

ADEQ, Office of Land Resources
Regulated Storage Tanks – Remediation Program
Guidance Document on Preparing Corrective Action Plans [9/7/2017]

[Note: this guidance document should also be used for Free Product Removal Work Plans, with the exception that public participation (Task 2) is not required]

Following the development of an Exposure Assessment by the Regulated Storage Tanks-Remediation Program (RST-RP), we may request a corrective action plan (CAP) for responding to contaminated soils and ground water, which will provide for adequate protection of human health and the environment. The authority to request a CAP is found in 40 CFR 280.66.

While the regulatory citation applies only to USTs, a CAP may be required in the event of a release from other regulated units as well, if the response is under the oversight of the RST-RP.

For all work ordered by the RST-RP, a work plan must be submitted for review and approval before the work is conducted. Work plans are requested for the following program uses:

- ✓ **Consensus:** CAPs are an integral part of the RST-RP cleanup program. An approved CAP ensures the Owner/Operator, consultant and regulator agree on the scope of work to be delivered.
- ✓ **Cost Approval:** Participation in the Arkansas Petroleum Storage Tank Trust Fund requires approval of costs, and Corrective Action Plans provide a mechanism to meet this requirement. CAPs must be pre-approved prior to implementation.
- ✓ **Site Specific Planning:** Much of the work required by the RST-RP is site-specific and/or of a complex nature, and systematic planning is critical to achieving satisfactory results. CAPs provide a way to document the planning process.
- ✓ **Specify Public Notice:** CAPs provide a focus for the public participation requirement of 40 CFR 280.67.

The purpose of this document is to provide check-off guidance to responsible parties, consultants and ADEQ staff about what constitutes an adequate CAP, and to bring some consistency, completeness, and compliance with program standards for these important submittals.

CAP and Report Formats: One (1) paper copy and one (1) electronic copy (in CD format) of each CAP or report must be submitted for review. The scanned, electronic document should be searchable (Run OCR) and PDF/A-1b compliant and must be a scan of the final document and contain all professional seals and signatures.

Seal of Arkansas-licensed Professionals: CAPs constitute the planning and/or design phase of a project, and are the result of the public practice of geology and/or engineering. The submitted plan **must** bear the seal and signature of the appropriate **Arkansas**-licensed professional(s), as required by Arkansas Code Annotated, (A.C.A.) 17-30-301 for Engineers and A.C.A. 17-32-301 for Geologists. If the design and operation of a mechanical system as well as the monitoring and reporting of remediating contamination is a part of the CAP, then signatures from both a PE and PG are required.

Sections to be included in the CAP:

SECTION 1 - Introduction

Include a discussion of the background of the case, including a chronology of the events leading up to the development of the CAP. Information must be provided about how the release was detected, the nature and estimated quantity of the release and a summary of response actions taken, to date.

Develop a Conceptual Site Model to summarize what is known about the geology and hydrogeology of the site, physical site conditions, contaminant sources and distributions, exposure pathways and migration routes, and impacted or threatened receptors.

A brief, general explanation of the background reasons for the proposed cleanup to be performed and the expected goals/or results of the work are presented in this element. This information should be contained in the Exposure Assessment (EA), or provided by ADEQ when the CAP is ordered. **The RST-TB will not approve a Corrective Action Plan with goals which differ from the EA unless agreed upon during CAP development.**

SECTION 2 - Data Requirements

CAPs frequently require the collection of media samples for the purpose of demonstrating compliance with cleanup goals. Data-needs to accomplish these goals are identified/listed/described in this element, and the following information must be provided for each data item/type.

- The purpose for the data. What will the data be used for, and what characteristics must it have to meet that use?
- Data Quality Objectives (DQOs). Functionally, these are the specifications for each data item/type, and are expressed in terms of Method Detection Limit (or Reporting Limit), precision, accuracy, and completeness.
- The Quality Assurance (QA) measures necessary to produce the required data, according to the specifications. Standard Operating Procedures for performing each measurement must be provided, preferably as stand-alone attachments. (USEPA guidance for preparing SOPs may be down-loaded from <https://www.epa.gov/quality/guidance-preparing-standard-operating-procedures> Media-specific USEPA SOPs may be down-loaded from https://www.epaossc.org/site/doc_list.aspx?site_id=2107.)
- The Quality Control (QC) measures necessary to determine whether the data generated met the specification. Include both the control measurements and the calculations required to evaluate the resulting control data. Analyses of solid and liquid media must be performed by an ADEQ-certified lab.
- The specific Corrective Action (CA) to be used to remedy each data quality deficiency.
- The Data Records (DR) which will be submitted with each environmental measurement to verify compliance with this section.

SECTION 3 - Deliverables from the CAP

Detailed descriptions/specifications of the deliverables from the CAP are presented in this element. Deliverables may include, but not be limited to, the following:

- Proof of publication,
- UST Closure Report,
- Laboratory reports,
- Corrective Action Report,
- Post-remediation monitoring reports
- Site survey
- Interpretive maps
- Data tables
- Field data sheets
- Progress reports (if completion of activities is delayed)
- Waste manifests
- Monitoring/Remediation well construction diagrams
- O&M and remediation progress reports

SECTION 4 - CAP Tasks

This element outlines and describes in detail the activities proposed by the CAP, in a task-oriented format. For program management reasons, all CAPs reviewed by the RST-RP must use the following standardized suite of tasks. For example, subtasks may be described as needed. If a task is not applicable for a particular CAP, a placeholder for the task must be listed in the work plan, and an explanation provided.

Task 1 – CAP Preparation

This task begins when the CAP is ordered by ADEQ, and includes all efforts leading up to the submittal of the CAP for ADEQ review. ADEQ recommends that planning be conducted in three phases:

- Evaluation of site assessment data and the Exposure Assessment, including a site reconnaissance visit (if needed),
- Scoping Meeting with ADEQ staff,
- Final CAP design and preparation of the work plan and attachments.

The final design should present a coherent strategy for adequately protecting human health and the environment, with objective, media-specific goals and points of compliance for each goal.

Names, relevant functions and, where applicable, qualifications of prime contractor personnel who will implement the work plan should be provided along with the wage rate and loaded rate for each participant. The Health and Safety Plan (HASP) is an OSHA requirement and need not be included in the work plan.

Task 2 – Public Participation

In accordance with 40 CFR 280.67, all CAPs shall include a plan for notifying stakeholders and the public of the existence of the CAP. Specific notice and a copy of the CAP must be provided

to those stakeholders directly impacted, and general notice must be provided to the public in the area of the release. This task shall include:

- A sample text of the public notice. The notice should conform to Appendix A, attached,
- In which publication the public notice will be advertised, and
- When proofs of publication and stakeholder notifications will be delivered to the department.

A 30-day public comment period should be allocated in the CAP schedule.

Task 3 – Corrective Action

List the actions (tasks and sub-tasks) required to meet the goals of the CAP. Include any contingency actions.

If the proposed tasks include the removal of all or a portion of the UST system, the CAP must state that the closure will comply with the Regulated Storage Tanks – Compliance Program, UST Closure Guidelines and provide for the submittal of closure notifications and closure reports to the RST-CP Inspector Supervisor, and include a copy of the Closure Report in the Corrective Action Report.

Task 4 – Goal Attainment Sampling

Design a representative sampling plan, for the purpose of evaluating the effectiveness of the corrective action and/or for monitoring the progress toward meeting the goals of the CAP.

Task 5 - Sample Analysis

This task includes all efforts to analyze media samples after they leave the site. It ends when the data generated have been validated to meet the specified DQOs.

Task 6 - Waste Management

A detailed description of the management of wastes from corrective action is a necessary element and may include the following:

- If the design will require a discharge to a water of the state, including any engineered storm drainage network, a signed/receipted Notice of Intent (NOI) for the Arkansas General (ARG) permit must be an attachment to the CAP.
- If the design will utilize a discharge to a Publicly Owned Treatment Works (POTW), a copy of the contract or letter of acceptance from the POTW must be attached.
- If the design will require an air discharge, a receipted copy of the permit application must be attached, or a letter from the ADEQ Air Division must be included denying the need for a permit.
- The final disposition of all solid wastes (contaminated soils, Investigation Derived Wastes (IDW), demolition debris, etc.) must be planned and managed according to ADEQ Regulation #22 or #23.

Task 7 – Corrective Action Report Preparation

This task begins when the corrective action is complete and data has been validated to meet the specified DQOs and ends when the results are reported to ADEQ. It includes efforts related to the analysis and reduction of data, and production of the reports specified in **Element 3**. This task shall include the preparation of any post-remediation monitoring reports and any reports of contingency actions.

SECTION 5 - Schedule for CAP Performance

Each CAP task must have a starting and ending day. The starting day for Task 1 is fixed by the date of the ADEQ order; the ending day for Task 1 is fixed by the date of work plan submittal. All other task performance days must be relative, with the day of the work plan approval by ADEQ as Day 0.

Project Name, LUST#, Facility #s

EXAMPLE: Cost Schedule - Corrective Action Plan Cost Estimate

Task Number	Task Description	Prime Contractor Office/Admin.	Prime Contractor Field Personnel	Prime Contractor Equip. & Supplies	Prime Contractor Travel & Per Diem	3rd-Party Invoice	Task Total Cost
1 CAP Preparation							
	Scoping meeting	\$880.00	\$0.00	\$0.00	\$70.00	\$0.00	\$0.00
	Development of work plan & cost estimate	\$5,200.00	\$1,056.00	\$0.00	\$140.00	\$125.00	\$7,471.00
2 Public Participation							
	Publication	\$220.00	\$0.00	\$0.00	\$0.00	\$200.00	\$200.00
	Stakeholder notification	\$120.00	\$400.00	\$0.00	\$0.00	\$150.00	\$1,090.00
3 Corrective Action							
	Excavation & trucking	\$580.00	\$10,560.00	\$8,250.00	\$1,812.00	\$54,880.00	\$78,002.00
	Backfill & restoration	\$280.00	\$6,720.00	\$2,212.00	\$700.00	\$38,750.00	\$48,462.00
	Survey	\$120.00	\$0.00	\$0.00	\$0.00	\$840.00	\$1,060.00
4 Goal Attainment Sampling							
	Collect soil confirmation samples	\$120.00	\$580.00	\$125.00	\$0.00	\$504.00	\$1,229.00
	Gauge, purge & sample compliance MWs (4 qtrs.)	\$1,152.00	\$9,216.00	\$560.00	\$0.00	\$2,100.00	\$14,028.00
5 Sample Analyses							
	Soil confirmation samples	\$144.00	\$120.00	\$0.00	\$0.00	\$1,890.00	\$2,154.00
	Groundwater samples (4 qtrs.)	\$0.00	\$960.00	\$0.00	\$0.00	\$5,760.00	\$6,720.00
6 Waste Management							
	Dispose est. 3000 tons	\$144.00	\$0.00	\$0.00	\$0.00	\$90,000.00	\$90,144.00
	Recycle est. 30,000 gallons	\$144.00	\$0.00	\$0.00	\$0.00	\$16,200.00	\$16,344.00
7 Data Evaluation & Reporting							
	Corrective Action Report	\$8,376.00	\$0.00	\$0.00	\$0.00	\$60.00	\$8,436.00
	Quarterly Monitoring Reports (4)	\$15,552.00	\$0.00	\$0.00	\$0.00	\$240.00	\$15,792.00
Proposed Totals		\$33,032.00	\$29,612.00	\$11,147.00	\$2,722.00	\$211,699.00	\$288,212.00
Category as a percent of Total		11.46%	10.27%	3.87%	0.94%	73.45%	100.00%

SECTION 6 - Estimated Costs

You and your consultant must follow the Arkansas Petroleum Storage Tank Trust Fund requirements of APC&EC Regulation 12 and all applicable ADEQ cost control guidance documents when preparing the cost estimate for the requested work plan, if participation in the Petroleum Storage Tank Trust Fund is expected. A tabular cost schedule must be included for each task of the work plan, broken into the following categories. An example of the mandatory task/cost schedule format is found on the previous page. The task/sub-task format should correspond precisely with the task/sub-task format in the work plan. A detailed, line-item breakdown of proposed costs is also required, along with a bid summary sheet. If contingencies are included in the CAP, cost of the contingency should be included apart from the CAP Cost Estimate. If the contingency is activated, it will be approved as a Change Order to the CAP.

- **Office/Admin Costs**

This category is for all personnel costs not being incurred at, or on the way to or from, the corrective action site itself. Included are costs for work such as file research, planning, project management, drafting reports, scheduling contractors, purchasing materials/supplies, preparation for fieldwork, transporting samples to the laboratory, meeting with ADEQ, and so forth. The loaded rate for personnel costs is calculated by multiplying the actual hourly wage rate (W-2 wage) by 3. No additional markup to personnel costs is allowed. Office/Admin costs that exceed 25% of the total work plan may be considered excessive and will require additional justification. Do not create additional categories with additional columns, such as “Professional Services”, to obscure the fact the Office/Admin cost exceeded 25%.

- **Field Personnel Costs**

This category is for personnel costs only, incurred at, or on the way to or from, the corrective action site itself. The loaded rate for personnel costs is calculated by multiplying the actual hourly wage rate (W-2 wage) by 3. No additional markup to personnel costs is allowed.

- **Equipment Costs.**

Rental fees may be reimbursed for consultant-owned equipment or for equipment obtained from a third-party vendor. Field equipment purchases are not reimbursable. Rental fee rates must be based comparatively to the most cost effective rental timeframe for the expected duration of use for the equipment, i.e., hourly, daily, weekly, monthly, etc. Rental fees must not exceed a competitive rate. Competitive rates may be established by no less than three (3) independent bids or quotes. For consultant-owned equipment, each consultant must provide a list of rental rates with justification supporting that each rental rate is a competitive rate. All rental rates must be reviewed and approved by ADEQ. *Consultant owned equipment rental rates may be approved by ADEQ on an annual basis. If the consultant has a list of ADEQ approved equipment with rates, the same rate may be used on multiple jobs with no need to re-establish the rates in each work plan. The equipment should be charged at the approved rate in the cost estimate with a note that the rate was pre-established.* Equipment covered by this subsection include: air compressors, generators, concrete saws, jack hammers, interface probes, PIDs, FIDs, and OVAs, infrared analyzers, portable gas chromatographs, data loggers, soil gas probes, portable groundwater sampling pumps, water quality sampling meters, air flow meters, and decibel meters. Rental costs for field equipment not listed here may be allowed upon approval by ADEQ. An approved competitive rental rate is considered a loaded flat rate. Not to be included in this category are

“tools of the trade,” as defined in the “Cost Guide”. **Field Equipment rental rates are considered loaded rates, no additional markup is allowed whether contractor owned or rented.**

Rental costs for rolling equipment owned by the prime contractor and used on the site are listed in this category. Examples are; dump trucks, earth moving equipment, drilling equipment, etc. Rental fees must not exceed a competitive rate. Competitive rates must be established by no less than three (3) independent bids or quotes. The quotes must be for rental of equipment that substantially coincides with the equipment owned by the consultant, i.e., the specifications of the equipment quoted should match the size, capacity, age, and condition of the equipment to be used. All rental rates must be reviewed and approved by ADEQ. Consultant owned rolling equipment rental rates are considered loaded rates, no additional markup is allowed. Rolling equipment rented from a third-party vendor should be listed under Third-Party Invoiced Costs.

- **Costs for Supplies**

“Supplies” are items which are consumed or expended in the course of corrective action for a specific site. Some examples are; sample containers and bailers, ice used for sample preservation, disposable gloves, storage bags used for sampling, deionized water used for decontamination, wear parts such as saw blades and hand drill bits (if broken or otherwise expended on a specific project). Actual costs of field supplies are allowed a markup not to exceed 20%.

- **Travel and Per Diem Costs**

Mileage, regardless of vehicle class/size, is limited to a loaded rate of seventy cents (\$.70) per mile. Mileage rates will be reviewed annually by ADEQ. No additional markup is allowed. Per diem costs for meals are limited to \$41.00 for each day that included an overnight stay. This is a loaded rate based on the State allowance rate, no additional markup is allowed.

Actual hotel receipts will be required for reimbursement from the Trust Fund. In the work plan, hotel expenses should be based on estimated room costs and may include markup not to exceed 20%.

- **Third-Party Invoiced Costs**

Costs for all items and non-professional services not owned or directly provided by the prime contractor and for which an invoice from a third-party vendor can be submitted are listed in this category. Examples would be laboratory services, drilling/sampling services, geophysical services, remediation equipment, construction materials, waste disposal, haul-water contracts, and so forth.

Subcontractors hired should be asked to submit written price proposals for non-emergency work in amounts between \$500.00 and \$5,000.00. On work estimated to be \$5,000.00 or more, three bids on a unit cost basis should be obtained. All three bids should include all items of necessary work to be considered responsive and eligible for consideration. Identify the company selected to do the work; if the low bidder is not selected, an explanation of the reason another bidder was selected must be included in the work plan submittal. The quotes and bids are included to assist the PTP in determining that the costs are reasonable in accordance with Reg.

12.311. The PTP may ask for bids on work less than \$5,000.00, if deemed necessary. Third-party invoiced costs are allowed a markup not to exceed 20%.

- **Supporting Cost Breakdowns**

Provide on additional, supporting pages a breakdown for costs per task/ subtask that details all costs associated with the task such as employees scheduled to do the work with the function of the employee, i.e., project manager, professional geologist, CADD operator, etc., along with the estimated hours projected and the loaded wage rate. Include all other costs associated with the task, such as equipment, supplies, travel, subcontractor costs, mailing, etc., such that the task totals on the cost schedule match the task totals in the breakdown.

Appendix A

Public Notice Sample

**ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
NOTICE OF CORRECTIVE ACTION PLAN APPROVAL**

Facility Name:
Facility I.D. #:
LUST/LAST#:
Facility Location:

Notice is given in accordance with the provisions of Title 40 of the Code of Federal Regulations, §280.67(b) that a corrective action plan (CAP) has been approved by ADEQ to clean-up petroleum contamination at the ___ [facility name and address] ___ .

Persons who wish to comment or otherwise participate in the proposed action should contact:

[case manager]
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317
Phone: 501-[case manager's phone #]

All persons who wish to comment on this decision must do so by submitting written comments, along with their name and address to ADEQ at the above address by 4:30 p.m. on __, _____, ___ [30 days from publication]. Only comments regarding the proposed action will be considered.

The CAP and the administrative file are available for public inspection under the provisions of the Arkansas Freedom of Information Act at:

Arkansas Department of Environmental Quality
Office of Land Resources
Regulated Storage Tanks – Remediation Program
5301 Northshore Drive
North Little Rock, Arkansas
(501) 682-0999

In response to written requests, ADEQ will hold a public hearing whenever the ADEQ Director determines such a hearing might clarify issues concerning implementation of the CAP. Any request for a hearing must include the requestor's name and address and shall state the nature of the issues to be raised in a hearing. ADEQ will issue a public notice of a hearing at least 30 days prior to the scheduled hearing. ADEQ may authorize implementation of all or a portion of the CAP, before the public comment period is complete, if such action is determined necessary by ADEQ to protect public health and welfare.

Submitting written comments to ADEQ or making oral statements on the record at a public hearing, if one is held, on the proposed action provides individuals with legal standing to appeal a final Department decision. Comments supporting or opposing the tentative decision will provide legal standing. Only parties with legal standing may appeal a permitting decision.

Dated this ___ day of _____, ____.

Becky W. Keogh, Director
Arkansas Department of Environmental Quality