STATE OF NEVADA PETROLEUM FUND
CEM COST GUIDELINES

SEPTEMBER, 2012

TABLE OF CONTENTS

Section	Description	Page
1.0	**CEM Cost Guidelines Description and Use**	**5**
1.1	Introduction	5
1.2	Objectives	5
1.3	Background	6
1.4	Data Assimilation	6
1.5	Data Evaluation/Presentation	7
1.6	Reimbursable versus Non-Reimbursable Costs	7
1.7	Use of Cost Guideline Task Tables	7
1.7.1	CEM Levels of Effort	7
1.7.2	NTEP Processing	8
1.7.3	Assessment and Remediation Tasks	8
1.7.4	Specialized Tasks (Miscellaneous)	9
1.7.5	Time Specific Tasks	9
1.7.6	Emergency/Initial Abatement Activities	10
1.7.7	NTEP Formatting and Backup	10
1.7.8	Modified NTEPs and Change Orders	10
1.7.9	New Technologies	11
1.7.10	Non-Limiting Guidelines	11
2.0	**CEM Cost Guidelines Procedures**	**13**
2.1	Fund Coverage Application Filing Procedures	13
2.2	NTEP and Change Order Filing Procedures	14
2.3	Reimbursement Claim Filing Procedures	15
2.3.1	Reimbursement Claim Formatting	15
2.3.2	Invoice Itemization Sheets	16
2.3.3	Bids	16
2.3.4	Reimbursement Claim Submittal Deadlines and Processing	17
3.0	**Typical Position Descriptions/Responsibilities**	**19**
4.0	**CEM Cost Guidelines Task Tables**	**21**
TASK TABLES A	**SITE CHARACTERIZATION**	**21**
A.1	Assessment of Site Conditions Pursuant to Release Discovery	22
A.2	Work Plan Preparation Site Characterization Study (Small)	23
A.3	Work Plan Preparation Site Characterization Study (Large)	24
A.4	Work Plan Preparation, Limited Corrective Action Activities	25
A.5	Health & Safety Plan Preparation	26

A.6	Health & Safety Plan Update	27
A.7	Utility Clearance Coordination	28
A.8	Subsurface Soil Investigation – Soil Boring Advancement	29
A.9	Groundwater Monitoring or Remediation Well Construction	31
A.10	Groundwater Monitoring or Remediation Well Development	33
A.11	Subsurface Investigation – Push Drive Technology	34
A.12	Subsurface Investigation – Test Pits	36
A.13	Site Characterization Report Preparation – Small Scale Investigation	38
A.14	Site Characterization Report Preparation – Large Scale Investigation	39
A.15	Fate & Transport Modeling	40
A.16	Sensitive Receptor Survey	42
A.17	Human Health Risk Assessment (Subcontracted Only)	43
A.18	Preparation of 2-Dimensional Geologic Cross Section	45
A.19	Conceptual Site Model	47
TASK TABLES B	**AQUIFER & PILOT TESTING**	**49**
B.1	Work Plan Preparation – Aquifer or Pilot Testing	50
B.2	Aquifer Slug Test	51
B.3	Aquifer Pumping Test	52
B.4	Soil Vapor Extraction Pilot Test	53
B.5	Soil Vapor Extraction and Air Sparge Pilot Test	54
B.6	Injection Test	55
B.7	Aquifer or Pilot Test Report Preparation	56
TASK TABLES C	**CORRECTIVE ACTION PLAN (CAP) PREPARATION**	**57**
C.1	Corrective Action Plan Preparation – Large Scale Remediation Site	58
C.2	Corrective Action Plan Preparation – Small Scale Remediation Site	59
C.3	Remedial Alternative Study (RAS)	60
TASK TABLES D	**CORRECTIVE ACTION PLAN IMPLEMENTATION**	**62**
D.1	Single System Technology Design	63
D.2	System Design – Remediation of Soil and Groundwater	64
D.3	CEM-Conducted Remediation System Installation, Start-up and Calibration	65
D.4	CEM Oversight of Remediation System Installation, Start-up and Calibration	66
D.5	Remediation System As-Built and Start-Up Report	67

D.6	Oversight of Contaminated Soil Excavation	69
D.7	Injection of In-Situ Chemical Oxidation Solutions	70
TASK TABLES E	**PERMIT APPLICATIONS**	**71**
E.1	Air Quality Permits	72
E.2	Water Discharge (NPDES) Permits	73
E.3	Underground Injection Control (UIC) Permits	74
E.4	Permit to Appropriate Public Waters (Environmental Permit)	75
E.5	Miscellaneous Permits	75
TASK TABLES F	**CORRECTIVE ACTIONS MONITORING & MAINTANENCE**	**76**
F.1	Remediation System Operations & Monitoring	77
F.2	CEM-Conducted Monthly Remediation System Maintenance	78
F.3	Remediation System Permit Report Preparation	79
F.4	Groundwater Monitoring Well Sampling	80
F.5	Status Report Preparation	81
F.6	Remediation Equipment Status Form Preparation	82
F.7	Meetings with Regulatory Agency Staff	83
TASK TABLES G	**SITE CLOSURE ACTIVITIES**	**84**
G.1	"No Further Action Request" – No Contamination Exceeding State Action Levels	85
G.2	"No Further Action Request" – Contamination Exceeding State Action Levels	86
G.3	Site Closure Presentation Preparation	87
G.4	Coordination of Permanent Well Closure	89
G.5	Remediation System Decommissioning & Site Restoration	90
TASK TABLES H	**NOT-TO-EXCEED PROPOSAL (NTEP) OR CHANGE ORDER PREPARATION**	**91**
H.1	NTEP Preparation	92
H.2	Change Order Preparation	93
TASK TABLES I	**PREPARATION OF APPLICATIONS FOR PETROLEUM FUND COVERAGE & REIMBURSEMENT CLAIMS**	**94**
I.1	Preparation of Application for Petroleum Fund Coverage	95
I.2	Preparation of Petroleum Fund Reimbursement Claim	96

APPENDICES		
A	CEM In-House Charges	97
B	CEM Travel & Per Diem Rates	99
C	CEM Equipment Usage Rate Calculation	103
D	NTEP Submittal Forms & Instructions	105
E	Reimbursable Versus Non-Reimbursable Costs	111
F	Remediation Pursuant to Initial/Emergency Abatement	117
G	Remediation Equipment Purchase Versus Rental Evaluation	119
H	Reimbursable CEM Markup	122
I	Acronyms	124

SECTION 1

1.1 Introduction

The Nevada Petroleum Fund is administered by the Nevada - Division of Environmental Protection (NDEP). This document has been prepared to facilitate the preparation and review of Not-to-Exceed Cost Proposals (NTEPs) submitted by petroleum storage tank owners and/or Nevada Certified Environmental Managers (CEMs). This document and the forms contained herein may be requested from NDEP by calling (775) 687-9368 or downloaded from our website at: *http://ndep.nv.gov/bca/fundhome.htm*

1.2 Objectives

The objectives of this document are:

- Provide mechanisms whereby the NTEP preparation and review process is uniform, sufficiently flexible to account for differing site/contaminant conditions, and does not restrict competition among CEMs.
- Develop guidelines that do not discourage consideration and implementation of innovative assessment or remediation technologies.
- Provide descriptions of common NTEP tasks.
- Provide acceptable CEM levels of effort for commonly performed assessment and remediation tasks.
- Emphasize the importance of CEM coordination with regulatory case officers.
- Provide a mechanism to maximize reimbursement amounts.

1.3 Background

The Fund was initially implemented in 1989 by state legislation to assist owners and operators of regulated petroleum underground storage tank (UST) systems to meet federal requirements for financial responsibility pursuant to 40 Code of Federal Regulations (CFR) 280.90, through 280.99. The Fund provides reimbursement to qualified storage tank owners/operators for regulatory-required assessment and remediation costs (exceeding set deductible and co-payment amounts) associated with accidental petroleum releases. The Fund also allows voluntary enrollment of non-regulated petroleum tanks (e.g. above-ground storage tanks less than 30,000-gallons and farm/residential storage tanks), and automatically covers accidental releases from heating oil storage tanks used for onsite space heating. All reimbursements from the Fund must be authorized by the State Board to Review Claims (Board). The Fund is supported by a $0.0075 fee per gallon on petroleum products imported into the State, and an annual $100/tank enrollment fee.

Subsequent to implementation of the Fund, NDEP established a mechanism to better manage the assessment and remediation costs associated with leaking petroleum storage tank sites. This mechanism included the required submission of NTEPs by petroleum storage tank owners or their

agents prior to the commencement of assessment and remediation activities. The NTEP system, implemented in June 1994, was designed to evaluate proposed CEM levels of effort as opposed to establishing specific costs or restricting professional fees.

This document has been produced to facilitate efficient and consistent preparation (normally performed by the claimant's CEM) and review of NTEPs (by NDEP). The document is based upon data associated with previously approved NTEPs, published cost guideline (guideline) documents utilized in several other states, and comments received from CEMs and NDEP staff.

All proposed NTEP tasks must be requested/authorized by the case regulatory officer.

1.4 Data Assimilation

In preparation of this document, NTEPs reviewed and approved by NDEP prior to this publication were evaluated and compiled into spreadsheets. Information evaluated from approved NTEPs included the following:

- Tasks necessary to perform assessment and remediation activities
- Professional time to perform proposed tasks
- Types of investigative tools utilized
- Distance of sites from CEM's office location
- Geologic/hydrogeologic conditions
- Types of contaminants
- Regulatory agency requirements

1.5 Data Evaluation/Presentation

Following data tabulation and evaluation as described in the previous section, professional hours typically accrued for each task were calculated. Tables summarizing individual tasks are presented in Section 4, as "examples" of typical CEM levels of effort.

In general, "typical" professional hours were determined by eliminating the highest and lowest hourly values recorded in previously processed NTEPs and averaging the remaining data. Guidelines utilized in several other states and comments from CEMs and NDEP staff were also referenced to evaluate and support data obtained from previous Nevada NTEPs.

Because only "typical" professional hours were evaluated, CEM reimbursable in-house expenses such as field and health & safety equipment, per-diem, etc., were not included in the review process. **CEM in-house equipment costs, vehicle mileage charges, CEM markup on outside vendor and contractor costs, and per-diem fees are not included in the Cost Guideline Tables provided in Section 4, Tasks A.1 through I.2. Proposed costs for CEM equipment, vehicle mileage, per diem and markup should be requested in each NTEP, above and beyond CEM labor fees.** CEMs may request up to 15% markup of subcontracted costs totaling less than $3,000. Refer to Appendix H for a discussion regarding eligible reimbursable markup.

Refer to Appendices A and B for allowable CEM equipment and travel costs.

Due to site specific conditions, Guideline Task Tables summarizing the typical number of CEM hours for every individual task is not appropriate. Unit costs and justified time and materials charges have been utilized for some tasks that are associated with site specific field conditions (subsurface exploration, injection of in-situ chemical oxidation solutions, etc.).

1.6 Reimbursable Versus Non-Reimbursable Costs

Fund reimbursement is contingent upon the discovery of an accidental release from a Fund-enrolled UST system. Please see Section 2.1 of this document for a discussion regarding the necessary criteria for a release to receive Fund coverage.

Costs that are eligible for reimbursement are referred to as "eligible costs," which are costs that are directly associated with assessment and remediation activities that are authorized by or concurred with by the regulatory case officer. With the exception of initial abatement or emergency abatement, activities directly associated with regulatory agency required work will be proposed in Work Plans and/or NTEPs, and concurred with by the regulatory case officer. This document provides examples of many common tasks directly associated with assessment and remediation. Reimbursable CEM equipment (meters, pumps, etc.) and materials (disposable bailers, 55-gallon drums, etc.) costs are listed in Appendix A. Reimbursable travel costs (vehicle mileage, meal and lodging per diem) are are listed in Appendix B.

Costs that are <u>not</u> reimbursable are referred to as "ineligible costs," and are associated with activities not specifically required by the regulatory case officer. Examples include, but are not limited to, additional activities required by the claimant to be conducted for their convenience but not directly associated with assessment or remediation, rush turn-around fees on laboratory analyses if not requested by the regulatory case officer, additional costs associated with utilizing an out-of-state consultant (non-reimbursable travel and per-diem), using a non-local "preferred contractor" for waste disposal which charges more than known local vendors, etc.

For a detailed discussion regarding reimbursable versus non-reimbursable costs, please see Appendix E.

1.7 Use of Guideline Task Tables

1.7.1 CEM Levels of Effort

It is important to note that this is **<u>not</u>** a document which provides direction on **<u>how</u>** to conduct assessment and remediation activities. Appropriate assessment and remediation activities must be conducted at sites pursuant to the request/authorization of the regulatory agency case officer. This document does not limit the activities a CEM may perform. Additionally, a CEM is not automatically "entitled" to proposed levels of effort and associated costs presented in the following Guideline Task Tables in Section 4. The Guideline Task Tables present "typical"

levels of effort as guidance for preparing NTEPs. If a CEM can perform a task in less time than summarized in the appropriate table, **the reduced level of effort must be proposed**. If a CEM finds it necessary to propose additional time than that listed in a Cost Guideline Table, **complete justification for the extra effort(s) must be provided**. NTEP review personnel reserve the right to modify proposed levels of effort based on knowledge of the activities which have been requested or authorized by the regulatory case officer. If a CEM is proposing levels of effort for a task which are not tabulated in this document, it should be proposed as a "Misc." task, named appropriately, and provide complete details of the activity and justification for the proposed efforts.

1.7.2 NTEP Processing Personnel

NDEP regulatory case officers process NTEPs for remediation sites that they manage. If a case is receiving oversight from NDEP, NTEPs should be forwarded to the appropriate case officer. Washoe County Health District (WCHD) regulatory personnel do **not** process NTEPs. If a case is receiving oversight from WCHD, NTEPs must be forwarded to NDEP's Petroleum Claims Program, Carson City, Nevada, for processing, and **must** be accompanied with written correspondence from the WCHD regulatory case officer authorizing the work summarized in the NTEP.

1.7.3 Assessment and Remediation Tasks

This document was intended to be as complete as possible in terms of services performed by CEMs to date at Fund eligible sites. Correspondingly, multiple assessment and remediation tasks are presented to assist in NTEP preparation and review. Most of the tasks are presented in guideline tables.

Guideline tables provide examples of assessment and remediation tasks categorized under the following headings:

- Site Characterization
  - Includes Well Installation
- Aquifer & Pilot Testing
- Corrective Action Plan Preparation
- Corrective Action Plan Implementation
  - Includes Remediation System Design, Installation & Startup
- Permit Applications
- Corrective Actions Operations, Monitoring & Maintenance
  - Includes Remediation System Operations, Monitoring and Maintenance, Quarterly Sampling, Monitoring & Status Reporting
- Site Closure Activities
- Not-To-Exceed Proposal Or Change Order Preparation
- Preparation of State Petroleum Fund Reimbursement Claim or Application for Petroleum Fund Coverage

Tasks must be performed pursuant to the requirements and standards stated in 40 CFR Part 280, Nevada Administrative Code (NAC) 459.9921 through 459.999, NAC 445A.226 through 445A.22755, and NAC 590.700 through 590.810.

For each task presented in an NTEP, NDEP will compare the proposed CEM levels of effort with guideline hours and associated costs presented in this document. NDEP understands that in some circumstances, a task may not be completed in the typical number of hours indicated in guideline tables. If a CEM anticipates additional hours will be required to complete a particular task, **complete justification for the increased level(s) of effort must be provided in the NTEP.**

Below each Guideline Task Table, information regarding the following may be included:

Activities included in total hours for above task:
The levels of effort for the activities listed under this heading are included in the corresponding Guideline Task Table.

Potential activities or items that should be added to above table, as necessary:
The levels of effort or individual items for the activities listed under this heading are not included in the corresponding Guideline Task Table. An activity or item identified under this header does not mean that the work cannot be proposed and conducted. It means that the activity or item(s) must be entered into the corresponding Guideline Task Table as necessary (travel time, vehicle mileage, CEM in-house equipment usage, per diem, equipment usage, CEM markup, etc.).

Assumes:
The information provided in this section further refine the specified activity in the corresponding Task Table.

1.7.4 Specialized Tasks

Some projects may require somewhat specialized tasks that are not presented in this document. In this case, the CEM should not present the specialized task as an existing Guideline Task that appears similar. The proposed activities must be presented on an NTEP Task Submittal Form (see Appendix D), identifying it as task "Misc." and given an appropriate name. The proposed hours, skill levels, in-house equipment, mileage, etc. must be presented as the CEM deems necessary. The CEM must provide a discussion of the task and his reasoning regarding the proposed hours/costs.

1.7.5 Time-Specific Tasks

If an NTEP task proposes activities that will occur during a specific time interval, the beginning and ending dates must be specified. For example: One year of remediation system operations & monitoring (January 1, 2013 through December 31, 2013), or two quarters of quarterly groundwater sampling and status reporting (3rd and 4th quarters of 2013), etc.

1.7.6 Emergency/Initial Abatement Activities

There are no Guideline Task Tables summarizing emergency/initial abatement activities. These activities occur pursuant to regulatory agency authorization and prior to Fund coverage determination. Emergency/initial abatement includes activities designed to alleviate situations that are imminently dangerous to life, health or the environment, as concurred with by the regulatory case officer. A common example of such a task is excavation of contaminated soils immediately following UST system removal. Tasks approved as emergency/initial abatement by the regulatory case officer do not need to be proposed in NTEPs. Written correspondence from the regulatory case officer authorizing such activities as emergency/initial abatement must be included with reimbursement claims as appropriate. Please refer to Appendix F for a discussion regarding emergency/initial abatement activities.

1.7.7 NTEP Formatting and Backup

Guideline Task Tables have been formatted into assessment and remediation tasks that may not coincide with some CEM work plans or billing invoice formats. Tasks included in NTEPs must be formatted pursuant to Guideline Task Tables presented herein to facilitate review by Fund staff. NTEPs must be submitted on the forms (or representative reproductions) provided in Appendix D. Please note that during reimbursement claim review, each Invoice Itemization sheet must reference **one** approved NTEP, not specific tasks in this document.

NDEP staff must ensure that costs claimed for reimbursement are associated with work scopes that have been authorized by the respective regulating agency. **If the site is being managed by NDEP personnel, copies of NTEP concurrence letters must be submitted with each reimbursement claim. If the site is being managed by WCHD personnel, copies of letters providing regulatory authorization for the activities requested for reimbursement in the claim must be provided.**

NDEP encourages the electronic submittal of NTEPs (e.g., scanned documents submitted as an e-mail attachment). Please note, however, that NTEPs must include reproductions of original hand-written signatures.

1.7.8 Modified NTEPs and Change Orders

If the work scope changes during the performance of activities associated with an approved NTEP, the CEM must notify NDEP and submit a modified NTEP or a Change Order. For example: The number of wells which are to be sampled during a time period changes; the operations and monitoring schedule of a remediation system is modified because the system is taken off line or does not operate for an extended time period; etc.

If it is discovered during the course of a project that additional time will be required to complete a task, the CEM should submit a Change Order to the associated NTEP. **Change Orders will be concurred with only if complete justification for the additional work is provided.** If additional time is necessary to complete field activities, the CEM must use his/her judgment to complete the task as expeditiously and cost effectively as possible. The CEM should contact the

regulatory case officer directly from the site during field activities, if applicable, to discuss additional work scope. A verbal request must be followed with a written Change Order summarizing the additional work scope and costs. The Change Order must clearly identify the NTEP it is associated with. **Change Orders should be submitted to NDEP no more than 60 days following task completion. Additional field activities must not be delayed by a CEM waiting for work scope or Change Order concurrence. Additional project costs associated with unnecessary personnel and equipment de-mobilization and re-mobilization activities may not be recommended for reimbursement.**

Circumstances that justify a Fund Change Order include, but are not limited to, unanticipated:

- Drilling conditions of extreme difficulty.
- Developing or purging wells with extremely slow recharge rates.
- Additional field exploration activities to characterize a site.
- Additional pilot testing time.
- Implementation of innovative assessment and remediation technologies.
- Design, installation and/or maintenance of a complex remediation system.

Prior to preparing and submitting a Change Order, NDEP urges the CEM to contact the regulatory case officer to discuss whether costs for such additional activities should be submitted in a Change Order or a stand-alone NTEP.

NDEP encourages the electronic submittal of Change Orders and NTEPs (e.g., scanned documents submitted as an e-mail attachment). Please note, however, that these submittals must include reproductions of original hand-written signatures.

1.7.9 New Technologies

The CEM Cost Guidelines is an evolving document. NDEP will periodically revise this document in an effort to keep the content up-to-date. Comments, questions and suggestions from CEMs and members of the regulated community regarding the guidelines are encouraged and welcomed. Additionally, comments regarding this document may be presented during the public forum portion of Board meetings. Any comments must first be summarized in writing and submitted to Fund staff. Fund staff will propose subsequent changes to this document to the Board when appropriate.

New site assessment and remediation technologies are continually emerging. As new technologies and practices are accepted by CEMs and NDEP they will be evaluated and added into this document, as applicable.

1.7.10 Non-Limiting Guidelines

As mentioned previously, the Guideline Task Tables in this document were developed utilizing data evaluation of "typical" levels of effort proposed in previously-approved NTEPs, review of other states' guideline documents, and input from the environmental consulting and regulatory communities. It is important to keep in mind that the Guideline Task Tables represent a general

guideline for completion of tasks within typical parameters. It is not the intention of NDEP to dictate exactly which skill levels and associated hours will be allowed on each task. CEMs are urged to convert hourly tables to costs by applying their own skill level rates to tabulated hours. The resultant potentially reimbursable costs can be invoiced by using any type of skill level deemed appropriate by the CEM. The CEM must keep in mind, however, that using higher-level staff for tasks that were proposed using lower-level personnel can result in cost overruns and reimbursement denials.

SECTION 2

2.1 Fund Coverage Application Filing Procedures

The leaking petroleum storage tank system owner/operator (claimant) or their agent must report the petroleum discharge (release) to the NDEP Spill Line at **1-888-331-NDEP (6337)** or **775-687-9485**.

The claimant must provide NDEP with a completed Petroleum Fund Coverage Application (Application). Applications must be forwarded to Petroleum Claims staff in NDEP's Carson City, Nevada office. Applications must be completed entirely to provide all the information requested. Attachments to Applications (figures, photos, written reports or summaries, etc.) may be required. Incomplete Applications will result in NDEP requesting additional information, causing processing delays. Criteria used by NDEP when considering eligibility for Fund reimbursement include:

- The leaking tank system must have been enrolled in the Fund at the time of discovery of an accidental release. Please note that pursuant to NAC 590.850(2), heating oil tank systems for consumptive use on the premises (space heating) are automatically enrolled.

- It must be verified that the source of the discovered accidental release was the enrolled tank system.

- **It must be verified exactly what component of the enrolled tank system leaked (product piping failure, faulty dispenser shear valve, hole in tank, etc.), and that the release has been eliminated. If the tank system is still in operation, it must be verified that the source of the release has been repaired or eliminated.**

- The regulatory case officer must stipulate in writing that assessment and/or remediation of soil and/or groundwater contaminated by the subject release is required.

- Costs for regulatory-required activities must total at least $5,000 for each leaking petroleum storage tank system, or $250 for each leaking heating oil storage tank less than 1,100-gallons.

- If the claimant chooses to hire an agent to provide oversight of assessment and remediation activities, which is strongly recommended by NDEP, the agent must have a Nevada CEM certification. **Costs associated with change of CEMs during the course of the project will not be recommended for reimbursement.**

NDEP encourages the electronic submittal of Fund Coverage Applications (e.g., scanned documents submitted as an e-mail attachment). Please note, however, that applications must include reproductions of original hand-written signatures.

2.2 NTEP & Change Order Filing Procedures

Once Fund coverage has been granted, the claimant, with the assistance of his/her CEM, must submit an NTEP to NDEP for review by the regulatory case officer and/or Fund staff. The NTEP is to list the tasks required by the regulatory agency and include the level of effort deemed necessary by the CEM.

NTEPs should be submitted to NDEP before the associated regulatory case officer-approved work has begun. However, the claimant should not delay implementation of work required by the regulatory agency. Therefore, timely development and submittal of NTEPs is the responsibility of the claimant/CEM. If an NTEP is submitted to NDEP several weeks or months following implementation of associated activities, the NTEP must take the form of an "after the fact" NTEP which is based upon the actual accrued levels of effort and associated costs rather than Task guideline values.

Each NTEP must be assigned a tracking number by the CEM which will be referenced on associated reimbursement claims. The tracking "number" can be a name, internal project tracking code, the date which the NTEP was prepared or anything that is easy and convenient for the CEM to track.

Each NTEP shall include all proposed CEM costs necessary to complete each proposed task, including all professional staff time, support staff time, management of outside contractors, overhead for all applicable outside services (contractors, laboratory analyses, purchased materials and equipment, etc.), in-house equipment and materials usage (field instruments, bailers, etc.), staff travel expenses, and any other expenses to be incurred by the CEM. Each NTEP must be itemized to clearly identify individual CEM staff hours, total project hours, and provide justification for the total NTEP cost.

NTEPs must be submitted on the forms (or appropriate reproductions) supplied in Appendix D. NTEPs not prepared on the forms (or appropriately formatted pursuant to the forms) will be returned to the claimant prior to review. If an NTEP task does not fit within a Cost Guideline Task, complete, written justification for proposed costs must be provided. Please refer to Section 1.7, "Use of Cost Guideline Task Tables.

NTEPs and Change Orders are submitted to appropriate NDEP regulatory case officers. If the project is being managed by WCHD personnel, NTEPs and Change Orders are submitted to Fund staff in the NDEP Carson City office. All WCHD NTEPs and Change Orders must be accompanied with written correspondence that provides regulatory authorization to perform the activities summarized on the NTEP.

Each NTEP must be signed by the claimant on the NTEP Cover Sheet. The following jurat must appear above the claimant's signature:

- "I have reviewed and understand the proposed costs summarized in this proposal. I understand that I am responsible for any proposed costs not recommended for reimbursement by the State of Nevada Petroleum Fund staff, and which I have agreed

with the CEM are appropriate to incur, and/or have directed to incur such costs on the subject project."

NTEPs submitted without the claimant's signature and the above jurat will not be processed.

NDEP will notify the claimant and CEM of its concurrence to the NTEP in writing.

Change Orders to an NTEP will be reviewed on a case-by-case basis. A Change Order must be prepared on an NTEP form and clearly identify the applicable NTEP. Change Orders must include descriptions of and justification for the additional activities. If concurred with by NDEP, the Change Order amount will be added to the applicable NTEP.

NDEP concurrence to an NTEP prepared pursuant to the guidelines does not guarantee reimbursement in full. Pursuant to NRS 590.830(1), all final reimbursement decisions are pending subsequent authorization from the Board.

NDEP encourages the electronic submittal of Change Orders and NTEPs (e.g., scanned documents submitted as an e-mail attachment). Please note, however, that these submittals must include reproductions of original hand-written signatures.

2.3 Reimbursement Claim Filing Procedures

2.3.1 Reimbursement Claim Formatting

The CEM commonly prepares reimbursement claims for the claimant. Claim submittal forms are available on the NDEP website, at *http://ndep.nv.gov/bca/fundhome.htm*.

Each claim submittal must include the following:

- Reimbursement Request Submittal Checklist.
- Invoice Itemization sheets.
- Equipment Status Form (if required).
- Price Quote List (utilized for bid submittal) if necessary, including copies of associated written and signed bids.
- Invoice Breakdown sheet(s) if a single non-CEM invoice is to be appropriated to multiple projects.
- Copies of applicable NTEP and Change Order concurrence letters.
- Copies of all original invoices or receipts requested for reimbursement.
- CEM in-house equipment and material usage logs.
- CEM vehicle mileage logs.

Additionally:

- Non-CEM invoices and/or receipts must state the date the work was performed.
- All invoices and/or receipts must verify that the claimant was billed.

- Soil and groundwater analyses must be performed by a laboratory certified by NDEP for each specific analysis requested for reimbursement. NDEP's Laboratory Certification program may be contacted at (775) 687-9507 or *http://ndep.nv.gov/bsdw/labservice.htm.*

2.3.2 Invoice Itemization Sheets

There are two Invoice Itemization sheets: one to detail CEM costs, and one for non-CEM costs. CEM and non-CEM costs must be listed on appropriate Invoice Itemization sheets, even if these costs are combined on the actual billing invoice. CEM Cost Invoice Itemization sheets must reference the respective NTEP using the CEM-assigned tracking number detailed in Section 2.2. An Invoice Itemization sheet packet must refer to one NTEP only.

2.3.3 Bids

A minimum of three valid, written, signed bids must be evaluated by the CEM for any non-CEM services or equipment purchases that exceed $3,000 (NAC 590.760(4)(e)). Laboratory analytical costs are exempt from the bid requirement. A valid bid is one in which the vendor provides a price quote for the services solicited and acknowledges that they can perform the task and/or supply the materials in the time frame requested. Each bid must be signed (hand-written signature) by the person who provides the bid. NDEP must be able to evaluate and compare all provided bids using the same criteria. For example, a lump sum bid for drilling activities cannot be compared to a detailed time and materials drilling bid. A bid for new remediation equipment cannot be compared to a bid for used equipment.

Copies of bids must be submitted with associated reimbursement claims and summarized on the Price Quote List. **In many cases it may be necessary to request bids from more than three vendors in order to receive three valid bids. Notification from a vendor that they cannot or do not wish to provide a bid does not constitute receipt of a valid bid.** Thorough justification for acceptance of any bid other than the lowest, or for receipt of less than three bids must be provided. NDEP will recommend reimbursement for no more than the acceptable bid amount unless justification for bid exceedance is provided. Justifiable reasons for bid exceedance include, but are not limited to:

- Additional boring footage advanced during well installation.
- Additional 55-gallon drums necessary for drilling activities.
- Freight costs for remediation equipment not provided with bid.

If the CEM cannot obtain three valid bids for a service, they should contact the regulatory case officer and request a waiver of the bid requirement. Valid reasons not to obtain three bids include, but are not limited to:

- Not able to obtain three bids prior to regulatory case officer deadline to perform the work.
- There are less than three vendors who can provide the service or product due to the specialized nature of the deliverable.
- At the time of this revision, only two facilities certified and licensed to receive and remediate petroleum hydrocarbon contaminated soil are located in northern Nevada, and

only two are located in southern Nevada. In this case, depending on where the project is located, the CEM may only need to obtain two bids.

- If a vendor is providing a service or product that is proprietary to their company, bids are not necessary.

In all cases, justification for obtaining less than three bids must be concurred with by the regulatory case officer. A copy of the written justification must be provided with each applicable reimbursement claim.

NDEP understands that bids may be obtained by the CEM electronically. All bids must be signed by the individual who prepared it and must be a reproduction of an original hand-written signature.

2.3.4 Reimbursement Claim Submittal Deadlines and Processing

The claimant submits the reimbursement claim to the Carson City NDEP office, Petroleum Fund Program. Incomplete or inappropriately prepared claim packages will not be processed.

An initial claim for a non-regulated heating oil storage tank less than 1,100-gallons may be submitted if reimbursable costs exceed $250 per leaking storage tank system. An initial claim for all other types of petroleum storage tank systems may be submitted if reimbursable costs exceed $5,000 per leaking tank system. The initial claim for the project must be received by NDEP no later than 12 months following release discovery, and the final claim must be received no later than 12 months following the issuance date of a "No Further Action" letter from the regulatory case officer (NAC 590.780(1)). NDEP may be able to waive these deadlines if good cause for late submittals is provided.

During reimbursement claim review, NDEP will recommend reimbursement for all CEM invoices that are directly associated with the total NTEP and do not exceed more than five percent or $3,000 (whichever is less) of the total concurred amount. NDEP may, however, deny requested CEM costs at the time of reimbursement claim review if conflicts between the NTEP and the claim arise (e.g. NTEP approved for remediation system operations and monitoring that was not performed because the system was inoperable, etc.). Any discrepancy between NDEP's concurred amount and the amount requested may be justified to NDEP in writing. Further justification may be submitted to the Board should resolution to any discrepancy not be achieved with NDEP.

Following reimbursement claim review, NDEP will notify the claimant and CEM in writing of the proposed reimbursement recommendation. NDEP's reimbursement recommendations are presented to the Board at quarterly meetings. NDEP establishes reimbursement claim submittal deadlines for each scheduled Board meeting. Please refer to the Fund website at *http://ndep.nv.gov/bca/fundhome.htm* for the claim submittal deadlines for the next scheduled Board meeting.

NDEP concurrence to an NTEP prepared pursuant to the guidelines does not guarantee reimbursement in full. Pursuant to NRS 590.830(1), all final reimbursement decisions are pending subsequent authorization from the Board.

The claimant or CEM may contact NDEP regarding any questions or discrepancies regarding the proposed reimbursement recommendation. If discrepancies cannot be remedied with NDEP, the claimant may appeal NDEP's decision at any scheduled Board meeting.

NDEP encourages the electronic submittal of reimbursement claims (e.g., scanned documents submitted as an e-mail attachment). Please note, however, that these submittals must include reproductions of original hand-written signatures.

SECTION 3

Position Descriptions/Responsibilities

The following CEM personnel staff titles and responsibilities are presented as general guidelines. NDEP does not dictate how a CEM utilizes staff or what scholastic backgrounds are necessary. Please note, however, that appropriate staff-levels and corresponding hourly rates should be utilized for corresponding tasks. For example, using Principal or Project Manager-level personnel for activities that can be performed by Technician or Staff-level personnel may quickly result in cost overruns and reimbursement denials. NDEP encourages CEMs to charge out personnel at appropriate hourly rates based on activities performed, regardless of staff title.

Title	General Responsibilities	Suggested General Qualifications
Administrative Assistant or Secretary	Assists in report formatting, invoicing, Fund submittals and project related office services.	NA
Drafter	Prepares project graphics with or without computer-aided graphic packages including: site plans, cross sections, contour maps, and engineering design drawings.	• Relevant experience in CADD or technical drawing
Technician	Assists with well installation, performs sampling of monitoring wells, collects samples as stipulated by remedial permits, remediation system installation, operates and maintains remedial equipment in accordance with O&M manual.	• High School Diploma • Minimum of one year relevant training • Health & safety training such as 40 Hour OSHA, 29 CFR Part 1910.120
Staff Geologist or Staff Engineer	Collects and compiles field data. Logs soil borings and/or excavation activities. Summarizes findings in reports and/or on maps. May prepare preliminary data analyses and proposed course of action. Coordinates routine project tasks and supervises subcontractor activities. May also prepare Fund submittal packages. May prepare preliminary construction drawings and specifications for remediation systems.	• BS in Engineering or Geoscience discipline with a minimum of two years of applicable experience, or MS in Engineering or Geoscience discipline with a minimum of one year of applicable experience. • Health & safety training such as 40 Hour OSHA 1910

Title	General Responsibilities	Suggested General Qualifications
nior ologist or nior gineer	Directs or conducts collection and analyses of data. Responsible for selected subcontractor's performance. Coordinates completion of individual field or office tasks within a project. Prepares remedial option analyses and preliminary selection and design. Coordinates and/or prepares project reports. Provides recommendations for remediation system design & enhancement based on data analyses.	• BS in Engineering or Geoscience discipline with a minimum of three years of applicable experience, or MS in Engineering or Geoscience with a minimum of two years of applicable experience. • Health & safety training such as 40 Hour OSHA 1910
oject anager	Manages assessment/remediation projects involving data collection, and analyses, and the formulation of conclusions and recommendations. Directly responsible for client relations, project budget and schedule and subcontractors on individual projects. Ensures project/client goals are met. Independently evaluates data and selects course of action. May communicate with regulatory agencies on client's behalf.	• Professional registration (e.g. CEM, PE) • BS in Engineering or Geoscience discipline with a minimum of five years of applicable experience, or MS in Engineering or Geoscience discipline with a minimum of three years of experience.
nior anager or ncipal	Overall responsibility for all technical, regulatory and budgetary aspects of projects. Assigns project managers to individual projects. May directly manage special projects of major scope. On individual routine project basis oversees that appropriate technical and regulatory approaches are being followed by staff and client/project goals are met.	• Professional registration (e.g. CEM, PE) • BS in Engineering or Geoscience discipline with a minimum of ten years of applicable experience, or MS in Engineering or Geoscience discipline with a minimum of six years of applicable experience.

SECTION 4: CEM COST GUIDELINE TASK TABLES

A. SITE CHARACTERIZATION

TASK A.1: ASSESSMENT OF SITE CONDITIONS PURSUANT TO RELEASE DISCOVERY

Scope of Work: This task consists of all personnel time to assess initial site conditions at the release site and to respond to the regulatory agency's request for information pursuant to applicable regulations. Information unknown at the time of the release (volume of contaminated soil, subsurface lithology, etc.) will be submitted in a subsequent Site Characterization Report.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review	1
Project Manager/ Senior Engineer/ Senior Geologist	Regulatory liaison, information compilation & submittal	10
Staff Engineer/Staff Geologist	Information compilation & submittal	10
Administration/Clerical	Administrative support	2
	TOTAL HOURS FOR TASK	**23**

Activities included in total hours for above task:

- Administrative support
- Regulatory agency liaison
- Travel time to agency office(s) for document review, if located within metropolitan area of consultant
- Revision to submittal if determined to be deficient by regulatory case officer

Potential activities or items that should be added to above table, as necessary:

- Travel time if appropriate agency office is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.2: WORK PLAN PREPARATION SITE CHARACTERIZATION (SMALL)

Scope of Work: This task consists of all personnel time to produce a Work Plan to perform a small-scale site characterization. Proposed activities may include installation of one groundwater monitoring well to evaluate whether groundwater has been impacted, soil and groundwater assessment associated with a release from a single heating oil or waste oil storage tank system, etc.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review	1
Project Manager/ Senior Engineer/ Senior Geologist	Regulatory liaison, project management, Work Plan preparation	6
Staff Engineer/Staff Geologist	Work Plan preparation	4
Drafter	Drafting	2
Administration/Clerical	Administrative support	1
	TOTAL HOURS FOR TASK	**14**

Activities included in total hours for above task:

- Site reconnaissance visit
- Work Plan preparation/senior review
- Drafting
- Administrative support
- Regulatory agency liaison
- Travel time if site is located within metropolitan area of consultant
- Revision to submittal if determined to be deficient by regulatory case officer

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.3: WORK PLAN PREPARATION SITE CHARACTERIZATION (LARGE)

Scope of Work: This task consists of all personnel time to produce a Work Plan to perform a site characterization to delineate the extent of petroleum contamination at a site where both soil and groundwater contaminant levels exceed regulatory action levels. This type of site characterization consists of soil assessment (soil boring advancement, push-drive technology, etc.) and groundwater assessment (installation of groundwater monitoring wells, etc.).

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review	1
Project Manager/ Senior Engineer/ Senior Geologist	Project management, regulatory liaison, Work Plan preparation	16
Staff Engineer/Staff Geologist	Prepare Work Plan	5
Administration/Clerical	Word processing/administrative support	2
Drafter	Drafting support	4
	TOTAL HOURS FOR TASK	**28**

Activities included in total hours for above task:

- Review of previous environmental work performed
- Performing site reconnaissance visit(s) if necessary
- Work Plan preparation/senior review
- Drafting
- Administrative support
- Regulatory liaison
- Revision to submittal if determined to be deficient by regulatory case officer

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.4: WORK PLAN PREPARATION LIMITED CORRECTIVE ACTION ACTIVITIES

Scope of Work: This task consists of all personnel time to produce a Work Plan to perform limited corrective action activities such as extended pilot testing or excavation and disposal of contaminated soils.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review	1
Project Manager/ Senior Engineer/ Senior Geologist	Regulatory liaison, project management, Work Plan preparation	6
Staff Engineer/Staff Geologist	Work Plan preparation	4
Drafter	Drafting	2
Administration/Clerical	Administrative support	1
	TOTAL HOURS FOR TASK	**14**

Activities included in total hours for above task:

- Site reconnaissance visit
- Work Plan preparation/senior review
- Drafting
- Administrative support
- Regulatory agency liaison
- Travel time if site is located within metropolitan area of consultant
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup (must be proposed in the NTEP)

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.5: HEALTH AND SAFETY PLAN PREPARATION

Scope of Work: This task consists of all personnel time necessary to produce the initial site-specific Health and Safety Plan for a site.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Project management, senior review	1
Staff Engineer/Staff Geologist	Prepare Health and Safety Plan	5
Administration/Clerical	Word processing, administrative support	1
	TOTAL HOURS FOR TASK	7

Activities included in total hours for above task:

- Preparation and review of a site-specific Health and Safety Plan

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.6: HEALTH AND SAFETY PLAN UPDATE

Scope of Work: This task consists of all personnel time necessary to update a site-specific Health and Safety Plan. Updating may be necessary on an annual basis or when site activities are modified.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Project management, senior review	0.5
Staff Engineer/Staff Geologist	Update Health and Safety Plan	2
Administration/Clerical	Word processing, administrative support	0.5
	TOTAL HOURS FOR TASK	**3**

Activities included in total hours for above task:

- Update site-specific Health and Safety Plan

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.7: UTILITY CLEARANCE COORDINATION

Scope of Work: This task consists of all personnel time necessary to coordinate the clearance of public and/or private utilities prior to soil boring advancement, well installation, trenching activities, etc.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Project management	1
Staff Engineer/Staff Geologist	Demarcate areas for clearance, coordinate utility clearances	4
	TOTAL HOURS FOR TASK	**5**

Activities included in total hours for above task:

- Site reconnaissance visit to demarcate area for public and/or private utility clearances
- Travel time if site located within metropolitan area of consultant

Potential activities or items that should be added to above table, as necessary:

- Additional site visits if required by utility company
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.8: SUBSURFACE SOIL INVESTIGATION SOIL BORING ADVANCEMENT

Scope of Work: This task consists of all personnel time and costs to perform a subsurface investigation to determine the extent of soil contamination utilizing soil boring advancement and sampling. **This task assumes that the soil borings will not be converted to groundwater monitoring or remediation wells. Please refer to task A.9 for well construction activities.** This task is arranged into two sub-tasks. Project management/set-up activities are tabulated and summarized on an hourly basis. Field activities are summarized on a unit cost basis dependent upon type of drilling technology utilized, drilling conditions, and total feet of boring advanced. It is assumed that field activities will be performed by one CEM staff person. Reimbursement for utilization of more than one CEM staff person during field activities will be dependent upon request/authorization from the regulatory case officer.

SKILL LEVEL	ACTIVITIES	TOTAL HRS: FIRST OR ONLY DAY OF FIELD ACTIVITIES	TOTAL HRS: SUBSEQUENT DAYS(S) OF FIELD ACTIVITIES
Project Manager/ Senior Engineer/ Senior Geologist	Project management	2	0.5
Staff Engineer/ Staff Geologist	Solicit bids (if necessary), coordinate & prepare for field activities, coordinate waste disposal	8	2
	TOTAL HOURS	**10**	**2.5**

Costs for CEM drilling oversight and sampling activities will be based on a unit cost dependent upon drilling technique utilized, drilling conditions and total feet drilled, as follows:

Hollow Stem Auger Techniques:

- Easy drilling conditions (minimal amount of cobbles, no caliche, etc.) = $6/foot
- Typical drilling conditions (pebbles, cobbles, some caliche, etc.) = $8/foot
- Difficult drilling conditions (considerable amount of cobbles, thick caliche layers, etc.) = $10/foot

Rotary Techniques:

- Drilling conditions not conducive to hollow stem auger techniques = $8/foot.

Odex (driven casing) or Sonic techniques:

- Extremely difficult drilling conditions such as inordinate amounts of cobbles, boulders, etc. = $10/foot

A CEM labor charge of up to one-half hour for drill rig set-up time between borings, and up to one-half hour for every soil sample recovered from each borehole will be recommended for reimbursement (at the appropriate skill level rate). **Please note that costs associated with drill rig repairs and/or weather delays are not reimbursable.**

Activities included in total hours for above task:

- Solicit bids for contractor services if it is anticipated costs will meet or exceed $3,000
- Coordinate and oversee advancement of soil borings
- Collection of soil samples for analyses
- Borehole logging
- Borehole abandonment
- Time to deliver samples to laboratory or prepare shipping package
- Project management
- Regulatory liaison
- Travel time if site is located within metropolitan area of consultant
- Coordinate disposal of soil cuttings
- CEM coordination of traffic control vendor, if necessary (traffic plans, barricade placement and rental, etc.)

Potential activities or items that should be added to above table, as necessary:

- CEM in-house field equipment fees
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

Assumes:

- One CEM staff person on site during field activities
- Borings will not be converted to groundwater monitoring or remediation wells. Refer to Task A.9 for well construction activities.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.9: GROUNDWATER MONITORING OR REMEDIATION WELL CONSTRUCTION

Scope of Work: This task consists of all personnel time to coordinate and supervise the construction of groundwater monitoring or remediation wells, including the recovery of soil samples from the boreholes, logging of the boreholes and coordinating waste disposal. This task is arranged into two sub-tasks. Project management/set-up activities are tabulated and summarized on an hourly basis. Field activities are summarized on a unit cost basis dependent upon type of drilling technology utilized, drilling conditions, and total feet of boring advanced to facilitate well construction/installation. It is assumed that field activities will be performed by one CEM staff person. Reimbursement for utilization of more than one CEM staff person during field activities will be dependent upon request/authorization from the regulatory case officer.

SKILL LEVEL	ACTIVITIES	TOTAL HRS: FIRST OR ONLY DAY OF FIELD ACTIVITIES	TOTAL HRS: SUBSEQUENT DAY(S) OF FIELD ACTIVITIES
Project Manager/ Senior Engineer/ Senior Geologist	Project management	2	0.5
Staff Engineer/ Staff Geologist	Solicit bids (if necessary), coordinate completion and submittal of Notice of Intent Card(s) and Affidavit of Intent to Abandon form(s), coordinate and prepare for field activities, coordinate waste disposal	9	2
	TOTAL HOURS	**11**	**2.5**

Costs for CEM drilling/well installation oversight and borehole sampling activities will be based on a unit cost dependent upon drilling technique utilized and total feet drilled, as follows:

Hollow Stem Auger Techniques:

- Easy drilling conditions (minimal amount of cobbles, no caliche, etc.) = $10/foot
- Typical drilling conditions (pebbles, cobbles, some caliche, etc.) = $14/foot
- Difficult drilling conditions (considerable amount of cobbles, thick caliche layers, etc.) = $18/foot

Rotary Techniques:

- Drilling conditions not conducive to hollow stem auger techniques = $14/foot.

Odex (driven casing) or Sonic techniques:

- Used for extremely difficult drilling conditions such as inordinate amounts of cobbles, boulders, etc., or pursuant to the request/authorization of the regulatory case officer = $18/foot.

Additionally, a CEM labor charge of up to one-half hour for drill rig set-up time between borings, and up to one-half hour for every soil sample recovered from each borehole will be recommended for reimbursement (at the appropriate skill level rate). **Please note that costs associated with drill rig repairs and/or weather delays are not reimbursable.**

Activities included in total hours for above task:

- Solicit and evaluate bids if it is anticipated costs will meet or exceed $3,000
- Coordinate the preparation and submittal of Notice of Intent card(s) to the Division of Water Resources.
- Coordinate the preparation and submittal of Affidavit of Intent to Abandon Monitoring Well form(s) to the Division of Water Resources.
- Oversee advancement of soil boring(s) to be converted to well(s)
- Collect soil samples from borehole(s)
- Borehole logging
- Coordinate/oversee construction of well(s) - including wellheads
- CEM equipment calibration and decontamination
- Time to deliver samples to laboratory or prepare for shipping
- Project management
- Regulatory liaison
- Travel time if site is located within metropolitan area of consultant
- Coordinate disposal of soil cuttings
- Coordination of well survey(s)
- CEM coordination of traffic control vendor, if necessary (traffic plans, barricade placement and rental, etc.)

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

Assumes:

- One CEM staff person on site during field activities

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.10: GROUNDWATER MONITORING OR REMEDIATION WELL DEVELOPMENT

Scope of Work: This task consists of all personnel time to develop groundwater monitoring or remediation wells. This assumes that well development will be performed by the CEM as opposed to the driller or other non-CEM contractors.

SKILL LEVEL	ACTIVITIES	TOTAL HRS: FIRST OR ONLY WELL	TOTAL HRS: EACH SUBSEQUENT WELL
Technician/ Staff Engineer/ Staff Geologist	Prepare equipment, develop well(s), coordinate waste disposal	3	2

Activities included in total hours for above task:

- Develop well(s)
- Coordinate disposal of development water
- Consultant coordination of traffic control plan and placement of traffic barriers (if necessary)
- Travel time if site is located within metropolitan area of consultant

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.11: SUBSURFACE INVESTIGATION PUSH-DRIVE TECHNOLOGY

Scope of Work: This task consists of all personnel time and costs to perform a subsurface investigation to determine the extent of soil and/or groundwater contamination, utilizing push-drive (Geoprobe™, Hydropunch™, etc.) technology. This task is arranged into two sub-tasks. Project management/set-up activities are tabulated and summarized on an hourly basis. Field activities are summarized on a unit cost basis dependent upon total feet of push-boring advancement. Costs for unsuccessful boring advancement due to probe refusal may be claimed if the investigation is successful. A successful investigation is one that results in meeting all the goals required by the regulatory case officer for this activity. It is assumed that field activities will be performed by one CEM staff person. Reimbursement for utilization of more than one CEM staff person during field activities will be dependent upon request/authorization from the regulatory case officer. The Fund recognizes that push/drive technology may not be appropriate for certain subsurface conditions. The CEM must make recommendations of appropriate technologies based upon known site conditions. **Costs associated with an unsuccessful push/drive investigation will not be recommended for reimbursement.**

SKILL LEVEL	ACTIVITIES	TOTAL HRS: FIRST OR ONLY DAY OF FIELD ACTIVITIES	TOTAL HRS: SUBSEQUENT DAYS(S) OF FIELD ACTIVITIES
Project Manager/ Senior Engineer/ Senior Geologist	Project management	2	0.5
Staff Engineer/ Staff Geologist	Solicit bids (if necessary), coordinate & prepare for field activities, coordinate waste disposal	6	2
	TOTAL HOURS	**8**	**2.5**

Costs for CEM push-drive-boring advancement oversight and sampling activities will be based on a unit cost of $6/foot. Additionally, a CEM labor charge of up to one-half hour for each soil or groundwater sample recovered, and for each set-up between push-drive location may be proposed (at the appropriate skill level rate).

Activities included in total hours for above task:

- Solicit bids for contractor services if it is anticipated that costs will meet or exceed $3,000
- Coordinate/oversee push-boring advancement
- Time to deliver samples to laboratory or prepare shipping package
- Project management

- Regulatory liaison
- Travel time if site is located within metropolitan area of consultant
- Consultant coordination of traffic control plan and placement of traffic barriers (if necessary)

Potential activities or items that should be added to above table, as necessary:

- CEM field time including collection of soil and/or and groundwater samples for analyses and push-drive rig set-up time between probes
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Coordinate disposal of soil cuttings and groundwater

Assumes:

- One CEM staff person on site during field activities

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.12: SUBSURFACE INVESTIGATION TEST PITS

Scope of Work: This task consists of all personnel time and costs to perform a subsurface investigation to determine the extent of soil contamination utilizing test pit advancement. It is assumed that field activities will be performed by one CEM staff person. Reimbursement for utilization of more than one CEM staff person during field activities will be dependent upon request/authorization from the regulatory case officer.

SKILL LEVEL	ACTIVITIES	TOTAL HRS: FIRST OR ONLY DAY OF FIELD ACTIVITIES	TOTAL HRS: SUBSEQUENT DAY(S) OF FIELD ACTIVITIES
Project Manager/ Senior Engineer/ Senior Geologist	Project management	1	0.5
Staff Engineer/ Staff Geologist	Solicit bids (if necessary), coordinate and prepare for field activities, coordinate waste disposal	6	--
	TOTAL HOURS	**7**	**0.5**
Technician or Staff Geologist	Prepare field equipment, recover samples from pit(s), decontaminate equipment, deliver/ship samples for analyses	2 hours for each test pit	

Activities included in total hours for above task:

- Solicit bids for contractor services if it is anticipated costs will meet or exceed $3,000
- Coordinate/oversee advancement and backfilling of test pits
- Collection of soil samples for analyses
- Time to deliver samples to laboratory or prepare shipping package
- Project management
- Travel time if site is located within metropolitan area of consultant
- Coordinate disposal of contaminated soils
- Consultant coordination of traffic control plan and placement of traffic barriers (if necessary)

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Investigation/delineation of contamination in groundwater
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

Assumes:

- One CEM staff person on site during field activities

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.13: SITE CHARACTERIZATION REPORT PREPARATION SMALL-SCALE INVESTIGATION

Scope of Work: This task consists of all personnel time to produce a site characterization report for a **soil-only site investigation or where less than five groundwater monitoring wells** were installed.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Final review	1
Senior Engineer/ Senior Geologist/ Project Manager	Data evaluation, report preparation, senior review, regulatory liaison	6
Staff Engineer/Staff Geologist	Data evaluation, report preparation	12
Administration/Clerical	Word processing, administrative support	2
Drafter	Drafting	6
	TOTAL HOURS FOR TASK	**27**

Activities included in total hours for above task:

- Data evaluation
- Recommendations for additional site characterization activities
- Preliminary recommendations for remediation of soil
- Drafting (site plan, soil boring logs, contaminant plume maps, etc.)
- Administrative support
- Coordination/liaison with regulatory agencies
- Senior review
- Revision to submittal if determined to be deficient by regulatory case officer

Potential activities or items that should be added to above table, as necessary:

- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.14: SITE CHARACTERIZATION REPORT PREPARATION LARGE-SCALE INVESTIGATION

Scope of Work: This task consists of all personnel time to produce a site characterization report for a site where five or more groundwater monitoring wells were installed.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Final review	2
Project Manager/ Senior Engineer/ Senior Geologist	Report preparation, senior review, regulatory liaison	10
Staff Engineer/Staff Geologist	Data evaluation, report preparation	16
Administration/Clerical	Word processing, administrative support	3
Drafter	Drafting	8
	TOTAL HOURS FOR TASK	**39**

Activities included in total hours for above task:

- Data evaluation
- Recommendations for additional site characterization activities
- Preliminary recommendations for remediation of soil and groundwater
- Drafting of all necessary figures
- Administrative support
- Coordination/liaison with regulatory agencies
- Senior review
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Preparation of additional figures such as detailed cross sections if requested by regulatory case officer
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.15: FATE AND TRANSPORT MODELING*
TYPICAL SITE

Scope of Work: This task consists of all personnel time to produce a Fate and Transport Model (BioScreen or similar) or calculation that can be used by risk assessors and others to estimate the movement and chemical alteration of contaminants as they move through environmental media (e.g., Vadose zone soils, aquifer/aquitard materials, and groundwater). The submittal will include a summary and interpretation of all data and visual outputs. The submittal is to include a description of where the contaminants of potential concern (COPCs) attenuate to action levels or remediation standards relative to identified receptors or other points of demonstration. Also included is a description of the selection and source of input values (e.g. site specific or default values), how developed, and cite literature sources. Publicly available models or calculations are to be used and referenced (or the model/calculation used provided to the NDEP) to allow reproducibility of results by NDEP Staff.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Final review	1
Project Manager/ Senior Engineer/ Senior Geologist	Model development, data evaluation, report preparation, senior review	5
Staff Engineer/Staff Geologist	Data evaluation, model and report preparation	15
Administration/Clerical	Word processing, administrative support	2
Drafting	Drafting	2
	TOTAL HOURS FOR TASK	**25**

* Close communication with the regulatory case officer is necessary to ensure this deliverable accurately meets project needs

Activities included in total hours for above task:

- Database research
- Review of historic, site-specific data to be used in the model/calculations
- Regulatory agency liaison
- Calibration of model with acceptable methods and practices
- Evaluation of model using model predicted values versus field data (e.g. modeled concentrations vs. field measurements, modeled plume size vs. discovered extents)
- Discussion of discrepancies and outliers when model is compared to field conditions
- Identification of direct exposure scenarios
- Senior review

- Report production with all model/calculation inputs, outputs, assumptions, visual interpretations, and references. Adequate citation is necessary to allow reproducibility of the results by NDEP Staff.
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.16: SENSITIVE RECEPTOR SURVEY

Scope of Work: This task consists of all personnel time to conduct a survey to determine the existence of sensitive receptors within a given radius from a site with groundwater contamination. Sensitive Receptor Surveys are required to establish a groundwater action level for MTBE remediation, and may also be requested by the regulatory case officer for a variety of other reasons including establishment of the receptor location and distance from the edge of the contaminant plume. Levels of effort for performing database searches, doing research at the office of the Nevada Division of Water Resources and producing a Sensitive Receptor Survey Report are summarized in the below table. Expected CEM hours for actual field identification of sensitive receptors (if necessary) should also be proposed. **An explanation regarding the proposed level of effort for field identification must be provided.**

SKILL LEVEL	ACTIVITIES	TOTAL HOURS
Project Manager	Project Management, Senior Review	2
Staff Engineer/ Staff Geologist	Conduct database searches, perform research at State Division of Water Resources Office, prepare Sensitive Receptor Report	8
Drafter	Prepare scaled map providing location of site and sensitive receptors	2
Clerical	Report preparation support	1
TOTAL HOURS FOR RESEARCH AND REPORT PREPARATION		**13**
Technician/ Staff Engineer/ Staff Geologist	Field identification of sensitive receptors	Proposed Anticipated Hours
TOTAL HOURS FOR TASK		Total Proposed Hours

Activities included in total hours for above task:

- Database research
- Records review with State Division of Water Resources in context with outer boundary of groundwater contaminant plume
- Report production with scaled map depicting each sensitive receptor
- Field identification of sensitive receptors (if necessary)

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.17: HUMAN HEALTH RISK ASSESSMENT* (SUBCONTRACTED ONLY) Typical Site

Scope of Work: This task consists of all personnel time to prepare the data needed for a Risk Assessment and to subsequently review the work of a sub-contracted production of a Human Health Risk Assessment (HHRA)** that can be used to characterize the nature and magnitude of potential health risks to humans (e.g., residents, commercial workers, utility workers) from chemical contaminants, that may be present in the environment. The HHRA is to include all contaminants of potential concern (COPCs), potential receptors, and all possible pathways. The HHRA can be developed to quantify the potential risk COPCs pose to receptors through completed pathways (USEPA 1989 - 2009), or they can be developed to determine threshold values (site specific target levels) (ASTM 1995), below which an acceptable level of risk may be present. Guidance from the regulatory Case Officer should be sought and a determination should be made prior to initiating the HHRA regarding the type of deliverable needed

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review	2
Project Manager/ Senior Engineer/ Senior Geologist	Project management, regulatory liaison	15
Staff Engineer/Staff Geologist	Solicit bids, coordination with risk assessor and review the prepared Risk Assessment, prepare agency submittal	5
Administration/Clerical	Administrative support	2
	TOTAL HOURS FOR TASK	**24**

Activities included in total hours for above task:

- Data preparation and evaluation
- Coordination with subcontracted firm developing the Risk Assessment
- Human Health Risk Assessment review and revision
- Administrative support
- Senior review
- Coordination/liaison with regulatory agencies
- Revision to submittal if determined to be deficient by case regulatory officer
- CEM ensures that:
    - All references, equations and assumptions are provided
    - All COPCs, receptors, and pathways are included
    - All input values are clearly tabulated and referenced (site-specific or default, cite references)

Potential activities or items that should be added to above table, as necessary:

- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

Assumes:

- HHRA is prepared by a sub-contracted professional with risk assessment experience and qualifications.

Notes:

* If CEM prepares HHRA in-house, without the use of a subcontractor, the task shall be itemized separately on a NTEP Task Submittal Form which is identified as "Miscellaneous" and then titled "CEM-Prepared HHRA."

** Human Health Risk Assessment guidance is available from several sources including:

ASTM E 1739-95 *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites*

USEPA, *Risk Assessment Guidance for Superfund*, multiple publications, 1989-2009

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.18: PREPARATION OF 2-DIMENSIONAL GEOLOGIC CROSS-SECTION(S)
Typical Site

Scope of Work: This task consists of all personnel time to use site specific data to produce a 2-dimensional geologic cross-section(s) at a facility. Typically, a minimum of two cross-sections are prepared; one longitudinal along the contaminant axis and a second one approximately perpendicular to the contaminant axis. The cross-sections are to be drawn to scale and use conventional methods to reflect site-specific lithology and the position of encountered groundwater. The location of screened intervals in monitoring wells, discrete soil samples, residual contaminants, and range of water levels are to be shown to facilitate understanding of site conditions. Represented features are to be tied to land surveys which are tied to mean sea level.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Final review	1
Project Manager/ Senior Engineer/ Senior Geologist	Data evaluation, cross-section development, regulatory liaison, senior review	2
Staff Engineer/Staff Geologist	Data evaluation, cross-section preparation	8
Administration/Clerical	Administrative support	2
Drafting	Drafting	8
	TOTAL HOURS FOR TASK	**21**

Activities included in total hours for above task:

- Review of historic through current site-specific data, soil boring logs, and monitoring well construction logs to be used in the production of geologic cross-sections. The reviewed data include:
  1. Soil type;
  2. Depth-to-water;
  3. Water level range over time;
  4. Contaminant concentrations and distribution
- Cross-section development
- Regulatory liaison
- Drafting
- Administrative support
- Senior review
- Corresponding report production including all outputs and visual interpretations
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency

*Notes:

If less than two cross sections are required, fewer hours should be requested

Hours for this task cannot be requested concurrently with hours requested for the Task "Conceptual Site Model (CSM)"

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK A.19: CONCEPTUAL SITE MODEL (CSM)* TYPICAL SITE

Scope of Work: This task consists of all personnel time to produce a Conceptual Site Model (CSM)**. A conceptual site model is a three-dimensional understanding of site conditions that conveys what is known or suspected about the release source(s), release mechanisms, contaminant fate and transport, exposure pathways, potential receptors, and possible risks to humans and ecological receptors (e.g., birds, fish, and wildlife). A minimum of three illustrations are to be included along with adequate text to summarize site conditions and help convey a three-dimensional picture to the reader (e.g., cross-sections, block diagrams, fence diagrams, and plume maps).

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Final review	2
Project Manager/ Senior Engineer/ Senior Geologist	Data evaluation, report preparation, regulatory liaison, senior review	10
Staff Engineer/Staff Geologist	Data evaluation, report Preparation	16
Administration/Clerical	Word processing, administrative support	3
Drafting	Drafting	12
	TOTAL HOURS FOR TASK	**43**

* Close communication with the regulatory case officer is necessary to ensure this deliverable accurately meets project needs

Activities included in total hours for above task:

- Database research
- Review and evaluate historic, site-specific data to be used in the CSM
- Drafting (e.g., site plan, potentiometric map(s), isocontour map(s) soil boring logs, contaminant plume maps, cross-sections, fence diagrams)
- Regulatory agency liaison
- Administrative support
- Report production with all model outputs and visual interpretations
- Senior review
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency

Additional hours may be requested in the event of complicated site conditions such as sites where:

- Groundwater contaminant plumes that extend significantly off-site (plume length greater than 500 feet from source area)
- A large number of soil borings and/or monitoring wells (greater than 30) are used to construct the CSM
- Depth to groundwater significantly exceeds 50 feet below land surface and a large number of soil sample analytical results (greater than 50) are used to develop the CSM

Note:

** Reader is guided to ASTM E 1689 *Standard Guide for Developing Conceptual Site Models for Contaminated sites*, or an equivalent method.
Also consider: ASTM E 2531-06 *Development of CSM for LNAPL Sites.*

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. If it is necessary to propose additional time to perform this Task, justification must be provided.

B. AQUIFER & PILOT TESTING

TASK B.1: WORK PLAN PREPARATION AQUIFER OR PILOT TESTING

Scope of Work: This task consists of all personnel time to produce a Work Plan to perform aquifer testing to determine aquifer hydrogeologic characteristics, or pilot testing to evaluate the effectiveness of a remediation technology (soil vapor extraction, dual-phase extraction, etc.).

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review	1
Project Manager/ Senior Engineer/ Senior Geologist	Regulatory liaison, project management, Work Plan preparation	6
Staff Engineer/Staff Geologist	Work Plan preparation	6
Drafter	Prepare figures	2
Administration/Clerical	Administrative support	1
	TOTAL HOURS FOR TASK	**16**

Activities included in total hours for above task:

- Aquifer test or pilot test system design including calculations
- Work Plan preparation
- Preparation of figures including proposed aquifer/pilot testing equipment schematics
- Administrative support
- Regulatory agency liaison
- Revision to submittal if determined to be deficient by case regulatory officer
- Travel time if site is located within metropolitan area of consultant

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK B.2: AQUIFER SLUG TEST

Scope of Work: This task consists of all personnel time to perform a 6-hour aquifer slug test to determine hydraulic characteristics. Proposed staff-level time should be adjusted (if necessary) to reflect a slug test with a duration other than 6 hours.

SKILL LEVEL	ACTIVITIES	TOTAL HRS FOR ONE WELL	TOTAL HRS FOR EACH ADDITIONAL WELL
Principal	Data review	1	-
Project Manager/ Senior Engineer/ Senior Geologist	Project management, data analyses	4	-
Staff Engineer/ Staff Geologist	Perform test, data analyses, coordinate waste disposal	16	6
	TOTAL HOURS	**21 for one well**	**6 for each additional well**

Activities included in total hours for above task:

- Project set-up
- Perform slug test
- Record/plot data for inclusion in CAP, RAS, and/or other documents
- Data evaluation (hydraulic conductivity, seepage velocity, radius of influence [ROI], etc.)
- Travel time if site is located within metropolitan area of consultant
- Coordination/liaison with regulatory agencies

Potential activities or items that should be added to above table, as necessary:

- Computer modeling (if required)
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & markup
- Additional time if duration of test is longer than 6 hours

Assumes:

- Test well is already constructed
- 6-hour slug test
- Single aquifer system

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK B.3: AQUIFER PUMPING TEST

Scope of Work: This task consists of all personnel time to perform a 12-hour continuous aquifer pumping test. Proposed technician and/or staff-level time should be adjusted (if necessary) to reflect a pumping test with a duration other than 12 hours.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Data review	1
Project Manager/ Senior Engineer/ Senior Geologist	Project management, data analysis	8
Technician/ Staff Engineer/ Staff Geologist	Project set-up, perform pumping test & data analysis, coordinate waste disposal	30
	TOTAL HOURS FOR TASK	**39**

Activities included in total hours for above task:

- Project set-up
- Perform aquifer test
- Plot/evaluate data for inclusion in CAP, RAS, and/or other documents
- Data evaluation (hydraulic conductivity, seepage velocity, ROI, etc.)
- Travel time if site is located within metropolitan area of consultant
- Coordination/liaison with regulatory agencies

Potential activities or items that should be added to above table, as necessary:

- Computer modeling, if required (e.g. contaminant transport)
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time if duration of test is longer than 12 hours
- Additional time for step testing, if necessary.

Assumes:

- Test wells and observation wells have been previously constructed
- 12 hour continuous pump test
- One test per site sufficient to determine hydraulic properties
- Single aquifer system
- Assumes 2-4 hour recovery time. Longer recovery times may be justified using results of step drawdown test.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK B.4: SOIL VAPOR EXTRACTION PILOT TEST

Scope of Work: This task consists of all personnel time to perform an 8-hour soil vapor extraction pilot test. Proposed staff and technician-level time should be adjusted (if necessary) to reflect a pilot test duration other than 8 hours.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Data analyses	1
Project Manager/ Senior Engineer/Senior Geologist	Project management, senior review	2
Staff Engineer/Staff Geologist	Perform test, data analyses	12
Technician	Project set-up, assist with pilot test, vapor sample collection, coordinate waste disposal	16
	TOTAL HOURS FOR TASK	**31**

Activities included in total hours for above task:

- Data recovery and evaluation for inclusion in CAP, RAS, and/or other documents
- Travel time if site is located within metropolitan area of consultant
- Coordination/liaison with regulatory agencies

Potential activities or items that should be added to above table, as necessary:

- Computer modeling (if required)
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time if duration of test is longer than 8 hours

Assumes:

- Test wells and observation wells have been previously constructed
- 8-hour test

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK B.5: SOIL VAPOR EXTRACTION AND AIR SPARGE PILOT TEST

Scope of Work: This task consists of all personnel time to perform an 8-hour soil vapor extraction and a 6-hour air sparge pilot test. Proposed staff and technician-level time should be adjusted (if necessary) to reflect a pilot test with duration of other than the referenced combined 14 hours.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Data analyses	1
Project Manager/ Senior Engineer/Senior Geologist	Project management, senior review	2
Staff Engineer/Staff Geologist	Perform test, data analyses	24
Technician	Assist with pilot test, coordinate waste disposal	24
	TOTAL HOURS FOR TASK	**51**

Activities included in total hours for above task:

- Data recovery and evaluation for inclusion in CAP, RAS, and/or other documents or report
- Project management
- Travel time if site is located within metropolitan area of consultant
- Coordination/liaison with regulatory agencies

Potential activities or items that should be added to above table, as necessary:

- Computer modeling (if required)
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time if duration of test is longer than 14 hours

Assumes:

- Test wells and observation wells have been previously constructed
- 8-hour vacuum test; 6 hour sparge test

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK B.6: INJECTION TEST

Scope of Work: This task consists of all personnel time to perform a 6-hour infiltration test to determine aquifer characteristics for the re-injection of treated groundwater, injection of solutions to enhance in-situ oxidation, etc. Proposed technician and/or staff-level time should be adjusted (if necessary) to reflect a test with a duration other than 6 hours.

SKILL LEVEL	ACTIVITIES	TOTAL HOURS
Principal	Data Review	1
Project Manager/ Senior Engineer/Senior Geologist	Project management, data analyses	4
Staff Engineer/Staff Geologist	Perform test, data analyses, coordinate waste disposal	16
	TOTAL HOURS	**21**

Activities included in total hours for above task:

- Project set-up/perform infiltration test
- Procurement and preparation of solutions to be injected
- Data evaluation for inclusion in CAP, RAS, and/or other documents
- Travel time if site is located within metropolitan area of the consultant
- Coordination/liaison with regulatory agencies
- Coordinate waste disposal

Potential activities or items that should be added to above table, as necessary:

- Computer modeling (if required)
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time if duration of test is longer than 6 hours

Assumes:

- Test well is already constructed
- 6-hour infiltration test

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK B.7: AQUIFER OR PILOT TEST REPORT PREPARATION

Scope of Work: This task consists of all personnel time to produce a report summarizing pilot testing results. This task assumes that such results are not presented in a CAP.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Final review	1
Senior Engineer/ Senior Geologist/ Project Manager	Data evaluation, report preparation, senior review, regulatory liaison	8
Staff Engineer/Staff Geologist	Data evaluation, report preparation	10
Administration/Clerical	Word processing, administrative support	2
Drafter	Drafting support	2
	TOTAL HOURS FOR TASK	**23**

Activities included in total hours for above task:

- Presentation and evaluation of data obtained from pilot testing, including calculations, radius of influence (ROI), aquifer properties (hydraulic conductivity, seepage velocity, etc.)
- Recommendations for additional assessment, if necessary
- Recommendations for corrective actions based on pilot test results
- Drafting (aquifer/pilot test well soil boring logs, maps, etc.)
- Administrative support
- Coordination/liaison with regulatory agencies
- Senior review
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

C. CORRECTIVE ACTION PLAN (CAP) PREPARATION

TASK C.1: CORRECTIVE ACTION PLAN PREPARATION LARGE-SCALE REMEDIATION SITE

Scope of Work: This task consists of all personnel time to produce a comprehensive corrective action plan (CAP) for the remediation of petroleum product contaminated soil and/or groundwater in cases where the installation of an active (e.g. non-passive) remediation system is proposed.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review, regulatory liaison	4
Project Manager/Senior Engineer/ Senior Geologist	Prepare CAP, regulatory liaison, project management	18
Staff Engineer/Staff Geologist	Prepare CAP	20
Administration/Clerical	Word processing, administrative support	4
Drafter	Prepare figures/schematics	6
	TOTAL HOURS FOR TASK	**52**

Activities included in total hours for above task:

- Discussion of pilot test data (if testing performed)
- Develop and list the Remedial Action Objectives (RAOs) that are protective of human health
- Evaluation of at least three remedial alternatives
- Inclusion and discussion of detailed remediation methodology cost comparisons
- Provide rationale for selection of proposed remedial action
- Preliminary (non-engineered) design of remediation system including calculations
- Drafting
- Administrative support
- Coordination with regulatory agencies
- Discussion of required permits for operation of active remediation system
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Preparation of detailed construction drawings and specifications
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK C.2: CORRECTIVE ACTION PLAN PREPARATION SMALL-SCALE REMEDIATION SITE

Scope of Work: This task consists of all personnel time to produce a comprehensive corrective action plan (CAP) for the remediation of petroleum product contaminated soil and/or groundwater for sites which do not require the installation of a large, active remediation system. Examples include remediation utilizing injection of in-situ chemical oxidation solutions, passive soil venting, etc.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review, regulatory liaison	2
Project Manager/ Senior Engineer/Senior Geologist	Prepare CAP, project management, regulatory liaison	11
Staff Engineer/Staff Geologist	Prepare CAP	15
Administration/Clerical	Word processing, administrative support	3
Drafter	Prepare figures & schematics	4
	TOTAL HOURS FOR TASK	**35**

Activities included in total hours for above task:

- Discussion of pilot test data (if testing performed)
- Develop and list the RAOs that are protective of human health
- Evaluation of at least three remedial alternatives with detailed cost comparisons
- Provide rationale for selection of proposed remedial action
- Preliminary (non-engineered) design of remediation system including calculations
- Drafting
- Administrative support
- Coordination with regulatory agencies
- Discussion of required permits for operation of remediation system
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK C.3: REMEDIAL ALTERNATIVE STUDY (RAS)* TYPICAL SITE

Scope of Work: This task consists of all personnel time to review and evaluate multiple remedial alternatives using site specific data. This task is not a subset of the CAP tasks. This task is to be completed upon the request of the regulatory case officer in the event the CAP-identified and implemented remedial alternative is not effective reducing COPCs to action levels or meeting established RAOs for the site. The remedial feasibility and cost associated with each remedial alternative will be evaluated. A minimum of three remediation methods that are viable for use at the project site are to be reviewed. The RAS should select the remedial option that has the greatest prospect of remediating the subject site in a cost-effective manner and provide an estimate of the schedule for permitting, construction, operation, and monitoring needed to secure site closure**.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review	1
Project Manager/ Senior Engineer/ Senior Geologist	Regulatory liaison, project management, data evaluation, report preparation	6
Staff Engineer/Staff Geologist	Data evaluation, report preparation	14
Drafting	Drafting	1
Administration/Clerical	Word processing, administrative support	1
	TOTAL HOURS FOR TASK	**23**

Activities included in total hours for above task:

- Site reconnaissance / Site visit
- Travel time if site is located within metropolitan area of consultant
- RAS preparation to include:
  - Develop and list Remedial Action Objectives (RAOs) that are protective of human health
  - Screen remedial alternatives based on known contaminant(s), site characteristics, and current status of site
  - Evaluate based on consistent criteria to include long-term effectiveness, implement ability, cost, and public acceptance
  - Detailed analysis of the effectiveness and cost of the screened remedial alternatives
  - Proposal of remedial action selected to be implemented with discussion of selection process
- Drafting
- Administrative support

- Regulatory agency liaison
- Senior Review
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup (must be proposed in the NTEP)

*Note: Hours for this task cannot be requested concurrently with hours requested for the Task "Corrective Action Plan Preparation Large/Small Scale Remediation Site"

**Note: The RAS also may be used, in conjunction with other requested documents, to support a request for No Further Action.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

D. CORRECTIVE ACTION PLAN IMPLEMENTATION

NDEP understands that no two remediation systems are identical due to site specific conditions. The level of appropriate effort for remediation system design also varies dependent upon the individual CEM. The following Guideline Task Tables associated with remediation system design tasks are presented as general guidelines only. If it is anticipated that the level of remediation system design effort will exceed the hours and costs summarized in the following tables, the higher level of effort should be proposed and accompanied by complete justification.

TASK D.1: SINGLE-SYSTEM TECHNOLOGY DESIGN

Scope of Work: This task consists of all personnel time to design a remediation system consisting of a single remediation technology (groundwater pump and treat; free product recovery; soil vapor extraction; bioventing; in-situ chemical oxidation delivery systems; etc.) This task does not include design of a passive remediation system.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review, regulatory liaison	4
Project Manager Senior Engineer/ Senior Geologist	Project management, system design, supervise preparation of construction drawings and specifications, regulatory liaison	10
Staff Engineer/Staff Geologist	System design	8
Administration/Clerical	Word processing, administrative support	2
Drafter	Drafting	16
	TOTAL HOURS FOR TASK	**40**

Activities included in total hours for above task:

- Final design of system
- Production of "As Planned" construction drawings and specifications. Refer to Task D.5 for "As Built" construction drawings.
- Drafting
- Administrative support
- Soliciting and evaluating bids for equipment/ construction of system
- Coordination/liaison with regulatory agencies
- Senior review

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time to acquire access to offsite properties if necessary

Note: Please refer to Appendix G for a discussion regarding receiving reimbursement for the purchase or rental of remediation equipment.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK D.2: SYSTEM DESIGN
REMEDIATION OF SOIL AND GROUNDWATER

Scope of Work: This task consists of all personnel time to design a system for the remediation of both soil and groundwater (soil vapor extraction with air sparge, dual-phase extraction, etc.).

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review, regulatory liaison	4
Project Manager/ Senior Engineer/ Senior Geologist	Project management, system design, supervise preparation of construction drawings and specifications, regulatory liaison	16
Staff Engineer/Staff Geologist	System design	10
Administration/Clerical	Word processing, administrative support	2
Drafter	Drafting	16
	TOTAL HOURS FOR TASK	**48**

Activities included in total hours for above task:

- Final design of system
- Production of "As Planned" construction drawings and specifications. Refer to Task D.5 for "As Built" construction drawings.
- Drafting
- Administrative support
- Soliciting and evaluating bids for equipment purchase and system construction
- Coordination/liaison with regulatory agencies
- Senior review

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time to acquire access to offsite properties if necessary

Note: Please refer to Appendix G for a discussion regarding receiving reimbursement for the purchase or rental of remediation equipment.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK D.3: CEM-CONDUCTED REMEDIATION SYSTEM INSTALLATION, START-UP & CALIBRATION

Scope of Work: The scope of work for this task consists of all CEM personnel time to perform installation, start-up and calibration of a soil and/or groundwater remediation system. **This assumes that system installation activities are conducted by a CEM who possesses an appropriate contractor's license.** Since the time necessary to perform this task will vary for each project due to site-specific parameters, costs will be recommended for reimbursement on a justified time and materials basis. Proposed costs must be presented on a Guideline Task Table and will be evaluated at the time of NTEP review.

Activities Necessary to Include in Proposed Task:

- Soliciting and evaluating bids
- Coordination with contractors/subcontractors
- Regulatory agency liaison
- Travel time
- Start-up & calibration of remediation system to meet performance specifications
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

Note: Refer to Task D.5 for "As Built" construction drawings.

TASK D.4: CEM OVERSIGHT OF REMEDIATION SYSTEM INSTALLATION, START-UP & CALIBRATION

Scope of Work: The scope of work for this task consists of all personnel time to coordinate and oversee the installation, start-up and calibration of a soil and/or groundwater remediation system. **This assumes that the CEM is supervising an outside (non-CEM) contractor who is performing system installation activities.**

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Project management, regulatory liaison, final inspection	26
Staff Engineer/ Geologist	Project coordination, onsite inspections, system start-up	20
	TOTAL HOURS FOR TASK	**46**

Activities included in total hours for above task:

- Soliciting and evaluating bids
- Coordination with contractors/subcontractors
- Regulatory agency liaison
- Inspections/observations during selective phases of remediation system construction
- Start-up and calibration of remediation system to meet performance specifications
- Travel time

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside the metropolitan area of the consultant
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time for CEM-conducted system installation tasks

Note: Refer to Task D.5 for "As Built" construction drawings.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK D.5: REMEDIATION SYSTEM AS-BUILT AND START-UP REPORT

Scope of Work: This task consists of all personnel time to produce an "As-built & Start-up Report" for submittal to the NDEP. The As-built & Start-up Report is to reflect the "as-built" configuration of the remediation system(s) and document baseline and start-up conditions. Baseline conditions (e.g., groundwater quality) and start-up conditions (e.g., influent & effluent vapor concentrations, influent & effluent mass removed/destroyed, and influent & effluent water quality, air flow rates, etc.) are to be monitored and documented to enable comparison to future monitoring data and evaluation of overall remediation system performance. The submitted drawings, plans, and specifications are to be an updated version of those used to solicit bids and construct the system if "As-built" conditions vary from "As-planned."

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review, regulatory liaison	4
Project Manager/Senior Engineer/ Senior Geologist	Project Management, supervise revision of construction drawings and specifications*, regulatory liaison	10
Staff Engineer/Staff Geologist	Revision of construction drawings and specifications	8
Administration/Clerical	Word processing, administrative support	4
Drafter	Revise/prepare figures/schematics	8
	TOTAL HOURS FOR TASK	**34**

* Revise construction ("As Planned") drawings to "As Built" drawings

Activities included in total hours for above task:

- Discussion of Remediation System installation and any deviation from "As-planned" design
- Discussion of Remediation System(s) start-up
- Inclusion of scaled drawings & figures that represent the "As-built" configuration for the remediation system (up-dated as needed from construction drawings)
- Provide listing of RAOs, performance measures, and remediation system metrics along with any calculations (equations) to be used to demonstrate remediation system performance
- Data assimilation and maintenance
- Drafting
- Administrative support
- Coordination with regulatory agencies
- Senior Review
- Revision to submittal if determined to be deficient by regulatory case officer

Potential activities or items that should be added to above table, as necessary:

- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK D.6: OVERSIGHT OF CONTAMINATED SOIL EXCAVATION

Scope of Work: This task consists of all personnel time to coordinate and oversee the excavation and treatment of impacted soils. NDEP understands that all excavation projects vary due to site-specific conditions. The following cost table, therefore, is presented as a general guideline for excavation activities that encompass one field day only. If it is anticipated that excavation activities will exceed one field day, additional hours should be proposed and justified. Conversely, if it anticipated that excavation activities will be completed in less than one field day, fewer hours should be proposed.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/Senior Geologist	Project management, regulatory liaison	2
Staff Engineer/ Staff Geologist	Prepare bids (if necessary), coordinate and oversee field activities and disposal of contaminated soil	12
	TOTAL HOURS FOR TASK	**14**

Activities included in total hours for above task:

- Soliciting/evaluating bids if it is anticipated soil excavation, loading, hauling and/or disposal costs will meet or exceed $3,000
- Coordinating field activities
- Onsite observations
- Collection of soil samples
- Transport samples to laboratory for analyses or prepare shipping package
- Coordinate disposal/treatment of contaminated soils
- Coordination/oversight of backfill operations
- Coordination/oversight of site restoration activities
- Regulatory agency liaison
- Travel time if site is located within metropolitan area of consultant

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time if excavation activities exceed one day
- Additional time to prepare excavation report, if requested by regulatory case officer

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK D.7: INJECTION OF IN-SITU CHEMICAL OXIDATION SOLUTIONS

Scope of Work: This task consists of all personnel time to procure, prepare and deploy in-situ chemical oxidation solutions (solutions) into the subsurface utilizing existing injection wells and/or trenches to enhance contaminant degradation. This task is arranged into two sub-tasks. Levels of effort for project management and field preparation activities are tabulated below. NDEP understands that levels of effort for actual field activities will vary from site to site pursuant to subsurface conditions and actual injection methodology. Levels of effort for field activities, therefore, must be proposed based on the results of the first injection event (deployment of solution into all injection wells and/or trenches at the site).

SKILL LEVEL	ACTIVITIES	TOTAL HOURS
Project Manager	Project management	1 hour per injection event
Technician/ Staff Engineer/ Staff Geologist	Injection event preparation: solution procurement and mixing, make ready for field activities, mobilize to site	4 hours per injection event
TOTAL HOURS OF SET-UP TIME PER INJECTION EVENT		**5**
Technician/ Staff Engineer/ Staff Geologist	Deployment of solution into all injection wells and/or trenches at the site	Proposed Hours (see note below)
TOTAL PROPOSED HOURS PER INJECTION EVENT		Total Proposed Hours

Activities included in total hours for above task:

- Solution procurement
- Solution dilution & mixing if necessary
- Preparation for field activities
- Travel time if site is located within the CEM's metropolitan area

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel

Note: Levels of effort for subsequent solution injection events should be proposed at the same levels of effort established pursuant to the first event.

If justified, a Change Order may be submitted to request an increase of hours for the initial injection for the regulatory case officer's review.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

E. PERMIT APPLICATIONS

The following tasks consist of all personnel time to prepare and submit permit applications required to perform assessment and remediation activities. Guideline Task Tables summarize typical application preparation efforts for specific types of permits. NDEP understands that the level of effort for application preparation varies, dependent upon type of permit and implementing regulatory agency. Applicants and CEMs should recognize that the levels of effort summarized for the following permit applications do not include permit fees, report preparation costs, or permit renewal fees.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

Air quality permitting for remediation systems operating in Clark County is performed by Clark County, Department of Air Quality (CCDAQ). Washoe County air permitting is performed by the Washoe County Health District (WCHD). Permitting for the remaining portions of the state is performed by NDEP's Bureau of Air Pollution Control.

TASK E.1: AIR QUALITY PERMITS

NDEP: CLASS III OPERATING PERMIT NOT MORE THAN 5 TONS OF EMISSIONS PER YEAR		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/ Senior Geologist	Senior review, regulatory liaison, project management	2
Staff Engineer/Geologist	Prepare permit application	8
TOTAL HOURS FOR EACH PERMIT APPLICATION		**10**

NDEP: CLASS II OPERATING PERMIT GREATER THAN 5 TONS, NOT MORE THAN 25 TONS OF EMISSIONS PER YEAR		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/Senior Geologist	Senior review, regulatory liaison, project management	4
Staff Engineer/Staff Geologist	Prepare permit application	18
TOTAL HOURS FOR EACH PERMIT APPLICATION		**22**

CLARK COUNTY: DEPARTMENT OF AIR QUALITY MINOR STATIONARY SOURCE PERMIT		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/Senior Geologist	Senior review, regulatory liaison, project management	4
Staff Engineer/Staff Geologist	Prepare permit application	18
TOTAL HOURS FOR EACH PERMIT APPLICATION		**22**

WASHOE COUNTY HEALTH DISTRICT AUTHORITY TO CONSTRUCT PERMIT		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/Senior Geologist	Senior review, regulatory liaison, project management	6
Staff Engineer/Staff Geologist	Prepare permit application	6
TOTAL HOURS FOR EACH PERMIT APPLICATION		**12**

TASK E.2: WATER DISCHARGE (NPDES) PERMITS

Note: All National Pollutant Discharge Elimination System (NPDES) Permits in the state of Nevada are processed by NDEP, Bureau of Water Pollution Control, Carson City, Nevada.

5-YEAR NPDES PERMIT		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/Senior Geologist	Senior review, regulatory liaison, project management	12
Staff Engineer/Staff Geologist	Prepare permit application	20
TOTAL HOURS FOR EACH PERMIT APPLICATION		**32**

TASK E.3: UNDERGROUND INJECTION CONTROL (UIC) PERMITS

Note: All UIC permits in the state of Nevada are processed by NDEP, Bureau of Water Pollution Control, Carson City, Nevada.

INDIVIDUAL PERMIT (UNEV)		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/ Senior Geologist	Senior review, regulatory liaison, project management	2
Staff Engineer/ Staff Geologist	Prepare permit application	16
Drafting	Prepare graphics	4
Administration/ Clerical	Administrative support	2
TOTAL HOURS FOR EACH PERMIT APPLICATION		**24**

GENERAL PERMIT		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/ Senior Geologist	Senior review, regulatory liaison, project management	2
Staff Engineer/ Staff Geologist	Prepare permit application	8
Drafting	Prepare graphics	2
Administration/ Clerical	Administrative support	2
TOTAL HOURS FOR EACH PERMIT APPLICATION		**14**

TASK E.4: PERMIT TO APPROPRIATE THE PUBLIC WATERS OF THE STATE OF NEVADA (ENVIRONMENTAL APPROPRIATIONS PERMIT)

Note: All Appropriation Permits in the state of Nevada are processed by the Division of Water Resources, Carson City, Nevada. All Water Rights Maps must be prepared by a State of Nevada Water Rights Surveyor. Additional time may be requested for CEM staff Water Rights Surveyor activities.

ENVIRONMENTAL APPROPRIATION'S PERMIT		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/Senior Geologist	Senior review, regulatory liaison, project management	2
Staff Engineer/Staff Geologist	Prepare permit application, coordinate map surveying	8
TOTAL HOURS FOR EACH PERMIT APPLICATION		**10**

TASK E.5: MISCELLANEOUS PERMITS

NDEP understands that the level of effort to prepare permits not summarized above varies depending upon permit type (building, encroachment, etc.) and the requiring agency (NDOT, city, etc.). Costs for preparing these miscellaneous permits should be proposed on a Task Summary Sheet, providing full justification of all efforts.

F. CORRECTIVE ACTIONS MONITORING & MAINTENANCE

TASK F.1: REMEDIATION SYSTEM OPERATIONS AND MONITORING

Scope of Work: This task consists of all personnel time for the operation and monitoring of a soil and/or groundwater remediation system. This task assumes multiple remediation systems are not being utilized at the site.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/Senior Geologist	Project management, regulatory liaison	1/month
Staff Engineer/ Staff Geologist	Monitor system operations, evaluate system, make adjustments to system	4/month
Technician	Monitor system operations, record operating parameters, inspect system, collect influent/effluent vapor and water samples	10/month
	TOTAL HOURS PER MONTH	**15**

Activities included in total hours for above task:

- Site visits
- Inspect remediation system
- Monitor remediation system operations
- Make adjustments to remediation system to optimize performance
- Maintain onsite log for operating parameters (flow rates, pressures, vacuum, etc.)
- Coordinate activated carbon change-outs
- Troubleshoot system to correct any problems
- Oversight of maintenance contractor
- Collecting samples of remediation system influent/effluent vapor and groundwater, and delivery to laboratory
- Travel time if site is located within the CEM's metropolitan area

Potential activities or items that should be added to above table, as necessary:

- Additional time for O&M of multiple remediation systems located at the same site
- Travel if located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Time to deploy and/or change out oxygen release compounds
- Additional time for maintenance contractor oversight due to complex remediation systems (e.g. systems extending off-site)

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK F.2: CEM-CONDUCTED MONTHLY REMEDIATION SYSTEM MAINTENANCE

Scope of Work: This task consists of all personnel time to perform monthly maintenance procedures of a soil and/or groundwater remediation system. **This task assumes that the CEM is conducting all maintenance activities on a single remediation system.**

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/Senior Geologist	Project management, regulatory liaison	1/month
Staff Engineer/ Staff Geologist/Technician	Perform onsite remediation system maintenance/repairs, coordinate with repair vendor when appropriate	10/month
	TOTAL HOURS PER MONTH	**11**

NDEP understands that the level of effort to complete this task will vary, depending upon remediation system and site characteristics. The hours summarized in the above Task Table should be considered rudimentary, or minimal. Some months, a CEM may be able to perform these activities in less time, while other months additional hours may be required for remediation system repairs. NDEP urges the CEM to propose the above hours, and keep in mind that a Change Order may be submitted if additional levels of effort are justified.

Activities included in total hours for above task:

- Site visits
- Remediation system maintenance, modifications and repair procedures in accordance with manufacturer's guidelines
- Coordinate equipment repairs with sub-contractor as necessary
- Change out oxygen release compounds, remove/replace oxygen bottles for diffusion systems, etc.
- Travel time if site is located within the CEM's metropolitan area

Potential activities or items that should be added to above table, as necessary:

- Additional time required for maintaining multiple remediation systems at the same site
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Travel if located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK F.3: REMEDIATION SYSTEM PERMIT REPORT PREPARATION

Scope of Work: This task consists of all personnel time to produce a permit report as stipulated in applicable permits (Air Quality, NPDES, UIC, Environmental Appropriations permit etc.) . **This Task should not be proposed if copies of quarterly Status Reports are being submitted to permitting agencies to provide this information.**

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal/Project Manager/ Senior Engineer/ Senior Geologist	Senior review, regulatory liaison, project management	1/report
Staff Engineer/Staff Geologist	Prepare report	4/report
Administration/Clerical	Administrative support	1/report
	TOTAL HOURS PER REPORT	**6**

Activities included in total hours for above task:

- Data assimilation
- Regulatory agency liaison
- Administrative support

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

Assumes:

- Quarterly Status Reports are not being submitted to fulfill permit reporting requirements

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK F.4: GROUNDWATER MONITORING WELL SAMPLING

Scope of Work: This task consists of all personnel time to purge and sample one or more groundwater monitoring wells for analyses of dissolved petroleum hydrocarbon constituents and in-situ oxidation and bioremediation parameters.

SKILL LEVEL	ACTIVITIES	HOURS FOR FIRST OR ONLY WELL	HOURS FOR EACH ADDITIONAL WELL
Project Manager	Project set-up & supervision	1	-
Technician/Staff Engineer/Staff Geologist	Purge & sample well(s), deliver samples to lab, coordinate purge water disposal	4	1
	TOTAL HOURS	**5 for first or only well**	**1 for each additional well**

Activities included in total hours for above task:

- Prepare and decontaminate equipment
- Travel time if site is located within metropolitan area of consultant
- Purge groundwater monitoring well(s)
- Recovery of groundwater stabilization data during well purging
- Recovery of groundwater samples for chemical analyses
- Recovery of groundwater oxidation and bioremediation parameter data using CEM equipment and meters in the field
- Recovery of groundwater samples for oxidation and bioremediation parameter analyses to be performed by an analytical laboratory
- Time to transport samples to lab, or prepare shipment package
- Coordinate disposal of purge water
- Coordination of traffic plan and placement of traffic barriers

Potential activities or items that should be added to above table, as necessary:

- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Additional time for specialized sampling methodologies, as necessary

Assumes:

- Wells have been properly developed

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK F.5: GOUNDWATER MONITORING / REMEDIATION STATUS REPORT PREPARATION

Scope of Work: This task consists of all personnel time to produce a status report summarizing all groundwater monitoring & sampling results and remediation activities as required by the regulatory case officer. Such reports are commonly prepared on a quarterly basis.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review	1
Project Manager/ Senior Engineer/ Senior Geologist	Report preparation	4
Staff Engineer/Staff Geologist	Report Preparation	4
Administration/Clerical	Administrative support	1
Drafter	Drafting	2
	TOTAL HOURS FOR TASK	**12**

Activities included in total hours for above task:

- Summary of all site activities during reporting period (commonly quarterly)
- Data assimilation
- Regulatory agency liaison
- Administrative support
- Preparation and updating of contaminant plume maps and other figures as required by the regulatory case officer
- Discussion of remediation system performance
- Request for site closure, if appropriate
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & markup
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency
- Additional time to provide discussions regarding the results of limited assessment or remedial activities such as the installation of one well or the excavation of contaminated soil, if not discussed in a separate stand-alone report.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK F.6: REMEDIATION EQUIPMENT STATUS FORM PREPARATION

Scope of Work: This task consists of all personnel time to complete a Remediation Equipment Status Form. **If requested by NDEP, this form is to be completed and submitted to Fund staff.** NDEP may request submittal of the form pursuant to the following circumstances:

- To provide a listing and status of all existing Fund-reimbursed remediation equipment at a site (packaged remediation systems, blowers, carbon canisters, etc.).
- Following the purchase of Fund-reimbursed remediation equipment.
- Following modification of an existing Fund-reimbursed remediation system.
- Following change in ownership (claimant) of Fund-reimbursed remediation system.
- Following removal/decommissioning of Fund-reimbursed remediation equipment.

Te Remediation Equipment Status Form is available at our website at:
http://ndep.nv.gov/bca/fundhome.htm

This task should be completed during a previously scheduled site visit.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Status Form preparation/review	0.5
Staff Engineer/ Staff Geologist	Status Form preparation	1
Administration/ Clerical	Word processing/administrative support	0.5
	TOTAL HOURS FOR TASK	**2**

Activities included in total hours for above task:

- Photos of remediation equipment
- Complete descriptions and specifications of equipment
- Runtime and operational data assimilation
- Presentation of background information

Potential activities or items that should be added to above table, as necessary:

- In-house equipment usage (camera)

Assumes:

- Field activities are performed during a previously scheduled site visit.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK F.7: MEETINGS WITH REGULATORY AGENCY STAFF

Scope of Work: This task consists of all personnel time to prepare for an NDEP requested meeting. Meetings may include project status meetings, remediation system optimization meetings, or other meetings requested by the NDEP and deemed appropriate to help move the project along towards closure. Meetings for these purposes may occur from project inception until a "No Further Action" is issued by NDEP. This task is not for use when meetings are not requested/required by NDEP staff or are required due to Facility Owner/Operator noncompliance or recalcitrance.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Principal	Senior review; project planning and coordination	1
Project Manager/ Senior Engineer/ Senior Geologist	Senior review; presentation development	6
Staff Engineer/Staff Geologist	Meeting management; coordination, NDEP communications; data assimilation and review	4
Administration/Clerical	Word processing, administrative support	1
Drafting	Drafting	2
	TOTAL HOURS FOR TASK	**14**

Activities included in total hours for above task:

- Planning and coordination
- Data assimilation
- Regulatory agency liaison
- Administrative support
- Drafting support
- Coordination with other affected parties
- Presentation of electronic data (e.g., PowerPoint or other)
- Copies for handouts during meeting

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, travel time and meeting attendance
- For more complex sites, multiple sites with comingled plumes, or larger scale meetings provide justification for additional hours

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

G. SITE CLOSURE ACTIVITIES

TASK G.1: NO FURTHER ACTION REQUEST NO CONTAMINATION EXCEEDING STATE ACTION LEVELS

Scope of Work: This task consists of all personnel time to produce a stand-alone report requesting a regulatory determination of no further action (NFA) with no known soil and/or groundwater contamination meeting or exceeding state action levels left in place. **This task will only be concurred with if documentation is provided that verifies the regulatory case officer has requested this information be provided in a stand-alone report as opposed to within another document (status report, site characterization report, etc.).**

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Data compilation, report preparation	2
Staff Engineer/ Staff Geologist	Data compilation, report preparation	8
Drafter	Drafting	2
Administration/Clerical	Word processing/administrative support	2
	TOTAL HOURS FOR TASK	**14**

Activities included in total hours for above task:

- Compiled data supporting NFA request
- Revision to submittal if determined to be deficient by regulatory case officer

Potential activities or items that should be added to above table, as necessary:

- Vehicle Mileage, CEM in-house supplies, per diem & vendor markup
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK G.2: NO FURTHER ACTION REQUEST CONTAMINATION EXCEEDING STATE ACTION LEVELS

Scope of Work: This task consists of all personnel time to produce a stand-alone report requesting a regulatory determination of no further action (NFA) with known soil and/or groundwater contamination meeting or exceeding state action levels left in place. The report must present data pursuant to calculations and modeling that verify the groundwater contaminant plume will be remediated by natural attenuation before it migrates offsite or impacts sensitive receptors and/or known soil contamination will not impact groundwater or other sensitive receptors. See Task A.15 for modeling activities. **This task will only be concurred with if documentation is provided that verifies the regulatory case officer has requested this information be provided in a stand-alone report as opposed to within another document (status report, site characterization report, etc.).**

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Performing calculations, report preparation	7
Staff Engineer/ Staff Geologist	Performing calculations, report preparation	9
Drafter	Drafting	2
Administration/Clerical	Word processing/administrative support	2
	TOTAL HOURS FOR TASK	**20**

Activities included in total hours for above task:

- Calculations and modeling results
- Compiled data supporting NFA request
- Revision to submittal if determined to be deficient by case regulatory officer

Potential activities or items that should be added to above table, as necessary:

- Vehicle Mileage, CEM in-house supplies, per diem & vendor markup
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK G.3: SITE CLOSURE PRESENTATION PREPARATION TYPICAL SITE

Scope of Work: This task consists of all personnel time to produce a Site Closure Presentation summarizing all historic assessment, remediation and sampling activities into a package that requests an exemption from corrective actions for contaminated groundwater per NAC 445A.22725(2). The closure presentation is an interactive presentation between the CEM for the facility owner and NDEP Staff considering the request for a no further action determination. The presentation may be requested by NDEP following submittal and review of other site closure-related documents. It is to be provided in a forum that allows discussion of how this site meets the exemption criterion.

SKILL LEVEL	ACTIVITIES	TOTAL HOURS
Principal	Senior Review	1
Project Manager	Project management, presentation package / report review	2
Staff Engineer/ Staff Geologist	Presentation Preparation	24
Clerical	Presentation preparation support, administrative support	1
	TOTAL HOURS FOR TASK	**28**

Activities included in total hours for above task:

- Data assimilation
- Regulatory agency liaison
- Preparation and updating of contaminant plume maps and other figures as required by the regulatory case officer
- Summary of all site activities during life of the project to include:
    1. Site history;
    2. Corrective action and remediation history;
    3. Magnitude and extent of contamination;
    4. Hydrogeologic setting and conditions;
    5. Groundwater contaminant plume stability;
    6. Amount of contaminant mass and concentration reduction;
    7. Current contaminant concentrations and distribution; and
    8. Potential receptors in the site vicinity and possible contaminant transport pathways.
- Request for NFA, if appropriate
- Preparation of an electronic deliverable (PowerPoint or similar technology) for presentation
- Administrative support

- Senior review
- Revision to submittal if determined to be deficient by regulatory case officer

Potential activities or items that should be added to above table, as necessary:

- Vehicle mileage, CEM in-house supplies, per diem & markup
- Revision of submittal if requested by regulatory agencies, including conditions unknown to CEM, or extenuating conditions requiring consideration as requested by the agency

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK G.4: COORDINATION OF PERMANENT WELL CLOSURE

Scope of Work: This task consists of all personnel time to coordinate the permanent closure of groundwater monitoring and/or remediation wells following receipt of a No Further Action determination from the implementing regulatory agency. This task is arranged into two sub-tasks. Project management/set-up activities are summarized on an hourly basis in the table below.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Project management, regulatory liaison	2
Staff Engineer/ Staff Geologist	Coordinate field activities, submit closure letter to Division of Water Resources, submit & evaluate bids (if necessary), coordinate sub-contractors, coordinate waste disposal	6
	TOTAL HOURS FOR TASK	**8**

Activities included in total hours for above task:

- Soliciting and evaluating bids if it is anticipated that contracted costs will meet or exceed $3,000
- Coordinating field activities
- Coordinating site restoration (as result of well abandonment only - if necessary)
- Onsite observations
- Coordination/liaison with regulatory agencies
- Submittal of closure letter to Division of Water Resources
- Travel time if site is located within metropolitan area of consultant
- Coordination of waste disposal

Potential activities or items that should be added to above table, as necessary:

- Additional onsite observation activities if required by regulatory case officer
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup

Assumes:

- Wells abandoned in accordance with Nevada Administrative Code 534.420

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK G.5: REMEDIATION SYSTEM DECOMMISSIONING AND SITE RESTORATION

Scope of Work: This task consists of all personnel time to coordinate the decommissioning/removal of project remediation system(s) and all associated equipment, and perform site restoration activities. This task assumes that field work will be performed by a sub-contractor.

REMEDIATION SYSTEM DECOMMISSIONING		
SKILL LEVEL	**ACTIVITIES**	**TOTAL HRS**
Project Manager/ Senior Engineer/ Senior Geologist	Regulatory liaison, project management	2
Staff Engineer/ Staff Geologist	Prepare, submit and evaluate bid packages (if necessary), coordinate equipment and waste disposal	6
	TOTAL HOURS FOR TASK	**8**

Activities included in total hours for above task:

- Soliciting and evaluating bids if it is anticipated that contractor costs will meet or exceed $3,000
- Coordinating field activities
- Onsite activities/observations
- Coordination/liaison with regulatory agencies
- Travel time if site is located within metropolitan area of consultant
- Coordination of equipment and waste disposal

Potential activities or items that should be added to above table, as necessary:

- Additional onsite observation activities if required by regulatory case officer
- Additional time for system decommissioning/site restoration activities conducted by the CEM.
- Vehicle mileage, CEM in-house supplies, per diem & vendor markup
- Travel time if site is located outside metropolitan area of consultant: refer to Appendix B for discussion regarding reimbursable travel

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

H. NOT-TO-EXCEED PROPOSAL (NTEP) OR CHANGE ORDER PREPARATION

TASK H.1: NTEP PREPARATION

Scope of Work: This task consists of all personnel time to produce an NTEP.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	NTEP preparation/review	1
Staff Engineer/Staff Geologist	NTEP preparation	2
Administration/Clerical	Word processing/administrative support	1
	TOTAL HOURS FOR TASK	**4**

Activities included in total hours for above task:

- Submittal of additional information if requested by NDEP

Potential activities or items that should be added to above table, as necessary:

- Additional time to prepare large-scope NTEPs. Examples include, but are not limited to, long-term (annual) NTEPs which propose sampling and monitoring tasks along with additional assessment activities, well installation, remediation system design/installation, etc.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK H.2: CHANGE ORDER PREPARATION

Scope of Work: This task consists of all personnel time to produce a Change Order summarizing and requesting additional work not discussed in an existing NTEP. A Change Order is prepared using NTEP task forms and is accompanied by a cover letter discussing the necessity for the additional work and any other pertinent information. The Change Order must clearly identify the existing NTEP it is associated with. Please see the discussion regarding Change Orders in Section 2.2 of this document.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/ Senior Geologist	Change Order preparation/review	1
Staff Engineer/Staff Geologist	Change Order preparation	2
Administration/Clerical	Word processing/administrative support	1
	TOTAL HOURS FOR TASK	**4**

Activities included in total hours for above task:

- Submittal of additional information if requested by NDEP

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

I. PREPARATION OF APPLICATION FOR PETROLEUM FUND COVERAGE AND REIMBURSEMENT CLAIMS

TASK I.1: PREPARATION OF APPLICATION FOR PETROLEUM FUND COVERAGE

Scope of Work: This task consists of all personnel time for the preparation and submittal of an Application for Petroleum Fund coverage.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/Senior Geologist	Senior review	1
Staff Engineer/ Staff Geologist	Prepare Application for Petroleum Fund coverage	3
Administration/Clerical	Administrative/clerical support	1
	TOTAL HOURS PER SUBMITTAL	**5**

Activities included in total hours for above task:

- Completion and submittal of all necessary forms, signatures and any other pertinent information
- Regulatory liaison
- Submittal of additional information if submittal is deficient

Potential activities or items that should be added to above table, as necessary:

- Additional time to prepare figures for large-scale releases
- Additional time to provide information to initially establish the claimant as a vendor to the State of Nevada
- Time to assemble additional information to support the application such as UST system leak detection or inventory data, copies of invoices/receipts from UST system maintenance/repair vendors, etc.

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

TASK I.2: PREPARATION OF PETROLEUM FUND REIMBURSEMENT CLAIM

Scope of Work: This task consists of all personnel time for the preparation and submittal of a reimbursement claim to the State of Nevada Petroleum Fund. **Reimbursement claims are commonly submitted on a quarterly basis to coincide with scheduled Board meetings**. The initial claim must be received by NDEP no later than 12 months following release discovery. The final claim of the project must be received by NDEP no later than 12 months following the date of the regulatory agency-issued "No Further Action" letter.

SKILL LEVEL	ACTIVITIES	TOTAL HRS
Project Manager/ Senior Engineer/Senior Geologist	Senior review	1
Staff Engineer/Staff Geologist	Prepare Reimbursement Claim	3
Administration/Clerical	Administrative/clerical support	1
	TOTAL HOURS PER SUBMITTAL	**5**

Activities included in total hours for above task:

- Completion and submittal of all necessary forms, invoices, bids, etc.
- Regulatory liaison
- Submittal of additional information if requested by NDEP

Potential activities or items that should be added to above table, as necessary:

- Additional time to prepare claims requesting reimbursement for more than one quarter (three months) of activities

The CEM must propose the level of effort that will accomplish this Task. If this Task can be performed in less time than summarized in the above table, the reduced level of effort must be proposed. **If it is necessary to propose additional time to perform this Task, justification must be provided.**

APPENDIX A

CEM IN-HOUSE CHARGES

NDEP will recommend reimbursement for the following CEM-owned in-house materials and rental equipment, not to exceed the below summarized costs, only. Proposed costs for items that do not appear in the tables should be calculated using the CEM Equipment Usage Rate Calculation provided in Appendix C. A CEM usage log must accompany each claim requesting reimbursement for all in-house equipment rental and materials costs. **Because allowable state rates are subject to change, NDEP urges the CEM to contact this office at (775) 687-9368 or check our website at *http://ndep.nv.gov/bca/fundhome.htm* for the latest information regarding allowable rates.**

CEM IN-HOUSE EQUIPMENT RENTAL	
EQUIPMENT	**RATE/DAY**
PID - OVM	$100
Sampling Pump (Including Decon Materials)	$25
Variable-Flow Purge Pump (Including Decon Materials)	$95
pH/Conductivity/Temp Meter	$25
Dissolved Oxygen Meter	$25
Water Level Meter	$25
Anemometer	$25
Redox Meter	$25
Air Sample Pump	$25
Air Sample Bag	$10
Oil/Water Interface Probe	$50
Data Logger (Including Transducers)	$125
Portable Generator	$50
Purge Bailer	$10
Hand Auger	$10
Digital Camera	$10
Hydrogen Peroxide Injection Wagon	$110

Note: NDEP has not established usage rates for specialized equipment (e.g. "multi meters", "flow through cells", etc.) due to their variable natures and costs. If this type of equipment will be used, please refer to Appendix C to establish a usage rate.

CEM IN-HOUSE MATERIALS	
MATERIALS	**COST**
Disposable Bailer (Each)	$9
55-Gallon Drum (Each)	$50
Tyvek Coveralls (Each)	$9

APPENDIX B

CEM TRAVEL AND PER DIEM RATES

CEM TRAVEL AND PER DIEM RATES

Meal, lodging, CEM vehicle mileage, and travel expenses will be recommended for reimbursement pursuant to allowable state rates only. To request these expenses for reimbursement, the claim must include information specifying the following:

- Number of CEM staff associated with each individual per diem request per day (e.g., two people for one night lodging @ $77/night; dinner for two people @ $23/dinner, etc.)
- Number and type of meal(s)
- Number of nights claimed for lodging.

For rental vehicles, NDEP will reimburse for either vehicle mileage (as summarized below) or the actual cost of the rental. Actual vehicle rental fees must be requested as non-CEM costs. Additionally, justification for the usage of a rental vehicle rather than a CEM-owned vehicle must be provided. The following tabulated amounts are pursuant to allowable state rates as of January 1, 2011. **Because allowable state rates are subject to change, NDEP urges the CEM to contact this office at (775) 687-9368 or check our website at *http://ndep.nv.gov/bca/fundhome.htm* for the latest information regarding allowable rates.**

CEM TRAVEL/PER-DIEM RATES		
ITEM	**CURRENT RATE AS OF SEPTEMBER 2012**	**ACTUAL RATE**
Lodging (excluding room tax & fees)	$77 per night	Visit Website for Current Rate
Breakfast	$7	Visit Website for Current Rate
Lunch	$11	Visit Website for Current Rate
Dinner	$23	Visit Website for Current Rate
Incidentals (tips)	$5	Visit Website for Current Rate
Mileage (personal, rental or company vehicle)	$0.555 per mile	Visit Website for Current Rate

PER DIEM REIMBURSEMENT:

Receipts are not necessary for meals.
Receipts are necessary for lodging.
Lodging room tax and misc. fees are reimbursable.

LODGING: NDEP's reimbursement recommendation policy for CEM lodging expenses is as follows:

- **Nevada-Based CEMs:** NDEP will recommend reimbursement for lodging associated with sites located 50 miles or more from the CEM's office, unless the site is located in the Las Vegas, or Reno-Carson City areas.

- **Out-of-State CEMs:** NDEP will recommend reimbursement for lodging associated with sites located 50 miles or more from the Las Vegas or Reno-Carson City areas only.

MEALS: NDEP's reimbursement recommendation policy for CEM meal expenses is as follows:

- **Nevada-Based CEMs:** NDEP will recommend reimbursement for meals associated with sites located 50 miles or more from the CEM's office, unless the site is located in the Las Vegas, or Reno-Carson City areas.

- **Out-of-State CEMs:** NDEP will recommend reimbursement for meal costs associated with sites located 50 miles or more from the Las Vegas or Reno-Carson City areas only.

TRAVEL: NDEP's reimbursement recommendation policy for CEM vehicle mileage and travel costs is as follows:

Nevada-Based CEMs: Vehicle mileage costs will be recommended for reimbursement for project-related travel, with the following exceptions/specifications:

- If an owner/operator with a project site located within the Las Vegas or Reno-Carson City metropolitan areas elects to contract a non-local CEM, the CEM's vehicle mileage costs accrued from their out-of-town office to the project site will not be recommended for reimbursement.

- Air travel and vehicle rental costs associated with sites located outside the metropolitan area of the CEM will be recommended for reimbursement. Justification for renting a vehicle or traveling by air must be provided with each claim. Please note that air fare and rental car fees must be requested as non-CEM costs.

Out-of-State CEMs:

- Costs associated with out-of-state travel (from a CEM office located outside the state to a site in Nevada) are not reimbursable.

- Vehicle mileage or airline ticket costs associated with traveling to a site located in the Las Vegas or Reno-Carson City areas will not be recommended for reimbursement.

- Vehicle mileage costs associated with traveling to a rural Nevada site (outside the Las Vegas or Reno-Carson City metropolitan areas) will be recommended for reimbursement, beginning from the closest metropolitan area to the site.

- Project-related vehicle mileage costs within the area of the site will be recommended for reimbursement.

- Rental vehicle costs for work performed in the Las Vegas or Reno-Carson City areas will **not** be recommended for reimbursement.

- Rental vehicle costs for work performed in rural Nevada sites will be recommended for reimbursement, beginning from the closest metropolitan area to the site. Justification for using a rental vehicle must be provided with any reimbursement claim.

Note: For all projects receiving reimbursement from the State of Nevada Petroleum Fund, the CEM must analyze cost efficiency regarding field work performed at remote sites. The efficiency of costs associated with per diem (lodging and meals in the project town, or the town located closest to the project site) must be evaluated against costs which will be accrued travelling to and from the site on a daily basis, and staff overtime hours. Analyses and justification of such costs must appear in the NTEP.

APPENDIX C

CEM EQUIPMENT USAGE RATE CALCULATION

CEM EQUIPMENT USAGE RATE CALCULATION

NDEP will not recommend reimbursement for the purchase of CEM in-house equipment. The below calculation is provided to facilitate the reimbursable usage rate for CEM equipment that is not listed in Appendix A. Examples may include low-flow groundwater sampling equipment, multi-meters, etc.

- Cost of equipment X 1.5 (to allow for overhead and maintenance) = adjusted cost
- Adjusted cost/500 hours = hourly rate
- Hourly rate X 8 hours = daily rate
- Hourly rate X 35 hours = weekly rate
- Hourly rate X 100 hours = monthly rate

Example:

- $1,000 piece of equipment
- $1,000 X 1.5 = $1,500
- $1,500/500 hours = $3/hour; $3 X 8 hours = $24/day
- $3 X 35 hours = $105/week; $3 X 100 hours = $300/month

The CEM must provide NDEP with a written request to establish the usage rate for the equipment. The request must include a description of the equipment along with applicable invoice(s) or receipt(s), and the proposed rates pursuant to the above calculations. NDEP's written concurrence with the newly-established rates must be provided with each NTEP and reimbursement claim on which the equipment is listed.

The above method is only to be used for equipment owned and operated by CEMs. NDEP urges CEMs to purchase the equipment necessary to conduct business. **If a CEM consistently rents commonly-used equipment from a rental company, NDEP will recommend reimbursement for no more than the rates listed in Appendix A.**

APPENDIX D

NTEP SUBMITTAL FORMS & INSTRUCTIONS

NTEP SUBMITTAL FORMS & INSTRUCTIONS

NTEPs must be submitted on the forms supplied on pages D-4 (NTEP Cover Sheet) and D-5 (NTEP Task Submittal Form) or representative reproductions thereof. Each proposed task must be summarized on a separate NTEP Task Submittal Form. The NTEP Cover Sheet form must be used to summarize the total proposed NTEP amount. Please refer to Section 2 of this document for NTEP filing instructions.

NTEP TASK SUBMITTAL FORM

Petroleum Fund Cost Guidelines Task Number:

Provide the Task Number of the proposed task (A.6, E.2, etc.). **If the proposed task does not correlate to a Cost Guidelines Task, indicate as "Misc." and provide a complete description of the proposed activities.**

Petroleum Fund Case ID Number:

Provide the case number assigned by Petroleum Fund staff pursuant to an Application for Coverage.

Facility ID Number:

Provide the NDEP-assigned State Facility identification number.

CEM-Assigned NTEP Tracking Number:

CEM-assigned tracking numbers provide a direct link between each NTEP and its associated claim(s). Provide a unique CEM-assigned tracking number for each NTEP. Each reimbursement claim must refer to **only one** specific NTEP by providing the NTEP tracking number on the CEM Costs Invoice Itemization Sheet(s).

Task Description:

Provide a detailed description of the proposed task. If the NTEP is provided for tasks scheduled pursuant to a timeline or schedule, provide start and end dates (e.g. quarterly groundwater sampling for calendar year 2012, etc.).

CEM Skill Level, In-House Equipment, Vehicle Mileage, Per Diem, or Outside Contractor Markup:

- CEM activities: Enter the staff level (Project Manager, Staff Geologist, etc.)
- In-house equipment: Identify proposed equipment to be used (sampling pump, disposable bailers, pH meter, etc.)

- CEM vehicle mileage: Enter "vehicle mileage"
- Per Diem: Enter type of per diem (meals, lodging, etc.)
- Outside contractor markup: Identify type/name of outside services (markup on soil disposal, etc.)

Refer to Appendix A for acceptable CEM in-house equipment rates. If CEM in-house equipment is to be used that is not listed in Appendix A, refer to Appendix C for usage rate calculation instructions. Refer to Appendix B for State approved per diem/vehicle mileage rates and travel policies.

Rate:

List the appropriate rates, as follows:
- Hourly rate (cost) for CEM staff
- Cost of in-house equipment per proposed unit (hour, day, etc.)
  - NTEPs which propose equipment rates calculated pursuant to Appendix C must be accompanied with NDEP's written concurrence for the rate
- Cost per mile for vehicle mileage
- Cost for meal(s) or lodging per proposed unit (meal, day, etc.)
- Percentage of markup requested, up to 15%

Total Units:

List the number of proposed units as follows:
- Hours of proposed CEM staff time
- Units of in-house equipment usage (hours, days, etc.)
- Number of proposed vehicle miles
- Meal (breakfast, lunch, dinner), day(s) (lodging), etc.
- Cost of non-CEM invoice being requested for markup

Description of Activities:

Present descriptions as follows:
- CEM staff: Activities proposed to be conducted (report preparation, permit application submittal, remediation system maintenance, etc.)
- Reason for usage of in-house equipment: Groundwater sampling, etc.
- Qualification of vehicle mileage: Round-trip to site for groundwater sampling, etc.
- Qualification of per diem: 2 dinners for 1 staff, two days, etc.
- Service provided by vendor that is marked up

Proposed Cost:

List the total cost of each proposed line item (rate x units).

Total Proposed Task Amount:

Total proposed cost of task (sum of Proposed Cost column).

Justification for Task Cost Overage or Non-Usage of Cost Guidelines Task:

Complete justification must be provided if the proposed task hours exceed those summarized in the appropriate task table in the Cost Guidelines document. Complete justification must also be supplied if the CEM is proposing a task that does not appear in the Cost Guidelines document. **If a CEM anticipates any task will be completed in less time than summarized in a Guideline Task Table in this document, NDEP requires that the reduced level of effort is proposed.**

NTEP COVER SHEET

Petroleum Fund Case ID Number: _____

Facility ID Number: _____

CEM Assigned NTEP Tracking Number: _____

PETROLEUM FUND TASK NO. (Attach each appropriate NTEP Task Submittal form)	PROPOSED TASK AMOUNT
TOTAL PROPOSED NTEP AMOUNT:	

I have reviewed and understand the proposed costs summarized in this proposal. I understand that I am responsible for any proposed costs not recommended for reimbursement by the State of Nevada Petroleum Fund staff, and which I have agreed with the CEM are appropriate to incur, and/or have directed to incur such costs on the subject project.

_____ /_____
Claimant Signature and Date

I hereby attest that the above tasks are associated with the above-referenced Petroleum Fund Case and that the attached NTEP Task Submittal Forms were prepared using the State of Nevada Petroleum Fund CEM Cost Guidelines.

_____ /_____
CEM Signature and Date

NTEP TASK SUBMITTAL FORM

Petroleum Fund Cost Guidelines Task Number: _____

Petroleum Fund Case ID Number: _____ Facility ID Number: _____

CEM Assigned NTEP Tracking Number: _____

Task Description (Including Start Date & End Date):

_____

_____

_____

SKILL LEVEL, IN-HOUSE EQUIP, HICLE MILEAGE,)IEM, OR OUTSIDE :ONTRACTOR MARKUP	RATE	TOTAL UNITS	DESCRIPTION OF ACTIVITIES	PROPOSED COST
			TOTAL PROPOSED TASK AMOUNT	

Justification for Task Cost Overage or Non-Usage of Cost Guidelines Task:

_____

_____

_____

_____

APPENDIX E

REIMBURSABLE VERSUS NON-REIMBURSABLE COSTS

REIMBURSABLE VERSUS NON-REIMBURSABLE COSTS*

*All information previously included in Board Resolution #96-004 has been included in this appendix.

Costs that are eligible for reimbursement are referred to as "eligible costs", which are costs that are directly associated with assessment and remediation activities that are authorized or concurred with by the regulatory case officer. With the exception of initial abatement or emergency abatement, activities directly associated with regulatory agency required work are to be proposed in Work Plans and/or NTEPs, and concurred with by the regulatory case officer. Therefore, this document provides examples of common tasks directly associated with assessment and remediation. CEM equipment (meters, pumps, etc.), materials (disposable bailers, 55-gallon drums, etc.) and travel costs (vehicle mileage, meal and lodging per diem) are reimbursable at the rates listed in Appendix A and B.

Ineligible costs are not reimbursable, and are associated with activities not specifically concurred with by the regulatory case officer. Examples of ineligible costs include additional activities required by the claimant to be conducted for their convenience but not directly associated with assessment or remediation (e.g., rush turn-around fees on laboratory analyses, the rental of bins to store excavated soil instead of staging it onsite, hiring an out-of-state consultant, using a non-local "preferred contractor" for waste disposal which charges more than known local vendors, etc.).

Assessment and remediation costs that will be recommended for reimbursement include but are not limited to:

- The cost of a specific item or service, plus eligible markup. Please refer to Appendix H for a discussion regarding reimbursable markup.
- State reimbursement rates for CEM equipment and materials usage, vehicle mileage and per diem, as summarized in Appendix B.
- Usage rates for CEM equipment that is not listed in Appendix A which have been calculated pursuant to Appendix C. Please note that Fund staff must review and approve all usage rates calculated pursuant to Appendix C.
- Shipping costs for laboratory samples and remediation equipment.
- Up to 15% markup on the first $3,000 in cumulative laboratory analytical costs.
- Claimant-provided goods and services at cost. A claimant cannot profit from providing goods and services.
- Well vault replacement will be considered if it can be verified that the damage is from normal wear and tear.

Costs associated with the following services will <u>not</u> be recommended for reimbursement:

<u>Ineligible Costs:</u>

- Supplies that the CEM requires to perform daily business such as office equipment (computers, software, copiers, etc.), purchase of in-house field equipment which is subsequently invoiced based on a usage rate, work clothing, fuel for company vehicles, tools necessary to maintain and repair remediation systems (wrenches, saws, etc.).
- CEM or claimant attendance at training classes, workshops or seminars.
- CEM usage fees for office equipment such as computers and copiers.
- Phase I Environmental Site Assessments for real estate transactions.
- Confirmation of a UST system release, such as the performance of voluntary assessment activities, release confirmation lab analyses, voluntary UST system removal, etc.
- Relocation of inhabitants. (May be reimbursable if third party claimant).
- Site restoration due to issues not associated with remediation, unless concurrence is provided by the Fund.
- UST system repairs or upgrades.
- Assessment and/or remediation activities that have not been authorized by the regulatory case officer.
- Activities, equipment or materials which are solely for the convenience of the claimant, such as additional fees attributed to using an out-of-state CEM, non-regulatory required rush lab turn around fees, replacement of wells due to site improvements (construction, site facility demolition and re-building, etc.).
- Demolition of site structures or appurtenances unless concurred with by the regulatory case officer to facilitate efficient and less costly remediation methods (removing an abandoned structure to allow contaminated soil excavation, etc.).
- Non-justified emergency abatement as discussed in Appendix F, as determined by the regulatory case officer.
- UST system removal costs unless required by the regulatory case officer to facilitate site remediation.
- Remediation equipment or well damage caused by weather unless concurred with by Fund staff.
- Release-source identification.
- The additional costs associated with goods or services provided by out-of-state suppliers when similar goods or services are available locally, including non-local CEM costs (claimant's convenience).
- Activities, equipment and materials necessary to maintain compliance with UST operating regulations, such as precision tightness testing, the purchase and maintenance of leak detection equipment, etc.
- Well vault replacement for reasons other than normal wear and tear.
- Costs attributable to a non-justifiable delay in clean-up.
- Activities which pre-date the leak discovery date.
- Insurance or bond purchases (equipment insurance, etc.).

Ineligible Costs, Continued:

- Laboratory analyses which are not required by the regulatory case officer (TPH analysis of groundwater samples, etc.).
- Petroleum Fund Board meeting attendance, unless directed by the Board or the regulatory case officer.
- Excavation/transportation of material which is not associated with assessment/remediation activities.
- Rush laboratory turnaround fees which have not been authorized by the regulatory case officer.

Non-Reimbursable Expenditures:

- Absence of 3 bids or usage of a vendor who was not the lowest bidder in a situation where bidding was required pursuant to NAC 590.760 (4)(e), unless good cause is provided and concurred with by the regulatory case officer.
- Additional costs associated with contracting a vendor who was not the lowest bidder with no justification provided.
- Repeating a previously contracted service where the original service was done incorrectly (e.g., replacement of a groundwater monitoring well initially installed with the screened interval above the water table including associated CEM oversight costs).
- CEM equipment usage and travel rates which exceed those listed in Appendices A & B. Because these rates are commonly adjusted, it is important to check the Fund web page for updates at *http://ndep.nv.gov/bca/fundhome.htm* on a regular basis.
- Alcoholic beverage purchases.
- Costs for which the claimant was not actually charged.
- Costs which exceed 5% or $3,000, whichever is less, of the concurred upon NTEP.
- Duplication or overlap of CEM efforts.
- Rental of land or storage space unless approved by Fund staff.
- Recurring charges not justified (remediation equipment that is repeatedly serviced for the same problem and charged, but not corrected, etc.).
- Operations and monitoring of a non-operating remediation system.
- Assessment/remediation of contamination due to product delivery overfill events.
- Document shipping.
- Activities, equipment or materials necessary to repair or replace remediation equipment or wells which have failed or become damaged due to faulty installation or construction, vandalism, theft, auto wrecks, etc.
- Repair or replacement of equipment that is covered by a warranty.

CEM Markup:

- CEM markup on the following items is not reimbursable (please refer to Appendix H):
  - Utility bills.
  - Any non-CEM provided service or product which equals or exceeds $3,000.
  - Laboratory analytical costs which cumulatively, for the life of the project, exceed $3,000.
  - Any disallowed charge.
  - CEM personnel, equipment, items, supplies, or rentals.
  - Markup on CEM per diem and travel related items (meals, lodging, etc.).
  - Permit fees.
  - Rental charges of any kind.
  - Markup of items that have already been marked-up above their actual cost.

Reimbursement Claim Deficiencies:

- Documentation (invoices, receipts, usage logs, etc.) that does not substantiate the requested reimbursement amount.
- Duplicate charges.
- Unclear or unreadable backup documentation (invoices, receipts, usage logs, etc.).

Travel Costs:

- Usage of a rental vehicle, unless justification is provided.
- CEM per-diem expenses for travel of less than 50 miles from their office.
- Use of personal or company vehicle charged on a basis other than mileage. CEM costs for vehicle usage on an hourly or daily basis are not reimbursable.
- Fuel for CEM vehicles.

Non-Fund Eligible Petroleum Tank Release Sources:

Costs to assess and clean up petroleum tank releases pursuant to the following are not qualified for Fund coverage, and therefore not reimbursable:

- Releases resulting from a lack of spill prevention equipment.
- Releases resulting from the known operation of a petroleum storage tank system with faulty spill prevention equipment if not repaired or replaced pursuant to regulatory agency directives.
- Releases resulting from a lack of overfill prevention equipment.
- Releases resulting from the known operation of a petroleum storage tank system with faulty overfill protection equipment, if not repaired or replaced pursuant to regulatory agency directives.
- Product dispenser releases which emanate from above the shear valve (NAC 590.710(g)).
- Releases which emanate from petroleum storage tank systems which are not enrolled in the Fund at the time of release discovery (NAC 590.730(4)).
- Petroleum storage tank system releases which were discovered prior to the establishment of the Fund.

- Non-accidental releases caused from petroleum storage tank system, owner, operator or vendor neglect.
- Releases caused by vandalism.
- Releases from failed petroleum storage tank components which are covered under a manufacturer or vendor warranty.

APPENDIX F

REMEDIATION PURSUANT TO INITIAL/EMERGENCY ABATEMENT

REMEDIATION PURSUANT TO INITIAL/EMERGENCY ABATEMENT:

In many cases, assessment and remediation of contamination which has emanated from heating oil or waste oil storage tank systems may be conducted immediately following release discovery (most commonly, tank removal). Because of the thick, viscous nature of heating and waste oils, contamination very rarely migrates far from the tank system or contaminates groundwater.

Immediately following release discovery, if it can be determined that a Confirmed Release has occurred or a reportable quantity of soil with contaminant concentrations exceeding State action levels exists, the CEM should immediately contact the implementing regulatory agency and NDEP Spill line. The CEM should request authorization from the implementing regulatory agency to excavate and dispose of contaminated soil in accordance with regulatory directives using equipment already located onsite. Soil confirmation samples can then be recovered from the excavation. Pursuant to site specific constraints and analytical results of the confirmation samples, the CEM may be able to request a no further action determination. If such activities need to occur during hours that implementing regulatory offices are closed (weekends, holidays, etc.), the CEM should use their judgment to implement methods to expedite cleanup and minimize project costs.

In this case, because remediation was performed as "initial/emergency abatement", no NTEP is necessary. Please refer to Guidelines Section 1.7.6.

NTEPs for Assessment and Remediation Activities:

If the regulatory case officer requests that assessment and/or remediation activities occur following the above scenario, NTEPs must be prepared and submitted. Commonly used Guidelines Tasks may include:

Work Plan Preparation: Tasks A.2 & A.3

Site Characterization Report Preparation: Tasks A.13 & A.14

Corrective Action Plan Preparation: Tasks C.1 & C.2

Field Activities: Please refer to the appropriate field activity Guidelines Tasks.

APPENDIX G

REMEDIATION EQUIPMENT PURCHASE VERSUS RENTAL EVALUATION

REMEDIATION EQUIPMENT PURCHASE VERSUS RENTAL EVALUATION:

Purchase:

The purchase of remediation equipment is a major cost associated with remediation of a leaking petroleum storage tank site. Such equipment (packaged or site-constructed air sparge systems, soil vapor extraction systems, dual-phase extraction systems, etc.) commonly costs tens of thousands of dollars. The regulatory case officer must formally provide concurrence to the type of proposed remedial methodology and the associated remediation system that will be utilized at a site. A minimum of three bids must be evaluated prior to the acquisition of such equipment, if the equipment costs $3,000 or more. NDEP's policy regarding the reimbursement of such equipment is as follows:

- NDEP will recommend reimbursement for the purchase of the equipment if the regulatory case officer has concurred with the remedial methodology and a minimum of three valid bids (if necessary) are provided.

Rental:

If a claimant proposes to rent remediation equipment from a vendor, Fund staff must be provided with a proposed rental rate schedule verifying the ultimate cost of renting versus purchasing the equipment. **NDEP will recommend reimbursement for accrued remediation equipment rental costs up to the purchase price only**. Some examples:

- A remediation system is priced at $50,000, including tax, excluding shipping. A claimant proposes to rent the equipment from a vendor, which will cost $2,500/month. At this rate, it will take 20 months for the rental rate to equal the purchase cost, at which time reimbursement for rental of the equipment will cease. In this case, if the equipment is still needed on the site, additional rental costs will be the full responsibility of the claimant.

- The same $50,000 remediation system is rented to the claimant at $2,500/month, and the regulatory case officer allows removal of the system following 12 months of usage. The resulting accrued rental costs of $30,000 will be recommended for reimbursement. The claimant has saved both himself and the Fund costs associated with the difference between the purchase price and the resulting rental cost ($20,000).

A Rental Rate Schedule must be established with Fund Staff prior to requesting remediation equipment rental costs for reimbursement. Each proposed remediation equipment Rental Rate Schedule must include:

- Copies of invoices/receipts for equipment, including applicable taxes
- Calculations demonstrating how many months of accrued rental equipment costs will be necessary to equal the total equipment purchase price

Summary:

Pursuant to an established Rental Rate Schedule, NDEP will recommend reimbursement for remediation equipment rental fees up to the point where the total accrued rental costs equal the purchase price only. The above-referenced cost analysis must include the projected time that the equipment will be needed on the site. NDEP urges claimants to rent such equipment if they are sure the total rental fees will be less than the purchase price. Conversely, if it is believed that the equipment may be used on the site for a prolonged period of time, purchasing the equipment will be more cost effective.

APPENDIX H

REIMBURSABLE CEM MARKUP

REIMBURSABLE CEM MARKUP

NDEP will recommend reimbursement for up to 15% CEM markup on some non-CEM services and items, as follows:

Services and Items Qualified for Reimbursement of CEM Markup

- The first $3,000 in invoiced laboratory analytical fees for a project.
- Select non-CEM invoices that sum to less than $3,000.00. For example, if an invoice from a drilling company sums to less than $3,000.00, CEM markup is qualified for reimbursement. If the invoice is for $3,000 or more, no CEM markup is qualified for reimbursement. The claimant will not be reimbursed for CEM markup for the first $2,999.99 of an invoice that sums to $3,000 or more.

Services and Items not Qualified for Reimbursement of CEM Markup

- Laboratory analytical fees which exceed the first accrued $3,000.00 invoiced for the project.
- Non-CEM invoices equaling or exceeding $3,000.00
- Shipping costs.
- Rental costs.
- Any non-CEM invoices not recommended for reimbursement.

APPENDIX I

ACRONYMS

ACRONYMS

BS	Bachelor of Science
CAP	Corrective Action Plan
CEM	Certified Environmental Manager
CFR	Code of Federal Regulations
COPC	Contaminant of Potential Concern
HRS	Hours
MS	Master of Science
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NFA	No Further Action
NPDES	National Pollutant Discharge Elimination System
NTEP	Not-to-Exceed Cost Proposal
OSHA	Occupational Safety and Health Administration
OVM	Organic Vapor Meter
PE	Professional Engineer
PID	Photo Ionization Detector
ROA	Remedial Action Objectives
ROI	Radius of Influence
SNHD	Southern Nevada Health District
UST	Underground Storage Tank
WCHD	Washoe County Health District