QAPP Q&A

1. Is there a determination in writing from the SCDHEC Legal Office that the establishment of 'criteria' is exempt from the Administrative Procedures Act and criteria are enforceable as regulations? Was the SUPERB Advisory Committee involved in the production of the UST QAPP?
The South Carolina DHEC Underground Storage Tank Management Division Quality Assurance Project Plan is established under authority provided under Section 44-2-130(C)(1) of the SUPERB Act and in Section II.A.1 of the SUPERB Site Rehabilitation and Fund Access Regulations, R.61-98. The QAPP constitutes a performance standard and, therefore, is not a regulation.

2. How does this (QAPP) affect current, ongoing projects?
Any directives issued on or after July 1, 2011 will require submittal of the Contractor Addendum and compliance with the QAPP.

3. Does field work on a new project need to wait until the QAPP Addendum is approved by DHEC?
YES

4. Does the QAPP apply to UST sites where reimbursement through the State's Underground Petroleum Environmental Response Bank (SUPERB) Act funds are not requested and/or paid?
YES. The QAPP applies to site rehabilitation activities at all regulated UST sites.

5. Will an addendum to the QAPP be required for each project site (i.e., based on the site's UST registration and address) or will an addendum be required for each task completed at a single site (i.e., assessment activities versus [vs.] corrective action activities vs. aggressive fuel/vapor recovery activities, etc.)? Is the QAPP Addendum required if no laboratory data is being collected?
An addendum will be required for each scope of work. This is necessary to account for changes in contractor personnel, equipment, sub-contractors, or standard operating procedures that may occur over time between individual site rehabilitation activities at a given site. It is recognized that after the initial QAPP addendum is prepared for a site, subsequent iterations of the document should require minimal updates prior to submittal.

6. What are the penalties for failure to comply with the QAPP? What is the process for appealing penalty decisions?
The QAPP has no direct provision for penalties associated with non-compliance. Reports of site rehabilitation activities that do not comply with the QAPP will not be accepted; which may result in missed deadlines and possible enforcement action against the UST owner/operator. Continued failure by a contractor to comply with

the QAPP could result in a decertification action under Section V of Regulation R.61-98.

7. It is unreasonable to hold the consultant responsible for instrument testing, inspection, and maintenance when the analytical equipment is not owned by or in the possession of the consultant. This section should be revised to reflect the separate responsibilities of the various parties involved in a sampling and analysis task.
If a contractor is renting equipment (versus owning equipment), who is responsible for the calibration/quality equipment and the resulting data?
The contractor is always responsible for the calibration and maintenance of measurement equipment being used and for the quality of all data produced, whether the equipment is owned or rented.

8. Many tables reference schedules . . .start date, end date, etc. How can a schedule be determined before QAPP addendum approval? Should the start/end dates be general like "within 30 days of approval"?
In the initial addendum, schedules and dates can be stated in general terms. Once the project is underway, those general time frames can be updated and specified through the weekly Project Status Report submitted to the SCDHEC project manager.

9. In the Appendix A flow chart, there is a reference to "Conduct Additional Assessment" if soil CoCs are above RBSLs. How is the assessment to be conducted; by Tier I or Tier II standards?
The assessment required in this situation is a site-specific assessment of the extent and severity of soil contamination and leachability, to be developed by the SCDHEC project manager and the contractor.

10. There is reference to license requirements for drillers to be Level A, B or C. Can a level D driller perform drilling services as long as there is a Level C or higher driller supervises? The DHEC 1903 form has a place for the supervising driller's name in section 20. Would the same apply here?
The QAPP states "temporary and other monitoring wells must be drilled <u>under the direction</u> of a licensed class A, B, or C South Carolina Certified well driller." It is still allowable for Level D drillers under proper supervision to install borings and wells.

11. Will the same form be used to describe the proposed scope in a Tier II Plan, or will a more detailed document need to be prepared?
For assessment activities where the scope of work is not pre-determined (IGWA, Tier I), a plan is required that meets the minimum criteria outlined in Section A on pages 40 –41.

12. For the field sampling TSA, who performs this? SCDHEC? Contractor? Both? Is one TSA to be performed for each site, each time field sampling activities are performed?

This requirement has been revised. Please refer to Section C of Appendix B on page 131 of 194. On-site Field Audits will be performed by the UST Project Manager at their discretion. It is strongly recommended that the Contractor's QA Manager also perform these audits on their subcontractors and staff.

13. Are field blanks and duplicates to be collected each time a sampling event is conducted as part of QA/QC or will this be determined based on the site location and the potential for contamination from the environment?
Field blanks and duplicates will be required for all sampling events.

14. Are field blanks and/or duplicates required during field screening?
No. Field screening data is used to provide a relative measure of the amount of CoC present. No regulatory or risk-based decisions are based on field screening data.

15. Many sites have not had any work directives in years due to their low ranking. During this time the contractor of choice may change. The QAPP addendum requires site history to be given. Will there be a line item cost for the contractor to obtain site history information (i.e. FOIA file review) or will the information available on-line in the UST registry be sufficient?
Table 4A requires a listing of documents that will be produced by the contractor submitting the addendum, along with their subcontractors and laboratories during the course of the scope of work. For example: drilling logs, sampling records, field notes, calibration records, etc. It does not require listing of documents that may have been produced by other contractors who may have worked on the project in the past.

16. The programmatic QAPP states on Page 46 that "Contractors are expected to produce a report with at least 90% valid samples/data". Can you elaborate about the data validation and verification methods that contractors are expected to use for this validation/verification?
Valid data is defined as follows: "Data obtained from samples that were collected, preserved, handled, and analyzed according to the requirements of the UST Programmatic QAPP. To determine if data is valid, it will undergo and pass scrutiny via verification by the laboratory and contractor and validation by the UST Program."

17. The programmatic QAPP states on Page 47 under "Completeness" that "If some samples become invalid due to collection, shipping, or laboratory problems, the samples may be recollected to ensure that enough data is available to make a sound decision." If the contractor is not at fault for the invalid samples, will the contractor be required to conduct the re-sampling activities and analyses?
It is the responsibility of the contractor to produce valid data. If a problem occurs with the carrier chosen by the contractor to transport the samples to the analytical laboratory, it is the contractor's responsibility to resolve this issue with the carrier. If a problem occurs with the analytical laboratory chosen by the contractor to test

the samples, it is the contractor's responsibility to resolve this issue with the analytical laboratory. As in the past, the SCDHEC will only accept valid data.

18. The programmatic QAPP states on Page 49 that "The contractor's addendum will include a signature page signed by all parties involved in the project that they have received the most recent version of the Program QAPP and the site-specific QAPP." Subcontractors are "parties involved in the project". Do you expect contractors to obtain requisite signatures of all of the subcontractors associated with each project?
YES.

19. The programmatic QAPP states on Page 63 that "standard screening" of groundwater is a method that provides real-time on-site data at or below the RBSL for benzene, naphthalene, and MTBE at a minimum (i.e. Field Gas Chromotography). Does SCDHEC anticipate pushing for "standard screening" to be the SOP or will the "alternative screening method" of submitting select groundwater samples for analysis remain an acceptable SOP?
This section has been revised. The intent of field screening is to produce real-time data in the field that quickly gives a relative indication of the location of the CoC plume. Waiting for turn-around of laboratory analysis unnecessarily slows the assessment process when CoC levels are such that they are easily detected using calibrated field methods. Once the general area of the plume has been established, an appropriate array of monitoring wells can be proposed that will adequately characterize the contamination. It is recognized that field methods have limitations detecting certain compounds or low concentrations. The choice of field screening method will be left to the contractor. Whatever the method employed, standard operating procedures and proper calibration will be required.

20. The programmatic QAPP states on Page 64 that deep groundwater screening will be terminated at advancement refusal or upon collection of two consecutive samples below RBSLs. Will OVA screening to assess when to submit a groundwater sample for vertical delineation screening purposes still be allowed?
The choice of field screening method will be left to the contractor. Whatever the method employed, standard operating procedures and proper calibration will be required.

21. What is the department's definition of 'criteria'? It is not included in the definitions of the SUPERB Act or subsequent regulations.
As defined in Webster: "criterion – a standard on which a judgment or decision may be based." The QAPP is the standard of performance by which site rehabilitation activities are evaluated for acceptance by the Department.

22. Page 118 of 183 – Instructions imply that Appendix B is available in an editable electronic form. Is this the case?
Appendix B will be made available as a Word document.

23. In *Appendix B: Contractor Addendum* (page 119 of 183) of the QAPP, a "Master QAPP" is mentioned several times. Will a Master QAPP be required for each individual site or will one be required from each rehabilitation contractor? Please clarify exactly what is intended with the Master QAPP.
The "Master QAPP" refers to the DHEC UST Programmatic QAPP. Contractors are only responsible for the QAPP addendums for each site.

24. In *Appendix B: Contractor Addendum* (page 120 of 183) of the QAPP, the table provided under Section A4 Project Organization, includes the roles of Field Manager, Analytical Laboratory Director, Soil Boring and Monitoring Well Driller, and Project Verifier. Are each of these roles to be assigned to one person or can one person be assigned to multiple roles, and are these roles required to be approved by SCDHEC prior to commencement of work?
Multiple roles can be assigned to a single person; however, it is strongly recommended that situations be avoided whenever possible where an individual is verifying their own work. Approval of the addendum is required prior to the commencement of work.

25. Page 122 of 183 A7 – Define the radius of the geographical area being requested.
The study boundary is dictated by the scope of work being conducted and the specifics of the site being addressed. As it is site and scope specific, it must be left to the professional judgment of the contractor.

26. Page 127 or 183 B4 - It is an unacceptable liability for a consultant to be held responsible for a lab's SOPs. It is an unacceptable burden for the lab to have to produce the SOPs for a QAPP. It is inherent that the SOPs are acceptable if the lab has been certified. What value is added to the quality of the data to have to produce the lab SOPs in a QAPP?
The consultant, as the primary contractor, is responsible for the subcontractors that they retain in conjunction with the performance of site rehabilitation activities. Laboratory certification is reviewed every three years. SOPs change. The validity of data cannot be assumed based on how the laboratory may have operated up to three years prior.

27. Page 128 of 183 B5 – How can the consultant notify SCDHEC within 24 hours of a QC failure unless the lab notifies the consultant first? Most often the failures are not known until the lab report is produced. The narrative portion of the lab report will describe any "failures" and the actions taken.
The contractor must notify SCDHEC within 24 hours of them becoming aware that a QC failure has occurred. The lab should be providing notice to the contractor of any such failures well in advance of issuing their report.

28. In *Appendix B: Contractor Addendum* (page 132 of 183) of the QAPP, it is stated that the Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC

within 24 hours. Based on the current unit rates for groundwater sampling, placing two persons in the field to complete these tasks (i.e., groundwater sampling) are not sufficient to support this level of effort. Is SCDHEC requiring a second person conduct oversight for simple tasks such as groundwater sampling when this activity is typically completed using only one person? Is SCDHEC going to revise the SUPERB reimbursement unit costs so that each person involved in field activities is reimbursed?
This requirement has been revised. Please refer to Section C of Appendix B on page 131 of 194. On-site Field Audits will be performed by the UST Project Manager at their discretion. It is strongly recommended that the Contractor's QA Manager also perform these audits on their subcontractors and staff.

29. In *Appendix B: Contractor Addendum* (page 132 of 183) of the QAPP, it is stated that the Lab will receive an Offsite Technical Assessment. Is SCDHEC referring to an off-site fixed based lab conducting definitive analyses or is the Department referring to the contractor's certification to measure field parameters? Will SCDHEC be conducting the Office Technical Assessment? Is it SCDHEC's intent that the contractor performs an audit of the fixed based laboratory? If so, what will the SUPERB unit rate for such an activity be?
This requirement has been revised. Please refer to Section C of Appendix B on page 131 of 194. Subcontract Lab Record/Data Audits

30. Page 119 of 183 – Approvals – Who is the "Organization QA Manager? Is this a SCDHEC employee or a Consultant representative? Which Laboratory Director signature is required if multiple labs are used or if individual analyses are sub-contracted?
The "Organization" is the contractor. The form will be revised accordingly. If multiple laboratories are used, additional lines can be added to account for the necessary signatures.

31. Page 120 of 183 – Project Verifier is not defined in the Master QAPP Section A4. What/who is a Project Verifier?
The Project Verifier is the person whose duty it is to certify that the data and interpretations contained in the report are valid. This may be the contractor's QA manager or the Professional Engineer or Geologist who signs and seals the report.

32. Page 122 of 183 A8 – Why is it necessary to state which individuals must have training/licensing? The PG requirement has been in place many years and if there is a problem with a PG submitting inadequate assessments or a non-PG submitting material, then the individual should be submitted to the PG Licensing Board for appropriate action. Similarly if wells are being completed by unlicensed individuals or improperly by licensed drillers, the Board of Certification is available to take appropriate action. Likewise for lab certification. Regulatory entities already exist to address this. This QAPP requirement is redundant and will not ensure the quality of data. To require the consultant to obtain the training records of the subcontractors on a project is unreasonable, especially when there is no reason for the consultant to be knowledgeable of the training requirements for laboratory personnel or drillers.

It is reasonable to establish, prior to the initiation of site rehabilitation activities, that the individuals conducting the work are, in fact, qualified to do so. Should those individuals produce inferior work products, referral to the respective programs or boards of registration may be appropriate.

33. Page 129 of 183 B8 – This is a routine business function that has no bearing on the quality of data produced. Vendors are variable and this section would be in a constant state of flux. It should be deleted.
Ensuring that sample collection equipment and containers are clean is critical to the validity of data produced. This requirement ensures that procedures are in place to determine and maintain the integrity of items such as bailers and sample vials, and to address instances where the integrity of these items has been compromised. Examples include, but are not limited to: inspecting bailers to ensure that the wrapping is intact, checking the batch QA/QC report on a shipment of sample vials, storing these items in a secure location free from sources of potential contamination, having a standard procedure to deal with items that are compromised, etc.

34 This appears to suggest that consultants will need to develop a LIMS. A clear statement of applicability should be included.
This is a requirement for the Contractor to document their data management scheme, to include data collection, review, reporting , and storage. It is not a requirement to utilize a Laboratory Information Management System; however, some form of data management and archival is required.

35. Page 132 of 183 Section C – This section indicates that at least two persons will be needed during any field sampling activities. Will SCDHEC be increasing rates for this increased level of effort? Second sentence of Item 1 appears to be missing a word or two. Item 2 indicates that Labs will receive Offsite Technical Assessments. Please define this term and clearly indicate who is responsible for performing this activity. Will SCDHEC compensate consultants for this activity and at what rate?
The Offsite Technical System Audit consists of those steps taken by the contractor, other than determining that the analytical laboratory is currently certified in the State of South Carolina for the methods to be run, to verify that the laboratory data is valid and in conformance with the QAPP. Data verification should already be occurring as part of project management; therefore, establishment of a SUPERB rate for this activity is not currently being considered.