Request for Bid

Fixed-Price Bid to Result

Remediation To Site Closure

Solicitor

United Refining Company of PA

Kwik Fill M-26

1500 Riverside Drive

Oil City, Venango County, PA 16301

PADEP Facility ID #: 61-23788 PAUSTIF Claim #: 2012-0109(F)

Date of Issuance

November 11, 2014

Table of Contents

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	December 2, 2014 by 5 p.m.
Mandatory Pre-Bid Site Visit	December 3, 2014 at 11 a.m.
Deadline to Submit Questions	December 15, 2014 by 5 p.m.
Bid Due Date and Time	December 22, 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.co

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.

Submission of Bids

To be considered for selection, **one (1) hard copy of the signed bid package and one (1) electronic copy (one (1) 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 (1) 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 Kwik Fill M-026 facility is located at 1500 Riverside Drive (PA State Route 62) near the town of Oil City, Pennsylvania, and occupies a irregular-shaped parcel of property, encompassing ~0.5 acre, adjoining the north/northeast side of Riverside Drive (see Figures 1 and 2, Attachment 3a). The Site is occupied by a single-story, masonry block structure with no basement located in central portion of the Site and a steel dispenser island canopy west of the Site building. The Site building is occupied by a convenience store along with operation / retails sales for unleaded gasoline and diesel fuel. Retail gasoline and diesel fuel sales are currently active at the Site.

Surrounding properties consist of a mixture of commercial businesses and residences. The Site adjoins the right-of-way (ROW) for Riverside Drive to the south, southwest, and west; vacant undeveloped land to the north/northeast; surface water tributary, Sage Run, to the south/southeast; and residential to the east. Surface waters in Sage Run flows beneath Riverside Drive via a culvert, south of the Site, then in a northerly direction around the western side of the Site, on the opposite side of Riverside Drive. Potable water supply for the Site is provided via a private water well located in the southeastern portion of the Site (see Figure 2). Surrounding area is a mixture of public water supply and private water wells.

The Site has been occupied by a retail fuel facility since 1965. The existing underground storage tank (UST) system owned/operated by URC includes two 6,000-gallon unleaded gasoline tanks; one 6,000-gallon diesel fuel tank; product piping; and four product dispensers located on one concrete island. Tanks 002, 003, and 004 were installed in December 1965 and are situated within a common tank cavity located west of the Site building in the central portion of the Site. The three tanks and piping are constructed of steel, with 1998 upgrades that included internal lining of the USTs and installation of cathodic protection system. The product dispenser island is located below the steel canopy located above and west of the UST cavity. See Figures 2 and 3 in Attachment 3a for the location and layout of the existing UST system.

Release History / UST System Closure

In March and April 1999, one 10,000-gallon unleaded gasoline UST and associated piping was closed via removal at the Site. The location of this former UST is shown on Figure 2. During closure activities it was noted that obvious soil staining was visible and that collected soil samples had elevated photoionization detector (PID) readings, and the source of the impacts appears to have been from "overfills at the UST fill port".[1] Approximately 180 tons of impacted soil was removed and transported off-site for disposal. Laboratory analysis of post-excavation soil samples collected from the piping excavation and UST cavity did not detect any contamination (i.e., all results were "non detect"). The 1999 gasoline release is listed as "cleanup complete" as of August 5, 1999 in PADEP's eFACTS database.

In August 2001, a surface release of ~68 gallons of unleaded gasoline occurred at the product dispenser island. The release apparently flowed overland to the northeast over the asphalt parking lot to an off-site grass/gravel area. A hand boring investigation performed following the release was successful in delineating the horizontal and vertical extent of surface soil impacts in soil. Approximately 57 tons of surficial impacted soil was removed and transported off-site for disposal. Analytical results from post-excavation soil samples indicated unleaded gasoline constituents were either not detected or detected at concentrations below PADEP Statewide Health Standards (SHS). A Remedial Action Completion Report was submitted to PADEP in August 2004 requesting Act 2 relief of liability (ROL) for unleaded gasoline constituents in soil for SHS. The August 2001 RACR was approved by PADEP in September 2004, granting ROL.[2] The 2001 release is listed as "cleanup complete" as of September 14, 2004 in PADEP eFACTS database.

On July 25, 2012, a release (Claim #2012-0109F) was suspected from the existing UST system as facility employees reported gasoline vapors inside the Site building. Confirmation of the release was made during an investigation performed by Groundwater Environmental Services, Inc. (GES), which discovered elevated PID readings collected from the voids in the buildings concrete block walls, and light non-aquous phase liquid (LNAPL) within three of the UST submersible pump pits.[3] On July 26, 2012, testing of the leak detection system determined that a failed line leak detector associated with the regular-grade unleaded gasoline UST was the source of the release.[3] The line leak detector was replaced and all product piping passed tightness testing.

Site Characterization & Interim Remedial Activities

Interim remedial actions were initiated at the Site on July 26, 2012, which included installing / operating a vapor mitigation system with two 1½ hp blowers. The system extracted vapors from

[1] "Underground Storage Tank Closure Report Form", dated June 3, 1999.
[2] PADEP letter to URC, dated September 14, 2004.
[3] "Notification of Reportable Release", prepared by URC, dated August 7, 2012.

piping installed within the footing of the Site building. In addition, ~346 gallons of product/water was removed from the UST submersible pump pits via a vacuum pump truck. Operation of the vapor mitigation system is currently on-going.

Remaining residual LNAPL in the UST submersible pump pits following the July 2012 vacuum extraction event was removed via petroleum absorbent pads and five additional vacuum extraction events conducted between August 2012 and January 2013. The vacuum extraction events were also conducted at monitoring wells surrounding the UST cavity. A total of ~1,656 gallons of product/water have been recovered and transported off-site for disposal. LNAPL was reportedly observed in well MW-4 (currently MW-4R) in October 2012 at measured thickness ranging from 0.03 to 0.05 feet.[4]

Site characterization activities, associated with Claim #2012-0109(F), were initiated in July 2012 by the Solicitor's consultant, GES, in response to the July 2012 confirmed release. The characterization activities included installing four monitoring wells (MW-1 through MW-4)[5] surrounding the existing UST cavity (see Figure 2, Attachment 3a), collecting / analyzing soil samples from the boreholes for MW-1, MW-2, and MW-4, and collecting/analyzing groundwater samples from the four wells.

Between December 2012 through October 2013, the Solicitor's consultant, GES, performed additional characterization activities, which included – installing 13 additional monitoring wells on-site (MW-5 through MW-9, MW-11 through MW-13, MW-17 through MW-20, MW-22, and MW-24), and five monitoring well off-site (MW-14 through MW-16, MW-21, and MW-23); installing soil vapor sampling points VP-1, VP-2, and VP-3; advancing and sampling seven soil borings (SB-1 through SB-7) on-site; converting soil borings SB-1, SB-2, and SB-3 into groundwater monitoring well MW-19, and soil vapor sampling points VP-5 and VP-4, respectively; collecting / analyzing soil, soil vapor, and groundwater samples; collecting / analyzing samples from on-site potable water well; monitoring well slug testing; pilot testing (pump test, vacuum enhanced groundwater extraction [VEGE], and total phase extraction [TPE]); and over-drilling and reconstruction of several monitoring wells which are now identified as MW-1R through MW-5R, MW-8R, MW-9R, and MW-11R through MW-13R. Locations for the soil borings, monitoring wells, and soil vapor sampling points are shown on Figures 2 and 3 in Attachment 3a.

Based on the available Site information, the unconsolidated materials underlying the Site consist of about three to 14 feet of fill material (consisting of varying amounts of slag, gravel, sand, silt, clay, concrete/brick with trace weathered shale and sandstone rock fragments), underlain by a alluvium which includes clayey sand, silty sand, and clayey silt and/or sandy gravel, which extended to bedrock. Bedrock is reportedly encountered approximately ~9 to 14

[4] No LNAPL has been detected in MW-4R since October 2012.
[5] The wells are identified as MW-1R through MW-4R on Figures 2 and 3, as MW-1 through MW-4 were replaced with MW-1R through MW-4R.

feet below grade on-site and ~7 to 10 feet below grade off-site. The bedrock has been reported to consists of weathered to competent shale and/or sandstone. Groundwater on-site is reportedly first encountered within the fill material or underlying alluvium. The groundwater flow direction is generally in a west/northwesterly direction as shown on Figures 7 through 9 in GES' combined SCR/RAP in Attachment 3f.

Soil contaminants in the unsaturated or periodically saturated zones were found to exceed PADEP SHS in the immediate area of the existing UST system and extending in a westerly direction in the area of MW-8R and MW-13. The soil boring / sample locations are shown on Figure 4 in Attachment 3a. A depiction of the approximate area of soil impacts exceeding SHS in the unsaturated and periodically saturated soils is shown on Figure 4 in Attachment 3a.

The current monitoring well network consists of on-property wells MW-1R through MW-5R, MW-6, MW-7, MW-8R, MW-9R, MW-11R through MW-13R, MW-17 through MW-20, MW-22, and MW-24, and off-property wells MW-14 through MW-16, MW-21, and MW-23 located on the side- and downgradient properties. Static groundwater levels within the on-property wells have ranged from ~2.5 to 7.5 feet below top of casing, and within off-property wells the water levels have ranged from ~4 to 7 feet below top of casing.

The highest concentrations of the contaminants of concern (COC) in groundwater were found in on-property wells MW-4 (currently MW-4R) and MW-12 (currently MW-12R), located in the immediate vicinity of the UST cavity (source area). Benzene, toluene, ethylbenzene, total xylenes (BTEX); naphthalene, 1,2,4-trimethylbenzene (1,2,4-TMB), and 1,3,5-trimethylbenzene (1,3,5-TMB) all exceeded SHS. Other wells located side-gradient and downgradient of the former tank cavity also contain groundwater impacted by benzene and the TMB-isomers at concentrations exceeding SHS; however, the contaminant concentrations are several orders-of-magnitude (OOM) lower than MW-4/MW-4R and MW-12/MW-12R. There do not appear to be any off-site impacts as the groundwater COC concentrations in off-property wells are all "non-detect".

Soil vapor samples were collected from all five soil vapor sampling points VP-1 through VP-5 surrounding the Site building and downgradient of the existing UST cavity. The "VP" points were only sampled during a single December 2012 event. The highest COC concentrations in soil vapor were found at VP-1, which is located between the UST cavity and the Site building. PADEP's SHS vapor intrusion screening values for BTEX and the TMB-isomers were exceeded in the vapor sample from VP-1. The vapor sample collected at VP-2, located along the southwest side of the Site building (south of the UST cavity), also exceeded PADEP's vapor intrusion screening values but only for total xylenes and the TMB-isomers. Soil vapor samples from VP-3 through VP-5 did not contain any COCs above PADEP's vapor intrusion screening values. Soil vapor sampling point VP-1 was destroyed during upgrades/modifications to the UST system, and was replaced by GES in September 2014. A soil vapor sample was collected

from the replacement vapor point (VP-1R) in October 2014. A copy of the log/construction details for VP-1R along with the soil vapor results are provided in Attachment 3j.

Solicitor's Selected Closure Standards & Remedial Activities Implemented

Solicitor's chosen closure standard for the Site is SHS for both soil and groundwater. In August 2013, Solicitor's consultant provided PADEP with a combined SCR/RAP prescribing the use of a TPE system on-property to remediate both soils and groundwater impacts, along with the use of the vapor mitigation system on the Site building. PADEP subsequently approved the remedial goals and proposed approach (with no comments/modifications) via letter to the Solicitor dated October 18, 2013.

Pilot testing to assess the feasibility of various methods of in addressing soil and groundwater impacts were performed at the Site in February 2013. The pilot testing to assess the extraction of groundwater and vapors included a pump test, VEGE, and TPE on well MW-4R, pump test and VEGE on MW-12 (before converted to MW-12R), and a TPE test at MW-9 (before converted to MW-9R). After evaluating the pilot testing methods, Solicitor's consultant determined that the TPE would be the most efficient and cost effective remedial approach. Subsequently, supplemental TPE testing was completed in March 2013 using a mobile vacuum truck to simultaneously extract groundwater and vapors from four wells (MW-2, MW-4R, MW-9, and MW-12).

During the individual testing of TPE at MW-4R, Solicitor's consultant determined that the groundwater yield rate was ~0.57 gallons per minute (gpm) under an applied vacuum of 305 inches of water after 61 minutes of extraction, and a vapor extraction rate of 4.26 standard cubic feet per minute (scfm) at 263.26 inches of water. Hydraulic influence was reportedly observed in wells MW-12 and MW-9; however, no pneumatic influence was recorded in the surrounding wells. Two TPE feasibility tests were performed at well MW-9, the first using a vacuum of 203.55 inches of water and the second using 297.00 inches of water. During the individual testing of TPE at MW-9, groundwater yield from the well was ~1.17 and 1.13 gpm under each of the applied vacuums after 52 minutes of extraction. The vapor extraction rates at the applied vacuums were 67.92 and 16.95 scfm at 189.03 and 227.16 inches of water. Hydraulic influence was observed in wells MW-1, MW-2, MW-3, MW-4R, and MW-12; however, no pneumatic influence was recorded in the surrounding wells.

The supplemental testing of TPE included simultaneous extraction at MW-2, MW-4R, MW-9, and MW-12. This testing determined that the combined groundwater yield from these wells was ~3.85 gpm under an applied vacuum of 203.55 inches of water. The combined soil vapor yield was 54.37 scfm at 204.00 inches of water being obtained during the testing at MW-2, MW-4R, MW-9, and MW-12. Hydraulic and pneumatic influence was observed in wells MW-1, MW-3, and MW-6. The groundwater influence zone was interpreted to be a radius of 34 feet. A

pneumatic zone of influence was estimated at a radius of 31 feet based on the observed response from the surrounding monitoring wells.

The PADEP-approved TPE remedial approach was implemented at the Site and startup of the TPE system occurred on August 21, 2013. The TPE system extracts groundwater and vapors from on-property wells MW-1R through MW-5R, MW-8R, MW-9R, MW-11R through MW-13R, MW-18, and MW-19. In addition, to continue to mitigate any indoor vapor intrusion within the Site building, the vapor mitigation system was upgraded and incorporated into the overall remedial system design & installation. The remedial system utilizes a rotary claw vacuum pump for the recovery of water and vapor from the recovery wells and is designed with a vapor extraction rate of 149 scfm with 15 gpm of extracted groundwater at an applied vacuum of 16 inches of mercury (in Hg) from all 12 extraction wells. The TPE radius of influence is estimated to be at a minimum of 25 feet. Recovered groundwater is treated via liquid phase carbon and the influent vapor is treated via a catalytic oxidizer. The treated groundwater is discharged to the surface waters of Sage Run, on the south side of the Site, under an approved National Pollutant Discharge Elimination System (NPDES) discharge permit.

The vapor mitigation system utilizes a rotary lobe blower to recover vapors from beneath the Site building, and is designed with a extraction rate of 200 scfm under a system vacuum of 30 inches of water. The influent vapors are treated via vapor phase carbon. Any water recovered by the vapor mitigation system is transferred to the TPE system for treatment via liquid phase carbon.

Both the TPE and vapor mitigation systems are housed in one trailer located in the southern portion of the Site. Trenching/piping layout and system trailer are shown on Figures 2 through 4, Attachment 3a.

Remedial system performance to date (2nd quarter 2014) has included runtime of the system at around 96%, with recovery and treatment of ~322,400 gallons of groundwater at an average recovery rate of ~one gallon per minute (gpm), and recovery of ~135 pounds of vapor phase hydrocarbons at a rate of ~100 scfm. Influent vapor concentrations have been below laboratory detection levels or at low concentrations well below indoor vapor screening levels. Treated groundwater has met compliance of NPDES permit. Dissolved concentrations at on-property wells are on a decreasing trend, with some contaminant concentrations being decreased to below laboratory detection levels or below SHS. Due to the decrease in contaminant concentrations in monitoring wells and system influent samples, the remedial system was temporarily idled in late July 2014 to collect groundwater and soil vapor data under static conditions. The remedial system will be re-started after collecting a soil vapor sample from VP-2 in November 2014.

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 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. PADEP – Northeast Regional Office (NERO) was given the opportunity to review the SOW provided within this RFB; however, did not provide any comments on the SOW.

Objective

Solicitor seeks competitive, fixed-price bids, for this Bid to Result RFB to complete the ten (10) 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 Solicitor has elected to pursue environmental closure based on demonstrating attainment of the PADEP Act 2 used aquifer SHS Medium-Specific Concentrations (MSCs) in a Residential setting for soils and groundwater.

Constituents of Concern (COCs)

The COC for soils, 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:[6]

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

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

change in the selected consultant's SOW or result in additional compensation under the Remediation Agreement.

Site-Specific Guidelines

Solicitor maintains current off-site access agreement(s), which will remain in-place after award of the bid to the selected consultant.

Site-Specific Milestones

Milestone A – Supplemental Site Characterization Activities and Reporting. This Milestone provides bidders the opportunity to identify which additional site characterization work will be completed. Conducting supplemental investigative activities under this Milestone is mandatory. PAUSTIF will be reimbursing up to $10,000 for supplemental site characterization and reporting costs under this Milestone. Bidders are to describe what supplemental site characterization 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 of the implemented remedial technologies and system design; 4) assist with refining the cleanup timeframe estimate.

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 site characterization activities may or may not be necessary, bidders are strongly encouraged to review GES' August 2013 SCR/RAP and the other documents provided in Attachment 3, rather than relying solely on the summary information presented in this RFB. As mentioned above, supplemental site characterization activities shall be initiated upon execution of the Fixed-Price Agreement.

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; and
- A description of the anticipated results of each activity and how such results may impact your proposed conceptual remedial action plan.[7]

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

Bidders shall document the work along with the findings and analytical data in a quarterly remedial action progress report prepared under Milestone B.

Milestone B – Continue 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; quarterly groundwater, monitoring, and sampling of the on- and off-property monitoring wells; and reporting. For the purposes of this RFB, it is assumed the Milestone B activities will be required for four (4) quarters. However, if a bidder believes that the remedial approach will need to extend beyond 4 quarters, each bid *must* specify the additional number of O&M quarters that the remedial approach will need to operate 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[89] Additional number of remediation quarters, beyond the 4 quarters specified in this RFB, shall be defined on the Bid Cost Spreadsheet (i.e., if a bidder believes it can complete the remediation in a total of 8 quarters of O&M, the additional number of quarters to be included on the Bid Cost Spreadsheet is 4 quarters). If the bidder's O&M remediation timeframe exceeds the RFB-specified 4 quarters, the number of quarters exceeding 4 will be incorporated in the Remediation Agreement as Cost Adder Milestone H.[10] 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 C) have remained below the PADEP SHS for at least two consecutive quarterly monitoring and sampling events. Under these conditions, it is deemed reasonable to initiate the groundwater attainment demonstration. Each bid must explicitly state bidder's understanding of

[7] The Remediation Agreement will include a Site Specific Assumption that the results of Milestone A will not require modification to the SOW.
[8] During the contracted period of O&M, including the base period of 4 quarters and any additional quarters of O&M, 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.
[9] The selected consultant will only be reimbursed for O&M events that have been completed.
[10] The Remediation Agreement includes a Site Specific Assumption that quarterly remedial O&M, site monitoring, sampling & reporting events will not exceed the 4 quarters under Milestone B plus additional quarters under Cost Adder Milestone H.

the project goal for when the remedial system would be discontinued and attainment sampling shall begin.

Bidders may idle the remediation system early (before the 4 Milestone B quarters of remediation have been completed); however, 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 B quarterly events are completed, the Consultant will be required to wait a minimum of two months before initiating groundwater attainment activities (Milestone C). 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 B activities. Then, **when all 4 quarters of the Milestone B activities have been completed, and any additional quarters (Milestone H), 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 4 quarters of O&M under Milestone B.

During the pre-bid meeting, Bidders will be given an opportunity to inspect the remedial system equipment and observe the equipment in operation. Bidders shall use the opportunity to identify, based on experience, any and all remedial system components that will likely need to be repaired or replaced during the period of performance of the Agreement. As stated in the Agreement, through the effective period of the Agreement, the selected consultant, at its own expense, shall be responsible for all costs for repairing or replacing Client- and Consultant-owned equipment purchased and used for completing the Agreement work scope that may, by any means, have become stolen, damaged, deteriorated, or destroyed over the course of completing the Agreement work scope. Each bid shall, therefore, be inclusive of all such costs to repair and/or replace remedial system components.

Each bid must specify the number of site visits to occur each quarter. As provided in the PADEP-approved RAP, O&M tasks are 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. Each bid shall include a description of the O&M activities including, but not limited to:

- *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 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 to the Solicitor. 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 the NPDES permit and other applicable regulatory requirements. Documentation of compliance shall be provided to the Solicitor in quarterly RAPRs and monthly Discharge Monitoring Reports (DMRs) as per the NPDES permit.

Extracted vapors from the TPE system is currently being treated via a catalytic oxidizer (CatOx)[11], and according to the PADEP-approved RAP, treatment of the extracted vapors is to change to vapor activated carbon when the influent recovery rate reaches less than one pound per day. Each bid must explicitly explain the methods to monitor vapor recovery rates and when the transition from use of the CatOx system to vapor activated carbon usage would occur. The switch-over from CatOx to vapor activated would be addressed via cost Adder Milestone I.

The quarterly groundwater monitoring and sampling events will include all 23 existing on- and off-property monitoring wells (MW-1R through MW-5R, MW-6, MW-7, MW-8R, MW-9R, MW-11R through MW-13R, and MW-14 through MW-24) [12], and the on-property potable water well.

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 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.[13] Bidders shall manage purged groundwater and other derived IDW generated by the well purging and sampling activities in accordance with the PADEP NWRO guidance.

[11] CatOx system is owned and not leased or rented.
[12] The fixed price cost shall also include any additional monitoring well(s) that the bidder proposes to install under Milestone A.
[13] No SPH has been observed in any of the monitoring wells since October 2012.

Groundwater samples shall be analyzed for the **post**-March 2008 PADEP short-list of unleaded gasoline parameters (BTEX, 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 these water quality 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, 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;[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;
- Evaluation of system performance including hydraulic and pneumatic influence, contaminant mass recovery quantification and system optimizations performed;

[14] Each bidder's approach to implementing Milestone B 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.

[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.

- 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.

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 C). If, in order to achieve the cleanup goals, it is necessary to extend the period of O&M beyond the RFB-specified 4 quarters, each additional quarter, up to the bidders specified total number of additional quarters, will be addressed via Cost Adder Milestone H. Consultant shall seek and obtain written approval from Solicitor and PAUSTIF to continue operation of the remedial system (Milestone H).[16]

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 maximal 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 H, if implemented) will be withheld and accumulated pending successful completion of remediation and initiation of soil and groundwater attainment activities (Milestones C and D).** 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.[17] 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 C – Groundwater Attainment Demonstration. Under this task, bidders shall provide a firm fixed-price to complete up to eight quarters of groundwater monitoring and

[16] The Remediation Agreement includes a Site Specific Assumption that remediation will be complete and soil and groundwater attainment activities will be initiated within the base 4 quarters (Milestones B1 through B4) and total number of additional quarters.
[17] Lump sum payment request shall be made prior to the on-set of initiating Milestones C and D.

sampling events.[18] According to the PADEP-approved RAP, the POC is defined as the property boundary that existed at the time of the release, and wells MW-1R, MW-6, MW-7, MW-8R, MW-9R, MW-11R, MW-13R, MW-17, MW-20, and MW-22 are considered on-property POC wells and wells MW-14 through MW-16 and MW-21 are off-property de facto POC wells (where SHS attainment must be demonstrated). Therefore, each groundwater monitoring and sampling event shall include on-property POC wells MW-1R, MW-6, MW-7, MW-8R, MW-9R, MW-11R, MW-13R, MW-17, MW-20, and MW-22; off-property wells MW-14 through MW-16 and MW-21; and the on-property potable water supply well. In addition, since off-property well MW-23 was installed after PADEP approved the RAP, and is downgradient of the Site, each quarterly attainment event shall also include off-property well MW-23. The conduct and results of each event shall be documented in quarterly 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 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 SWRO guidance.

Groundwater samples shall be analyzed for the **post**-March 2008 PADEP short-list of unleaded gasoline parameters (BTEX, 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.[19] 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:

[18] Bidders shall include language in their bid that if groundwater data in 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.

[19] 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.

- 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 any one well above the SHS during the quarter;[20]
- 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 D – 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 the area of the former dispenser island and UST cavity and other areas of the Site where previous site characterization activities have identified soil exceedences of the SHS. Three dimensional attainment sampling shall be completed to demonstrate attainment of this area and each bid

[20] 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.

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 in inaccessible areas such as might be the case within the area of the existing UST system (i.e. tank cavity, piping, dispensers) and any existing below grade utilities (i.e. water and natural gas). Soil samples shall be analyzed for the **post**-March 2008 PADEP short list for unleaded gasoline parameters (BTEX, 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 results shall be analyzed using PADEP's 75%/10x Ad Hoc Rule, which shall be documented in detail in the RACR[21].

Milestone E - 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-1R, and VP-2 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.[22]

Milestone F – 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 E. The RACR shall be prepared in accordance with Section 245.313. At a minimum, the RACR shall provide the details for Tasks A through D. 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

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

[22] Each bidder's approach to implementing Milestone E 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.

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 G – Site Closure / Restoration Activities. Under this milestone, the bidder shall describe and provide a fixed-price bid for properly closing the site, including: removal of the remedial system and disconnecting of utilities to system, and proper disposal of any remaining wastes; in-place abandonment of remedial system below grade piping; in-place abandonment of monitoring & recovery wells and soil vapor monitoring points consistent with PADEP 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. Copies of these photographs and forms shall be provided for the Solicitor's files.

Each bid shall specify the number of days for initiating Milestone G 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, soil vapor monitoring point abandonment, remedial system removal, and restoration activities will be coordinated with the Solicitor and Site operator/manager.

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

Milestone H – 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 unit fixed-price cost that would include the routine O&M of the remedial system; quarterly groundwater, monitoring, and sampling of the on- and off-property monitoring and recovery wells; and reporting beyond the timeframe specified in Milestone B. The SOW for this unit cost adder milestone should follow Milestone B guidelines. <u>As described in Milestone B, a 10% holdback will be applied to each Milestone H payment</u>. Each bid must include the rationale for needing to implement this optional cost adder milestone.

Milestone I – Switch from Use of CatOx to Vapor Activated Carbon (Cost Adder Milestone). Under this milestone, bidders shall provide the Solicitor and PAUSTIF with a firm fixed-price cost for the switch-over from CatOx to vapor activated carbon. Each bid shall describe their scope of work for this milestone, and the fixed-price cost shall be inclusive of all labor, subcontractor, vapor activated carbon, and waste handling / disposal.

Milestone J – Vapor Activated Carbon Change-Out (Cost Adder Milestone). Under this milestone, bidders shall provide the Solicitor and PAUSTIF with a firm fixed-price cost for the replacement of vapor activated carbon. Each bid *must* detail their scope of work and provide the criteria or "triggers" that would be used in determining when the vapor activated carbon would need to be replaced. The fixed-price cost shall be inclusive of all labor, subcontractor, vapor activated carbon, and waste handling / disposal.

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 this RFB. 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 1 through 4
    b. Remedial Action Progress Report, 3rd Quarter 2014, dated October 29, 2014
    c. Remedial Action Progress Report, 2nd Quarter 2014, dated July 29, 2014
    d. Remedial Action Progress Report, 1st Quarter 2014, dated April 29, 2014
    e. Remedial Action Progress Report, 4th Quarter 2013, dated January 31, 2014
    f. SCR/RAP, dated August 2013
    g. Underground Storage Tank Closure Report Form, dated June 3, 1999
    h. NPDES Permit
    i. NPDES Monthly Reports
    j. Other Information