate that the alternative soil CTLs
2509 have been achieved.

2510 (12) During implementation of the Remedial Action Plan, within the time frames specified in Table A or the CAD the
2511 PRSR shall submit to the Department for review an electronic or paper copy of status reports of remedial action. The
2512 Remedial Action Status Report shall contain the following, as applicable:

2513 (a) A summary of the data requested in paragraphs 62-780.700(11)(a)-(k), F.A.C.;

2514 (b) All applicable information required by subsection 62-780.300(2), F.A.C.;

2515 (c) A summary of the estimated mass of contaminants recovered in all phases, including free product, dissolved, and
2516 vapor phases, by all the on-site remediation equipment.

2517 (d) One or more scaled site maps that shows groundwater flow direction(s), and the current degree and extent of the
2518 contamination;

2519 (e) Conclusions as to the effectiveness of the active remediation for the specified period covered in the status report; and

2520 (f) Recommendations to continue or discontinue the operation of the treatment system(s) or to modify the site
2521 rehabilitation including switching to Natural Attenuation Monitoring in accordance with 62-780.690, F.A.C.;

2522 (13) If effluent concentrations or air concentrations exceed those in the approved Remedial Action Plan, or plume
2523 migration occurs during remediation system startup or during operation of the treatment system(s), corrective actions shall be
2524 taken and the Department shall be notified by the PRSR within seven days. If the condition may represent an imminent threat
2525 to human health, public safety, or the environment, the Department shall be notified within 24 hours. Details of all such
2526 incidents shall be included in the status report described in subsection 62-780.700(12), F.A.C.

2527 (14) ~~At any time d~~During implementation of the Remedial Action Plan, the PRSR may propose and justify:

2528 (a) Supplemental assessment to determine alternative CTLs pursuant to Rule 62-780.650, F.A.C.;

2529 (b) Modifications to existing treatment or recovery system(s), or modifications or discontinuation of requirements
2530 outlined in the remedial action status report prepared pursuant to subsection 62-780.700(12), F.A.C.;

2531 (c) Innovative technologies pursuant to subsection 62-780.700(6), F.A.C., or other alternative technologies or
2532 approaches; or

2533 (d) Discontinuation of active remediation and commencement of Natural Attenuation Monitoring. The proposal shall
2534 include a Natural Attenuation with Monitoring Plan pursuant to subsection 62-780.690(4), F.A.C.

2535 (15) The Department shall:

2536 (a) Provide the PRSR with written approval of the proposal; or

2537 (b) Notify the PRSR in writing, stating the reason(s) why the proposal does not contain information adequate to comply
2538 with applicable requirements of subsection 62-780.700(14), F.A.C.

2539 (16) If the proposal is incomplete in any respect, or is insufficient to satisfy the applicable requirements of subsection 62-
2540 780.700(14), F.A.C., the Department shall inform the PRSR pursuant to paragraph 62-780.700(15)(b), F.A.C., and the PRSR
2541 shall submit to the Department for review an electronic or paper copy of a revised Natural Attenuation Monitoring Plan or
2542 other proposal pursuant to paragraphs 62-780.700(14)(a)-(c), F.A.C., that addresses the deficiencies, within 60 days after
2543 receipt of the notice. If the deficiencies are not timely corrected, or cannot be corrected, the PRSR shall continue the
2544 implementation of the approved Remedial Action Plan within 30 days after receipt of the notice.

2545 (17) Active remediation shall be deemed complete when the No Further Action criteria of subsection 62-780.680(1), 62-
2546 780.680(2), or 62-780.680(3), F.A.C., have been met, or may be deemed complete when the Natural Attenuation with
2547 Monitoring criteria of Rule 62-780.690, F.A.C., have been met.

2548 (18) For sites conducting active groundwater remediation, if the site does not meet the No Further Action criteria of
2549 subsection 62-780.680(1), F.A.C., or the Natural Attenuation Monitoring criteria of Rule 62-780.690, F.A.C., the PRSR may
2550 submit to the Department for review an electronic or paper copy of a proposal to discontinue active groundwater remediation,
2551 provided the following demonstration and analyses are met:

2552 (a) Contaminated soil has been properly removed and disposed, or treated in situ, so that the applicable soil CTLs are
2553 met or addressed by the enactment and implementation of institutional controls or both institutional and engineering controls;

2554 (b) After a minimum of one year of groundwater treatment, concentrations of contaminants in designated monitoring
2555 wells and recovery wells have leveled off. This demonstration shall be based on subsequent monthly sampling results
2556 obtained for a minimum of 180 days, unless an alternative frequency has been approved in the Remedial Action Plan or
2557 pursuant to subsection 62-780.700(14), F.A.C. "Leveling off" shall mean that the graph of contaminant concentrations versus
2558 time generally fits a curve defined by the equation $C=C_f+C_0e^{-kt}$, that the lower limb of the curve is substantially linear, and
2559 that the slope of the final portion of the curve approaches zero. Applicable statistical methods shall be applied to demonstrate
2560 this conclusion. In the preceding equation, symbols are defined as follows:

2561 1. C: concentration of the applicable contaminant at time t;

2562 2. C_f : coefficient representing final concentration that the curve approaches asymptotically;

2563 3. C_0 : coefficient representing concentration difference between the final concentration and the concentration at time
2564 zero;

2565 4. e: 2.718, the base of natural logarithms;

2566 5. k: coefficient representing the exponential factor that indicates how fast the concentration approaches C_f ;

2567 6. t: time in days from some fixed starting point.

2568 (c) An analysis or demonstration has been made of:

2569 1. The technical feasibility of enhancements to the existing remediation system;

2570 2. The technical feasibility of other proven groundwater or soil treatment techniques to further reduce the concentrations

- 2571 of applicable contaminants at the site;
- 2572 3. The costs and time frames involved to further reduce the concentrations of applicable contaminants employing the
2573 alternative method(s) proposed;
- 2574 4. The effects on the designated or potential use of the water resource if contaminants remain at existing concentrations;
- 2575 5. The effect on, and any protection that may be required of, surface water resources;
- 2576 6. The effect on human health, public safety, and the environment if contaminants remain at existing concentrations;
- 2577 7. The extent and potential for further migration of contaminated groundwater above background concentrations or
2578 applicable CTLs; and
- 2579 8. Institutional controls or both institutional and engineering controls that may be necessary to ensure protection of the
2580 public and the environment from future use of contaminated groundwater.

2581 (19) If a demonstration pursuant to subsection 62-780.700(18), F.A.C., was completed, the PRSR shall compile the
2582 results of the demonstration and analyses described in paragraphs 62-780.700(18)(a)-(c), F.A.C., in a report and shall submit
2583 an electronic or paper copy of the report to the Department for review within the time frames of Table A or the CAD. The
2584 Department shall determine, using the criteria specified in paragraph 62-780.700(18)(c), F.A.C., whether modifications to the
2585 Remedial Action Plan are required pursuant to subsection 62-780.700(14), F.A.C., to effect further treatment; however, if
2586 alternative methods are not required, active remediation shall be deemed complete.

2587 (20) When the No Further Action criteria of subsection 62-780.680(1), F.A.C., the site-specific alternative cleanup target
2588 levels, or the leveling off criteria of subsection 62-780.700(18), F.A.C., have been met, an electronic or paper copy of a Post
2589 Active Remediation Monitoring Plan prepared pursuant to the Post Active Remediation Monitoring criteria described in Rule
2590 62-780.750, F.A.C., shall be submitted by the PRSR to the Department for review (unless the Department has concurred that
2591 Post Active Remediation Monitoring of groundwater is unnecessary based on the site-specific conditions). If the Department
2592 agrees that groundwater sampling is unnecessary and the site meets the No Further Action criteria of subsection 62-
2593 780.680(1), F.A.C., 62-780.680(2), F.A.C., or 62-780.680(3), F.A.C., a Site Rehabilitation Completion Order shall be issued
2594 as referenced in subsection 62-780.680(7), F.A.C.

2595 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81, 403.0877 FS. Law Implemented 376.3071, 376.30701,*
2596 *376.3078(4), 376.81, 403.0877 FS. History—New 4-17-05, Amended 6-12-13*

2597 *Editorial Note: Portions of this rule were copied from 62-770.700, Formerly 17-70.010 and Formerly 17-770.700; 62-782.700; and 62-*
2598 *785.700.*

2599 **62-780.750 Post Active Remediation Monitoring.**

2600 (1) Post active remediation groundwater monitoring shall be performed following the completion of active
2601 groundwater remediation or soil remediation as described in Rule 62-780.700, F.A.C., unless the Department has concurred
2602 that groundwater sampling is unnecessary based on the site-specific conditions or the site rehabilitation is continuing under
2603 Natural Attenuation Monitoring pursuant to Rule 62-780.690, F.A.C. When active groundwater remediation has met the No
2604 Further Action criteria of subsection 62-780.680(1), F.A.C., the site-specific alternative cleanup target levels, or the leveling
2605 off criteria of subsection 62-780.700(18), F.A.C., an electronic or paper copy of a Post Active Remediation Monitoring Plan
2606 prepared pursuant to the provisions of subsection 62-780.750(4), F.A.C., and including analytical results demonstrating this
2607 conclusion, shall be submitted by the PRSR to the Department for review.

2608 (2) The Department shall:

2609 (a) Provide the PRSR with written approval of the Post Active Remediation Monitoring Plan; or

2610 (b) Notify the PRSR in writing, stating the reason(s) why the Post Active Remediation Monitoring Plan does not contain
2611 information adequate to support the conclusion that the applicable Post Active Remediation Monitoring criteria of Rule 62-
2612 780.750, F.A.C., have been met.

2613 (3) If the Post Active Remediation Monitoring Plan is incomplete in any respect, or is insufficient to satisfy the
2614 objectives of subsection 62-780.750(1), F.A.C., the Department shall inform the PRSR pursuant to paragraph 62-
2615 780.750(2)(b), F.A.C., and the PRSR shall submit to the Department for review an electronic or paper copy of a revised Post
2616 Active Remediation Monitoring Plan that addresses the deficiencies within 30 days after receipt of the notice. If the
2617 deficiencies are not timely corrected, or cannot be corrected, the PRSR shall resume the implementation of the approved
2618 Remedial Action Plan within 30 days after receipt of the notice.

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

2619 (4) The monitoring program shall be performed as specified in the Post Active Remediation Monitoring Plan approval,
2620 as follows:

2621 (a) A minimum of two monitoring wells is required:

2622 1. At least one well shall be located at the downgradient edge of the plume; and

2623 2. At least one well shall be located in the area(s) of highest groundwater contamination or directly adjacent to it if the
2624 area of highest groundwater contamination is inaccessible (for example, under a structure).

2625 (b) The designated monitoring wells shall be sampled quarterly, or at a frequency specified in the Post Active
2626 Remediation Monitoring Plan approval, for analyses of contaminants that were present prior to the initiation of active
2627 remediation;

2628 (c) Water-level measurements in all designated wells and piezometers shall be made within 24 hours of initiating each
2629 sampling event;

2630 (d) Within the time frames specified in Table A, located at the end of Rule 62-780.900, F.A.C., or the CAD, the PRSR
2631 shall submit to the Department for review an electronic or paper copy of a Post Active Remediation Monitoring Report. The
2632 report shall include the analytical results (laboratory report), chain of custody record form [Form 62-780.900(2) or an
2633 equivalent chain of custody form that includes all the items required by Form 62-780.900(2)], the tables required pursuant to
2634 subparagraph 62-780.600(8)(a)27., F.A.C., updated as applicable, site maps that illustrate the analytical results, and the
2635 water-level elevation information (summary table and flow map);

2636 (e) If analyses of groundwater samples indicate that concentrations of applicable contaminants exceed any action levels
2637 specified in the Post Active Remediation Monitoring Plan approval, the well or wells shall be resampled no later than 30 days
2638 after the initial positive result is known. If the results of the resampling confirm that the applicable action levels are exceeded,
2639 then the monitoring report described in paragraph 62-780.750(4)(d), F.A.C., shall be signed and sealed by an appropriate
2640 registered professional pursuant to Rule 62-780.400, F.A.C., and shall include a proposal to:

2641 1. Perform a supplemental site assessment and submit a supplemental Site Assessment Report pursuant to Rule 62-
2642 780.600, F.A.C.;

2643 2. Continue the implementation of the approved Post Active Remediation Monitoring Plan;

2644 3. Propose a Natural Attenuation Monitoring plan pursuant to Rule 62-780.690, F.A.C.; or

2645 ~~4.3. Implement additional active remediation pursuant to Rule 62-780.700, F.A.C.~~

2646 (f) A minimum of four groundwater sampling events is required and site rehabilitation shall be considered complete
2647 when the No Further Action criteria of subsection 62-780.680(1), 62-780.680(2), or 62-780.680(3), F.A.C., have been met for
2648 at least the last two sampling events. However, if contamination was only present in the unsaturated zone during the site
2649 assessment and active remediation tasks, site rehabilitation shall be considered complete if the No Further Action criteria of
2650 subsection 62-780.680(1), 62-780.680(2), or 62-780.680(3), F.A.C., are met during only one sampling event.

2651 (5) The remediation equipment may be maintained in an inactive but operational status during the duration of post active
2652 remediation monitoring to avoid the possibility of having to re-install it if contaminant concentrations rebound.

2653 (6) When post active remediation monitoring is considered complete pursuant to paragraph 62-780.750(4)(f), F.A.C.,
2654 within the time frames specified in Table A or the CAD the PRSR shall submit to the Department for review an electronic or
2655 paper copy of a Site Rehabilitation Completion Report with a No Further Action Proposal. The Site Rehabilitation
2656 Completion Report shall include the documentation required in paragraph 62-780.750(4)(d), F.A.C., to support the opinion
2657 that site cleanup objectives have been achieved.

2658 (7) The Department shall:

2659 (a) Provide the PRSR with a Site Rehabilitation Completion Order as referenced in subsection 62-780.680(7), F.A.C.,
2660 that approves the No Further Action Proposal; or

2661 (b) Notify the PRSR in writing, stating the reason(s) why the Site Rehabilitation Completion Report does not contain
2662 information adequate to support the opinion that the cleanup objectives have been achieved. Site rehabilitation activities shall
2663 not be deemed complete until such time as a Site Rehabilitation Completion Report, which includes a No Further Action
2664 Proposal, is approved.

2665 (8) If the Site Rehabilitation Completion Report is incomplete in any respect, or is insufficient to satisfy the objectives of
2666 subsection 62-780.750(6), F.A.C., the Department shall inform the PRSR pursuant to paragraph 62-780.750(7)(b), F.A.C.,
2667 and the PRSR shall submit to the Department for review an electronic or paper copy of a revised Site Rehabilitation

2668 Completion Report that addresses the deficiencies within 30 days after receipt of the notice. If the deficiencies are not timely
2669 corrected, or cannot be corrected, the PRSR shall resume the implementation of the approved Post Active Remediation
2670 Monitoring Plan within 30 days after receipt of the notice.

2671 (9) For brownfields, the Site Rehabilitation Completion Order shall contain the following statement, as applicable:
2672 “Based upon the information provided by (real property owner) concerning property located at (insert address), it is the
2673 opinion of the Florida Department of Environmental Protection that (party) has successfully and satisfactorily implemented
2674 the approved brownfield site rehabilitation agreement schedule and, accordingly, no further action is required to assure that
2675 any land use identified in the brownfield site rehabilitation agreement is consistent with existing and proposed uses. If the
2676 real property owner proposes to remove the institutional or engineering controls, the real property owner shall obtain prior
2677 approval from the Department. The removal of the controls shall be accompanied by the immediate resumption of site
2678 rehabilitation, or implementation of other approved controls, unless the criteria of subsection 62-780.680(1), F.A.C., are
2679 met.”

2680 (10) The Site Rehabilitation Completion Order shall constitute final agency action regarding cleanup activities at the site.

2681 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4), 376.81, 403.061, 403.0877 FS. Law Implemented 376.3071, 376.30701,*
2682 *376.3078(4), 376.81, 403.0877 FS. History—New 4-17-05, Amended 6-12-13.*

2683 *Editorial Note: Portions of this rule were copied from 62-770.750; 62-782.750; and 62-785.750.*

2684 **62-780.790 Time Schedules.**

2685 (1) Site rehabilitation performed pursuant to this chapter shall be conducted within the time frames specified in Table A
2686 of this chapter, except that.

2687 (a) If the PRSR has entered into a CAD with the Department for site rehabilitation, the time frames specified in the CAD
2688 shall take precedence over the time frames specified in Table A of this chapter; or

2689 (b) If the Department is the PRSR, the time frames specified in this chapter do not apply.

2690 (2) Unless specified otherwise in this chapter, within 60 days of receipt of a written notification from the Department that
2691 a plan or report does not contain adequate information or that the information provided is not supported by the applicable
2692 criteria, the PRSR shall submit to the Department the requested information for review.

2693 (3) A modification of the time frame may be obtained by the PRSR for any action set forth in this chapter for good cause
2694 shown by requesting in writing that the Department make such a modification. The request shall specify which time frame(s)
2695 is to be modified, the amount of additional time required, and provide documentation supporting the good cause for the
2696 request. The request shall be received by the Department at least 20 days prior to the time the action is to be initiated. If
2697 emergency situations at a site do not allow for a full 20 days notice, the request shall detail such emergency situation. Within
2698 20 days of receipt of a request for modification, the Department shall notify the PRSR in writing if additional information
2699 regarding the request is needed. The Department shall notify the PRSR in writing within 20 days of receipt of the request or
2700 of the additional information as to whether modification of the time frame(s) will be allowed. For purposes of this paragraph,
2701 good cause shall mean unanticipated events outside the control of the PRSR. Applicable deadlines referenced pursuant to this
2702 chapter shall be tolled while a request for modification of a time frame is pending.

2703 (4) The failure of the PRSR to submit requested information or meet any time frame herein shall be a violation of
2704 Chapters 376 and 403, F.S., and shall be enforceable by the Department pursuant to Sections 376.303 and 403.121, F.S.,
2705 unless otherwise addressed by a CAD.

2706 (5) In no circumstances shall the Department’s failure to meet any time frame be construed as approval of any plan or
2707 action by the Department.

2708 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.3078(4) FS. Law Implemented 376.303, 376.3071, 376.30701, 376.30711,*
2709 *376.3078(4) FS. History—New 4-17-05, Amended 6-12-13.*

2710 *Editorial Note: Portions of this rule were copied from 62-770.800, Formerly 17-70.013 and Formerly 17-770.800; and 62-782.790.*

2711 **62-780.900 Forms.**

2712 The forms used by the Department in its Contaminated Site Cleanup Criteria program are adopted and incorporated by
2713 reference in Rules 62-780.220 and .300, F.A.C. Each form is listed by subsection number, which is also the form number,

2714 and with the subject, title, and effective date. Forms may be obtained from the Division of Waste Management website at
 2715 www.dep.state.fl.us/waste.

- 2716 (1) Form 62-780.900(1), Initial Notice of Contamination Beyond Property Boundaries (effective date 6-12-13).
 2717 (2) Form 62-780.900(2), Chain of Custody Record (effective date 6-12-13).

2718 **TABLE A.**
 2719 Submittals and Time Frames for PRSR
 2720 (Unless superseded by a CAD)

Type of Report or Activity	PRSR Action or Submittal Time Frames
Notice of Initiation of Emergency Response Action or Interim Source Removal Action per Rule 62-780.500, F.A.C. or 62-780.525, F.A.C.	Within 24 hours of initiation of the action
Emergency or Interim Source Removal Proposal	When seeking approval before implementation of an alternative product recovery method, groundwater recovery, soil treatment or disposal technique (Rule 62-780.500, F.A.C. or Rule 62-780.525, F.A.C.)
Emergency Source Removal Status Report or Interim Source Removal Status Report	Within 60 days of initiating interim source removal activities and every 60 days thereafter or when the field activity is terminated, whichever occurs first
Emergency Source Removal Status Report or Interim Source Removal Report	Within 60 days of completion of interim source removal activities
Site Assessment Commenced	Within 60 days after a discharge is discovered
Site Assessment Report (SAR)	SAR submitted within 270 days of discharge or discovery
Risk Assessment Report (RAR)	Optional (within 60 days of SAR approval or within the scheduled approved in the Risk Assessment Work Plan)
Well Survey and Sampling Results pursuant to paragraph 62-780.600(3)(h), F.A.C.	Within 60 days of discovery of contamination beyond the property boundaries
No Further Action (NFA) Proposal	When the site meets the criteria for NFA (Rule 62-780.680, F.A.C.)
Natural Attenuation Monitoring (NAM) Plan	When the site meets the criteria for NAM (Rule 62-780.690, F.A.C.)
Natural Attenuation Monitoring (NAM) Report	Within 60 days of sample collection or in accordance with the approved NAM plan
Remedial Action Plan (RAP)	Within 90 days of approval of a SAR or RAR
As-Built Drawings	Within 120 days of initiating operation of active remediation system
Initiate Operation of Active Remediation System	Within 120 days of RAP approval
Remedial Action Status Report	Within 60 days of the anniversary date of initiating operation of active remediation system or in accordance with the approved RAP
Proposals submitted pursuant to subsection 62-780.700(14), F.A.C.	Optional during active remediation
Post Active Remediation Monitoring (PARM) Plan	When the site meets the criteria for NFA (Rule 62-780.680, F.A.C.) or Leveling Off (subsection 62-780.700(18), F.A.C.)
Post Active Remediation Monitoring (PARM) Report	Within 60 days of sample collection or in accordance with the approved PARM plan
Leveling Off Determination	Within 60 days of sample collection
Post Active Remediation Monitoring Plan resampling proposal (paragraph 62-780.750(4)(e), F.A.C.)	Within 60 days of sample collection
Site Rehabilitation Completion Report (SRCR)	Within 60 days of the final sampling event. If SRCR is not approved then submit modifications, etc. within 60 days of Department's response
Pilot Study Work Plan	When seeking approval before implementation of a Pilot Study pursuant to subsection 62-780.700(2), F.A.C.
Combined Document (optional submittal)	Governed by the earliest submission deadline for any component, unless the Department agrees to a different schedule in advance, and in writing. Submitted within 270 days of discharge or discovery
Notices for Field Activities (except for Initiation of Emergency Response Action, De Minimis Discharges or Interim Source Removal Action)	Notice to the Department within seven days but not less than 24 hours prior to performing field activity
Submittal to the Department of addenda, responses,	Within 60 days of receipt of the Department's response

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

or modification to plans or reports, pursuant to Rule 62-780.790, F.A.C.	
Submittal of Form and Actual Notice required in subsection 62-780.220(2), F.A.C.	See text of rule for “Initial Notice of Contamination Beyond Property Boundaries” in subsection 62-780.220(2), F.A.C.

2721
2722

TABLE B
Petroleum, Petroleum Product and Drycleaning Solvent Contaminants of Concern (COCs)

Petroleum or Petroleum Product COCs	Drycleaning Solvent COCs
Petroleum or Petroleum Product Sites	Chlorinated Solvent Sites
Benzene	Carbon tetrachloride
Ethylbenzene	Chloroform
Toluene	Dichloroethane, 1,1-
Xylenes, total	Dichloroethane, 1,2- [or EDC]
Acenaphthene	Dichloroethene, 1,1-
Acenaphthylene	Dichloroethene, cis-1,2-
Anthracene	Dichloroethene, trans-1,2-
Benzo(a)anthracene	Ethyl chloride [or Chloroethane]
Benzo(a)pyrene	Methyl chloride [or Chloromethane]
Benzo(b)fluoranthene	Methylene chloride
Benzo(g,h,i)perylene	Tetrachloroethene [or PCE]
Benzo(k)fluoranthene	Trichloro-1,2,2-trifluoroethane, 1,1,2 [or CFC 113]
Chrysene	Trichloroethane, 1,1,1- [or Methyl chloroform]
Dibenz(a,h)anthracene	Trichloroethene [or TCE]
Fluoranthene	Vinyl chloride
Fluorene	Petroleum Solvent Sites
Indeno(1,2,3-cd)pyrene	Benzene
Methylnaphthalene, 1-	Ethylbenzene
Methylnaphthalene, 2-	Toluene
Naphthalene	Xylenes, total
Phenanthrene	Acenaphthene
Pyrene	Acenaphthylene
Dibromoethane, 1,2- [or EDB]	Methylnaphthalene, 1-
Dichloroethane, 1,2- [or EDC]	Methylnaphthalene, 2-
Methyl tert-butyl ether [or MTBE]	Naphthalene
TRPHs	TRPHs
Arsenic	
Cadmium	
Chromium	
Lead	
Chloride	
Sulfate	
Total Dissolved Solids [or TDS]	

2723
2724

TABLE C
For Gasoline and Kerosene Analytical Groups

Contaminants of Concern	Groundwater and Surface Water	Soil and Sediment
Benzene, Ethylbenzene, Toluene, total Xylenes, and MTBE	EPA 602, 624, 8021, or 8260	EPA 8021 or 8260
1-methylnaphthalene, 2-methylnaphthalene, and the 16 method-listed PAHs included in Table B	EPA 610 (by HPLC), 625, 8270, or 8310	EPA 8270 or 8310
1,2-dichloroethane and other listed Priority Pollutant Volatile Organic Halocarbons	EPA 601, 624, 8021, or 8260	NOT REQUIRED
1,2-dibromoethane [or EDB]	EPA 504, 504.1, or 8011 , or 8260 SIM	NOT REQUIRED
Lead, total	EPA 200.7, 200.8, 6010, or 6020	NOT REQUIRED
TRPHs	FL-PRO	FL-PRO

NOTE 1: Practical quantitation limits shall meet the specified cleanup target levels.
 NOTE 2: Appropriate sample preparation and cleanup methods (e.g., extraction, digestion) shall be performed prior to analysis.
 NOTE 3: Equivalent methods may be used if approved through protocols described in Chapter 62-160, F.A.C.

2725
2726
2727

TABLE D
For used oil, as defined in Rule 62-780.200(50), F.A.C., for identified products not listed in the Gasoline or Kerosene Analytical Groups, and for products for which the specific identity is unknown

Contaminants of Concern	Groundwater and Surface Water	Soil and Sediment	
Arsenic, total	EPA 200.7, 200.8, 6010, or 6020	EPA 6010 or 6020	
Cadmium, total	EPA 200.7, 200.8, 6010, or 6020	EPA 6010 or 6020	
Chromium, total	EPA 200.7, 200.8, 6010, or 6020	EPA 6010 or 6020	
Lead, total	EPA 200.7, 200.8, 6010, or 6020	EPA 6010 or 6020	
Priority Pollutant Volatile Organics	EPA 624 or 8260	EPA 8260	
Priority Pollutant Extractable Organics	EPA 625 + 608, 625 + 8081 + 8082, 8270 + 608 (unless certified for Organochlorine Pesticides and PCBs by 8270), or 8270 + 8081 (unless certified for Organochlorine Pesticides by 8270) + 8082 (unless certified for PCBs by 8270)	EPA 8270 + 8081 (unless certified for Organochlorine Pesticides by 8270) + 8082 (unless certified for PCBs by 8270)	
Nonpriority Pollutant Organics (with GC/MS peaks greater than 10 ug/L)	EPA 624 or 8260, and 625 or 8270	NOT REQUIRED	
Priority Pollutant Volatile Organic Halocarbons	EPA 601, 624, 8021, or 8260	EPA 8021 or 8260	
1-methylnaphthalene, 2-methylnaphthalene, and the 16 method-listed PAHs included in Table B	EPA 610 (by HPLC), 625, 8270, or 8310	EPA 8270 or 8310	
PCBs	EPA 608 or 8082	EPA 8082	
TRPHs	FL-PRO	FL-PRO	
Toxicity Characteristic Leaching Procedure (TCLP) and the subsequent analyses for metals shall be performed on soil samples to determine if the soil is a hazardous waste and to evaluate leaching potential when the total concentration of any contaminant of concern in the samples meets the following conditions (the applicable analytical method shall be used following sample preparation by EPA Method 1311 and any appropriate digestion procedure):			
If:	Exceeds:	Use:	Test Criteria:
Total Arsenic	100 mg/kg	EPA 6010 or 6020	5.0 mg/L
Total Cadmium	20 mg/kg	EPA 6010 or 6020	1.0 mg/L

Total Chromium	100 mg/kg	EPA 6010 or 6020	5.0 mg/L
Total Lead	100 mg/kg	EPA 6010 or 6020	5.0 mg/L

NOTE 1: Practical quantitation limits shall meet the specified cleanup target levels.
 NOTE 2: Appropriate sample preparation and cleanup methods (e.g., extraction, digestion) shall be performed prior to analysis.
 NOTE 3: Equivalent methods may be used if approved through protocols described in Chapter 62-160, F.A.C.

2728
2729

TABLE E
For petroleum as defined in Section 376.301, F.S.

Contaminants of Concern	Groundwater and Surface Water	Soil and Sediment
Benzene, Ethylbenzene, Toluene, total Xylenes, and MTBE	EPA 602, 624, 8021, or 8260	EPA 8021 or 8260
1-methylnaphthalene, 2-methylnaphthalene, and the 16 method-listed PAHs included in Table B	EPA 610 (by HPLC), 625, 8270, or 8310	EPA 8270 or 8310
1,2-dichloroethane and other listed Priority Pollutant Volatile Organic Halocarbons	EPA 601, 624, 8021, or 8260	EPA 8021 or 8260
1,2-dibromoethane [or EDB]	EPA 504, 504.1, or 8011 , or 8260 SIM	NOT REQUIRED
Arsenic, total	EPA 200.7, 200.8, 6010, or 6020	EPA 6010 or 6020
Cadmium, total	EPA 200.7, 200.8, 6010, or 6020	EPA 6010 or 6020
Chromium, total	EPA 200.7, 200.8, 6010, or 6020	EPA 6010 or 6020
Lead, total	EPA 200.7, 200.8, 6010, or 6020	EPA 6010 or 6020
TRPHs	FL-PRO	FL-PRO
Chloride	EPA 300.0, 9056, 9251, or 9253, or SM 4500-Cl B, 4500-Cl C, or 4500-Cl E	NOT REQUIRED
Sulfate	EPA 300.0, 300.1, 375.2, 9038, or 9056, or SM 4500-SO4 C	NOT REQUIRED
Total Dissolved Solids [or TDS]	SM 2540 C	NOT APPLICABLE

NOTE 1: Practical quantitation limits shall meet the specified cleanup target levels.
 NOTE 2: Appropriate sample preparation and cleanup methods (e.g., extraction, digestion) shall be performed prior to analysis.
 NOTE 3: Equivalent methods may be used if approved through protocols described in Chapter 62-160, F.A.C.

2730
2731

Table F
Health-Based Values For Groundwater Cleanup Target Levels at Brownfield Sites

Contaminant	CAS#	Chapter 62-777, F.A.C., (ug/L)	Health-Based GCTL (ug/L)	Target Organ/System or Effect
Acenaphthene	83-32-9	20 Organoleptic	420	-Liver
Aluminum	7429-90-5	200 Secondary Standard	7000	-Body Weight
Biphenyl, 1,1- [or Diphenyl]	92-52-4	0.5 Organoleptic	350	-Kidney
Butyl acetate, n-	123-86-4	43 Organoleptic	NA	-None Specified
Chloride	16887-00-6	250000 Secondary Standard	NA	-None Specified
Chlorophenol, 3-	108-43-0	0.1 Organoleptic	35	-Reproductive

Chapter 62-780, F.A.C. Workshop Draft 04-05-16

Chlorophenol, 4-	106-48-9	0.1 Organoleptic	35	-Reproductive
Chloropicrin	27913	7.3 Organoleptic	NA	-None Specified
Copper	7440-50-8	1000 Secondary Standard	280 (a)	-Gastrointestinal
Cumene [or Isopropyl benzene]	98-82-8	0.8 Organoleptic	700	-Adrenals -Kidney
Dichlorophenol, 2,3-	576-24-9	0.04 Organoleptic	21	-Immunological
Dichlorophenol, 2,4-	120-83-2	0.3 Organoleptic	21	-Immunological
Dichlorophenol, 2,5-	583-78-8	0.5 Organoleptic	21	-Immunological
Dichlorophenol, 2,6-	87-65-0	0.2 Organoleptic	21	-Immunological
Dichlorophenol, 3,4-	95-77-2	0.3 Organoleptic	21	-Immunological
Ethanol	64-17-5	10000 Organoleptic	400000	-Developmental
Ethyl acrylate	140-88-5	0.4 Organoleptic	0.7	-Carcinogen
Ethyl ether	60-29-7	750 Organoleptic	1400	-Body Weight
Ethylbenzene	100-41-4	30 Secondary Standard	700 (700)	-Developmental -Kidney -Liver
Fluoride	7782-41-4	2000 Secondary Standard	420 (a)	-Teeth mottling
Formaldehyde	50-00-0	600 Organoleptic	1400	-Body Weight-Carcinogen -Gastrointestinal
Hexane, n-	110-54-3	6 Organoleptic	420	-Neurological
Iron	7439-89-6	300 Secondary Standard	4200	-Gastrointestinal
Manganese	7439-96-5	50 Secondary Standard	330	-Neurological
Methyl acetate	79-20-9	3000 Organoleptic	7000	-Liver
Methyl methacrylate	80-62-6	25 Organoleptic	9800	-None specified
Methyl tert-butyl ether [or MTBE]	1634-04-4	20 Organoleptic	NA	-Eye-Kidney-Liver
Phenol	108-95-2	10 Organoleptic	2100	-Developmental
Silver	7440-22-4	100 Secondary Standard	35 (a)	-Skin
Sulfate	14808-79-8	250000 Secondary Standard	NA	-None Specified

Toluene	108-88-3	40 Secondary Standard	1400 (1000) (b)	-Kidney-Liver-Neurological
Total dissolved solids [or TDS]	C-010	500000 Secondary Standard	NA	-None Specified
Trichlorophenol, 2,4,5-	95-95-4	1 Organoleptic	700	-Kidney -Liver
Trimethylbenzene, 1,2,3-	526-73-8	10 Organoleptic	350	-None Specified
Trimethylbenzene, 1,2,4-	95-63-6	10 Organoleptic	350	-None Specified
Trimethylbenzene, 1,3,5-	108-67-8	10 Organoleptic	350	-None Specified
Vinyl acetate	108-05-4	88 Organoleptic	7000	-Body Weight-Kidney-Nasal
Xylenes, total	1330-20-7	20 Secondary Standard	1400 (10000) (c)	-Body Weight-Mortality -Neurological
Zinc	7440-66-6	5000 Secondary Standard	2100 (a)	-Blood

2732 Note: GCTLs based organoleptic considerations are lower than the health-based values.
2733 Table F in Chapter 62-780, F.A.C., was duplicated in Table 7 of the technical report referenced in this chapter. Table F is for
2734 use only when making decisions for brownfield sites regarding sub-subparagraph 62-780.680(1)(c)1.a., F.A.C.
2735 NA = Not available at time of rule adoption.
2736 (a) = Health-based GCTL lower than the Secondary Standard. The Secondary Standard shall be used for this contaminant.
2737 (b) = Health-based GCTL higher than Primary Standard (value). The Primary Standard shall be used for this contaminant.
2738 (c) = Health-based GCTL lower than Primary Standard (value). The Primary Standard shall be used for this contaminant.
2739 *Rulemaking Authority 376.303, 376.3071, 376.30701, 376.30702, 376.3078(4), 376.81 FS. Law Implemented 376.3071, 376.30701,*
2740 *376.30702, 376.3078(4), 376.81 FS. History--New 4-17-05, Amended 12-27-07, 6-12-13* _____.
2741 *Editorial Note: Portions of this rule were copied from 62-770.900, Formerly 17-770.900; 62-782.900; and 62-785.900.*