Performance Based Contracting – A Contractor’s Perspective and Lessons Learned for Successful Remediation

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Goals

• Provide insight into how EA views PBRs based on our portfolio of over 90 Performance Based Contracts.
• Provide insight on our successes/challenges with PBRs.
• Provide lessons learned so that PBRs can be designed to allow for successful execution while both the contracting agency and the contractor succeed.
Many Flavors of Performance-Based Remediation

• Contractor Picks Endpoint/Duration
• Government picks Endpoint/Duration
• CERCLA endpoint or performance metric based?
• Build a Better Mousetrap – Optimization?
• LPTA or Best Value?
• One CLIN or multiple CLINs?
• Single site or portfolio of sites?
• Intermittent performance measurements or at the end?
What are the General Benefits/Concern?

<table>
<thead>
<tr>
<th>Benefit to Government</th>
<th>Benefit to Contractor</th>
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<tbody>
<tr>
<td>• Buying an endpoint – progress not process</td>
<td>• Financial incentive?</td>
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<td>• Less technical involvement required – less expensive</td>
<td>• More control of technical process</td>
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<table>
<thead>
<tr>
<th>Concern to Government</th>
<th>Concern to Contractor</th>
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<tr>
<td>• Less control – shortcuts?</td>
<td>• Not getting full support of Government or other stakeholders</td>
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<tr>
<td>• How best to measure performance</td>
<td>• Delays for novel approaches</td>
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<td>• Chance of failure of contractor and therefore contract</td>
<td>• Overcoming PBR bias</td>
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## When to Contract a PBR?

<table>
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<tr>
<th>Timing</th>
<th>Advantage</th>
<th>Disadvantage</th>
<th>Proposal Evaluation Difficulty</th>
<th>Additional Contracting Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>After ROD (Pre-Design)</td>
<td>Government agrees to remedy and remedial timeframe. Can get some innovation if process not prescribed in ROD.</td>
<td>Less flexibility to innovate remedy without additional costs/time.</td>
<td></td>
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<tr>
<td>Prior to FS Finalization</td>
<td>Maximum flexibility for remedy selection to achieve the end goal</td>
<td>Expect a wide range of proposals – not easy to evaluate!</td>
<td>Difficult</td>
<td>Low</td>
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What Risks do Contractors Consider?

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<tr>
<th>Technical</th>
<th>Financial</th>
<th>Regulatory</th>
<th>Third Party</th>
</tr>
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<tr>
<td>- How much information/time is available for review?</td>
<td>- Incremental funding based on progress</td>
<td>- Increased number of documents from novel approaches?</td>
<td>- Delays to technical schedule?</td>
</tr>
<tr>
<td>- How certain are the previous investigations?</td>
<td>- Weighted milestones for endpoint achievement?</td>
<td>- Bias to certain remedial approaches?</td>
<td>- Land Owners or other Stakeholders often not available during Q&amp;As</td>
</tr>
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</table>
Typical Risk Management Process during Procurement

1. SOW Review
2. Assess Magnitude of Risks
   - Technical
   - Client
   - Regulatory
3. Evaluate based on Company’s Risk Tolerance
4. Questions and Answers
   - Bounding Risks
5. Exceptions Required for Remaining Unbound Risks?
6. Submit Bid
7. Win Bid – Now we have to do it!
Example 1 – DoD PBR – Single Site (Identifying Innovation Early)

- Site had a draft FS
- Former disposal pits for chemical agents/CVOCs
  - Shallow groundwater (waste in groundwater)
  - Waste includes chemical agents
  - CVOCs in groundwater discharges to pond
  - No groundwater users but ecological receptors in pond
- Required to achieve RC within 7 years from NTP
- Opportunity for innovation! Incorporated sustainability, beneficial materials reuse, and lower life-cycle cost elements into every phase of the project.
- Amended FS to include a new and sustainable alternative (proof of concept required)
Example 1 – DoD Single Site

• Worked as a team with stakeholders early and often to define/review the expected project outcomes
• Determined project milestones with team to demonstrate progress
  • Interim remedial goals
  • Measure annually to measure performance – required a supplemental injection
  • Re-evaluation of regenerative and sustainable elements of remedy after 5 years
  • Refined final remedial goals

• A low maintenance, regenerative and sustainable final remedy was developed with the stakeholders to achieve RC in spring 2018.
• Final cost - <$2M.
• Estimate prior to PBR - >$8M
Example 2 – DoD 10-Year PBR (Portfolio Balance and Robust Performance Models leading to success)

• Portfolio of 25 sites (MMRP, IRP) with various remedial endpoints
  • Some prescribed by Government after contractor input during Q&As
  • Some selected by contractor (stretch goals)

• Proposed remediation progress for groundwater sites validated annually by performance models
  • Draft performance models developed in proposal for existing 9 large groundwater pump and treat systems
  • Required in-depth analysis by government during proposals
  • Performance models of expected progress finalized in Year 1
  • Payments tied to performance – Government getting what is expected
Example 2 – DoD 10-Year PBR

• Balance of sites allow for better overall risk management
  • “Wins” on some MMRP sites from better than expected conditions pay for “losses” on the one MMRP site
  • Revenue from general O&M/LTM of large groundwater systems also balances risk portfolio – not everything at risk!

• PBR incentivizes contractor to look for other cost-saving measures while remaining protective
  • Maximize use of GAC
  • Reducing O&M/LTM costs

• Government benefited from lower PBR costs for 10 year POP while gaining cost benefits in out years
  • Groundwater Program costs pre-PBR - ~$3M/year
  • Groundwater Program costs PBR - ~$2M/year
  • Groundwater Program costs post-PBR - <$2M/year
Example 3 – DoD Single Site (PBR or Firm-Fixed Price?)

- Site had a final ROD
  - Prescriptive remediation process for soil impacted with lead/PAHs

- Contractually Required for Response Complete (soil remediation) within 2 years of NTP
  - No opportunity to modify the selected remediation to provide optimization to Government

- Total volume of soil, %haz/non-haz, and density of soil to be remediated estimated from historical documents

- Amount of potential MEC at site for remediation estimated by historical documents

- Quantified/estimated remediation quantities in proposal in an attempt to bound these highly variable risks
Example 3 – DoD Single Site

- Volume of soil, weight of soil and amount of MEC exceeded proposal quantifications by:
  - Volume of soil ~10%
  - Weight of soil ~15%
  - Amount of MPPEH/MEC >1,000%

- Took over one year to determine contractual responsibility for overages since it was a PBR
  - How far does the contractor own the risks?
    - Previous documentation accuracy?
    - Does a PBR eliminate proposal quantifications to bound risks?

- Increased government and EA resources and effort to reconcile the overages.
Summary

• Remediation projects will come in lots of different shapes/sizes
  • Determine what you want from the remediation contract
    • What metrics are important?
    • What metric endpoint(s) are achievable? Schedule constraints?
    • Assess how/when you want to validate progress of the remediation

• Provided insight on our successes/challenges with PBRs.
  • Assigning the right performance metrics are key for success of contract
  • Work together to identify boundable risks
  • Eliminate unboundable risks

• Work together in future to design and execute successful PBRs where both the contracting agency and the contractor succeed
Questions?