Request for Bid

Fixed-Price Bid to Result

Remediation To Closure

Solicitor

John Schuyler

Schuyler's Citgo

11Main Street
Sugar Grove, Pennsylvania 16350

PADEP Facility ID #: 62-11857 **PAUSTIF Claim #: 2009-0095(S)**

Date of Issuance

September 24, 2014

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The Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF), on behalf of the claimant who hereafter is referred to as the Client or Solicitor, is providing this Request for Bid (RFB) to prepare and submit a bid to complete the Scope of Work (SOW) for the referenced Site. The Solicitor is the current owner/operator of the Site. PAUSTIF has determined that the claim reported by the Solicitor is eligible for coverage from the PAUSTIF subject to the applicable statutes and regulations. Reimbursement of Solicitor approved reasonable and necessary costs, not to exceed the claim aggregate limit, for the corrective action work described in this RFB will be provided by PAUSTIF. Solicitor is responsible to pay any applicable deductible and/or proration.

Each bid response will be considered individually and consistent with the evaluation process described in the PAUSTIF Competitive Bidding Fact Sheet which can be downloaded from the PAUSTIF website http://www.insurance.pa.gov.

Calendar of Events

Activity	Date and Time
Notification of Intent to Attend Site Visit	October 15, 2014 by 5 p.m.
Mandatory Pre-Bid Site Visit	October 16, 2014 at 11 a.m.
Deadline to Submit Questions	November 13, 2014 by 5 p.m.
Bid Due Date and Time	November 20, 2014 by 3 p.m.

Contact Information

Technical Contact
Mr. Joseph Ozog, Jr., P.G. **Excalibur Group, LLC** **91 Park Avenue** **Windber, PA 15963** joeozog@excaliburgrpllc.com

All questions regarding this RFB and the subject Site conditions must be directed via email to the Technical Contact identified above with the understanding that all questions and answers will be provided to all bidders. The email subject line must be **"[insert Site name and claim number provided on cover page] – RFB QUESTION".** Bidders must neither contact nor discuss this RFB with the Solicitor, PAUSTIF, the Pennsylvania Department of Environmental Protection (PADEP), or ICF International (ICF) unless approved by the Technical Contact. Bidders may discuss this RFB with subcontractors and vendors to the extent required for preparing the bid response.

Requirements

Mandatory Pre-Bid Site Meeting

The Solicitor, the Technical Contact, or their designee will hold a mandatory Site visit on the date and time listed in the Calendar of Events to conduct a Site tour for one (1) participant per bidding company. The Technical Contact may answer questions at the Site meeting or may collect questions and respond via email. All questions and answers will be provided via email to all attendees. This meeting is mandatory for all bidders, no exceptions. This meeting will allow each bidding company to inspect the Site and evaluate Site conditions. **A notice of the bidder's intent to attend this meeting is requested to be provided to the Technical Contact via email by the date listed in the Calendar of Events with the subject "[insert Site name and claim number provided on cover page] – SITE MEETING ATTENDANCE NOTIFICATION".** The name and contact information of the company participant should be included in the body of the email. Notification of intent to attend is appreciated; however, it is not required. Attendance at the Pre-Bid Site Meeting is mandatory for your bid to be eligible for review.

Submission of Bids

To be considered for selection, **one (1) hard copy of the signed bid package and one (1) electronic copy (one PDF file on a compact disk (CD) included with the hard copy) must be provided directly to the PAUSTIF's third party administrator, ICF, to the attention of the Contracts Administrator.** The Contracts Administrator will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. Bid responses will only be accepted from those companies that attended the Mandatory Pre-Bid Site Meeting. **The ground address for overnight/next-day deliveries is ICF International, 4000 Vine Street, Middletown, PA 17057, Attention: Contracts Administrator. The outside of the shipping package containing the bid must be clearly marked and labeled with "Bid – Claim # [insert claim number provided on cover page]".** Please note that the use of U.S. Mail, FedEx, UPS, or other delivery method does not guarantee delivery to this address by the due date and time listed in the Calendar of Events for submission. Companies mailing bids should allow adequate delivery time to ensure timely receipt of their bid.

The bid must be received by 3 p.m., on the due date shown in the Calendar of Events. Bids will be opened immediately after the 3 p.m. deadline on the due date. Any bids received after this due date and time will be time-stamped and returned. If, due to inclement weather, natural disaster, or any other cause, the PAUSTIF's third party administrator, ICF's office is closed on the bid due date, the deadline for submission will automatically be extended to the next business day on which the office is open. The PAUSTIF's third party administrator, ICF, may notify all companies that attended the Mandatory Pre-Bid Site Meeting of an extended due

date. The hour for submission of bids shall remain the same. Submitted bid responses are subject to the Pennsylvania Right-to-Know Law.

Bid Requirements

The Solicitor wishes to execute a mutually agreeable contract with the selected consultant ("Remediation Agreement"). The Remediation Agreement is included as Attachment 1 to this RFB. The bidder must identify and document in their bid any modifications that they wish to propose to the Remediation Agreement language in Attachment 1 other than obvious modifications to fit this RFB (e.g., names, dates, and descriptions of milestones). The number and scope of any modifications to the standard agreement language will be one of the criteria used to evaluate the bid. **Any bid that does not clearly and unambiguously state whether the bidder accepts the Remediation Agreement language in Attachment 1 "as is", or that does not provide a cross-referenced list of requested changes to this agreement, will be considered non-responsive.** This statement should be made in a Section in the bid entitled "Remediation Agreement". Any proposed changes to the agreement should be specified in the bid; however, these changes will need to be reviewed and agreed upon by both the Solicitor and the PAUSTIF.

The selected consultant will be provided an electronic copy (template) of the draft Remediation Agreement in Microsoft Word format to allow agreement-specific information to be added. The selected consultant shall complete the agreement-specific portions of the draft Remediation Agreement and return the document to the Technical Contact within 10 business days from date of receipt.

The Remediation Agreement fixed costs shall be based on unit prices for labor, equipment, materials, subcontractors/vendors, and other direct costs. The total cost quoted in the bid by the selected consultant will be the maximum amount to be paid by the Solicitor unless a change in scope is authorized and determined to be reasonable and necessary. There may be deviations from and modifications to this SOW during the project. The Remediation Agreement states that any significant changes to the SOW will require approval by the Solicitor, PAUSTIF, and PADEP. NOTE: Any request for PAUSTIF reimbursement of the reasonable costs to repair or replace a well will be considered on a case-by-case basis.

The bidder shall provide its bid cost using the Bid Cost Spreadsheet (included as Attachment 2) with descriptions for each task provided in the body of the bid document. Please note, if costs are provided within the text of the submitted bid and there is a discrepancy between costs listed in the Bid Cost Spreadsheet and in the text, the costs listed within the Bid Cost Spreadsheet will be used in the evaluation of the bid and in the Remediation Agreement with the selected consultant. Bidders are responsible to ensure spreadsheet calculations are accurate. The technical score for bids will be based solely on those tasks represented as milestones included in the Bid Cost Spreadsheet and the total bid cost. Any optional bidder-defined tasks,

milestones, or cost adders that are not requested as part of this RFB will not be considered by the Bid Evaluation Committee in the technical review and technical score for the bid.

In addition, the bidder shall provide:

1. The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs, and equipment;
2. The bidder's proposed markup on other direct costs and subcontractors (if any);
3. The bidder's estimated total cost by task consistent with the proposed SOW identifying all level-of-effort and costing assumptions; and
4. A unit rate schedule that will be used for any out of scope work on this project.

Each bid will be assumed to be valid for a period of up to 120 days after receipt unless otherwise noted. The costs quoted in the Bid Cost Spreadsheet will be assumed to be valid for the duration of the Remediation Agreement.

Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable". These variable cost items will not be handled outside of the total fixed-price quoted for the SOW unless the RFB requests costing alternatives for specific items or services. Any bid that disregards this requirement will be considered non-responsive to the bid requirements and, as a result, will be rejected and will not be evaluated.

The RFB is requesting a total fixed-price bid (unless the RFB requests costing alternatives for specific items or services). PAUSTIF will not agree to assumptions (in bids or the selected bidders executed Remediation Agreement) referencing a level of effort and/or hours. Costs provided in your bid should be developed using your professional opinion, experience, and the data provided. PAUSTIF will not reimburse costs for additional hours to complete activities included as part of the base bid/contract price.

Each bid response document must include at least the following:

1. Demonstration of the bidder's understanding of the Site information provided in this RFB, standard industry practices, and objectives of the project.
2. A clear description, specific details, and original language of how the proposed work scope will be completed for each milestone. The bid should specifically discuss all tasks that will be completed under the Remediation Agreement and what is included (e.g., explain groundwater purging/sampling methods, which guidance documents will be followed, what will be completed as part of the Site specific work scope/SCR/RAP implementation). Recommendations for changes/additions to the Scope of Work

proposed in this RFB shall be discussed, quantified, and priced separately; however, failure to bid the SOW "as is" may result in a bid not being considered.

3. A copy of an insurance certificate that shows the bidder's level of insurance consistent with the requirements of the Remediation Agreement. Note: The selected consultant shall submit evidence to the Solicitor before beginning work that they have procured and will maintain Workers Compensation, commercial general and contractual liability, commercial automobile liability, and professional liability insurance commensurate with the level stated in the Remediation Agreement and for the work to be performed.
4. The names and brief resumes/qualifications of the proposed project team including the proposed Professional Geologist and Professional Engineer (if applicable) who will be responsible for overseeing the work and applying a professional seal to the project deliverables (including any major subcontractor(s)).
5. Responses to the following specific questions:
    a. Does your company employ a Pennsylvania-licensed Professional Geologist that is designated as the proposed project manager? How many years of experience does this person have?
    b. How many Pennsylvania Chapter 245 projects is your company currently the consultant for in the PADEP Region where the Site is located? Please list up to 10.
    c. How many Pennsylvania Chapter 245 Corrective Action projects involving an approved SCR, RAP, and RACR has your company and/or the Pennsylvania-licensed Professional Geologist closed (i.e., obtained Relief from Liability from the PADEP) using any standard?
    d. Has your firm ever been a party to a terminated PAUSTIF-funded Fixed-Price (FP) or Pay-for-Performance (PFP) contract without attaining all of the milestones? If so, please explain.
6. A description of subcontractor involvement by task. Identify and describe the involvement and provide actual cost quotations/bids/proposals from all significant specialized subcontracted service (e.g., drilling/well installations, laboratory, etc.). **If a bidder chooses to prepare its bid without securing bids for specialty subcontract services, it does so at its own risk. Added costs resulting from bid errors, omissions, or faulty assumptions will not be considered for PAUSTIF reimbursement.**
7. A detailed schedule of activities for completing the proposed SOW including reasonable assumptions regarding the timing and duration of Solicitor reviews (if any) needed to complete the SOW. Each bid must provide a schedule that begins with execution of the Remediation Agreement with the Solicitor and ends with completion of the final milestone proposed in this RFB. Schedules must also indicate the approximate start and end date of each of the tasks/milestones specified in the Scope of Work, and

indicate the timing of all proposed key milestone activities (e.g., within 30 days of the contract being executed).

8. A description of how the Solicitor, ICF, and the PAUSTIF will be kept informed as to project progress and developments and how the Solicitor (or designee) will be informed of and participate in evaluating technical issues that may arise during this project.
9. A description of your approach to working with the PADEP. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed of activities at the Site.
10. Key exceptions, assumptions, or special conditions applicable to the proposed SOW and/or used in formulating the proposed cost estimate. Please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exceptions may result in the bid response being deemed “unresponsive”.

General Site Background and Description

Each bidder should carefully review the existing information and documentation provided in Attachment 3. The information and documentation has not been independently verified. Bidders may wish to seek out other appropriate sources of information and documentation specific to this Site. If there is any conflict between the general Site background and description provided herein and the source documents within Attachment 3, the bidder should defer to the source documents.

Background Summary

The Schuyler's Citgo facility is located at 11 Main Street in the town of Sugar Grove, Pennsylvania, and occupies less than one acre of rectangular-shaped property adjoining the southwest corner of the intersection between Main Street and Harmon Avenue (see Figure 1 and Figure 2 "Site Detail Map", Attachment 3a). The Site is occupied by a one-story, slab-on-grade masonry block structure with no basement on the northern half of the Site. The Site building is currently occupied with automobile service operations and office, in addition to retail sales of racing gasoline which is stored in a 500-gallon above-ground tank located at the south side of the Site building. The 500-gallon tank is constructed of steel and located within an integral containment dike. Former operations included retail gasoline and diesel fuel sales, which ceased in July 2011, with all UST system components removed in May 2010 and July 2011.

Surrounding properties consist of a mixture of commercial businesses and residences. The site adjoins the right-of-ways (ROWs) for Main Street to the north and Harmon Avenue to the east; property occupied by a storage building and owned by Sugar Grove Borough to the south; and a commercial property (PNC Bank) to the west. On the opposite side of Main Street to the north are commercial businesses, and beyond Harmon Street to the east are residential properties (see Figure 1 and Figure 2 "Site Detail Map", Attachment 3a). The Site and surrounding properties receive potable water from private water wells. The Site's potable water well is located near the northwest corner of the Site building (see Figure 2 "Site Detail Map", Attachment 3a).[1]

The former UST system owned/operated by Mr. Schulyer included the following: two 6,000-gallon diesel fuel (Tanks 001 and 002); one 6,000-gallon unleaded gasoline (Tank 003); and one 10,000-gallon unleaded gasoline (Tank 004); product piping; and two product dispenser islands. The four USTs were installed in the early 1980's and were all constructed of steel. Tanks 001, 002, and 003 were situated within a common tank cavity located in the southern half of the Site, with Tank 004 located in a tank cavity along the east side of the Site building (between Site building and Harmon Street). One product dispenser island was located south of

[1] Construction details of the potable water well are not known.

the Site building (between UST cavity and Harmon Street) and the second dispenser island was located north of the Site building (between building and Main Street). See Figure 2 "Site Detail Map" and Figure 3 "Source Removal Map w/ Soil Sample Locations", in Attachment 3a for the location and layout of the former UST systems.

Release History / UST System Closure

In June 2009, a release from former Tank 003 containing unleaded gasoline (associated with Claim #2009-0095(S)) was suspected as a result of water beginning to accumulate in the tank. In July and August 2009, in-tank leak testing was performed on Tank 003, which indicated an invalid fuel volume and accumulation of water in the tank. Because of the failed leak test results, Tank 003 was immediately taken out of service and all recoverable product was removed from the tank. Tank 003 was closed via removal in May 2010. The remaining portion of the UST systems associated with Tanks 001, 002, and 004 remained in service. During Tank 003 closure activities, the 6,000-gallon tank was reportedly in "bad shape" with "visible holes in bottom when tank was removed".[2] Additionally, petroleum impacted soil and water was observed within the tank cavity. It was deduced that the source of the impacts was likely the holes in the bottom of the tank.[2] Water was encountered within the tank cavity at a depth of ~15 feet below grade and all soil was returned to the tank pit.

The remaining UST system, which included Tanks 001, 002, and 004, product piping, and dispenser islands were unearthed and removed from the Site in July 2011. During the closure activities, Tanks 001 and 002 reportedly appeared to be in "good" condition and "did not show any signs of leak or release", and Tank 004 was "corroded but no holes were observed".[3] Additionally, petroleum impacted soil was observed within the tank cavity in the southern portion of the Site (formerly containing Tanks 001, 002, and 003), and also the tank cavity for Tank 004 (east of Site Building). Following removal of the USTs and other system infrastructure, soil samples were collected from beneath Tank 004, product piping, and dispenser islands (see Figure 3 "Source Removal Map w/ Soil Sample Locations" in Attachment 3a). Concentrations of both 1,2,4-Trimethylbenzne (1,2,4-TMB) and 1,3,5-Trimethylbenzene (1,3,5-TMB) exceeded PADEP Statewide Health Standards (SHS) in the three soil samples collected at a depth of 13 feet in the Tank 004 cavity. Immediately following removal of the UST systems, interim remedial activities (IRAs) were conducted including source soil removal in the southern half of the site and in the area of former Tank 004 (east of Site building), where ~495 tons of impacted soil was removed from the Site for off-site disposal. The source soil removal activities in the area of former Tank 004 was very limited due to the close proximity of the Site building and Harmon Avenue and unstable excavation sidewalls. These interim remedial activities (IRAs) are discussed in more detail in next section.

[2] "Underground Storage Tank System Closure Report Form", prepared by Jemko Petroleum Equipment, dated May 2010.
[3] "Underground Storage Tank System Closure Report Form", prepared by Environmental Remediation & Recovery, Inc., dated August 17, 2011.

Site Characterization & Interim Remedial Activities

Site characterization activities associated with Claim #2009-0095(S) were initiated in June 2010 by the Solicitor's consultant, Environmental Remediation & Recovery, Inc. (ER&R), in response to the June 2009 suspected release which was later confirmed during Tank 003 closure. The initial characterization activities included advancing nine soil borings (SB-1 through SB-9, see Figure 2 "Site Detail Map", Attachment 3a) both on-property and off-property within the adjoining roadways and Borough property to the south, installation of four monitoring wells (MW-1 through MW-4), and collecting / analyzing soil and groundwater samples from the borings and monitoring wells. From September 2010 through June 2014, the Solicitor's consultant, ER&R, performed additional characterization activities along with IRAs and remedial feasibility testing. The supplemental characterization and remedial feasibility activities included: advancing and sampling 22 additional soil borings (SB-10 through SB-18, SB-18B, SB-19, SB-20 through SB-23, and SB-25 through SB-32) on- and off- property; installation of 11 additional monitoring wells (MW-5 through MW-15) on- and off-property; installation of 13 air sparge wells (AS-1 through AS-8 and AS-13 through AS-17) on- and off-property; installation of five soil vapor monitoring points (VP-1 through VP-5) on- and off-property and a subslab vapor monitoring point inside the Site building; collecting / analyzing soil samples; quarterly groundwater monitoring and collecting / analyzing groundwater samples; collecting / analyzing soil vapor samples; collecting / analyzing potable water well samples from both on- and off-property water wells; aquifer slug testing; in-situ air permeability testing; and air sparge / soil vapor extraction (SVE) testing. Locations of the soil borings, monitoring wells, soil vapor monitoring points, and air sparge wells are shown on Figure 2 "Site Detail Map" in Attachment 3a.

Immediately following the July 2011 UST system closure activities, IRAs were performed, including source soil removal in the southern half of the Site and limited excavation in the area of former Tank 004 (east of Site building). The excavation in the southern half of the Site was ~35 feet by 50 feet with an estimated total depth of ~16 feet. The excavation in the area of former Tank 004 only extended a few feet to the south of the original dimensions of the tank cavity. A total of ~495 tons of impacted soil was removed from the Site for off-site disposal. A total of six post-excavation soil samples were collected from the completed excavation sidewalls at depths ranging from 8 to 12 feet. Concentrations of both TMB-isomers exceeded PADEP SHS in the three soil samples collected from the southeast corner, southwest corner, and along the west center sidewall. Prior to backfilling the excavation in the southern half of the Site, ~400 pounds of an oxygen releasing compound powder (PermeOx) was applied to the sidewalls and floor of the completed excavation. The extent of soil excavations and the soil sampling locations are shown on Figure 3 "Source Removal Map w/ Soil Sample Locations" in Attachment 3a.

Based on the available Site information, the unconsolidated materials underlying the Site and surrounding area consist mainly of glacial sands and gravels to a depth of ~18 feet[4] interbedded with thin discontinuous layers of sandy clay and clay. Groundwater is reportedly first encountered on- and off-property within the sand and gravels at a depth of ~13 to 14 feet below grade. The groundwater flow direction is in a south/southeasterly direction as shown on Figure 4 in Attachment 3a.

Following the soil excavation on-property, three of the six soil samples collected from the periodically saturated zone along the sidewalls of the excavation were found impacted with both TMB-isomers exceeding SHS – soil samples identified as "SE Corner", "SW Corner", and "West Center Wall". In addition, one other soil sample collected from the periodically saturated zone (outside the extent of the soil excavation) in boring SB-27 advanced in the area of former Tank 004 had an exceedance of both TMB-isomers. Off-property exceedances of the SHS for naphthalene and the TMB-isomers were detected in samples collected from within the periodically saturated zone identified on the adjoining property to the south (borings SB-6, SB-9, SB-17 and SB-26); within Harmon Street to the east (borings SB-5 and SB-25); and on the residential property ("Robert Abbott Parcel") on the opposite side of Harmon Street (boring AS-13). Location for these post-excavation soil samples and soil borings are shown on Figure 2 "Site Detail Map" and Figure 3 "Source Removal Map w/ Soil Sample Locations" in Attachment 3a. Approximate area for soil impacts exceeding SHS within the periodically saturated zone is shown on Figure 5 in Attachment 3a.

The current monitoring well network consists of on-property wells MW-7, MW-8, and MW-13, and off-property wells MW-1 through MW-6, MW-9 through MW-12, MW-14, and MW-15, which are located on the upgradient, side- and downgradient roadway ROWs, commercial and residential properties. Static groundwater levels within most of the on- and off-property shallow wells have ranged from ~7 to 13.5 feet below top of casing. Off-property wells MW-10, MW-11, and MW-12 have water levels ranging from ~8 to 16 feet below top of casing.

On-property wells MW-7 and MW-13 are located in the vicinity of the source area and historically have exhibited concentrations of TMB-isomers and benzene exceeding SHS. On-property, downgradient well MW-8 has historically exhibited concentrations of the TMB-isomers exceeding SHS. Recently only two off-property wells, MW-4 and MW-6, have exhibited concentrations of benzene and 1,2,4-TMB exceeding SHS. The assumed extent of the contaminant plumes for benzene and TMBs exceeding SHS in the shallow overburden groundwater is shown on Figure 6.

Soil vapor samples were collected from on-property VP-1 which is located on the south side of the Site building and VP-2 which is located off-property on the adjoining property to the south of the Site. VP-1 and VP-2 were each sampled twice in December 2011. Sample results from VP-

[4] Total depth drilled on- and off-property.

1 and VP-2 did not exceed the PADEP SHS indoor air screening levels. Off-property soil vapor sampling points SV-3, SV-4, and SV-5 located on the residential property (Robert Abbott Parcel) to the east of the Site have not been sampled.

Solicitor's Selected Closure Standards & Remedial Approach

The Solicitor's chosen closure approach for the Site is SHS for both soil and groundwater. In December 2010, the Solicitor's consultant, ER&R, provided PADEP with a Site Characterization Report (SCR). In January 2012, ER&R provided PADEP with a Remedial Action Plan (RAP). In May 2012, ER&R provided PADEP with an Amended RAP (ARAP). The January 2012 RAP and May 2012 ARAP prescribe the use of a combined air sparge / soil vapor extraction (AS/SVE) system for both on- and off-property to remediate both soils and groundwater impacts. PADEP subsequently provided approval of the remedial goals and proposed approach, subject to modifications via letter to the Solicitor dated July 2, 2012. ER&R also prepared a draft version of a revised ARAP, dated May 2014 in order to address PADEP's requested modifications as a contingent of approval for the SCR and RAP[5]; however, the draft was never finalized or submitted to PADEP.

Pilot testing to assess the feasibility of the proposed remedial approach was performed at the Site in November 2011 and May 2013, and included air permeability testing, in-situ air sparge testing, and combined in-situ AS/SVE testing. During the pilot testing activities on November 2011, on-property MW-8 and off-property MW-4 were utilized to extract air by applying a vacuum to each individual well and to determine a vapor extraction rate. The Solicitor's consultant, ER&R, determined that under a vacuum of 9 inches of mercury (in Hg), ~25 cubic feet per minute (cfm) could be extracted from MW-4, and under a vacuum of 11 in Hg, ~16 cfm could be extracted from MW-8. In addition, in November 2011, off-property wells AS-4 and AS-5 were used to sparge air into the shallow groundwater table during the pilot testing conducted at each well. During the AS pilot testing ER&R, opined that the pressures required to induce airflow into AS-5 (5 psi) and into AS-4 (6.5 psi) were close to the calculated theoretical air entry pressure of 4.5 psi. Influence pressure at surrounding wells could not be detected with field instrumentation, which ER&R explained was anticipated given the highly permeable sands and gravels. Groundwater mounding of ~0.5 feet or less was reportedly observed in surrounding monitoring wells. The AS radius of influence zone was interpreted by ER&R to be ~25 feet.[6]

During the pilot testing activities on May 2013, on-property wells AS-6, AS-7, and AS-8[7] were used to sparge air simultaneously into the shallow groundwater table while vapors were

[5] PADEP letter dated July 2, 2012 in Attachment 3n.
[6] Draft Amended RAP, prepared by ER&R, dated May 2014.
[7] Air sparge pilot testing wells were generally installed to 17 to 18 feet below grade with screens extending up to 14.5 to 15.5 feet below grade with the annular space above the screen filled with a bentonite grout seal to the surface.

extracted from perforated piping buried in a shallow pilot test trench[8]. According to ER&R, the pilot testing was performed to determine if the trench-type SVE approach could recover vapors generated from air sparging and prevent vapor intrusion into nearby structures/buildings. The locations of the trench and air sparge wells are shown on Figure 7 in Attachment 3a. During the AS/SVE pilot testing, ER&R opined that the pressures required to induce airflow at AS-6 (2.5 psi), AS-7 (6 psi), and AS-8 (4 psi) were close to the theoretical calculated air entry pressure of 4.5 psi. Low influence pressure readings (one to two inches of water) were recorded in the overburden at surrounding wells in response to the sparging and ER&R claims this was anticipated given the highly permeable sands and gravels. Groundwater mounding of ~0.5 feet or less was observed in surrounding monitoring wells. ER&R concluded that the air sparge influence vacuum and pressure readings during the testing were too low to be conclusive, but a presence of vacuum in the sub slab vapor point (-0.15 inches of water) suggested to ER&R that air sparging vapors can be collected by the SVE trench.

The May 2014 draft revised ARAP indicates that the AS and trench-type SVE system would include the use of existing on- and off-property air sparge wells (AS-1, AS-2, AS-4 through AS-8, and AS-13 through AS-17) and numerous other proposed on- and off-property air sparge wells. The SVE trench-type design is proposed to recover sparge air from the Site, adjoining properties and Harmon Street, and several other residential properties. It is unclear if ER&R's proposed shallow SVE trenches were also expected to treat residual soil contamination at depth on the site and vicinity, or if vertical extraction wells were also to be part of the design. See "Drawing C-101, Proposed Remediation Constructions" in Attachment 3a for a proposed layout of the remedial system, and other design specifics in the May 2014 draft ARAP.[9]

The Solicitor's consultant, ER&R, has provided the local municipality (Borough of Sugar Grove) and other surrounding property owners with documentation to secure access for implementing the remedial approach. Currently, off-property access has not yet been secured for installation of the remedial system. No remedial system components other than the existing AS wells (see Figure 2, Attachment 3a) and ~100 feet of piping for the trench-type SVE system and piping for three AS wells (see Figure 7, Attachment 3a) have been installed at the site.

Other Information

To the extent there is any discrepancy between the summary of site conditions provided above and the source documents, bidders shall rely on the source document information. Bidders should carefully consider what information, analyses, and interpretations contained in the

[8] The ~100-foot long pilot test trench was reportedly dug to ~3 feet below grade, fitted with a 4-inch diameter slotted pipe and backfilled with a granular pipe bedding (1B stone) to within ~one foot of the surface and then brought flush to grade with "clean" soils excavated from trench.

[9] Should a bidder decide to bid implementation of the RAP "as-is", "Zone 3" and "Zone 4" of the remedial design shall be bid as a contingency task.

background documents can be used in developing their scope of work for their bid in response to this RFB.

Scope of Work (SOW)

This RFB seeks competitive bids from qualified contractors to perform the activities in the SOW specified herein. The PADEP – Northwest Regional Office (NWRO) has reviewed and did not have any comments on the SOW provided within this RFB.

Objective

The PADEP-approved RAP specifies the implementation of an air sparge system coupled with a soil vapor extraction (AS/SVE) system to remediate both soils and groundwater impacts identified both on- and off-property. The remedial standard to be achieved for both on- and off-property is the Statewide Health Standard (SHS) for both soil and groundwater. Furthermore, the PADEP, the Technical Contact, and the PAUSTIF have agreed that one of the following will likely be the most technically effective remedial approach that meets the PADEP's requirements to bring this site to the stated cleanup goal: 1) implementing AS with SVE trench-type design as prescribed in PADEP-approved RAP and May 2014 Draft ARAP to the extent the bidder deems it necessary; 2) implementing AS with SVE vertical well-type design; 3) implementing AS with SVE combination trench and vertical well design; or, 4) Vacuum Enhanced Groundwater Extraction (VEGE). Therefore, bidders shall propose one of the four specific remedial technologies/options listed below in their bid response.

This solicitation requests a fixed price for achieving the SHS for both soils and groundwater by using the bidder's recommended remedial approach through the completion of the ten specific milestones defined in this RFB. Bidders may propose to achieve this goal by 1) implementing the AS with SVE trench-type design as prescribed in PADEP-approved RAP and May 2014 Draft ARAP to the extent the bidder deems it necessary; 2) implementing AS with SVE vertical well-type design; 3) implementing AS with SVE combination trench and vertical well; or, 4) implementing VEGE. Bidders should be aware that there are existing on- and off-site AS wells and a portion of the AS/SVE subsurface piping has been installed and is available to the selected bidder to the extent they choose to use them. As discussed in the previous section, PADEP approved the AS/SVE remedial approach with modifications as identified in letter dated July 2, 2012 (see Attachment 3o), and bidders must address these modifications in the final design for the remedial approach. Also, bidders shall take in consideration that the groundwater contaminant plumes appear to be contracting / stable.

Solicitor seeks competitive, fixed-price bids, for this Bid to Result RFB to complete the twelve (12) milestones outlined below intended to take this Site to closure. To be deemed responsive, each bid ***must*** respond ***in detail*** to each of the milestones, including describing the bidder's understanding of the conceptual site model and how that model relates to the bidder's proposed approach to executing the SOW. "Bid to Result" RFBs identify task goals and rely on the bidders to provide a high level of project-specific detail on how they will achieve the goal. Each bid must detail the approach and specific methods for achieving the milestone objectives. In

reviewing the quality of bids submitted under Bid to Result solicitations, there is an increased emphasis placed on technical approach and reduced emphasis on cost (as compared to bids for "Defined Scope of Work" RFBs).

The specific remedial technologies previously mentioned shall be the basis for preparing a SOW and presenting a competitive fixed-price bid. The selected bidder shall perform pilot testing to confirm that the remedial technology proposed in their bid would be feasible to meet the milestone objectives and remedial goal for this site.

Constituents of Concern (COCs)

The COCs for soil, groundwater, and vapors are the post-March 2008 short list for unleaded gasoline, which consist of benzene, toluene, ethylbenzene, xylenes (BTEX); MTBE, cumene, naphthalene, 1,2,4-trimethylbenzene (1,2,4-TMB), and 1,3,5-trimethylbenzene (1,3,5-TMB).

General SOW Requirements

The bidder's approach to completing the SOW shall be in accordance with generally accepted industry standards/practices and all applicable federal, state, and local rules, regulations, guidance, and directives. The latter include, but are not limited to, meeting the applicable requirements of the following:

- The Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended);
- Pennsylvania Code, Title 25, Chapter 245 - Administration of the Storage Tank Spill and Prevention Program;
- The Land Recycling and Environmental Remediation Standards Act of 1995 (Act 2), as amended;
- Pennsylvania Code, Chapter 250 - Administration of Land Recycling Program; and
- Pennsylvania's Underground Utility Line Protection Law, Act 287 of 1974, as amended by Act 121 of 2008.

During completion of the milestone objectives specified below and throughout implementation of the project, the selected consultant shall:[10]

- Conduct necessary, reasonable, and appropriate project planning and management activities until the project (i.e., Remediation Agreement) is

[10] As such, all bids shall include the costs of these activities and associated functions within the quote for applicable tasks/milestones.

completed. Such activities may include Solicitor communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling, and other activities (e.g., utility location). Project planning and management activities will also include preparing and implementing plans for health and safety, waste management, field sampling/analysis, and/or other plans that are necessary and appropriate to complete the SOW, and shall also include activities related to establishing any necessary access agreements. Project planning and management shall include identifying and taking appropriate safety precautions to not disturb Site utilities including, but not limited to, contacting Pennsylvania One Call as required prior to any ground-invasive work. As appropriate, project management costs shall be included in each bidder's pricing to complete the milestones specified below.

- Be responsible for coordinating, managing, and completing the proper management, characterization, handling, treatment, and/or disposal of all impacted soils, water, and derivative wastes generated during the implementation of this SOW. The investigation-derived wastes, including purge water, shall be disposed in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Waste characterization and disposal documentation (e.g., manifests) shall be maintained and provided to the Solicitor and the PAUSTIF upon request.
    - **If the Site is located in PADEP Southwest Region:** All investigation derived wastes shall be handled and disposed per PADEP's Southwest Regional Office guidance. Investigation derived wastes include personal protective equipment, disposable equipment, soil and drill cuttings, and groundwater obtained through monitoring well development and purging, as well as equipment decontamination fluids. Investigation derived wastes must be containerized in DOT-approved drums and staged on-site in a pre-determined location pending results of laboratory analyses and selection of final disposal method(s). Each container must be labeled to indicate contents, Site location, and date of generation. It is the selected consultant's responsibility to conform with current PADEP Southwest Regional Office guidance requirements.
    - **If the Site is located in any PADEP Region other than Southwest:** All investigation derived wastes shall be handled and disposed per PADEP's Regional Office guidance. It is the selected consultant's responsibility to conform with current PADEP Regional Office guidance requirements in the region where the Site is located.
- Be responsible for providing the Solicitor and facility operator with adequate advance notice prior to each visit to the property. The purpose of this notification

is to coordinate with the Solicitor and facility operator to ensure that appropriate areas of the property are accessible. Return visits to the Site will not constitute a change in the selected consultant's SOW or result in additional compensation under the Remediation Agreement.

Site-Specific Guidelines

As part of this RFB, the selected consultant will need to consider the following site-specific guidelines:

Off-Property Access. Selected consultant will be responsible for securing off-property access where needed to implement the remedial approach, and shall assume that reasonable, necessary, and appropriate charges for work required to negotiate and secure off-property access will be reimbursed under a time and materials arrangement outside the fixed price agreement.

Field Activities. All on- and off-site work should be conducted during the normal business days and hours of 8:00 AM to 5:00 PM from Monday through Friday, unless work outside of these normal business days and hours is authorized by the respective property owner. The selected consultant will be responsible for determining and adhering to other restrictions that may apply to the Site or surrounding properties.

Responsibility. The selected consultant will be the consultant of record for the site. They will be required to take ownership of the project and will be responsible for representing the interests of the Solicitor and ICF/PAUSTIF with respect to the project. This includes utilizing their professional judgment to ensure reasonable, necessary and appropriate actions are recommended and undertaken to protect sensitive receptors and carry out adequate remedial actions in order to move the site towards closure.

Field Instrumentation. Each bidder should state in their bid response the appropriate field instrumentation (e.g., pumps, meters, photoionization detectors, etc.) to be used during the completion of the SOW. Specifically, the product associated with the regulated release at this site is unleaded gasoline. As such, any field-screening instrumentation used at the site should be able to detect the presence of hydrocarbons associated with that type of product.

Safety Measures. Each bidder should determine the safety measures necessary to appropriately complete the milestones. Specifically, if a consultant feels that it is appropriate and necessary to complete utility clearance using an air knife, the cost should be included in their fixed-price cost. If a bidder includes costs to conduct specific safety measures or activities, the bidder should specify it in the bid response and discuss why it is appropriate and necessary and indicate which methods will be utilized and to what extent. As discussed in the RFB, cost is

not the only factor when evaluating bid responses and other factors are taken into consideration during the bid evaluation process, including appropriate safety measures.

Waste Disposal. The IDW waste (including, but not limited to, soil/rock cuttings, used carbon, well development/purging liquids, and liquids generated during well installation and remedial feasibility / pilot testing) shall be disposed of per the instructions included in the "General SOW Requirements" section of the RFB. Bidders will be responsible for arranging any off-site waste disposal (if required) and including costs in their bid response to cover the disposal of all potential waste related to the milestones included in the SOW. Containerized soil and groundwater may be temporarily stored on-site, but should be removed from the site in a timely manner. Bidders will be responsible for including costs in their bid response to cover the disposal of all potential waste related to the milestones included in the SOW. Bidders should estimate the volume of waste using your professional opinion, experience and the data provided. **ICF and PAUSTIF will not entertain any assumptions from the selected bidder in the Remediation Agreement with regards to a volume of waste. Invoices submitted by the selected bidder to cover additional waste disposal costs as part of activities included under the fixed-price Remediation Agreement for this site will not be paid.**

Site-Specific Milestones

Milestone A – Supplemental Site Characterization Activities, and/or Pilot Testing and Reporting. This Milestone provides bidders the opportunity to identify which additional site characterization work will be completed in advance of finalizing the remedial approach design and moving ahead with its implementation. Conducting supplemental investigative activities and/or remedial pilot testing under this Milestone is mandatory. PAUSTIF will reimburse up to $10,000 for supplemental investigative activities and/or remedial pilot testing, and reporting costs under this Milestone. Bidders are to describe what supplemental site investigative and/or remedial pilot testing activities will be completed, the rationale for the work, and how the derived data will be used. For purposes of bidding, and to ensure consistent cost scoring of bids, each bidder will enter exactly $10,000 as the bid price for Milestone A in the Bid Cost Spreadsheet. PAUSTIF will only reimburse up to $10,000 of reasonable and necessary costs for those tasks actually performed. The selected bidder must provide time and material documentation in addition to supporting documentation required (in Exhibit B of the executed Remediation Agreement) to support the requested reimbursement and completion of this Milestone.

Bidders may use this opportunity to: 1) confirm any elements of the site characterization completed by a previous consultant; 2) address any perceived data gaps in the existing site characterization work; 3) assist in the evaluation and determination of remedial technologies and system design; 4) assist with refining the cleanup timeframe estimate and/or other reasons related to validating the bidder's remedial approach and design.

Milestone A activities shall be conducted as soon as possible following execution of the Fixed-Price Agreement.

Each bidder shall describe in detail its scope of work for additional site characterization activities along with corresponding technical justification to support the need for each additional activity. When considering what additional supplemental site investigative and/or remedial pilot testing activities may or may not be necessary, bidders are strongly encouraged to review ER&R's December 2010 SCR, January 2012 RAP, and draft ARAP's and the other documents provided in Attachment 3, rather than relying solely on the summary information presented in this RFB.

Potential considerations regarding the need for Milestone A activities include – determination of site-specific remedial design data; confirmation that the proposed technology is technically feasible; confirmation that the proposed technology is cost-effective; and confirmation that the proposed technology will provide a timely closure of the site under PADEP Act 2. Potential activities for bidders to consider may include, but not be limited to, the following:

- In-situ pneumatic, pressure, or hydraulic permeability studies (radius of influence tests).[11]
- Assess the effectiveness of a specific remedial technology or approach.
- Finalize remedial design calculations, technology information, equipment specifications, and materials specifications, as appropriate.

Any and all Milestone A activities that are proposed with your firm's bid shall be accompanied by the following:

- The purpose and need for each Milestone A activity and an appropriate breakdown;
- A detailed scope description of each activity including the use and incorporation of any pre-existing site data;
- The timing and schedule of each activity relative to the overall project schedule;
- A description of the anticipated results of each activity and how such results may impact your proposed conceptual remedial action plan; and
- For activities involving the evaluation of a remedial technology, such as a feasibility study or pilot test, bids shall describe in detail the likelihood that the resulting data will dictate a change in the conceptual remedial action plan proposed in your bid.

[11] Testing could be performed on existing and/or proposed wells, and/or proposed alternative SVE extraction techniques.

If Milestone A includes additional pilot testing activities, bidders shall specify within their bids the critical criteria (if any) that will be used by Solicitor, PAUSTIF and the selected bidder to evaluate the significance of pilot testing data obtained through Milestone A activities. These critical criteria shall be used to assess if the pilot testing data change the feasibility of the Milestone D proposed remedial approach. As such, and as applicable, bids shall list critical criterion that will define the range of acceptable results (i.e., feasibility study or pilot testing results) relevant to the proposed Milestone D remedial approach. These criteria must be measurements or calculations that could be independently measured or verified by others during testing. Based on these criteria, Exhibit A of the Fixed-Price Remediation Agreement (Attachment 1) will include a Site Specific Assumption that certain bidder-defined criteria will not require modification to the Milestone D proposed remedial approach. Each bidder, therefore, shall explicitly specify any and all critical criteria for key design elements on which the Milestone D proposed remedy depends (i.e., the critical criteria and quantified ranges of values that will make the proposed conceptual remedial action plan technically feasible, cost-effective, and timely).

For example, bids shall include language such as:

"For our Milestone D proposed remedial action approach to be successful and for the technology(ies) used thereby to operate as planned and meet our proposed cleanup schedule, the Milestone A testing must show:

1. Air pressure and sustained air flow from the pilot test injection well(s) shall be greater than X psi and Y cfm, and air injection influence measured within a minimum of Y feet; and
2. Vacuum influence measured within a minimum of Y feet of the pilot extraction well."

End of example bid language.

Actual bid language, if any, and the associated critical criteria will vary by bidder, and must specific to evaluating the feasibility of the technology relative to the consultant's bid approach. Identifying assumptions regarding the bidder's remedial system design is <u>not</u> acceptable. Some examples of inappropriate assumptions for this "Bid to Result" include: length of remedial system trenching, number of extraction points, type of remediation equipment, duration of remediation, etc.

The critical criteria identified in each bid and their associated acceptable range of pilot testing results will be evaluated by the bid evaluation committee as part of the technical review. **Unrealistic criteria or criteria that are unreasonably narrow will reduce the favorability of the bid as viewed by the bid review committee.**

The additional site characterization work completed under Milestone A shall be documented in an addendum to the existing SCR and RAP (combined SCR / RAP Addendum) to be completed in Milestone B. Any modifications to the existing PADEP-approved remedial approach and documentation of the optional pilot testing activities and findings/results (Milestone A) shall be documented in the RAP Addendum portion of the combined report.[12]

Milestone B – Prepare a Draft and Final Combined SCR / RAP Addendum. Upon completing Milestone A described above, the selected consultant shall prepare a combined SCR / RAP Addendum in draft form for review and comment by the Solicitor and PAUSTIF. This combined SCR / RAP Addendum shall contain all necessary information required under 25 PA Code §245.309, 245.310, and 245.311, and be of sufficient quality and content to reasonably expect PADEP approval. Each bidder's project schedule shall provide two (2) weeks for Solicitor and PAUSTIF review of the draft document. The final report shall address comments received from the Solicitor and PAUSTIF on the draft report before it is submitted to the PADEP for its review.

The combined report shall document, describe, and evaluate all findings provided from Milestone A above, updating the conceptual site model (CSM) for the Site and its vicinity based on evaluating the results from the additional site characterization and pilot testing tasks outlined above, and detailing any proposed modifications to the existing PADEP-approved remedial approach. The combined report shall incorporate information and relevant findings from the previous site documentation (as necessary), and contain all necessary and appropriate figures, tabulated data, and appendices to comply with the regulatory requirements for and to obtain PADEP approval of these documents.[13]

The document shall be signed and sealed by a Professional Geologist in the Commonwealth of Pennsylvania, and may also require the signature and seal of a Professional Engineer registered in the Commonwealth of Pennsylvania (bidders shall refer to state licensing laws to determine if the Professional Engineer seal is required based on the work performed for and documented in the combined report). The fixed-price cost shall also include addressing any PADEP comments on the combined report.

Milestone C – Pre-Remediation Quarterly Groundwater Monitoring, Sampling & Reporting. Under this task, bidders shall provide a firm fixed-price to continue with quarterly

[12] In order to receive reimbursement under this task, thorough documentation of any additional site characterization activities must be provided to PAUSTIF.

[13] Report must address PADEP's comments provided in their July 2, 2012 letter providing approval of the December 2010 SCR, January 2012 RAP, and May 2012 RAP Addendum. In particular, PADEP's request: "*A revised RAP should be submitted if the RAP and ARAP does not remediate the site within two (2) years following system start-up*." For the purposes of this competitive bid, it is assumed that IF a revised RAP is required after system start-up and two years of operation, this shall be considered a New Condition and will be stipulated as such in the Remediation Agreement.

groundwater monitoring, sampling, and reporting events while performing the Milestone A and B activities outlined above, waiting on PADEP approval of the SCR / RAP Addendum, and design / installation of the remedial system. For the purposes of this RFB, it is assumed the Milestone C activities will be required for three (3) quarters. However, each bid must specify the number of quarterly events that will be needed prior to implementation of the remedial approach (Milestone D). Additional quarterly monitoring and reporting events beyond three quarters will be addressed under optional unit cost Milestone K.

Each groundwater monitoring and sampling event shall include all fifteen (15) existing on- and off-property monitoring wells (MW-1 through MW-15), along with four of the surrounding private water supply wells located on the Abbott, Caudill, and Frank properties. The conduct and results of each event shall be documented in quarterly Remedial Action Progress Reports (RAPRs). During each quarterly groundwater monitoring and sampling event, the depth to groundwater shall be gauged in all existing available monitoring wells and prior to purging any of the wells for sampling. Groundwater level measurements obtained from the monitoring wells shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient.

Each of the monitoring and private water supply wells designated for sample collection shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Any monitoring well exhibiting a measurable thickness of separate phase hydrocarbons (SPH) shall not be purged and sampled. Bidders shall manage purged groundwater and other derived IDW generated by the well purging and sampling activities in accordance with the PADEP NWRO guidance.

Groundwater samples shall be analyzed for the **post**-March 2008 PADEP short-list of unleaded gasoline parameters (BTEX, MTBE, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB) by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate QA/QC samples shall also be collected during each event and analyzed for the same parameters.[14] In addition, each event shall include field measurements for the following parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential.

The RAPRs describing the sampling methods and results will be provided to the PADEP on a quarterly basis and within 30 days of the receipt of analytical results for each quarter. At a minimum, each RAPR shall contain the following:

- A summary of site operations and remedial progress made during the reporting period;

[14] Each bidder's approach to implementing Milestone C shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, purge water management methods, and other key assumptions affecting the bid price.

- Narrative description of the sampling procedures and results;
- Tabulated data collected from the monitored wells documenting the depth to groundwater and thickness of any free product encountered;
- Groundwater elevation contour maps depicting groundwater flow direction;
- Tabulated historical quantitative groundwater analytical results including results from the current quarter;
- Current quarter laboratory analytical report(s);
- One site-wide iso-concentration contour map for each compound detected in any one well above the SHS during the quarter;[15]
- For each well exceeding SHS, a graphical depiction of historical key contaminant concentrations and groundwater elevations to provide an assessment of correlations between fluctuating water levels / precipitation events and contaminant concentrations;
- For each well exceeding SHS, a graphical depiction of recent key contaminant concentration trends;
- Discussion of the data to offer an updated assessment whether these data are consistent with a stable, shrinking, or expanding plume;
- Treatment and disposal documentation for waste generated during the reporting period; and
- Demonstration of compliance with the required Federal, State, and local permits and approvals.

PAUSTIF will only reimburse for the necessary quarterly groundwater sampling / reporting events actually completed under this milestone (e.g., this milestone shall be considered completed with the initiation of Milestone D). Each RAPR shall be sealed by a Professional Geologist and / or Professional Engineer registered in the Commonwealth of Pennsylvania (bidders shall refer to state licensing laws to determine which seals are required based on the work performed for and documented in the groundwater attainment demonstration report).

Milestone D – Implementation of the Remedial Approach. Under this milestone, bidders shall prepare a fixed-price cost to implement their chosen remedial approach as described by the successful bidder in a RAP Addendum. The cost breakdown of the RAP-specified shall follow the format prescribed below.

Should a bidder decide to implement the RAP "as-is" per the description in the May 2014 draft

[15] All figures included in each RAPR (e.g., site plan, groundwater elevation maps, dissolved plume maps, etc.) shall be available in electronic format to the Solicitor upon request.

ARAP, the areas designated as “Zone 3” and “Zone 4” shall be treated as a contingency. Implementation of “Zone 3” and “Zone 4” of the remedial system will be handled outside of the Fixed Price Remediation Agreement, and would require an explanation of the rationale and a proposal for the work.[16]

Milestone D1 – Installation of Wells and/or SVE Trenches. Under this task, bidders shall provide a firm fixed-price cost for installing any additional wells and/or trenches described in their Final Combined SCR / RAP Addendum and as detailed in the bid response. Each bidder shall independently consider the final locations relative to utilities; bidder’s own interpretation of groundwater flow variations; evaluation of remedial feasibility testing data; and configuration of the dissolved-phase plume. Each bidder in their bid response shall show the proposed locations for the wells and/or trenches on a site drawing. If a bidder believes the remediation wells/trenches should be placed elsewhere or that more or fewer wells/trenches are needed, the bidder shall identify the alternative location(s) and provide rationale.

If borings are completed for new wells, bidders shall assume examining and described drilling cuttings / soil cores for lithology, groundwater occurrence, and potential staining / odor indicative of hydrocarbon contamination. No soil samples will be collected from the well borehole for laboratory analysis.

The remediation wells shall be constructed in general accordance with the PADEP Groundwater Monitoring Guidance Manual. Each bidder in the bid response shall indicate the drilling methods used to advance boreholes, total depth for each well, and well construction details (i.e., well casing diameter, screened interval, sand pack, etc.). Final construction must ensure that the screened interval intersects the water table surface and accounts for seasonal groundwater fluctuations.

Each bidder’s fixed-price cost shall account for: (i) identifying subsurface utilities and other buried features of concern including, but not necessarily limited to, contacting PA One Call and clearing the borehole location to a minimum depth of 5 feet using vacuum excavation; (ii) well development activities; (iii) management of IDW; and (iv) professional surveying of the new well locations and top-of-casing elevations. Well drilling / installation and development along with supporting documentation (e.g., waste manifests, boring logs and construction details, etc.) shall be documented in a quarterly RAPR (Milestone E).

Milestone D2 – In-situ Remedial System Final Design, Equipment Purchase, and Assembly. Any equipment[17] necessary to implement the bidder’s chosen remedial approach shall be

[16] The Remediation Agreement includes a Site Specific Assumption that the remedial design will not include “Zone 3” and “Zone 4”.

[17] All equipment purchased under this contract will become the property of the Solicitor. The selected consultant shall be responsible for operating and maintaining the equipment for the specified number of years included within their bid beginning from the date of successful remediation system startup.

purchased new and preferably pre-assembled and tested as much as possible at the equipment vendor factory as a turn-key prefabricated system prior to site deployment. Under this approach, the purchased equipment is to be fully integrated and tested electrically and mechanically inside an enclosure (properly insulated with appropriate lighting, and heating & ventilation systems) before being shipped to the site. After delivery and setting in place, final connections shall be made to the electrical service and subsurface piping / conduits installed as part of the Site Preparation Work (see below). Clear and legible copies of all equipment manuals and warranties shall be provided to Solicitor.

Please note that the proposed remedial system shall be equipped with some form of telemetry as indicated in the approved RAP (or RAP Addendum). The selected consultant shall coordinate with the telephone, cable or internet service provider to bring and provide appropriate service to the location of the remediation equipment to allow remote communications and document up-time. Payment of the service connection shall be the responsibility of the selected consultant and shall be accounted for in the quoted fixed-price bid.

Milestone D3 – Site Preparation Work. The selected consultant shall obtain all necessary construction and operational permits and/ or permit exemptions and post same as required. Solicitor shall be provided copies of all permits / permit exemptions before field construction activities commence. On-site mark-out of buried utilities shall be completed in advance of any drilling or trenching activities. PA One Call notification shall be made and documented prior to drilling or trenching activities.

The selected consultant shall coordinate with the electrical service provider to bring and provide appropriate electrical service to the location of the remediation equipment. Payment of the electrical service connection shall be the responsibility of the selected consultant and accounted for in the fixed-price bid. Three-phase power is only available at a remote location from the site, and it took over a year of planning and coordination with the electrical service provider and local municipality to arrive at the design for the installation of the electrical supply and connection to the 3-phase power supply.[18] According to the May 2014 draft Amended RAP, the power lines from the 3-phase power supply (located on pole at corner of Wilson Street and Abbott Street southwest of site) will be directed underground via a horizontal boring to the Site (see figure "Drawing C-101", Attachment 3a).

Milestone D4 – In-situ Remediation Equipment Pad, Trenching, Subsurface Piping, Mechanical, and Electrical. The selected consultant shall prepare the area where the remediation equipment will be located as specified in the RAP (or RAP Addendum) or as otherwise directed by the Solicitor, including, if necessary, construction of a concrete pad. Required and appropriately sized piping and electrical conduit/wiring shall be trenched and buried below the frost line extending between the remediation equipment location and the remediation wells. Buried piping

[18] A copy of the electric service provider's (First Energy) proposal is provided in Attachment 3o.

shall be installed with tracer wire to facilitate locating the subsurface lines after the trenches have been backfilled. Buried piping shall be tested for integrity and documented before trench backfilling. Buried piping and conduit stub-ups shall be terminated and secured in the remediation equipment area to facilitate final connections to remediation equipment and winterization of the stub-ups. Surface restoration from all trenching and well head completions shall be similar to current conditions.

Milestone D5 – Final Connections and Startup / Trouble-Shooting of the In-situ Remediation System. The selected consultant shall make the final connections between piping/conduit stub ups and power drop/meter and the manifold(s)/conduits on the interior of the pre-assembled and tested treatment system. Any sections of above-grade piping located outside of the equipment enclosure will need to be freeze-protected (e.g., by insulation and heat tracing).

The selected consultant shall start up and demonstrate proper operation of the remediation system equipment. At a minimum, such demonstration shall include documentation that: (a) all below- and above-grade equipment is operational; (b) the design parameters are achievable at the treatment system and at the well heads; (c) all safety and control switches function properly; and (d) the system can operate automatically (without manual intervention). The successful bidder shall provide the Solicitor with startup documentation demonstrating proper operation of the system. To the extent problems are identified during the site work preparation and/or remediation system installation and start-up phases, the successful bidder shall repair these problems and repeat the proper system operation demonstration.

Also as part of this task, the selected consultant shall prepare an operations and maintenance (O&M) Plan, and as part of the O&M Plan, the selected consultant shall also be responsible for developing a checklist to be completed by field technicians during subsequent O&M visits that will provide key information deemed necessary to evaluate remediation performance, permit compliance, and system maintenance on a continuing basis. Each bid response shall include an appropriate example of an O&M checklist that identifies typical minimum data requirements to be recorded during each O&M site visit.

The selected consultant will provide the Solicitor and PAUSTIF with a copy of the O&M Plan prior to remediation system startup, and a hard copy of as-built drawings for the remediation system upon completion of the successful system startup.

The Solicitor and the PAUSTIF shall have the opportunity to inspect and confirm that the system has been installed as described in the fixed-price agreement and in the remedial system final design and is in daily operation as described in the remedial system final design.

Milestone E – Remediation System O&M, Site Monitoring & Sampling, & Reporting. For this milestone, bidders shall provide the Solicitor and PAUSTIF with firm quarterly fixed-price

unit costs that would include the routine O&M of the remedial system[19]; quarterly groundwater monitoring and sampling of the on- and off-property monitoring wells; quarterly sampling of the four nearby private water supply wells on the Abbott, Caudill, and Frank properties; and reporting. The quarterly fixed price cost shall also include responding to any unexpected telemetry-triggered O&M visits.

For the purposes of this RFB, it is assumed the Milestone E activities will be required for 8 quarters (2 years). However, each bid *must* specify the remediation timeframe (i.e., number of O&M quarters) that the bidder's proposed remedial approach will need in order to achieve the project goal of reducing soil and groundwater contaminant concentrations to below residential SHS, enabling initiation of groundwater and soil attainment demonstration.[20][21] The bidder's remediation timeframe (number of quarters) shall be defined on the Bid Cost Spreadsheet, and shall include the additional number of remediation quarters, beyond 8 quarters specified in this RFB (i.e., if a bidder believes it can complete the remediation in a total of 12 quarters of O&M, the additional number of quarters to be included on the Bid Cost Spreadsheet is four (4) quarters). If the bidder's O&M remediation timeframe exceeds the RFB-specified 8 quarters, the number of quarters exceeding 8 will be incorporated in the Remediation Agreement as Optional Milestone L. Bidders shall assume that the remediation will need to continue until the contaminant concentrations in all of the point of compliance (POC) wells (as defined in Milestone F) are either below the PADEP SHS for at least two consecutive quarterly monitoring and sampling events. Under this scenario, it is deemed appropriate to initiate the groundwater attainment demonstration. Each bid must explicitly state the bidder's understanding of the project goal for when the remedial system would be discontinued and attainment sampling should begin.

If the Consultant decides to discontinue O&M activities before all 8 Milestone E quarterly events are completed in order to initiate groundwater attainment early, the Consultant will bear some risk if groundwater contaminant concentrations rebound during subsequent attainment monitoring. More specifically, if the remedial system is shut down before all of Milestone E quarterly events are completed, the Consultant will be required to wait a minimum of two months before initiating groundwater attainment activities (Milestone F). If during the first quarter of groundwater attainment, concentrations of contamination rebounds above SHS in any POC well, the Consultant shall be obligated to restart the system within 7 days and continue with the residual quarterly Milestone E activities. Then, **when all 8 quarters of the Milestone**

[19] Electric usage; telephone, cable, internet service; and any discharge to local treatment facility will be reimbursed as time and material cost adders to the Remediation Agreement.

[20] During the bidder's specified timeframe of site operations, maintenance, and monitoring subsequent to remediation system startup, the selected consultant, at its own expense, including **all** associated labor, shall be responsible for repairing or replacing equipment purchased for the RAP implementation that becomes damaged, destroyed, or defective.

[21] If the groundwater data allows for discontinuing remedial activities prior to reaching the bidder's specified timeframe for remedial system operation, the selected consultant will only be reimbursed for O&M events that have been completed.

E activities have been completed (plus any or all of the Cost Adder Milestone L quarters) and groundwater attainment activities are re-initiated, the Consultant who initially pre-maturely idled the remediation system will be obligated to perform the first of the restarted series of quarterly attainment events at no cost. Responsive bids will explicitly state an understanding of the possible consequences of early termination of the 8 quarters of O&M under Milestone E.

Each bid must specify the number of site visits to occur each quarter. O&M tasks will be primarily focused on data collection and evaluations to: (1) determine, demonstrate, and document remediation performance; (2) properly maintain the system equipment; and (3) demonstrate compliance with permits and other applicable regulatory requirements.

- *Performance monitoring* shall include data collection and evaluations geared toward evaluating how well the remedial strategy is working and making necessary adjustments to the system operational configuration to optimize system performance. Performance monitoring activities are to include, but not necessarily be limited to, measurements that allow contaminant mass recovery quantification. The selected consultant shall report quarterly in a RAPR concerning its evaluations of system performance and system optimizations performed.
- *System maintenance & monitoring* shall include monitoring and routine maintenance as specified by the equipment manufacturer(s) to ensure warranties are not voided and the equipment is kept in good working order. Operational time shall be logged by system instrumentation and reported quarterly in a RAPR. The selected consultant is expected to maintain at least an 85% uptime on the system during each quarter. Failure to meet this minimum expectation over two consecutive quarters will constitute, at the Solicitor's sole discretion, a breach of contract and the Solicitor may chose to terminate the contract.
- *Compliance monitoring* shall include system and site sampling needed to demonstrate compliance with permits and other applicable regulatory requirements. Documentation of compliance shall be provided in quarterly RAPRs and in any other reporting required by permitting agencies.

The quarterly groundwater monitoring and sampling events will include all fifteen (15) existing on- and off-property monitoring wells (MW-1 through MW-15)[22], and quarterly sampling of the four nearby private water supply wells on the Abbott, Caudill, and Frank properties. During each event, the depth to groundwater and any potential separate-phase hydrocarbons (SPH) shall be gauged in all available monitoring wells prior to purging any of the wells for sampling. Groundwater level measurements obtained from the monitoring wells shall be converted to

[22] The fixed price cost shall also include any additional monitoring well(s) that may be installed under Milestone A.

groundwater elevations for assessing groundwater flow direction and hydraulic gradient. The conduct and results of each event shall be documented in RAPRs. Any well exhibiting more than a sheen of SPH shall not be purged and sampled.[23] Bidders shall manage purged groundwater and other derived IDW generated by the well purging and sampling activities in accordance with the PADEP NWRO guidance.

Groundwater samples shall be analyzed for the **post**-March 2008 PADEP short-list of unleaded gasoline parameters (BTEX, cumene, naphthalene, MTBE, 1,2,4-TMB, and 1,3,5-TMB) by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate QA/QC samples shall also be collected during each event and analyzed for the same parameters.[24] In addition, each event shall include field measurements for these water quality parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential.

Soil vapor sampling has been completed at existing soil vapor points VP-1 (on-property) and VP-2 (off-property) during the previous characterization activities. VP-1 and VP-2 were each sampled once in December 2011, with results that did not exceed the PADEP indoor air screening levels. Existing off-property soil vapor sampling points VP-3, VP-4, and VP-5 located on the residential property (Robert Abbott Parcel) to the east of the Site have not had samples collected from these locations.

According to the May 2014 draft ARAP, each of the soil vapor points will be sampled during the first two quarters of remedial system operation. Therefore, under this task, bidders shall include within their fixed price the sampling of the five on- and off-property soil vapor points (VP-1 through VP-5) only during the first and second quarter of remedial system operation. Each bid shall describe their approach for the purge and sampling methods. Each of the soil vapor samples shall be submitted to a PADEP-accredited laboratory for analysis of the PADEP post-March 2008 unleaded gasoline parameters (BTEX, MTBE, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB) using appropriate analytical methods and detection levels. Soil vapor samples shall be analyzed by Method TO-15. Appropriate QA/QC samples shall also be collected and analyzed for the same unleaded gasoline compounds.[25] Each of the soil vapor sampling events shall be described in a quarterly RAPR along with any recommendations along with rationale regarding any expansion of the vapor intrusion evaluation.[26]

[23] No SPH has historically been observed in any of the monitoring wells installed on- and off-property.
[24] Each bidder's approach to implementing Milestone E shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, purge water management methods, and other key assumptions affecting the bid price.
[25] Each bidder's approach shall clearly identify the number of sampling events, number of samples per event, purging and sampling method(s), QA/QC measures, analytes, and other key assumptions affecting the bid price.
[26] The Remediation Agreement includes a Site Specific Assumption that soil vapor sampling will only be required during the first two quarters of remedial system operation.

The RAPRs describing the sampling methods and results will be provided to the PADEP on a quarterly basis and within 30 days of the receipt of analytical results for each quarter. At a minimum, each RAPR shall contain the following:

- A summary of site operations and remedial progress made during the reporting period, including contaminant mass recovery estimates in groundwater;
- Narrative description of the sampling procedures and results;
- Tabulated data collected from the monitored wells documenting the depth to groundwater and thickness of any free product encountered;
- Groundwater elevation contour maps depicting groundwater flow direction;
- Tabulated historical quantitative groundwater analytical results including results from the current quarter;
- Current quarter laboratory analytical report(s);
- One site-wide iso-concentration contour map for each compound detected in any one well above the SHS during the quarter;[27]
- For each well exceeding SHS, a graphical depiction of historical key contaminant concentrations and groundwater elevations to provide an assessment of correlations between fluctuating water levels / precipitation events and contaminant concentrations;
- For each well exceeding SHS, a graphical depiction of recent key contaminant concentration trends;
- Discussion of the data to offer an updated assessment whether these data are consistent with a stable, shrinking, or expanding plume;
- Evaluation of system performance including contaminant mass recovery quantification and system optimizations performed;
- Operational time shall be logged by system instrumentation and reported in the RAPRs. If less than 85% uptime has been achieved, documentation of operations problems shall be provided along with the changes/modifications implemented to improve performance consistency;
- Treatment and disposal documentation for waste generated during the reporting period; and
- Demonstration of compliance with the required Federal, State, and local permits and approvals.

[27] All figures included in each RAPR (e.g., site plan, groundwater elevation maps, dissolved plume maps, etc.) shall be available in electronic format to the Solicitor upon request.

PAUSTIF will only reimburse for the necessary quarterly O&M and groundwater sampling / reporting events actually completed under this milestone (e.g., this milestone shall be considered completed with the initiation of Milestone F). If, in order to achieve the cleanup goals, it is necessary to extend the period of O&M beyond the RFB-specified 8 quarters, each additional quarter, up to the total number of Consultant's bid O&M remedial timeframe, will be addressed via Cost Adder Milestone L. Consultant shall seek and obtain written approval from Solicitor and PAUSTIF to continue operation of the remedial system (Milestone L).[28]

Each quarterly RAPR shall be signed and sealed by a Professional Geologist and / or Professional Engineer registered in the Commonwealth of Pennsylvania (bidders shall refer to state licensing laws to determine which seals are required based on the work performed for and documented in the RAPR).

To provide added incentive to the successful bidder to regularly scrutinize remedial system performance and optimize system operations for maximum efficiency in completing the remedial O&M to achieve closure as expeditiously and cost effectively as possible, **10% of each quarterly payment for this milestone (and Milestone L, if implemented) will be withheld and accumulated pending successful completion of remediation and initiation of soil and groundwater attainment activities (Milestones F and G).** When this condition has been met, the accumulation of 10% holdback payments, for the Milestones actually completed, will be reimbursed in one lump sum to the successful bidder.[29] The 10% hold-back milestone will not be paid for an in-situ remediation system that has not attained the cleanup goal within the Consultant's bid remediation timeframe.

Milestone F – Groundwater Attainment Demonstration. Under this task, bidders shall provide a firm fixed-price to complete up to eight quarters of groundwater monitoring and sampling events.[30] Each groundwater monitoring and sampling event shall include on-property POC wells MW-8 and MW-13; interior source well MW-7; and off-property wells MW-4, MW-6, and MW-9.[31] The conduct and results of each event shall be documented in quarterly RAPRs.

If it becomes evident anytime during the groundwater attainment demonstration (initiated subsequent to completing at least the Milestone E eight quarters of remedial O&M) that the attainment demonstration will not be successful within the allotted 8 quarters in one or more of the POC wells (e.g., a greater than 10X result or more than two SHS exceedances, etc.), this will represent a New Condition under the contract.

[28] The Remediation Agreement includes a Site Specific Assumption that remediation will be complete and soil and groundwater attainment activities will be initiated within the O&M timeframe Consultant has bid.
[29] Lump sum payment request shall be made prior to the onset of initiating Milestones F and G.
[30] Bidders shall include language in their bid that if groundwater data from the POC wells has been either non-detect or below SHS for four consecutive quarters, the PADEP will be petitioned to approve a reduction in the number of groundwater attainment sampling events.
[31] The fixed price cost shall also include any additional off-property monitoring well(s) that may be installed under Milestone A.

During each quarterly groundwater monitoring and sampling event, the depth to groundwater shall be gauged in all existing available monitoring wells and prior to purging any of the wells for sampling. Groundwater level measurements obtained from the monitoring wells shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient.

Each of the monitoring wells designated for sample collection shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Any well exhibiting a measurable thickness of SPH shall not be purged and sampled. Bidders shall manage purged groundwater and other derived IDW generated by the well purging and sampling activities in accordance with the PADEP NWRO guidance.

Groundwater samples shall be analyzed for the **post**-March 2008 PADEP short-list of unleaded gasoline parameters (BTEX, MTBE, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB) by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate QA/QC samples shall also be collected during each event and analyzed for the same parameters.[32] In addition, each event shall include field measurements for the following parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential.

The groundwater attainment demonstration reports describing the sampling methods and results will be provided to the PADEP on a quarterly basis and within 30 days of the receipt of analytical results for each quarter. At a minimum, each attainment demonstration report shall contain the following:

- A summary of site operations and remedial progress made during the reporting period;
- Narrative description of the sampling procedures and results;
- Tabulated data collected from the monitored wells documenting the depth to groundwater and thickness of any free product encountered;
- Groundwater elevation contour maps depicting groundwater flow direction;
- Tabulated historical quantitative groundwater analytical results including results from the current quarter;
- Current quarter laboratory analytical report(s);
- One site-wide iso-concentration contour map for each compound detected in

[32] Each bidder's approach to implementing Milestone F shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, purge water management methods, and other key assumptions affecting the bid price.

any one well above the SHS during the quarter;[33]

- For each well exceeding SHS, a graphical depiction of historical key contaminant concentrations and groundwater elevations to provide an assessment of correlations between fluctuating water levels / precipitation events and contaminant concentrations;
- For each well exceeding SHS, a graphical depiction of recent key contaminant concentration trends and results of any qualitative and quantitative analysis;
- Discussion of the data to offer an updated assessment whether these data are consistent with a stable, shrinking, or expanding plume;
- Treatment and disposal documentation for waste generated during the reporting period; and
- Demonstration of compliance with the required Federal, State, and local permits and approvals.

Each groundwater attainment demonstration report shall be sealed by a Professional Geologist and / or Professional Engineer registered in the Commonwealth of Pennsylvania (bidders shall refer to state licensing laws to determine which seals are required based on the work performed for and documented in the groundwater attainment demonstration report).

Milestone G – Soil Attainment Demonstration. Under this task, bidders shall develop and implement a soil boring program for systematic random soil sampling to demonstrate attainment of the SHS for the unsaturated and periodically saturated soils in areas of the Site and other areas off-property where previous site characterization activities have identified soil exceedances of the SHS. Three dimensional attainment sampling shall be completed to demonstrate attainment of this area and each bid ***must*** describe in detail their approach at addressing soil attainment, and include the depth interval and a drawing showing the locations where the sampling grid would be applied to demonstrate soil attainment.

The location / depth of the soil samples shall be determined using PADEP's systematic random sampling (SRSS) procedures, assuming one soil sample per boring shall be submitted for laboratory analysis. Alternate SRSS points shall be selected for any primary SRSS sample locations positioned within the clean backfill of the former UST cavity and any existing below grade utilities (i.e. public sewer, electric, and natural gas). Soil samples shall be analyzed for the **post**-March 2008 PADEP short list for unleaded gasoline parameters (BTEX, MTBE, cumene, naphthalene, 1,2,4-TMB, and 1,3,5-TMB). Appropriate quality assurance/quality control (QA/QC) samples shall also be obtained for laboratory analysis. The soil sampling

[33] All figures included in each RAPR (e.g., site plan, groundwater elevation maps, dissolved plume maps, etc.) shall be available in electronic format to the Solicitor upon request.

results shall be analyzed using PADEP's 75%/10x Ad Hoc Rule, which shall be documented in detail in the RACR.[34]

Milestone H – Vapor Intrusion Attainment Demonstration. Bidders shall provide a firm fixed-price to conduct an assessment of the indoor air exposure pathway post-remediation, which shall be consistent with the requirements, guidance, and decision matrices in the *Land Recycling Program Technical Guidance Manual – Section IV.A.4, Vapor Intrusion into Buildings from Soil and Groundwater*. Each bid shall include the sampling of the five existing soil vapor sampling points (VP-1 through VP-5). Each of the five soil vapor sampling points shall be sampled twice post-remediation with the sampling events separated by at least one month. The soil vapor samples shall be analyzed for the PADEP short-list of unleaded gasoline parameters (BTEX, MTBE, cumene, naphthalene, 1,3,5-TMB, and 1,2,4-TMB) by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Each bid shall describe their approach in detail for the purging and sampling of the soil vapor sampling points, including sample analysis and schedule for when the sampling would be anticipated.[35]

Milestone I – Preparation, Submission, and PADEP Approval of Remedial Action Completion Report (RACR). Under this milestone, the bidder will prepare a fixed-price cost to prepare a draft and final RACR following the completion of milestones A through H. The RACR shall be prepared in accordance with Section 245.313. At a minimum, the RACR shall provide the details for Milestones A through H, and shall incorporate information and relevant findings from the previous site documentation (as necessary). The RACR shall also discuss the selected closure criteria for the Site, provide proof of soil and groundwater attainment, and request permanent closure for the Site for the current release under an Act 2 Relief of Liability (ROL). The project schedule should allow two (2) weeks for Solicitor and PAUSTIF review of the draft RACR before a final version is submitted to the PADEP. The selected consultant shall then prepare and submit the final RACR to the PADEP in accordance with Section 245.313, and be sealed by a Professional Geologist and / or Professional Engineer registered in the Commonwealth of Pennsylvania (bidders shall refer to state licensing laws to determine which seals are required based on the work performed for and documented in the RACR). The fixed-price cost shall also include addressing any PADEP comments on the RACR.

Milestone J – Site Closure / Restoration Activities. Under this milestone, the bidder shall describe and provide a fixed-price bid for properly closing the site, including, but not limited to: removal of the remedial system, disconnection of utilities, and proper disposal of any remaining wastes; in-place abandonment of remedial system below grade piping; in-place abandonment of monitoring and remediation wells, and vapor monitoring points consistent with PADEP

[34] The Remediation Agreement includes a Site Specific Assumption that the soil sampling data will allow for attainment of the selected standard.

[35] Each bidder's approach to implementing Milestone H shall clearly identify the number of sampling events, number of sampling points / samples per event, purging and sampling method(s), QA/QC measures, analytes, analytical method, and other key assumptions affecting the bid price.

guidelines; well head removals; and re-vegetation, concrete / asphalt repairs, as necessary, for areas that have been disturbed by site characterization or remedial action activities. This task shall also include photo-documenting the site restoration work and completion / submittal of the well abandonment forms to PADEP. Copies of these photographs and forms shall be provided for the Solicitor's files.

Each bid shall specify the number of days until initiating Milestone J following approval of the RACR by PADEP, and shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Well abandonment, vapor monitoring point abandonment, remedial system removal, and restoration activities will be coordinated with the Solicitor.

The selected consultant shall determine whether the Solicitor wishes to retain any components of the remedial system (e.g. treatment building), as applicable, before removing it from the Site.

Milestone K – Pre-Remediation Additional Quarterly Monitoring, Sampling & Reporting (Cost Adder Milestone). Under this milestone, bidders shall provide the Solicitor and PAUSTIF with a firm quarterly fixed-price cost that includes the quarterly groundwater monitoring, sampling, and analysis of the 15 on- and off-property monitoring wells; and reporting beyond the three quarters specified in Milestone C.[36] The SOW for this unit cost adder milestone should follow Milestone C guidelines. Each bid must include the rationale for needing to implement this optional cost adder milestone.

Milestone L – Additional Remediation System O&M, Site Monitoring, Sampling, & Reporting (Cost Adder Milestone). Under this milestone, bidders shall provide the Solicitor and PAUSTIF with a firm quarterly fixed-price cost that includes the routine O&M of the remedial system; quarterly groundwater, monitoring, and sampling of the on- and off-property monitoring and remediation wells; and reporting beyond the timeframe specified in Milestone E. The SOW for this unit cost adder milestone should follow Milestone E guidelines. As described in Milestone E, a 10% holdback will be applied to each Milestone L payment. Each bid must include the rationale for needing to implement this optional cost adder milestone.

Additional Information

In order to facilitate PAUSTIF's review and reimbursement of invoices submitted under this claim, the Solicitor requires that project costs be invoiced by the milestone identified in the executed Remediation Agreement. Actual milestone payments will occur only after successful and documented completion of the work defined for each milestone. The selected consultant will perform only those tasks/milestones that are necessary to reach the objective identified in

[36] The fixed price cost shall also include any additional monitoring well(s) that may be installed under Milestone A.

this RFB. The selected consultant will not perform, invoice, or be reimbursed for any unnecessary work completed under a milestone.

Any “new conditions”, as defined in Attachment 1, arising during the execution of the SOW for any of the milestones may result in termination of or amendments to the Remediation Agreement. Modifications to the executed Remediation Agreement will require the written approval of the Solicitor and the PAUSTIF. PADEP approval may also be required.

List of Attachments

1. Remediation Agreement
2. Bid Cost Spreadsheet
3. Site Information/Historic Documents
    a. Figures
    b. Draft Amended RAP, dated May 2014
    c. First and Second Quarter 2014 RAPRs
    d. Fourth Quarter 2013 RAPR, dated January 2014
    e. Third Quarter 2013 RAPR, dated October 2013
    f. Second Quarter 2013 RAPR, dated July 2013
    g. First Quarter 2013 RAPR, dated April 2013
    h. Fourth Quarter 2012 RAPR, dated January 2013
    i. Amended RAP, dated May 2012
    j. RAP, dated January 2012
    k. UST Closure Report, dated August 2011
    l. UST Closure Report, dated June 2010
    m. SCR, dated December 2010
    n. PADEP Correspondence
    o. Miscellaneous Documents