

COMPETITIVE FIXED-PRICE BID SOLICITATION

SITE CHARACTERIZATION ACTIVITIES, REMEDIAL ALTERNATIVES ANALYSIS, SITE CHARACTERIZATION REPORT / REMEDIAL ACTION PLAN PREPARATION

**DUQUESNE LIGHT EDISON SERVICE CENTER
1901 EDISON STREET, GLENSHAW, PA 15116**

**PADEP FACILITY ID #02-13365
PAUSTIF CLAIM #2010-0096(S)**

August 22, 2011

Thank you for your interest in this Request for Bid (RFB) opportunity. This RFB Solicitation is issued on behalf of the Claimant, Duquesne Light Company (hereafter referred to as the Client or Solicitor) by the Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF or "Fund"). This RFB references a scope of work (SOW) for completing site characterization activities, completing a remedial alternatives analysis, and preparing a combined Site Characterization Report (SCR) / Remedial Action Plan (RAP) addressing impacted groundwater, performing groundwater attainment monitoring (if appropriate), submittal of a Remedial Action Completion Report (RACR), and performing site closure activities. The facility is known as "Duquesne Light Edison Service Center" and is located in Glenshaw, Allegheny County, PA.

The Solicitor has elected to pursue an Act 2 closure based on demonstrating attainment of the used aquifer Statewide Health Standard (SHS) Medium-Specific Concentrations (MSCs) for soil, soil vapor, and groundwater in a nonresidential setting.

The SOW will be embodied in a Fixed-Price Agreement (see Attachment 2) executed by the Solicitor and the selected consultant. Although not a party to the Agreement, the Fund will reimburse 100 percent of the reasonable, necessary, and appropriate costs associated with the Milestone Payment Schedule specified in Section 4 below and as incorporated into the signed Agreement. The SOW tasks consist of the following:

- Task 1. Professional Site Survey
- Task 2. Monitoring Well Installation
- Task 3. Groundwater Monitoring and Sampling
- Task 4. Aquifer Characterization Testing
- Task 5. Soil Vapor Study
- Task 6. Prepare a Draft and Final SCR/RAP
- Task 7. Groundwater Attainment Sampling
- Task 8. Prepare a Draft and Final RACR
- Task 9. Site Closure / Restoration Activities

Please note that a bidder's response to this RFB Solicitation Package means it has accepted all the contractual terms and SOW requirements (for example, but not limited to, any report submittal deadlines) unless explicitly stated to the contrary in the bid response. However, bidders are still expected to describe their approach to completing the SOW in full and in detail. Simply referencing the RFB specifications/requirements or repeating the RFB text verbatim is not considered a sufficient description of the bidder's proposed SOW "in full and in detail."

Should your company elect to respond to this RFB Solicitation, one copy of the signed bid package must be provided directly to the Fund's third-party administrator, ICF International (ICFI),

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at the address and to the attention of the person identified in Section 1 below. In addition to this one hard copy submittal, the complete bid response must be submitted to ICFI electronically in a single PDF file (Adobe PDF format) on a compact disk (CD) to be included with the hard copy bid response. The outside of the bid response package must be clearly marked and labeled with "Bid – Claim #2010-0096(S)."

Please note that **the bid response (hard copy and digital version) is to be sent only to ICFI.** ICFI will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. No bid responses will be opened for review until the due date and time elapses. Submitted bid responses are subject to Pennsylvania's Right-to-Know Law.

The signed bid package (hard copy and electronic copy) sent to ICFI must arrive no later than close of business (5 p.m.) on September 16, 2011. Please note that if your bid response is not received by ICFI by this due date and time, it will not be considered, i.e., only those bid responses received by the specified due date and time from those bidders who also attended the mandatory pre-bid site visit (see Section 6) will be considered.

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 web site (see www.insurance.pa.gov). While the Technical Contact will assist ICFI, PAUSTIF, and the Solicitor in evaluating the bid responses, it is up to the Solicitor to select the bidder from those bid responses deemed acceptable to PAUSTIF as reasonable, necessary, and appropriate. The Technical Contact will assist the Solicitor in communicating its choice of the successful bidder, which is anticipated to occur within six (6) weeks after receiving the bid responses.

1. ICFI, SOLICITOR, AND TECHNICAL CONTACT INFORMATION

ICF International	Solicitor	Technical Contact
Mr. Jerry Hawk ICF International 4000 Vine Street Middletown, PA 17057	Mr. John Bigi Duquesne Light Company 2825 New Beaver Ave Mail Drop N6-E, Pittsburgh, PA 15233	Mr. James Ackerman, P.G. Excalibur Group, LLC 276 Park Entrance Dr Pittsburgh, PA 15228 jimackerman@excaliburgrpllc.com

Please note that the Technical Contact is the single point of contact regarding this RFB Solicitation. All questions regarding this RFB Solicitation and the site conditions must be directed in writing to the Technical Contact only. Bidder questions must be received no later than seven (7) calendar days prior to the due date for the bid response. Bidders must neither contact nor discuss this RFB Solicitation with the Solicitor, PAUSTIF, or ICFI unless approved by the Technical Contact (this RFB Solicitation may be discussed with subcontractors and vendors to the extent required for preparing the bid response). Bidders must also not contact or discuss this RFB Solicitation with the Pennsylvania Department of Environmental Protection (PADEP). If a bidder has specific questions for the PADEP, please provide these questions to the Technical Contact who will forward them to the PADEP; however, the PADEP may choose not to reply to any questions it receives.

Please note that unless a bidder successfully demonstrates its question is proprietary in nature, all questions and responses exchanged during and after the pre-bid site visit will be provided to all bidders on a non-attributable basis. A bidder must specify any questions it regards as proprietary at the time it

submits these questions to the Technical Contact. If said question(s) is (are) determined to be non-proprietary by the Solicitor and the Technical Contact, the bidder will be given the option of withdrawing its question(s) before it is answered and a response distributed.

2. GENERAL SITE BACKGROUND AND DESCRIPTION

Underground storage tank (UST) systems were situated at two separate locations on the Edison Service Center property (**Figure 1**). The unleaded gasoline UST system consisted of one 10,000-gallon, single-walled fiberglass UST (Tank 001) installed in May 1985, with one dispenser and rigid steel piping. The diesel fuel system was located approximately 600 feet southwest of the gasoline system and it consisted of one 10,000-gallon, single-walled fiberglass UST (Tank 002) installed in December 1982, with one dispenser and rigid steel piping. Fuel storage and dispensing systems no longer exist at either of the locations.

UST System upgrades were initiated at Tank 001, the gasoline UST, on 11/24/1992.¹ On 12/2/1992, soil contamination was observed in the excavation and a notification of contamination report was submitted to PADER, with the release described as "minor soil contamination and minor odors". Although the type of product released was not indicated on the notification of contamination report, it is assumed the product released was unleaded gasoline. The source of the release was thought to be the original steel piping, which was replaced with fiberglass piping as part of the upgrade work. The location of the contaminated soil is described as "the area under the old gasoline pumping island and the (adjacent) concrete pad" (see **Figure 2**). A flame ionization detector (FID) was used to determine the extent of the excavation and confirmatory soil samples were collected at seven locations at depths of 4 feet below grade. The samples were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX) and total petroleum hydrocarbons (TPH) gasoline range organics (GRO). Following this soil sampling (and prior to receipt of any laboratory analytical results) additional soil excavation was performed on 12/3/1992 based on elevated FID readings (reportedly in the range of 40-150 ppm). The records indicate that no further confirmatory soil samples were collected following the additional excavation and the excavation was backfilled on 12/3/1992. The analytical report for this sampling, dated 12/8/1992, indicated benzene was elevated in one sample from the northwest corner of the excavation (6.94 mg/kg vs. today's SHS for benzene of 0.5 mg/kg). Because confirmatory samples were not collected following the additional excavation, it cannot be known whether soil exceeding today's SHS remained following the cleanup work in 1992.

Similar upgrade work on the diesel UST system (Tank 002) began on 12/9/1992. Records indicate that an FID meter was used to "evaluate the unexcavated conditions around the diesel tank excavation", and two soil samples were collected for analysis of BTEX and TPH diesel range organics (DRO)². Soil excavation was initiated prior to receipt of the laboratory results. The reporting indicates that during excavation they "*Observed visual contamination under the island's dispensing area, most likely from spillage associated with fueling the vehicles*" and "*Excavation continued to the shell rock layer...*". BTEX constituents in the pre-excavation samples were below SHS but DRO was elevated (3,960-10,000 mg/kg). Following soil excavation, two additional soil samples were collected from the excavation on 12/21/1992 for analysis of BTEX and TPH (GRO/DRO not specified). The BTEX constituents were below SHS and TPH was in the range of 25-265 mg/kg in the post-excavation samples.

Following the upgrade and cleanup activities of 1992 records indicate no reported releases until 2010, when a diesel fuel release was reported during removal of the diesel UST (Tank 002). The UST closure

¹ The information discussed here regarding the 1992 UST system upgrade work relating to release detection, spill containment, and piping is from a letter from Duquesne Light Company to Mike Hartley of PADER, dated 5/4/1993, Re: Notification of Contamination - Remediation Summary.

² The location of these soil samples is not indicated in the available documentation.

report³ states that petroleum-impacted soil was discovered in the area surrounding the diesel UST, but no contamination was discovered beneath the diesel dispenser or piping runs. A petroleum sheen was observed on the surface of ponded water in the excavation, however two samples collected from this diesel UST excavation ponded water contained no constituents exceeding SHS-MSC's for groundwater. Prior to the removal of the petroleum-impacted soil, 6,836 gallons of water was removed from the excavation. The specific source of the petroleum impacted soil and ponded water is reported as a crack discovered in the bottom of the diesel fuel UST, but the amount of the regulated substance released is unknown. The base and sidewalls of the diesel UST excavation were screened with a photo-ionization detector (PID), and excavation was discontinued when PID readings decreased to below 100 ppm. The extent of the contamination was reported to be no more than three feet from the diesel fuel UST system in any direction. Five confirmatory soil samples were collected from the diesel UST excavation and all were below SHS-MSCs.

On 7/29/2010, an unleaded gasoline release was reported during removal of the gasoline UST (Tank 001). The specific source of the petroleum-impacted soil and ponded water associated with the gasoline UST is reported as unknown. The closure report states: "*It is possible that the impacted soil could have been related to overfills by employees during refueling of company vehicles given that no cracks or holes were discovered in the UST, dispenser, or piping removed during the UST system removal.*" A heavy petroleum sheen was observed on the surface of ponded water in the excavation following removal of the UST, and 2,490 gallons of water was removed from the excavation prior to removal of petroleum-impacted soil. A sample collected from the water removed from the excavation contained concentrations above SHS-MSCs for benzene (66 ug/L), 1,2,4-trimethylbenzene (356 ug/L), and 1,3,5-trimethylbenzene (67 ug/L). Soil excavation was performed following water removal and was discontinued when PID readings of the sidewalls and base of the excavation were below 100 parts per million (ppm). Five confirmatory soil samples were collected from the unleaded gasoline UST excavation and all were below SHS-MSCs for soils.

PADEP responded to the Closure Report in a letter dated on 12/10/2010, wherein they state, "*The Closure Report review indicates that contamination above the Department's Statewide Health Standard still remains at the site. Chapter 245, Section 245.310 requires a responsible party to submit a Site Characterization Report within 180 days of confirming a reportable release that results in soil contamination above the allowable limits.*" The letter indicated that an SCR was due on or before 1/22/2011. The due date for the SCR was again extended by PADEP to 8/11/2011.⁴

Solicitor has initiated site investigations relative to the former gasoline UST system only. This is based on the assumption that because the water samples collected from the diesel UST excavation indicated no exceedance of SHS for groundwater, and confirmatory soil samples collected from the excavation indicated no exceedances of SHS for soils, no further site characterization or remedial action is required for groundwater or soils in association with the former diesel fuel UST system. Similarly, Solicitor's investigations of the gasoline UST release have been limited to groundwater investigations as excavation confirmatory samples have demonstrated attainment of SHS.

Site groundwater investigation activities were initiated at the former gasoline UST system with the installation of four monitoring wells (MW-1, 2, 3 and 4) in February 2011 (**Figure 3**). Groundwater gradient was determined to be southeast, toward the facility building, with the water table at depths of around 7 feet. All parameters analyzed in the initial set of samples from these four wells were below SHS-MSCs with the exception of MTBE, which exceeding SHS in MW-3 (63 ug/L) and MW-4 (61 ug/L). Two additional wells, MW-5 and MW-6, were installed further downgradient, and groundwater sampled

³ Underground Storage Tank system Closure Report / Site Characterization Report, United Environmental Group, 11/1/2010.

⁴ The SCR due date will require further extension by the successful consultant following the bidding process.

from these wells in April 2011 also exceeded the SHS, with 35 ug/L in MW-5 and 101 ug/L in MW-6. Resampling of MW-3 and MW-4 in April 2011 indicated the continued presence of MTBE in these wells (29 ug/L and 101 ug/L respectively). No soil vapor intrusion evaluation has been initiated.

Bidders should consult the accompanying electronic files for more background information on this site.⁵ If there is any conflict between the information provided in this RFB and the source documents, the bidder should defer to the source documents.

3. SCOPE OF WORK OBJECTIVES

To be deemed responsive, each bid must respond in detail to the tasks outlined below and must describe and apply the bidder's conceptual site model interpretation as it pertains to conduct of these SOW tasks. By responding to the SOW as stated herein, it will enable achieving an "apples-to-apples" comparison of the bids. However, if a bidder's assessment of the available site background information/site conditions and interpretation of applicable guidance argues strongly for a different approach (even if it adds costs to the bid), the bidder can present its rationale and incremental costs provided the bidder also addresses the SOW "as is." **Failure to bid the SOW "as is" may result in a bid not being considered.**

Any modification to the selected consultant's SOW for Tasks 1 through 9 will require the prior written approval of both the Solicitor and PAUSTIF through its third-party administrator; PADEP pre-approval may also be required. Bidders should also note that this SOW was provided to the PADEP Southwest Regional Office (SWRO) case manager for review and comment.

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 necessarily limited to, meeting the requirements of the Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended), Pa. Code, Title 25, Chapter 245, and demonstrating attainment of the standards established under the Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) and Pa. Code, Chapter 250.

The SOW addressed by **Tasks 1 through 6 must be completed within four (4) months** following contract award.⁶ **Each bidder's proposed project schedule must meet this requirement clearly and unambiguously.** The project schedule must also specify no less than two (2) weeks for the Solicitor and PAUSTIF to review and comment on the draft SCR/RAP before it is submitted for PADEP review and comment.

In addition to the SOW tasks specified below, the selected consultant shall also:

- Conduct necessary, reasonable, and appropriate project planning and management activities until the SOW specified in the executed contract is completed. Such activities may include client communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling, and other activities (e.g., utility location, etc.). 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 may be required by regulations or that may be necessary and appropriate to complete the SOW, and shall

⁵ The documents provided are the best scanned-in versions available to the Technical Contact.

⁶ The schedule for Tasks 7, 8, and 9 cannot be accurately projected until completion and approval by PADEP of the SCR/RACR. Bidders shall assume that Tasks 7, 8, and 9 will be completed within two years of approval of the SCR/RAP.

also include activities related to establishing any necessary access agreements. Project management costs shall be included in the fixed-price quoted for Tasks 1 through 9, as appropriate.

- 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 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 when available. Waste disposal costs shall be included in the fixed-price quoted for Tasks 1 through 9, as appropriate.
- Be responsible for providing the Solicitor, and site operator, with adequate advance notice prior to each visit to the property. The purpose of this notification is to coordinate with the Solicitor and site operator to ensure that appropriate areas of the property are accessible. Return visits to the site prompted by a failure to make the necessary logistical arrangements in advance will not constitute a change in the selected consultant's SOW or total project cost for Tasks 1 through 9.
- Be responsible for keeping all monitoring wells in good condition, with each well properly sealed and locked in-between each monitoring/sampling event. The selected consultant is responsible for repairing any seals or locks that become defective during the period of this contract at its expense. Any request for Fund reimbursement of the reasonable costs to repair or replace a well will be considered on a case-by-case

The investigation derived waste (IDW) and purge water should be disposed of per the PADEP SWRO guidance; check with the SWRO for current requirements.

Task 1 – Professional Site Survey / Prepare Site Plan. Bidders shall provide a firm, fixed-price quote for completing a survey of the paved / developed area of the Duquesne Light Company Headquarters property (B&L No. 520-M-130). Note: the SOW does NOT include conducting a survey or site map for the Duquesne Light Company Pole Yard lot (B&L No. 521-N-210) where the diesel UST system was located. The survey shall be completed by a professional surveyor licensed in the Commonwealth of Pennsylvania after the new site characterization monitoring wells are installed (see Task 2). The goal of the site survey is to accurately establish the location of relevant site features in order to produce a scaled site map. This task includes preparing a scaled base map of the site including, at a minimum, property boundaries, all site monitoring wells, buildings, former UST and dispenser locations, utility manholes, sanitary sewer lines, storm sewer catch basins, storm water lines, water supply lines, natural gas lines, electric utility poles, and overhead electric / telephone / cable lines. Work under this task shall also include:

- Obtaining tax maps of the subject property and surrounding adjoining & adjacent properties; and
- Surveying in the ground surface (top of surface cover) and the top-of-casing (PVC riser pipe) elevations and locations for all groundwater monitoring wells.

Monitoring well locations should include northing and easting coordinates. All elevations should be relative to the North American Vertical Datum of 1988 (NAVD 88), and recorded to the nearest 0.01 foot. Results of the professional survey should be displayed on an appropriately scaled site plan to be included in the SCR/RAP (Task 6). All finalized drawings shall be completed and provided to Solicitor in AutoCAD V.9.

Task 2 - Groundwater Monitoring Well Installation. Under this task, bidders shall provide a firm fixed-price quote for installing four (4) 2-inch diameter PVC groundwater monitoring wells downgradient of the

former gasoline storage system in the general locations indicated on **Figure 4** (see the accompanying electronic files posted on the PAUSTIF web site). Bidders shall acknowledge whether they are in agreement with the general monitoring well locations. If a bidder believes the monitoring wells should be placed elsewhere, the bidder shall identify the alternative location(s) and provide rationale. The selected consultant will be able to adjust the final well locations to avoid subsurface obstacles based on information gained from the utility location work. Should additional wells be needed to accomplish horizontal delineation of a dissolved-phase plume or for other purposes, such work will be considered an out-of-scope task under the Fixed-Price Agreement, which will require Solicitor and PAUSTIF approval of a work plan and cost estimate before beginning the work.

Borings for the monitoring wells shall be advanced to intersect the shallow water-bearing zone. For cost estimating purposes, bidders shall assume that each shallow well boring will attain a depth of 20 feet below grade. Although well depths may vary based on actual conditions encountered at each location, the final well construction must ensure that the screened interval intersects the water table surface and accounts for seasonal groundwater fluctuations. Any well that is installed with a submerged screen will be replaced at the selected consultant's sole expense. Bidders shall also provide a unit cost per foot for well installation in excess the total lineal feet assumed for this bid (80 lineal feet total) that includes borehole advancement, logging and PID screening, well construction materials, and well installation labor in the event that additional well footage is required.

Drilling and construction of the groundwater monitoring wells shall be in accordance with the PADEP Groundwater Monitoring Guidance Manual. Since it is not known whether the wells will intercept only unconsolidated materials or a combination of unconsolidated materials and underlying bedrock, a multi-purpose drill rig capable of hollow-stem auger drilling and air rotary / hammer-rotary drilling methods could be required. For cost estimating purposes, bidders shall assume that only auger drilling through soil and weathered bedrock will be sufficient.⁷ During auger drilling, continuous split-spoon samples shall be examined in the field and described for lithology, groundwater occurrence, and potential staining / odor indicative of hydrocarbon contamination. Additionally, soil samples from the well borings shall be screened with a PID in the field. No soil samples will be collected for laboratory analysis from these downgradient perimeter borings.

Each well shall be constructed of 2-inch diameter Schedule 40 PVC casing and well screen (assume 15 feet of well screen for the bid). Annulus materials shall consist of a filter-pack of silica sand extended to a height of approximately two feet above the top of the screen section overlain by a minimum three-foot thick seal of hydrated bentonite pellets⁸. The remaining annulus shall be filled with a cement / bentonite grout mixture. Surface finishing shall consist of a flush-mounted traffic-rated manhole with a bolt-on lid set into a concrete pad. Additionally, an expandable locking cap shall be fitted to the top of the PVC riser.

The bidder's fixed-price cost for this task shall also account for: (i) identifying subsurface utilities and other buried features of concern including, but not limited to, contacting PA One Call and clearing each borehole location to a minimum depth of 5 feet (hand auger or vacuum excavation⁹); (ii) well development in accordance with PADEP guidance and industry standard protocols; (iii) management of investigation-derived wastes; and (iv) professional surveying of the new well locations and top-of-casing elevations.

⁷ The possible need for an alternate drilling method should be identified as a site-specific assumption under Exhibit A of the Fixed-Price Agreement.

⁸ The height of filter pack and bentonite seal placed above the well screen may be adjusted downward if necessary in situations where shallow well screens are required.

⁹ Use of vacuum excavation methods shall be permissible only if hand augering proves infeasible.

Well drilling / installation and development activities along with supporting documentation (e.g., waste manifests, boring logs and construction details, etc.) shall be documented in the SCR.¹⁰

Task 3 – Groundwater Monitoring and Sampling. Under this task, bidders shall provide a firm fixed-price to complete two (2) rounds of groundwater monitoring and sampling to include the 6 existing monitoring wells and the four (4) new wells to be installed under Task 2. The two sampling rounds shall be separated by a period of approximately 1 to 2 months. Bidders shall also provide quarterly pricing for two additional rounds of groundwater monitoring and sampling in the event that one or two additional quarters of groundwater monitoring prove necessary to achieve completion of the SCR/RAP.¹¹

During each groundwater sampling event, the depth to groundwater and any potential separate phase liquid (SPH) shall be gauged before purging and sampling activities are initiated. Each well shall be purged and sampled utilizing standard low-flow techniques in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Any well exhibiting more than a sheen of SPH shall not be purged and sampled. Bidders shall manage equipment decontamination fluids and groundwater generated by the well purging and sampling activities in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. IDW and purge water should be disposed of per the PADEP SWRO guidance; check with the SWRO for current requirements. The conduct and results of this work shall be documented in the SCR/RAP.

Groundwater samples shall be analyzed for the post-March 2008 PADEP short-list of unleaded gasoline parameters (including TMBs) by an accredited laboratory using appropriate analytical methods and detection levels. Appropriate QA/QC samples shall also be collected and analyzed for the same parameters. In addition, field measurements and laboratory analyses for natural attenuation parameters shall be performed during the initial and confirmation sampling events. Field parameters to be measured for each of the wells shall consist of pH, temperature, specific conductance, dissolved oxygen, and oxidation/reduction potential (measured in-situ). Groundwater level measurements obtained from all of the monitoring wells shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient. Additional rounds of groundwater level measurements shall be collected during the course of the site characterization activities and used to assess natural fluctuations in groundwater elevation and potential variation in groundwater flow direction over time. A minimum of two (2) additional rounds of groundwater level measurements shall be performed prior to completing the draft SCR/RAP. The two rounds shall be separated by an interval of at least two weeks.

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

Task 4 – Aquifer Characterization Testing. In order to establish hydraulic parameters for the shallow water table aquifer, support contaminant fate-and-transport modeling, and assist with developing a conceptual site model, bidders shall propose completing single-well aquifer characterization tests (rising and falling head slug tests) on three monitoring wells. The slug tests will be performed according to accepted industry standards and the data will be reduced / evaluated using appropriate methods (e.g., Bouwer and Rice slug test solution for determining the hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells [1976]).

¹⁰ Should the site characterization data indicate that a deeper vertical delineation well is needed (with PADEP concurrence), this will be considered an out-of-scope task under the Fixed-Price Agreement, which will require Solicitor and PAUSTIF approval of a work plan and cost estimate before beginning the work.

¹¹ Should additional groundwater monitoring be needed to achieve completion of the site characterization, such work will be considered an out-of-scope task under the Fixed-Price Agreement, which will require Solicitor and PAUSTIF approval of a work plan and cost estimate before beginning the work.

Bidders shall provide a firm fixed-price cost to conduct the slug tests and reduce / evaluate the data along with a detailed description of the proposed slug test procedures and the planned techniques for reducing the data. Documentation of the slug testing methods, results, and conclusions shall be provided in the SCR/RAP.

Task 5 – Soil Vapor Study. Under this task, bidders shall provide a fixed-price cost for conducting a limited / targeted soil vapor study on the property. This task shall only be performed if warranted by the soil and groundwater analytical data collected or as dictated by other factors such as the location / depth of utility trenching. Should site characterization information indicate that a soil vapor assessment is not necessary, the fixed-price bid for this task will be deducted from the Total Fixed Price referenced in the Fixed-Price Agreement. If the soil vapor study is implemented, PADEP concurrence on the need for and scope of the study shall be secured by submitting a Soil Vapor Sampling Plan for PADEP review and approval.

This task shall be conducted in a manner 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*. For the purpose of this bid, bidders shall assume installing three (3) soil vapor monitoring points in the MTBE plume path adjacent to the main Facility building structure and completing two (2) sampling / analysis events (six samples in total). Bidders shall quote an all-inclusive unit price (installation and sampling) per soil vapor monitoring point should more or fewer monitoring points be needed. The newly installed soil vapor monitoring points shall be sampled twice, with each sampling event separated by a period of at least four (4) weeks. Therefore, bidder should assume a total of six (6) soil vapor samples and associated analysis.

Each soil vapor sample shall be collected in pre-certified Summa canisters, which must be fitted with a properly calibrated regulator to allow an approximate 8-hour draw so that each sample represents an 8-hour time-weighted composite. Soil vapor samples shall be submitted to an accredited laboratory for analysis of post-March 2008 unleaded gasoline short-list constituents 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 constituents. The methods and results for the soil vapor study, if conducted, shall be described in the SCR/RAP along with any recommendations regarding the necessity for an expanded vapor intrusion assessment inclusive of indoor air quality sampling, as appropriate.

Task 6 – Prepare a Draft and Final Combined SCR/RAP. Upon completing the tasks described above, the selected consultant shall prepare a combined SCR/RAP in draft form for review and comment by the Solicitor and PAUSTIF. This combined SCR/RAP shall contain all necessary information required under 25 PA Code §§245.309, 245.310, and 245.311. Each bidder's project schedule shall provide two weeks for Solicitor and PAUSTIF review of the draft document. The final SCR/RAP shall address comments received from the Solicitor and PAUSTIF on the draft report before it is submitted to the PADEP for its review.

Regarding the requirements for the former diesel fuel UST system, which is not the focus of this SOW, bidders shall assume that the SCR/RAP will need to meet the requirements of 25 Pa. Code § 245.310(b) for closure of that system, i.e., that the document will need to support the proposition that soil was the only media of concern at that location, and that interim actions have remediated the location and no further investigation is needed. In the course of implementation of the SOW, should it be determined that further site characterization work is needed in relation to the former diesel UST system, this would be considered an out-of-scope task under the Fixed-Price Agreement, and would require Solicitor and PAUSTIF approval of a work plan and cost estimate before beginning the additional work.

The SCR/RAP shall document, describe, and evaluate all findings provided from Tasks 1 through 5 above and incorporate information and data from the previous site documentation as the selected consultant deems appropriate. The bid shall also include any additional background research necessary to support the site characterization, including:

- Determining regional and local geology, hydrogeology, and hydrology;
- Evaluating the potential for contributing offsite sources of contamination (e.g., leaking UST sites);
- Investigating whether a local groundwater use ordinance exists;
- Identifying potential sensitive receptors;
- Researching local groundwater use and identifying the nature / location of any public and private water supplies within a ½-mile radius of the site; and,
- Identifying buried utilities at the facility and on surrounding parcels that may serve as preferential contaminant migration pathways.

Under this task, bidders shall also complete fate and transport assessment using either USEPA's Bioscreen or Quick Domenico. The goal of this assessment is to help establish the relative stability of all dissolved-phase constituents whose concentrations exceed the residential used aquifer SHS-MSCs for groundwater (i.e., MTBE) and, in particular, whether MTBE concentrations can be expected to exceed 20 ppb at the downgradient property boundary in the future. Bidders shall describe the approach for performing a fate-and-transport analysis using either of these fate-and-transport models and how the models would account for the previous removal of the source material. Bidders shall also describe how they will use the available groundwater analytical dataset to assess trends and make plume stability conclusions relevant to a potential attainment demonstration. This task shall include documenting all model input/output; providing a thorough explanation of model construction, justifying all input parameters, and discussing the modeling results and conclusions in detail with respect to assessing current and predicted future plume stability in support of a future site groundwater attainment demonstration.

This task shall also include development of a complete conceptual site model (CSM) for the site and vicinity based on an evaluation of historical site characterization data and the results from the site characterization tasks outlined above. Information considered in developing the CSM shall consist of, but not necessarily be limited to, stratigraphic and lithologic characteristics / relationships, groundwater elevations and flow direction, hydrogeologic controls on groundwater movement and contaminant transport, intrinsic aquifer parameters, and the distribution of hydrocarbon contaminants in soil and groundwater. The conceptual hydrogeologic / contaminant model shall be presented in the SCR/RAP.

The SCR/RAP document shall also: (a) contain all necessary figures, tabulated data, and appendices; (b) present a detailed, comprehensive and meaningful Remedial Alternatives Analysis (RAA) considering technical, cost, and schedule considerations that presents a description of at least three leading viable and cost effective options for remediation (if necessary) and site closure to the selected cleanup standard; (c) reference the selected remedial goal for soil and groundwater; (d) discuss the recommended site closure strategy and its viability for achieving the remedial goal within a reasonable time frame; and (e) identify the proposed point-of-compliance monitoring wells. The SCR/RAP shall be signed and sealed by a Professional Geologist and a Professional Engineer registered in the Commonwealth of Pennsylvania.

Task 7 – Groundwater Attainment. In the event that the SCR/RAP concludes (and PADEP agrees) that the site may go directly into groundwater attainment demonstration at points of compliance (POCs),

bidders are to provide firm fixed-price quarterly and total costs for 8 quarters of groundwater attainment monitoring at the four new downgradient perimeter monitoring wells (MW-7 through MW-10).¹²

During each quarterly groundwater monitoring and sampling event, the depth to groundwater and any potential separate-phase hydrocarbons (SPH) 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. The conduct and results of each event shall be documented in quarterly Remedial Action Progress Reports (RAPRs)

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 equipment decontamination fluids and groundwater generated by the well purging and sampling activities in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. IDW and purge water should be disposed of per the PADEP SWRO guidance; check with the SWRO for current requirements.

Groundwater samples collected during the sampling event shall be analyzed for the post-March 2008 PADEP short-list of unleaded gasoline parameters 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.¹³

RAPRs describing the sampling methods and results shall be provided to the PADEP and Solicitor 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) A narrative description of the sampling procedures and results; b) tabulated data from current quarterly and all historical data; c) maps depicting groundwater flow directions and groundwater analytical data; d) discussion of the data to offer an updated assessment as to whether these data are consistent with a stable, shrinking, or expanding plume; and e) shall be sealed by a Professional Geologist or Professional Engineer registered in the Commonwealth of Pennsylvania. RAPRs are due to PADEP on Jan. 30, April 30, July 30 and Oct. 30

Task 8 – Prepare a Draft and Final RACR. Under this task, the bidder shall prepare a fixed-price cost to prepare a draft and final RACR following the completion of Tasks 7. At a minimum, the RACR shall detail the results of SCR/RAP implementation, 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. 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 and Solicitor. The selected consultant shall then prepare and submit the final RACR to the PADEP in accordance with Section 245.313.

Task 9 – Site Closure / Restoration Activities. Under this task, the bidder shall describe and provide a fixed-price bid for properly closing the site, including: abandonment of monitoring wells consistent with PADEP's 2001 Groundwater Monitoring Guidance Manual, and re-vegetation / asphalt repairs, as necessary. This task shall also include photo-documenting the site restoration work, completion of the

¹² Bidders shall include language in the 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.

¹³ Each bidder's approach to implementing this task shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, and other key assumptions affecting the bid price.

well abandonment forms, and forwarding these forms to PADEP-SWRO. Copies of the photographs and forms shall be provided for the Solicitor's files.

4. TYPE OF CONTRACT / PRICING

The Solicitor wishes to execute a mutually agreeable, firm, fixed-price, not-to-exceed contract for the SOW. A sample Fixed-Price Agreement is included as Attachment 2.¹⁴ Although the Fund will not be a party to this Agreement, it will facilitate the process of getting the Fixed-Price Agreement in place.

As noted earlier, a bidder's response to this RFB Solicitation means it has accepted all the contractual terms unless explicitly stated to the contrary in its bid response. Therefore, if a bidder seeks changes to the Fixed-Price Agreement, these changes are to be specified in the submitted bid response. Please note that any requested changes must be agreed upon by both the Solicitor and the PAUSTIF and subsequently included in the executed Fixed-Price Agreement.

Each bid is to identify unit cost rates for labor, other direct costs, and equipment, as well as proposed mark-ups on other direct costs and subcontracted services. The by-task, by-subtask, and unit price quotes are to be entered into the Cost Tabulation Spreadsheet / Standardized Bid Format included as Table 1 in Attachment 3 to this RFB (this table is also included among the accompanying electronic files). Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable", i.e., these variable cost items will not be handled outside of the Total Fixed Price quoted for the SOW. Finally, please also note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

Payment Milestones. Table 2 below illustrates the approximate timing expected for completion of respective milestone tasks and milestone payouts. Actual milestone payments will occur only after successful and documented completion of the work defined for each milestone. Payment milestones under the Fixed-Price Agreement shall be broken out as follows:

- Milestone A – Professional Site Survey (Task 1).
- Milestone B – Monitoring Well Installation (Task 2).
- Milestone C – Groundwater Monitoring and Sampling (Task 3).
- Milestone D – Aquifer Characterization Testing (Task 4).
- Milestone E – Soil Vapor Study (Task 5).
- Milestone F – Prepare a Draft and Final SCR/RAP (Task 6).
- Groundwater Attainment Sampling (Task 7)¹⁵
- Prepare a Draft and Final RACR (Task 8)
- Site Closure / Restoration Activities (Task 9)

¹⁴ The selected consultant will be provided an electronic copy of the sample contract in Word format to allow contract-specific information to be added.

¹⁵ The schedule for Tasks 7, 8, and 9 cannot be accurately projected until completion and approval by PADEP of the SCR/RAP. Bidders shall assume that Tasks 7, 8, and 9 will be completed within two years of approval of the SCR/RAP.

TABLE 2 – SAMPLE MILESTONE COMPLETION / PAYMENT SCHEDULE

Estimated Milestone Timing, Month After Contract Award	SOW Activities Anticipated / Completed for that Month	Milestone¹
1	Monitoring Well Installation; Groundwater Monitoring and Sampling (1)	B, C1
2	Professional Site Survey; Aquifer Characterization Testing; Soil Vapor Study (1)	A, D, E1
3	Groundwater Monitoring and Sampling (2); Soil Vapor Study (2)	C2, E2
4	Prepare a Draft and Final SCR/RAP	F

1. Each bidder should modify this sample Milestone Completion / Payment Schedule to reflect its proposed task schedule, as long as the proposed schedule meets the deliverable deadlines specified in Section 3 of this RFB.

Please note that the selected consultant's work may be subject to ongoing review by the PAUSTIF or its representatives to assess whether the proposed and completed work and the associated costs are reasonable, necessary, and appropriate. In order to facilitate review and reimbursement of submitted invoices by PAUSTIF, project costs shall be invoiced following the task structure specified in the bid response submitted by the selected consultant. Tracking incremental and cumulative costs by task will also be required to facilitate invoice review.

Unless otherwise noted by the bidder, each bid response received is required to be good for a period of up to 120 days after its receipt. The quoted unit costs will be good for the duration of the period of performance cited in the Fixed-Price Agreement.

5. ADDITIONAL BID PACKAGE REQUIREMENTS

Each submitted bid response must include the following:

- A reasonable demonstration that the bidder: (i) understands the objectives of the project, (ii) offers a reasonable approach for achieving those objectives efficiently, and (iii) has reviewed the existing site information provided in or attached to this RFB Solicitation Package.
- Provide an answer to the following questions regarding the bidder's qualifications and experience:
 - How many Chapter 245/250 sites has your company closed (i.e., obtained a Release of Liability under Act 2) in Pennsylvania?
 - How many Chapter 245/250 sites has your company or the proposed PA-licensed Professional Geologist (P.G.) and Professional Engineer (P.E.) closed (i.e., obtained a Release of Liability from the PADEP) under either the SHS and/or the Site Specific Standard? [NOTE: The Solicitor requires

the work described herein to be completed under the responsible care and directly supervised by a P.G. and P.E. consistent with applicable regulations and licensing standards.]

- Whether there were or were not circumstances consistent with the cancellation provision of a signed contractual agreement, and has your firm ever terminated work under a fixed-price or pay-for-performance contract before attaining all of the project objectives and milestones? If yes, please list and explain the circumstances of each such occurrence.
- A complete firm fixed-price cost bid for Tasks 1 through 9 by completing the bid cost tabulation spreadsheet provided in Attachment 3 (included among the accompanying electronic files) following the SOW task structure specified herein.
- A description and discussion of all level-of-effort and costing assumptions.
- Indicate whether the bidder accepts the proposed contract / terms and conditions (see Attachment 2) or has provided a list of requested changes to the Fixed-Price Agreement.
- Provide a statement of applicable / pertinent qualifications, including the qualifications of any proposed subcontractors (relevant project descriptions are encouraged).
- Identify the proposed project team and provide resumes for the key project staff, including the proposed Professional Geologist and Professional Engineer of Record who will be responsible for endorsing work products prepared for PADEP review and approval.
- Provide a task-by-task description of the proposed technical approach. **If this task-by-task description fails to address a specific requirement of this RFB, it will be assumed that the bidder has accepted all the requirements specified herein by task.**
- Identify and sufficiently describe subcontractor involvement by task (if any).
- Provide a detailed schedule complete with specific by-month dates for completing the proposed SOW, inclusive of reasonable assumptions regarding the timing and duration of client, PAUSTIF, and PADEP reviews needed to complete the SOW. Details on such items as proposed meetings and work product submittals shall also be reflected in the schedule of activities.
- Describe your approach to working with the PADEP from project inception to site closure. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed as to project status.
- Describe how the Solicitor and ICFI / PAUSTIF will be kept informed as to project progress and developments and how the Solicitor will be informed of, and participate in, evaluating potential alternatives / tradeoffs with regard to the SOW herein.

6. MANDATORY PRE-BID SITE VISIT

On September 2, 2011, the Technical Contact will conduct a **mandatory pre-bid site tour** for a limited number of participants per firm at the subject property starting at 10AM. Please inform the Technical Contact at least three (3) business days in advance of this date as to the number of participants attending from your firm. Again, **any firm that does not attend this mandatory pre-bid site tour will not be eligible to submit a bid response.**

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Questions will be entertained as part of the pre-bid site tour and every attempt will be made to answer questions at that time. However, all questions and the responses provided during the site visit will also be distributed in writing to the attendees after the tour, as will the answers to any non-proprietary questions submitted in writing after the pre-bid site tour has been concluded. Consequently, bidders are strongly encouraged to ask clarifying questions sufficient to minimize the number of assumptions, special conditions, and exemptions referenced in the submitted bid response.¹⁶ Questions will be accepted up to seven (7) days before the bid response due date. Again, please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions in a bid response may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

¹⁶ The list of assumptions, special conditions, or exemptions will be discussed with the Solicitor. As part of that discussion, the PAUSTIF may advise the Solicitor that certain assumptions, special conditions, or exemptions that are likely to generate change orders may be the financial responsibility of the Solicitor if the change order involves non-reimbursable activities.

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ATTACHMENT 1

Relevant Project Documents

<u>Filename:</u>	<u>Document:</u>
19930504_Letter_report_to_PADER	Letter from Duquesne Light Company to Mike Hartley of PADER, 5/4/1993
19971231_Property_Map	Property Plan dated 12/31/1997
20101101_UEG_UST Closure Report	Underground Storage Tank Closure Report, prepared by United Environmental Group, 11/1/2010
20101210_PADEP_UST Closure Report Review	Letter from PADEP to Duquesne Light Company, 12/10/2010
20110118_PADEP_email	Email communication between Weavertown Environmental Group and PADEP re: SCR deadline extension.
20110222_Boring_and_Well_Logs	Boring logs and well installation records
20110309_Laboratory_report_for_GW_samples	Analytical lab reports for samples collected 3/9/2011
20110415_Laboratory_report_for_GW_samples	Analytical lab reports for samples collected 4/15/2011
20110524_PADEP_email	Email communication between Weavertown Environmental Group and PADEP re: SCR deadline extension.
20110603_GW_Analy_Results_Summary	Groundwater analytical results summary table
20110603_GW_Monitoring_Data_Summary	Depth to groundwater / elevation summary table

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ATTACHMENT 2

Fixed-Price Agreement

(This agreement has been provided in an electronic form that does not permit modifying the agreement. An electronic version of the agreement that will allow for tracking modifications will be provided to the selected consultant at the appropriate time.)

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ATTACHMENT 3

Standardized Bid Format