Ministry of Environment and Parks, Government of Alberta
Date of publication: March 03, 2020.
Title of publication: Remedial Action Plan Guide
© 2020 Government of Alberta
© Her Majesty the Queen in Right of Alberta, as represented by the Minister of Environment and Parks, 2020.
This publication is issued under the Open Government Licence – Alberta (http://open.alberta.ca/licence).

Any comments, questions or suggestions regarding the content of this document may be directed to:
Lands Policy and Programs Branch
Lands Division
Alberta Environment and Parks
10th Floor, Oxbridge Place
9820 – 106 Street NW
Edmonton, Alberta T5K 2J6
Fax: 780-422-4192
Email: Land.Management@gov.ab.ca

Additional copies of this document may be obtained by contacting:
Information Centre
Alberta Environment and Parks
Edmonton, Alberta
Phone: 780-427-2700
Fax: 780-422-4086
Email: AEP.Info-Centre@gov.ab.ca
Table of Contents

Table of Contents ........................................................................................................................................3
Definitions ..................................................................................................................................................4
1. Purpose ..................................................................................................................................................5
   1.1 Overview of a Remedial Action Plan ..................................................................................................5
   1.2 Relationship to Other Documents ....................................................................................................5
   1.3 Scope and Applicability ....................................................................................................................6
2. Remedial Action Plans for Contaminated Sites .......................................................................................7
   2.1 Requirements .....................................................................................................................................7
   2.2 Land Use and Affected Parties ...........................................................................................................8
   2.3 Record of Site Condition Form ..........................................................................................................9
4. References ..............................................................................................................................................13
Definitions

For the purpose of the Remedial Action Plan Guide, the Environmental Protection and Enhancement Act and the Remediation Regulation support the development of guidelines and objectives, as described in this document and related documents. The following definitions are listed for reference. In the event that there is discrepancy from items defined within acts or regulations, the acts and/or regulations shall take precedence.

“adverse effect”: means impairment of, or damage to the environment, human health or safety or property, as defined in Environmental Protection and Enhancement Act (EPEA).

“conceptual site model” (“CSM”): is a visual representation and narrative description of the physical, chemical and biological processes occurring, or that have occurred, at a site, as related to contaminants of potential concern and their migration.

“contaminant(s) of potential concern” (CoPC): means any substance that is identified as potentially present on, in or under a site and surrounding area that, if released, has the potential for adverse effect.

“environmental site assessment” (ESA): means an assessment in relation to land to determine the environmental condition of property. It includes a Phase 1 environmental site assessment, Phase 2 environmental site assessment and post-remediation confirmatory assessments.

“EPEA”: means the Environmental Protection and Enhancement Act (RSA 2000, cE-12).

“exposure control(s)” : means risk management through use of site-specific exposure barriers and/or administrative controls on contaminated land, as defined in Alberta’s Exposure Control Guide.

Guidelines: includes the Alberta Tier 1 Soil and Groundwater Remediation Guidelines, the Alberta Tier 2 Soil and Groundwater Remediation Guidelines, the Environmental Site Assessment Standard, the Exposure Control Guide, and the Risk Management Plan Guide.

“Remediation Regulation”: Alberta Regulation 154/2009, under EPEA.

“site” : means a site as defined in the Remediation Regulation.

“source”: means anything that adds contaminant mass to the environment.
1. Purpose

The purpose of the Remedial Action Plan Guide ("RAP Guide") is to provide information related to Alberta Environment and Parks’ ("AEP" or "the Department") requirements for remedial action plans, outlined in the Remediation Regulation, for contaminated sites regulated by AEP. For activities regulated by the Alberta Energy Regulator ("AER"), please contact the AER regarding its requirements.

1.1 Overview of a Remedial Action Plan

Section 2.2(2) of the Remediation Regulation states that where a site cannot be remediated to the satisfaction of the Director within a two-year period after the person responsible becomes aware or ought to have become aware that there was a release, that a remedial action plan acceptable to the Director must be submitted. A remedial action plan must summarize:

- What is at the site?
  - Conditions and types/levels of contaminants at the site.

- How will the release be remediated?
  - How the release (e.g.: contaminants) will be remediated using proposed remedial measures.

- When will remediation be completed?
  - Include timelines for actions and milestones to assess progress.

The RAP Guide will aid in completion of the Remedial Action Plan (RAP) form for submission to the Department. The RAP form is used to summarize the plan to achieve remediation goals. The Department’s Record of Site Condition (RSC) form will be the basis for the RAP, satisfying the requirement to describe what is at a site. The RSC form will need to be updated by the responsible party from time to time as more information is known about the site, as remediation proceeds, or if a risk management plan is developed. For more information, see the RSC form and RSC Guide (ESRD, 2012).

The RAP Guide is intended to be used by site managers, environmental professionals and project managers who develop, implement and maintain RAPs.

1.2 Relationship to Other Documents
The RAP Guide supports Guidelines adopted under the *Environmental Protection and Enhancement Act* ("EPEA") and the Remediation Regulation, and builds upon principles for environmental site assessment and requirements for remediation outlined in Alberta’s *Contaminated Sites Policy Framework* (ESRD, 2014a).

### 1.3 Scope and Applicability

Sections 110 to 112 of EPEA define the **duty to report** and **duty to take remedial measures**, respectively, where a released substance has the potential to cause, is causing or has caused an adverse effect to human health, the environment, safety or property. Section 2.2 of the Remediation Regulation further describes how the duty to take remedial measures must be met. The Department’s policies uphold the return of contaminated sites to productive use to ensure that risks to human health and the environment are minimized (ESRD, 2014a).

The person responsible (as defined in EPEA, section 1) must comply with section 2.2 of the Remediation Regulation to either complete remediation to the satisfaction of the Director within two years, or provide a RAP that describes the contamination, how contamination will be remediated, and the timeline for remediation.

The duty to report and duty to take remedial measures are based on when a person becomes aware or ought to have become aware of a release.

Sections 110 and 111 of EPEA set out the legal duty for any person to report a release of a substance into the environment, including how to report and to whom. The Release Reporting Regulation (A.R. 117/93, as amended) includes further regulatory requirements on reporting. *A Guide to Release Reporting* (AENV, 2005) and *Reporting Spills and Releases* (AEP, 2016c) provide further information about the Department’s requirements for reporting a release.

If a release was not reported and two years have passed since the release occurred or was discovered, the requirement to report the release is still in effect, and duty to take remedial actions under sections 110 to 112 of EPEA is still in effect. As well, there would be an added requirement at that time under section 2.2(2) the Remediation Regulation to submit a RAP if the site cannot be remediated to the satisfaction of the Director within the two years.

Remediation options are described in sections 2.3 and 2.4 of the Remediation Regulation, and are further elaborated in the *Contaminated Sites Policy Framework* (2014a). Three options are available to address contaminated sites: remediation to *Alberta Tier 1 Soil and Groundwater Remediation Guidelines* (AENV, 2007a).
(Tier 1), remediation to *Alberta Tier 2 Soil and Groundwater Remediation Guidelines* (AENV, 2007b) (Tier 2), or exposure control, per the *Exposure Control Guide* (AEP, 2016b).

### 2. Remedial Action Plans for Contaminated Sites

The RAP is intended to be a brief outline of how and when contamination will be remediated following a substance release, building upon and summarizing information contained in the RSC form. Once a substance release has been reported, the person responsible must develop a detailed understanding of site conditions and contaminants of potential concern (CoPCs) and determine a course of action and timelines to meet the Tier 1 or Tier 2 Guidelines. If the substance release has not been remediated to meet Tier 1 or Tier 2 within two years of discovering the release, the Remediation Regulation requires the person responsible to submit a RAP acceptable to the Director. Where a site has been fully remediated within two years, no RAP is required.

Requirements are outlined below, and a RAP with insufficient information will need to be updated before it is accepted for review.

#### 2.1 Requirements

Remedial Action Plan (RAP) submissions to the Department must include, at a minimum, the following:

- A completed RAP Form,
- A completed RSC Form, and
- A Phase 2 environmental site assessment (“ESA”).

Section 2.2(3) of the Remediation Regulation requires timelines for collecting information to be included within the RAP. A Phase 2 ESA and the RSC form are required to support the RAP submission by providing information on the status of the site. While initial/preliminary Phase 2 ESAs may not be detailed enough to provide complete delineation of all contaminants, the two-year period in which to submit a RAP provides sufficient time to conduct additional ESA(s), identify data gaps, and establish a plan and timeline for further investigations. The conceptual site model (“CSM”) used for the purpose of the RAP form and RSC form must be consistent with the information provided in the Phase 2 ESA at the time of submission. For more information on the CSM and Phase 2 ESA report requirements, see the *Alberta Environmental Site Assessment Standard* (AEP, 2016a).
Section 2.2(4) of the Remediation Regulation allows the Director to require the person responsible to submit a completed or corrected ESA report or RAP within a specified timeline in a form and manner as specified by the Director. This may include submitting an updated plan where new information is discovered during the course of an ESA or remediation. Section 2.1 of the Regulation requires any new information about the impact of a released substance to a person or land be reported to the Director and any affected person at the time of discovery.

Regulatory requirements cannot be waived, unless the legislation states that the Director has authority to waive a requirement. However, the Director does have discretion to consider alternatives for how required information is submitted and can accept that the requirement for a RAP has been met if it is demonstrated that the elements of a RAP have been met through other means. For instance, the elements of a RAP could be contained in an authorized soil management plan under the Soil Monitoring Directive (2009), or in a Risk Management Plan (RMP) accepted by the Department, outlined in the Risk Management Plan Guide (2017).

The Department differentiates sites that are remediated to Tier 1 or Tier 2 Guidelines (which allow for regulatory closure such as eligibility for a remediation certificate) from those that are managed by exposure barriers and administrative controls, detailed in a RMP (which do not provide a mechanism for regulatory closure). Exposure controls may be required as an interim measure to manage contamination on some sites. Exposure control is not considered an appropriate option where remediation to Tier 1 or Tier 2 Guidelines is practicable in a timely manner, or where there is demonstrated risk (adverse effect) to human health and/or the environment, requiring remediation. For more information on the exposure control option and requirements for developing a risk management plan, see Alberta’s Exposure Control Guide (2016b) and Risk Management Plan Guide (2017).

It is acknowledged that liability waivers and restrictions are often a necessary part of technical reports (e.g. ESAs) so information is not used out of context or for purposes not intended, such as reliance on the report by an unknown or unintended third party. However, any report that is accompanied by liability limitations, restrictions, or waiver clauses that limit or exclude the ability of the Department to rely on the report will be rejected.

2.2 Land Use and Affected Parties

The RAP form, RSC form, and ESA report(s) must consistently and accurately describe current and future land use as required by section 2.3(2) of the Remediation Regulation. The Regulation states that the person responsible
must account for current and future land, water and sediment uses and sets out various factors that must be considered. These include:

- current and proposed land use of the site and neighbouring parcels must be consistent with any applicable land use bylaws, municipal development plan, area structure plan, area redevelopment plan, or other relevant municipal policies,
- current and proposed land use planning policies of the Crown,
- current and proposed land use for any parcel that may be affected by the substance release,
- potential for surface water, groundwater and sediments to cause further adverse effects to any parcel that may be affected by the substance release, or
- any other factors the Director considers to be appropriate.

If the responsible party intends to transfer or sell land while a RAP is in place, the party responsible for implementing the RAP must provide full disclosure of the state of the property by providing the interested parties with a copy of the RAP and related information.

All affected third parties must be made aware when contaminants have migrated onto their property, per EPEA and the Remediation Regulation. In addition to adjacent landowners, affected third parties could include affected utility owners, the jurisdiction/municipality (hamlet, town, city, or county) in which the contaminated site is located, and the Government of Alberta if the substance release may affect Crown lands. Affected third parties are to be provided reports and information related to their property by the person responsible, demonstrating performance and progress of RAP actions, including if methods are not performing as expected or if they have been compromised.

### 2.3 Record of Site Condition Form

The RSC form is used to submit the majority of the required administrative information for the RAP submission. For more information on the RSC form, see the *Record of Site Condition (RSC) Guide* (ESRD, 2012).

The following sections provide guidance to filling out the RAP form.

**RAP Form: Tracking Information**

Any Department reference numbers issued in respect of reporting a release of a substance, file reference number, incident number, and/or site number(s) must be included on the RSC form for reference and identification purposes. If any of these are missing, the RSC form and the overall RAP will be considered incomplete. When submitting a RAP, the person responsible must verify the release has been reported to the Department (via the 24-hour reporting number, 1-800-222-6514) and has received a Release Reporting Reference Number (or Call Reference Number). If no release reporting reference number is available, but there is evidence that the first report was made before January 1, 2019, the Department will not require a release reporting reference number for the RAP form to be administratively complete. For further information on release reporting, refer to sections 110-112 of EPEA, the Release Reporting Regulation, *A Guide to Release Reporting* (AENV, 2005) and *Reporting Spills and Releases* (2016c).

**RAP Form: Affected Third Party Property Considerations**

All affected third parties must be identified. The form must include a summary of how all affected third parties were contacted and informed of the site condition and content of the RAP. Affected third parties must be copied on all information in reports related to the site.

**RAP Form: Delineation**

If full delineation has not been achieved, this section of the RAP form must include a plan with a timeline for full delineation and the RAP must be updated. Vertical and horizontal delineation in all media must be demonstrated, including off-site impacts and bedrock. Delineation is considered complete when measured concentrations are consistently less than what is provided for in the Tier 1 or Tier 2 Guidelines. Where no Guidelines are available for a CoPC, the background concentration shall be used as the delineation endpoint. Phase 2 ESA reports must clearly indicate complete horizontal and vertical delineation of all CoPCs on- and off-site.
**RAP Form: Risk Assessment and Guideline Selection**

The Department’s *Contaminated Sites Policy Framework* (2014a) describes options for managing contaminated sites as the person responsible proceeds from initial site assessment to regulatory closure.

The RSC form is used to summarize an understanding of the CSM and comparison against the appropriate Guideline at the time of submission. The RAP form shall state what additional work will be done, what option(s) will be used to support the work, and when it will be accomplished. A description of the rationale used for Guideline selection must be provided.

If an Alberta Tier 2 Guideline option was used for evaluation of any CoPC, this section of the RAP form must identify the Tier 2 option that was applied, the pathway(s) for which Tier 2 was evaluated, all CoPCs that were evaluated using this option. Alberta Tier 2 allows for pathway exclusion, Guideline adjustment, or site-specific risk assessments (“SSRA”) (AENV, 2014a). Tier 2 SSRA’s and Guideline adjustments are typically submitted as part of the ESA, and should be submitted to the Department for review as part of the RAP. In all instances, Tier 2 modifications will require the use of procedures, protocols and monitoring that are acceptable to the Department.

Where the Tier 2 assessment includes the category of protection of groundwater for potable water use, vapour inhalation, and/or protection of groundwater for freshwater aquatic life, the RAP form must include answers to all appropriate questions for this category. If these pathways are not evaluated at Tier 2, answer “No” and skip the additional questions for that category. The *Alberta Subsoil Salinity Tool* (ESRD, 2014b) is considered a Tier 2 Guideline adjustment. For the purpose of the RAP form, select the Tier 2 Guideline adjustment for any CoPC that was analyzed using this option.

Some pathways cannot be excluded at Tier 2, and automatically imply risk management. Submissions involving any of these pathways cannot be processed unless this is included in an accepted risk management plan. For more information on pathways that cannot be excluded, see the Alberta Tier 2 Guidelines.

**RAP Form: Source Control**

In this section of the RAP form the person responsible must explain what source control measures have already been completed to ensure human health and the environment are being protected. Outline the monitoring
program currently being used for substances(s) that remain in place. All sources of CoPCs must be completely remediated or controlled. If source control cannot be demonstrated, a plan to achieve source control must be provided, including a timeline of planned activities.

**RAP Form: Actions**

List and describe the types of remedial activities that are included in the RAP. A full description of remedial technologies and methodologies to be employed must be provided. Any construction requirements, physical and/or chemical limitations of the remedial technology used, and any environmental implications must be explained. Details of monitoring programs (e.g., frequency, methodologies, regulatory reporting schedule) and an explanation of how remedial effectiveness will be evaluated must also be provided.

It must be explained when the RAP will be implemented, including remediation commencement and completion dates. Include a schedule for when updates on remedial progress will be supplied to the Department.

**RAP Form: Risk Management Plan under the Exposure Control Option**

If there is an accepted RMP for the site, reference this RMP information in the RAP form. If there is an accepted RMP for the entire site, no RAP is required. If interim risk management is occurring while remediating, include information on the RMP, the Director acceptance letter and any administrative, physical and monitoring requirements that are required under the risk management plan. Requirements for risk management are typically in the summary of the plan. Where these are not summarized, they must be included as part of the RAP.
4. References


Alberta Environment (AENV), 2007a, as amended. Alberta Tier 1 Soil and Groundwater Remediation Guidelines.


Alberta Environment and Parks (AEP), 2016a. Alberta Environmental Site Assessment Standard.


Alberta Environment and Parks (AEP), 2016c. Reporting Spills and Releases.


