

**REMEDIAL DESIGN REPORT/REMEDIAL ACTION  
(REMOVAL ACTION) WORK PLAN  
ANNOTATED OUTLINE  
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## ACRONYMS

AM	Action Memorandum
ARAR	applicable or relevant and appropriate requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
ES&H	environmental, safety, and health
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Differences
FFA	Federal Facility Agreement
LUC	land use control
LUCIP	Land Use Control Implementation Plan
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPDES	National Pollutant Discharge Elimination System
O&M	operation and maintenance
PCCR	Phased Construction Completion Report
QA	quality assurance
QC	quality control
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan
RDR	Remedial Design Report
RmAR	Removal Action Report
RmAWP	Removal Action Work Plan
ROD	Record of Decision
SAP	Sampling and Analysis Plan
TDEC	Tennessee Department of Environment and Conservation

This annotated outline serves as a guide for preparation of remedial design report (RDR)/remedial action work plans (RAWPs) for the U.S. Department of Energy (DOE) – Oak Ridge Operations Environmental Management Program. The RDR and the RAWP are companion documents and although they may be issued separately for review and comment, this outline assumes that the RDR and RAWP are combined into a single document for submittal.

This annotated outline addresses the preparation of a RDR/RAWP for a particular project or work package. The scope of a “project” is determined by DOE on a case-by-case basis. It may include all or part of a selected remedy and may remediate one or more study areas; operable units; Comprehensive Environmental Response, Compensation; and Liability Act of 1980 (CERCLA) areas; or release sites; hereinafter referred to as the “site.” This outline has not been approved by the U.S. Environmental Protection Agency (EPA) or the Tennessee Department of Environment and Conservation (TDEC) and may be modified to meet their needs.

The annotated outline may also be used as a guide in preparation of Removal Action Work Plans (RmAWPs), as indicated by notes in brackets [ ]. A RmAWP does not generally contain a formal RDR; in such a situation, the RDR is not referenced in the title and Section 4 is not included. Certain kinds of remedial actions, such as some decontamination and decommissioning (D&D) or excavation projects also may not have a formal RDR.

## **EXECUTIVE SUMMARY**

Include an executive summary in all RDR/RAWPs [RmAWPs]. The executive summary, written as a “stand-alone” element of the document, appears on a separate page in the front matter of the document, and should be printed on blue paper.

The executive summary should provide a complete yet concise synopsis of the document contents, including a brief description of relevant portions of the Record of Decision (ROD) [Action Memorandum (AM)] that guided the activities performed as part of the project, and including the project duration with the start and completion dates. Summarize any major deviations (e.g., technical field changes, cost variances, revised assumptions) from the ROD [AM] made thus far during the project. Particular mention should be made of any additional benefits provided, cost savings, or risks abated. [For a removal action, specify the process for final remedy selection (i.e., final ROD).]

## **1. INTRODUCTION**

State the purpose, scope, and content of the RDR/RAWP [RmAWP]. A major purpose of this document is to answer the questions of what, where, when, why, and how as they relate to implementing the project. It is also appropriate in this chapter to provide a brief (one to two paragraph) introduction to the project, but any detailed discussion of scope and related issues for the project should be deferred to Chapter 3. The introduction should reference or cite the ROD [AM] and other pertinent documents.

## **2. SITE DESCRIPTION**

Summarize the operational history of the site and the releases of pollutants of concern. Include a summary of previous investigations, remedial actions, construction phases, or removal actions at the site. Provide one or more figures presenting the location of the site and the attributes of the remedy.

This chapter presents a brief description of the physical conditions of the site, including contaminants of concern being remediated under this action. Although brief, the site description is comprehensive enough that a reader unfamiliar with the action is able to understand the project setting and the rationale for the project. The site description or introduction sections of the ROD [AM] contain brief summaries of the site information that may be adequate for this purpose.

## **3. PROJECT DESCRIPTION**

Provide a concise discussion of the project goals, performance objectives, and other requirements as delineated in the ROD [AM]. Additional major project goals, if any, developed during design, should also be provided, but differentiated from those listed in the decision documents. Ideally, the project is defined by a measurable set of goals, and the achievement of those goals is anticipated through the implementation of the project scope and design.

Compliance with applicable or relevant and appropriate requirements (ARARs) should be identified as a project goal. The Federal Facility Agreement (FFA) agencies are concerned that each ARAR is incorporated into the project in an appropriate and effective manner as design work progresses. [For removal actions, since there is often no formal design, emphasis is placed on incorporation of ARARs into the planning and construction process.] A summary table of ARARs, crosswalked to the mechanism or means by which each requirement will be met, should be provided in an Appendix.

If waivers from or alterations to any ARARs are contemplated during the planning or preparation of the design, they must be negotiated. DOE is responsible for ensuring that the conditions of the waivers are met. Note: Under CERCLA 121(e), no permits are required for work performed entirely on-site; the requirements call for compliance with the "substantive" requirements of permits [e.g., discharge meets effluent limits but no National Pollutant Discharge Elimination System (NPDES) permit required].

Provide a concise discussion of the project scope. Describe any post-ROD data acquisition activities (e.g., field investigations, surveys) performed to support design and summarize the results. List each work element (e.g., mobilization, site preparation, trench construction) and then describe the planned activities or tasks to be conducted relative to each work element.

Specifically identify any deviations from the ROD [AM] that have become necessary as a result of the design and include the justification for those deviations. Note: Post-ROD changes to the selected remedy must be appropriately categorized by DOE and documented. For example, if a change is categorized as "significant" by DOE, a formal "Explanation of Significant Differences" (ESD) must be prepared to affirm that the revised remedy complies with the statutory requirements of CERCLA. The ESD is made available to the public and is placed in the Administrative Record file.

## 4. REMEDIAL DESIGN REPORT

For remedial actions, this section will present the remedial design. The RDR is a series of engineering documents, drawings, and specifications that detail the steps to be taken during construction, start-up, and operation to meet the established goals and requirements. The following should be included in the RDR, with details provided as appropriate attachments and/or appendices:

- Design analysis, prescribing the requirements and procedures, general design parameters, functional and technical requirements, design objectives, design assumptions, and design calculations. Address considerations and provisions for remedial construction, verification, operation and maintenance, QA, environmental compliance, and environmental safety and health;
- Drawings, presenting the required construction layout, configuration, and details; and
- Specifications, prescribing the required procedures for materials, equipment, and execution of the construction.

## 5. PLANS

Plans must be prepared as part of project design and construction. The names and number of plans in a project are highly variable and are dependent on such things as type of work performed, coverage and scope of the RDR, division of work among contractors, and desired coverage or scope of each plan. The plans discussed in this chapter may be named differently or combined/divided differently for individual projects. Some plans are submitted as part of the RDR/RAWP, some are only identified and summarized in the RDR/RAWP, and some are not reported in the RDR/RAWP. Plans submitted as part of the RDR/RAWP can be inserted into this chapter or appended to the document.

The following plans, if required for a particular project, should be submitted as part of the RDR/RAWP:

Plans submitted as part of RAWP	Description	Comments
Verification plan <sup>a</sup>	Describes confirmatory sampling and verification protocols that will be used to demonstrate that cleanup levels established in the ROD have been achieved.	Verification occurs during or at the end of construction and does not, in this context, include long-term monitoring.
Monitoring plan	Describes the long-term sampling and monitoring protocols that will be used to evaluate the performance of selected remedy components and continuing impacts to the environment from residual contamination.	Although a monitoring baseline may be established prior to or during construction, this long-term monitoring primarily occurs after construction and startup. Final adjustments to the plan may be made in the Phased Construction Completion Report (PCCR)/Remedial Action Report (RAR) [Removal Action Report (RmAR)].
Operation and maintenance (O&M)	Describes the operating system and the long-term O&M requirements and	Although an operating baseline may be established during start-up, this long-term

plan	procedures for such things as system operation, safety, surveillance, maintenance, and record-keeping.	O&M primarily occurs after system startup. Final adjustments to the plan may be made in the PCCR/RAR [RmAR].
Various site-specific plans	The regulators may request that various site-specific plans receive approval prior to construction by submitting the plans with the RDR/RAWP.	Examples may include wetland mitigation, surface water/storm flow management during construction, and treatment and disposal of waters produced as a result of construction.

<sup>a</sup> The Sampling and Analysis Plan (SAP) Operating Instruction in Appendix I of the FFA requires that the RAWP contain any sampling and analytical requirements necessary to verify that remedial action objectives have been met as a result of the remedial actions.

The following plans should be identified and summarized in this chapter, but the plans themselves need not be inserted into the RDR/RAWP [RmAWP]:

<b>Plans summarized only in the RAWP</b>	<b>Description</b>	<b>Comments</b>
Environmental, safety, and health (ES&H) plan	Addresses hazards specific to each work element, how the project will comply with environmental laws and regulations, and other issues such as area monitoring, worker training and safety, decontamination, and emergency response.	Finalized prior to the start of construction. Includes or references a radiation protection/“as low as reasonably achievable” (ALARA) plan.
Quality assurance (QA) project plan	Addresses the quality requirements and provides management direction during project activities.	Finalized prior to the start of construction.
Waste management plan	Describes the process and methods that will be used to ensure safe and compliant management of waste, including minimization, identification, segregation, characterization, profiling, certification, labeling, marking, packaging, and tracking.	Finalized prior to the start of construction. Includes or references a waste characterization sampling and analysis plan (SAP) <sup>a</sup> .
Waste transportation plan	Describes the process and methods that will be used to address the safe and compliant transport of materials from the project site to an approved treatment, storage, disposal, or recycle facility.	Finalized prior to the shipment of any waste material from the site.

<sup>a</sup> The SAP operating instruction in Appendix I of the FFA specifies certain requirements to be followed in developing and reviewing the waste characterization SAP, if environmental samples are to be collected to support the development of a waste profile to determine acceptability for disposal at a designated facility.

The following plans, assessments, or submittals are examples of documents that may be generated as part of the project but need not be identified or summarized in the RDR/RAWP [RmAWP]:

- Radiation protection/ALARA plan
- Hazard analysis assessment
- Construction quality control (QC) plan
- Site management or operations plan
- Shop drawings, vendor data, and other typical construction submittals

## **6. LAND USE CONTROLS (AS REQUIRED)**

Additional information is required for any site covered under an approved Land Use Control Implementation Plan (LUCIP). The LUCIP states that as individual remediation projects are undertaken, project-specific land use controls (LUCs), if any, will be identified in the RDR/RAWP. Thus, the RDR/RAWP for a site with an approved LUCIP must specifically contain a chapter that addresses LUCs for the project. If no project-specific LUCs are being proposed, then the text in this chapter should indicate that no additional LUCs, beyond those already established in the LUCIP, are being proposed for the project.

## **7. PROJECT ORGANIZATION AND SCHEDULE**

As appropriate, include a brief description (or organization chart) of the key organizations involved in the project.

Provide the project schedule in a chart or table with the schedule broken down into major phases or components. The schedule shall reflect completed milestones to date and future milestones, including the negotiated FFA Appendix E milestones. Identify and explain any significant deviations from schedules established in decision documents, if any. Notes: (1) the document review protocol (p. I-6d through I-6g of the FFA) will be followed for the development of primary, secondary, and removal action documents; (2) schedules for performing activities subsequent to or coordinated with this project, if developed, will also be provided; and (3) cost estimates will generally not be provided in the RDR/RAWP [RmAWP].

## **8. REFERENCES**

The following are general references for inclusion in an RDR/RAWP [RmAWP].

42 U.S.C. § 7401 et seq., The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986.

40 *CFR* Pt. 300, National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

U.S. Department of Energy (DOE) 1992. *Federal Facility Agreement for the Oak Ridge Reservation*, DOE/OR-1014. U.S. Environmental Protection Agency Region IV, Atlanta, Ga.; DOE, Oak Ridge Operations, Oak Ridge, Tenn.; and the Tennessee Department of Environment and Conservation, Nashville, Tenn., January.