

**PHASED CONSTRUCTION COMPLETION REPORT
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
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Differences
LUC	land use control
LUCIP	Land Use Control Implementation Plan
O&M	operation and maintenance
PCCR	Phased Construction Completion Report
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan
RmAR	Removal Action Report
RmAWP	Removal Action Work Plan
ROD	Record of Decision
TDEC	Tennessee Department of Environment and Conservation

This annotated outline serves as a guide for preparation of Phased Construction Completion Reports (PCCRs) for the U.S. Department of Energy (DOE)–Oak Ridge Operations Environmental Management Program. While this outline was created based upon an FFA Managers agreement (Issue Log Number: FFA2004001) it 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 by individual core teams to fit their situations such as documentation of D&D removal actions

. This annotated outline addresses the preparation of a PCCR 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 part of a Record of Decision (ROD) remedy, and may remediate one or more study areas; operable units; watersheds; Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) areas; or release sites identified in the FFA Appendix C.

Where only a single project is generated by a ROD, a final description of the completed project will be provided in a Remedial Action Report (RAR). However, where multiple projects are generated by a ROD, a PCCR will be prepared for each of the projects defined by a RDR/RAWP and/or WHP, and then an RAR will be generated to document completion of the ROD remedy.

This annotated outline specifies the minimum required information for a PCCR as well as additional optional information that may be included as appropriate for the type and size of the project as determined by individual core teams. Table 14.1, entitled *Sample Outline and Checklist for the PCCR*, lists types of required and optional information to be used by the core team in discussions but is not to be contained within the PCCR. If O&M plans, monitoring plans, verification results are appropriate for the PCCR but not yet available, then they will be listed in the PCCR and must be incorporated in the RAR. It is important to note that a PCCR follows the same annotated outline and contains the same spectrum of information as the RAR.

EXECUTIVE SUMMARY

The executive summary, written as a “stand-alone” element of the report, appears on a separate page in the front matter of the report, and **may** be printed on blue paper. The executive summary should provide a complete yet concise synopsis of the report contents, including the total project cost, the project duration with the start and completion dates, and a brief description of relevant portions of the ROD and approved work plans that guided the activities performed as part of the project. Summarize any major deviations (e.g., technical field changes, cost variances, revised assumptions) from the ROD or approved work plans made during the project. Particular mention should be made of any additional benefits provided, cost savings, or risks abated during implementation.

Table 14.1. Sample Outline and Checklist for the PCCR

Component	Minimum Requirements	Additional Optional Information
Executive Summary	Required – as described in Executive Summary section of outline	Provide concise synopsis of report contents
Introduction	<ul style="list-style-type: none"> • State the purpose, scope, and content of the PCCR • Briefly introduce project scope of work • Include the name and location of the remediated units • Cite pertinent documents (e.g., ROD, design reports/work plans) 	None identified
Site Description	Provide sufficient site information to support the project description in the next section	Describe the site, including physical condition, operational history, releases, COCs, previous investigations, and previous actions
Project Description	<ul style="list-style-type: none"> • Identify major project requirements • Summarize the project scope outlined in the decision document and any alterations to that scope made during the project duration • State whether the action fulfilled the project requirements, and specify how the action fits into the overall remediation strategy 	<ul style="list-style-type: none"> • Identify project goals, performance objectives, and other requirements delineated in the decision document; identify additional goals listed in the design reports/work plans • Cite document where ARARs were listed and discussed; identify any waivers requested
Remediation Activities	<ul style="list-style-type: none"> • As appropriate, include final inspection results and certification that the action is operational and functional or verification results that the remediation goals were achieved [See Note(a)] • Briefly describe process(es) used to confirm completion of the environmental media RA prior to backfilling or covering [Note: this is not required for the demolition of above ground facilities/structures] • Attach available completion, environmental media confirmation sampling data in an Appendix 	<ul style="list-style-type: none"> • Describe what was encountered at the site; remediation and start-up activities completed; deviations from the work plan; unexpected findings during construction; the “as-built” condition of the site; how the work completed achieves the project requirements; supporting information generated during the project (e.g., verification sampling, monitoring data) • Include “as-built” drawings
Waste Management and Transportation Activities	<ul style="list-style-type: none"> • Summarize disposition and outlets for wastes, including quantities • Distinguish between those wastes already disposed and those in storage awaiting a disposition pathway 	<ul style="list-style-type: none"> • Describe waste characterization and segregation activities • Summarize transportation activities
Project Organization, Cost, and Schedule	<ul style="list-style-type: none"> • Provide the project duration with start and completion dates • Identify FFA milestone dates 	<ul style="list-style-type: none"> • Briefly describe the project organization • Provide the final cost and compare it to the ROD estimate; explain variances • Provide the final project schedule and compare it to the work plan schedule; explain variances
Operation and Maintenance Plans	Note (a)	Attach or insert O&M plans, as required
Monitoring Plans	Note (a)	Attach or insert monitoring plans, as required

Land Use Controls	Identify project-specific land use controls	
Other Information	Note (a)	Attach or insert results of verification, start-up, and other relevant subcontractor submittals, as required

^aO&M plans, monitoring plans, verification results, start-up results, and other relevant subcontractor submittals will be submitted to the regulators for information purposes as they become available from the subcontractor. These documents, if not attached to the PCCR, will be listed in the PCCR for later transmittal to the regulators and will be incorporated into the RAR [RmAR].

1. INTRODUCTION

State the purpose, scope, and content of the PCCR. Major purposes of this document are to describe the activities completed at the site, document the post-remediation conditions at the site, and summarize the results of field construction testing, monitoring, sampling, or other measurements. It is also appropriate in this chapter to provide a brief (one to two paragraphs) 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 list the remediated units and reference or cite the ROD 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 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. Additional major project goals, if any, listed in regulator-approved project design reports and work plans, should also be mentioned, but differentiated from those listed in the decision documents. Ideally, the project is defined by a measurable set of goals, and the achievement of these goals can be demonstrated by the description and summary of the work completed in Chapter 4, Remediation Activities, and Chapter 5, Waste Management and Transportation Activities.

Compliance with applicable or relevant and appropriate requirements (ARARs) (e.g., waste segregation, characterization, and management; protection of on-site wetlands; and prevention or regulation of releases to air or surface water) should be identified as a project goal. Reference a previous document where the project ARARs are listed. If an ARAR was not met, describe the circumstances and rationale for failure to comply, and whether a waiver was obtained/requested. In addition, if a project deviation resulted in field changes that obviated an ARAR, provide an explanation.

Summarize the project scope, and describe any alterations made to the scope as defined in the ROD or other post-ROD documents approved by the regulators. Specifically, identify any changes made to the design during implementation, and explain the rationale for these changes, including the risk abated (if any), the long-term environmental benefits realized, and the time or level of effort saved.

Note: Post-ROD changes to the selected remedy must be appropriately categorized by DOE/EPA/TDEC and documented. For example, if a change is categorized as “significant” by EPA, 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 approved by the 3 FFA parties, made available to the public and placed in the Administrative Record file.

4. REMEDIATION ACTIVITIES

In this chapter, briefly describe the following:

- what was encountered at the site (e.g., the appearance and condition of the site, the piping, structures, debris, and water levels present);
- remediation efforts, work activities, and start-up activities completed for the project;
- any unexpected findings during construction*, monitoring, or sampling, and any deviations made from the work plan or scope of work prepared for the project;
- the post-construction or “as-built” appearance, status, and condition of the site;
- how the work completed actually achieved the particular goal or expectation;
- results of verification/confirmation testing, including results of quality control or quality assurance, testing, calibration logs, monitoring data, and other supporting information generated during the project; and
- results of the final inspection and certification that the remedy is operational and functional.

As-built drawings including surveys of engineered controls as appropriate should be appended to the report or provided when available. Project information used to support critical decisions involving DOE should also be appended. ***If subsurface barriers equal to or greater than 100 sq ft are identified during the performance of the environmental media remedial action and some or all of the barrier has been left in place: shape, substance, depth from surface at completion, and GPS location coordinates all will be archived in OREIS. These subsurface barriers left in place will be reflected in the PCCR as-built drawing of the area.**

At project completion, supporting project information (e.g., photographs, logbooks, field change orders, and disposal certificates) is routinely placed in a project file at the Document Management Center. In addition to the project file, DOE maintains a separate “post-decision document file” in conjunction with their Administrative Record that is accessible to the public. The supporting project information may also be submitted to the post-decision document file as appropriate and referenced in the PCCR. However some of this information, such as waste disposal certificates may already be incorporated into other project files including post decision document files and need not be duplicated. The Oak Ridge Environmental Information System (OREIS) serves as the electronic data (e.g., verification, surveys of engineered controls, etc.) repository for the post decision document file.

In this chapter, present a summary of waste materials that were recovered, generated, stored, treated, or disposed of during the performance of the project. Describe waste characterization and segregation activities. For example, include description of types and amounts of wastes or contaminated media generated (e.g., Resource Conservation and Recovery Act, polychlorinated biphenyl, low-level waste, or media containing any waste types). Include a statement that waste management activities were conducted

in accordance with ARARs and/or the waste management plan. Describe transportation activities that occurred during the project, including the quantities and disposition of materials removed from the site and transported elsewhere on the Oak Ridge Reservation or off-site, as well as the dates, method of shipment, and the storage and disposal locations. Include copies of supporting information, required for permanent retention in the post-decision file, as an appendix.

5. PROJECT ORGANIZATION, COST, AND SCHEDULE

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

Provide the final project cost. The final cost may be broken down into cost elements representing major schedule phases or project components (e.g., design, construction, and startup) if the cost elements are readily available from the cost reports. Present the cost variance between the final project cost and the corresponding cost estimate in the ROD, if available. If the variance is significant (Feasibility Study cost estimates are expected to provide an accuracy of +50 percent to -30 percent), explain any major reasons for the variance.

Provide the final project schedule in a chart or table with the schedule broken down into major phases or components. Identify any important milestone completion dates established per the Federal Facility Agreement Appendix E. Identify and explain any significant deviations from the original schedule proposed in the project work plans.

6. POST- REMEDIATION OPERATION AND MAINTENANCE PLANS (AS APPROPRIATE)

Generally, long-term operation and maintenance (O&M) plans for a project, if needed, are presented in the remedial action work plan (RAWP). However, the O&M plan often needs to be updated based on engineering and cost analysis of the “as-built” components and operating system, and lessons learned during startup. If significant updates are needed, or if development of the O&M plan was delayed until construction or startup was completed, then the project O&M plan should be presented in this report. This report then serves as the defining document for the long-term O&M for the project. The plan can be inserted into this chapter, or, if O&M requirements are extensive, it can be appended to the report. If the O&M plan was presented in the RAWP, but modifications to the plan are minor, identify the modifications to the plan in this chapter.

Include both a description of the cause of the updates or modifications and a brief discussion of any impacts on effectiveness or operating reliability of the system. If O&M protocols were established in the ROD, compare these protocols against the O&M plan and either verify their consistency or explain any discrepancies.

7. POST-REMEDATION MONITORING PLANS (AS APPROPRIATE)

Generally, long-term monitoring plans for a project, if needed, are presented in the RAWP. If, however, development of the monitoring plan was delayed until construction or startup was completed, and if development of the monitoring was not delegated to a separate umbrella (e.g., watershed) monitoring plan, then the project monitoring plan should be presented in this report. This report then serves as the defining document for the long-term monitoring for the project. The plan can be inserted into this chapter, or, if monitoring requirements are extensive, it can be appended to the report. The plan should provide information and recommendations to satisfy the 5-year (or less than 5-year) CERCLA monitoring and review requirements.

If the monitoring development was delegated to a separate umbrella monitoring plan, reference the umbrella plan in this chapter. If the monitoring plan was presented in the RAWP, but modifications to the plan are needed, identify the modifications to the plan and the cause of the modifications in this chapter. Summarize the impacts to monitoring of any unexpected occurrences or transients observed during startup or early operations (e.g., the recovery of free or nonaqueous phase product during groundwater recovery where none was expected). If monitoring protocols were established in the ROD, compare these protocols against the monitoring plan and either verify their consistency or explain any discrepancies.

8. POST-REMEDATION LAND USE CONTROLS (AS APPROPRIATE)

Additional Land Use Control information may be required for any site covered under the approved Record of Decision. If no project-specific LUCs are necessary to this completed area or phase of remediation, then the text in this chapter should indicate that no additional LUCs, beyond those already established are being proposed at this time. Any additional LUCs identified will be appended to the LUCAP and addressed in the RAR.

9. REFERENCES

Include a list of references used to develop the RAR in the format shown here:

42 U.S.C. § 7401 et seq., 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. Environmental Protection Agency (EPA) 1995. *Remedial Design/Remedial Action Handbook*, Publication 9355.0-4B, Washington, D.C.