HOW MUCH DESIGN IS ENOUGH?
OVERCOMING CHALLENGES IN AWARDING A FIRM FIXED PRICE PERFORMANCE BASED TASK ORDER AT A SUPERFUND SITE IN NJ

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WHITE SWAN / SUN CLEANERS SUPERFUND SITE, WALL TOWNSHIP, NJ
PHYSICAL SETTING AND CONTAMINANTS OF CONCERN

• Contaminants of Concern
  • PCE and daughter products

• Geology
  • Tertiary aged Sands with interbedded silt, gravel and clay

• Hydrogeology
  • Kirkwood-Cohansey Aquifer System
SUN CLEANERS REMEDY

• In-situ soil vapor extraction/air sparging (AS/SVE) of soils and shallow groundwater at the Sun Cleaners source area

• Extraction and treatment of highly contaminated groundwater

• Monitored natural attenuation for lesser contaminated groundwater

• Institutional controls to limit exposure to contaminated groundwater

• Indoor air monitoring of buildings and installation of vapor mitigation systems
PERFORMANCE BASED APPROACH

- Flexibility (technologies and technical approaches)
- Streamlined design process
- Insight not oversight - Focus on end products
  - Industry innovation to provide optimal cleanup strategy to government
  - Minimal focus on process and oversight
  - Share institutional knowledge

Challenges
- How can the government produce a reasonable cost estimate?
- How can industry present competitive, comparable bids?
- How does the government evaluate technical proposals?
DESIGN CONSIDERATIONS

• Site is of very limited aerial extent (0.5 acres) – low risk

• SVE pilot study conducted at sister site located 1,400 feet away

• SVE radius of influence known - no pre-design investigation or pilot test necessary

• Factor of safety added to SVE conceptual design to account for stratigraphic variability and lack of site-specific pilot data

• Government Product
  • PWS was essentially an intermediate level design submittal, although not overly prescriptive
REMEDIAL ACTION CONTRACTING MECHANISM

• Competed among USACE Kansas City District’s Small Business Pre-placed Remedial Action MATOC

• Firm fixed price task order

• Best value tradeoff selection
  • Technical approach significantly more important than price
PERFORMANCE WORK STATEMENT

• Conceptual (intermediate level) Design
  • Inclusion of design parameters sufficient to achieve desired system performance

• Not overly prescriptive – allowed flexibility for industry innovation

• Provided realistic/achievable performance objectives

• High confidence level cost estimate
PERFORMANCE OBJECTIVES

• Zone of influence

• System uptime / mass removal

• Safety and Environmental controls

• VOC removal and emissions
  
  *Concentration based criteria not used – emphasis on efficient mass removal
INNOVATIONS / EFFICIENCIES
CONSTRUCTION/OPERATION RESULTS

• System operational since spring 2016

• All performance criteria met to date

• Estimated cumulative VOC mass removal of >2,500 lbs
  • (RI estimate = ~400 lbs)

• All current source area monitoring well concentrations <150 ppb
  • (baseline concentrations ~40,000 ppb)
Sun Cleaners AS/SVE Mass Removal

Air Sparge operating continually

Air sparge pulsed

Cumulative Total VOCs
HOW MUCH DESIGN IS ENOUGH?

• Enough design and analysis work to evaluate if technology presented will achieve performance objectives in a reasonable timeframe

• Adequate amount of design and analysis to prepare a government cost estimate

• The right amount to evaluate proposals to determine if they are fair and reasonable

• Provide sufficient data/background information so bidder can provide refined estimate in order to:
  • Reduce cost contingencies in bidder proposals
  • Allow for industry flexibility and innovation

*Each site is unique....*
TAKEAWAYS
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