

Performance Based Fixed Fee and Alternative Site Remediation Contracting Vehicles: *Cost Certainty or Cost Creation?*

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October 21, 2010

RemTech™ 2010 Conference
Banff, Alberta

Presentation Outline

- PBC Options and Other Fixed Cost Alternatives
- PBC Background
- History/Evolution of PBCs
- Remediation Cost-cap Insurance
- Potential Advantages of PBCs
- PBC Case Studies
- Lessons Learned
- Q&A



CONTRACT TYPES AND PROFILE

Form of Contract	Level of Contractor Risk	Incentive to Complete	Amenable Site Types	Payment Format
Time & Materials	Low	Low	Poor Characterization / Changeable Scope	Payment for time at fixed hourly rates
Cost Plus Fee	Low to Medium	Medium	Poor Characterization / Changeable Scope	Payment for costs
Fixed price per task/ process	Medium	High	Well Characterized / Clear Scope & Goals	Payment for completion of scope
PBC / Alternative Fixed Fee	Medium to High	High	Well Characterized / Clear Scope & Goals	Payment for fulfillment of performance objectives

What are PBC Options and Other Fixed Cost Alternatives?

- Pure Liability Risk Transfer (LRT) – Contractor becomes liable party for known/unknown contamination (with or w/o insurance)
- Hybrid/Limited LRT – based on clear assumptions and limitations (regarding known contamination – less likely to include insurance)
- Risk Sharing LRT – Fixed cost with guarantee to share unused \$ with RP but RP would pay at cost overage above base bid up to a cap (typically w/o insurance)
- More traditional fixed cost for fixed scope arrangement
- These Options may or may not have a specified contract period

Background on Performance Based Contracts

- Use of PBCs and alternative contracting vehicles has been relatively limited in Canada
- The number of Canadian sites transitioning from characterization to remediation will be significant and PBCs will increasingly be considered and used
- These approaches have been utilized extensively in the U.S. and other global jurisdictions (e.g. UK, AUS, etc.)
- This experience provides an opportunity for Canada to evaluate and learn from mistakes made by others
- There have been a number of notable successes and failures



History/Evolution of Performance Based Contracts

- First widely utilized in mid-1990's
- Continued increases in environmental reserves made PBCs very attractive (i.e. why not cap costs?)
- Prompted development of insurance products, notably remediation cost cap (or stop-loss) insurance with PLL policies
- Numerous Insurers aggressively entered market
- Numerous consultants and contractors aggressively pursued and priced large projects, including many small firms
- Emergence of Brownfields programs continued to fuel PBC market – increased transfers of blighted property (U.S., UK, etc.)
- Several high profile defaults on guarantees



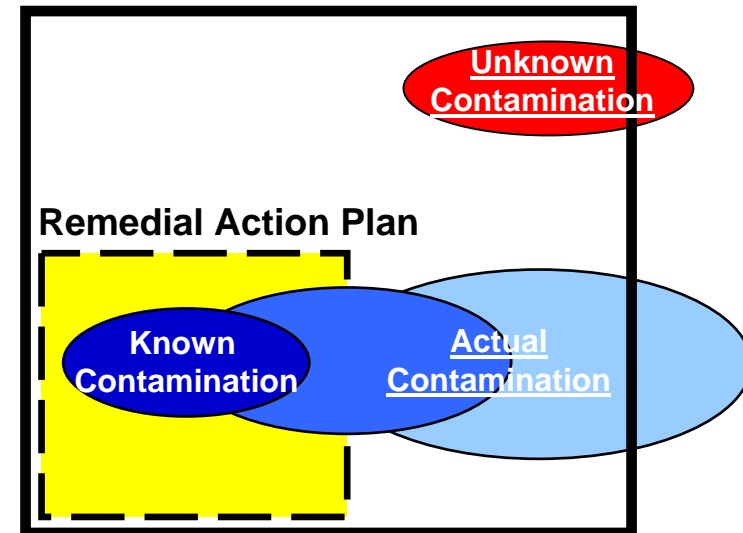
History/Evolution of Performance Based Contracts

- Tax law impacts – Special Purpose Corps. and Liability Trusts formed
- The U.S. DOD entered market in big way, required insurance, sought to manage large % of portfolios under PBCs
- Industrial PRPs have generally moved away from PBCs due to bad experiences
- the DOD continues to increase use of PBCs – is re-exploring insurance
- Significant changes in insurance market and availability
- Emergence of alternative/risk sharing arrangements
- Bad experiences have soured some client/consultant relationships
- Some good examples where PBCs have been very effective tool

Remediation Cost-cap Insurance Market and Costs

Several factors have influenced the Cost-cap insurance market, including:

- Significant insurer losses in this market
- The Worldwide Financial Crisis
- More stringent underwriting, approval protocols, and policy terms/conditions
- More detailed engineering requirements
- Significant reduction in number of involved carriers
- Higher policy costs, deductibles, and co-insurance
 - Policy costs – 12-20% of remediation estimate vs. 8-14% a few years earlier
 - Co-insurance – required and at minimum 10% vs. optional

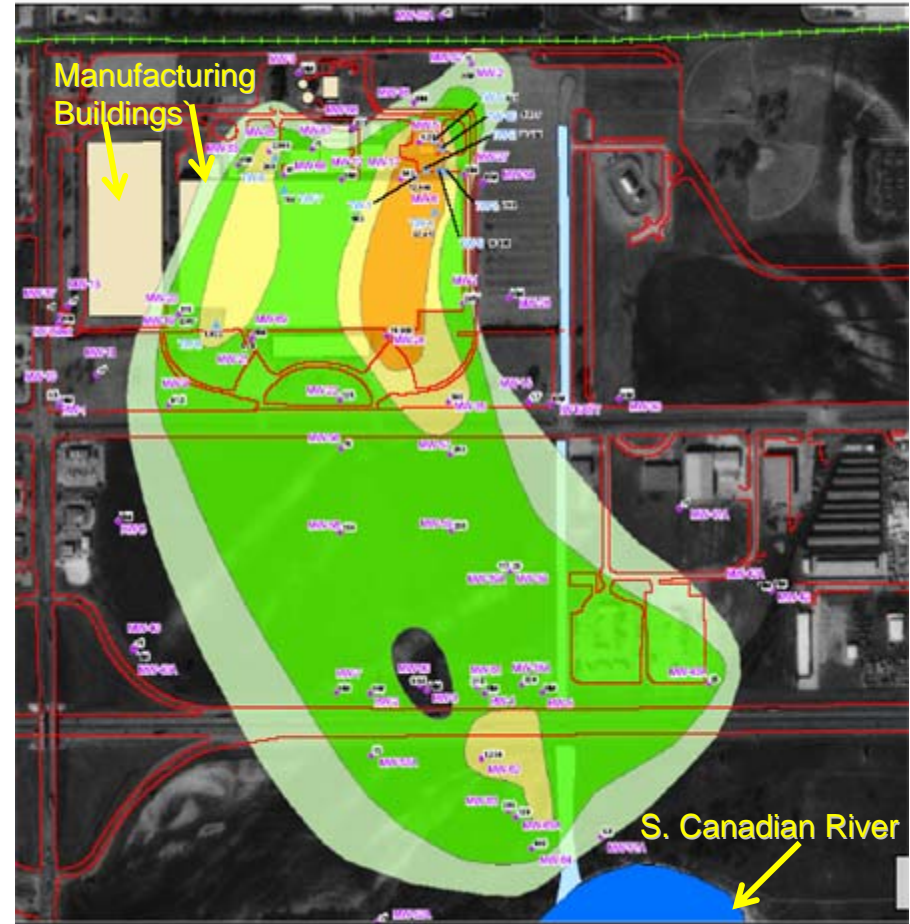


Potential Advantages of Performance Based Contracts

- Cost reduction
- Cost assurance
- Reduced management burden
- Increased Contractor flexibility
- Contractor has “skin in the game” and is highly incentivized
- Increased schedule efficiencies
- Often involves aggressive/comprehensive remediation approaches

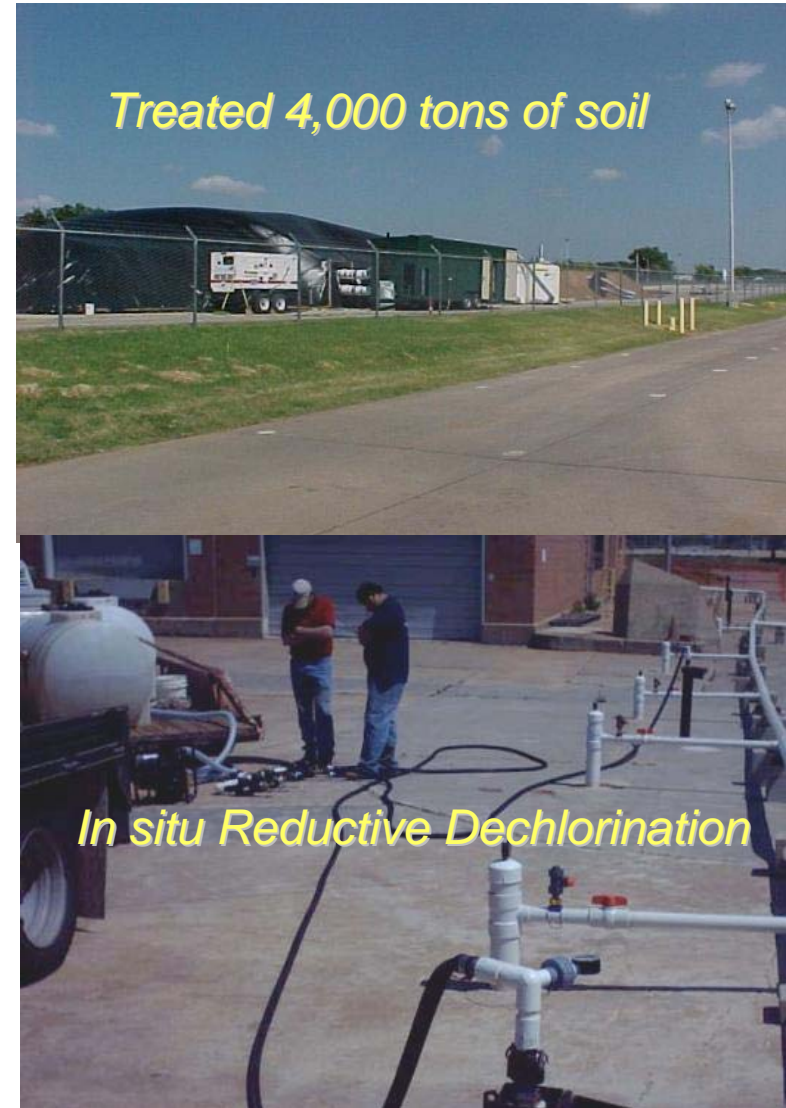
Case Study – Former Oklahoma Telecommunications Facility (The Good)

- Former telephone switching equipment manufacturing
- 292-acre property in Oklahoma City, OK
- Subsurface impacted with PCE, TCE and daughter products at various source areas (residual DNAPL)
- Conceptual Site Model fully developed/Characterization complete
- Remediation goal negotiated – no offsite exceedence of MCLs
- On-going natural attenuation
- Property Transfer: prompted need for ensuring liability protection
- Cost-cap Insurance Policy



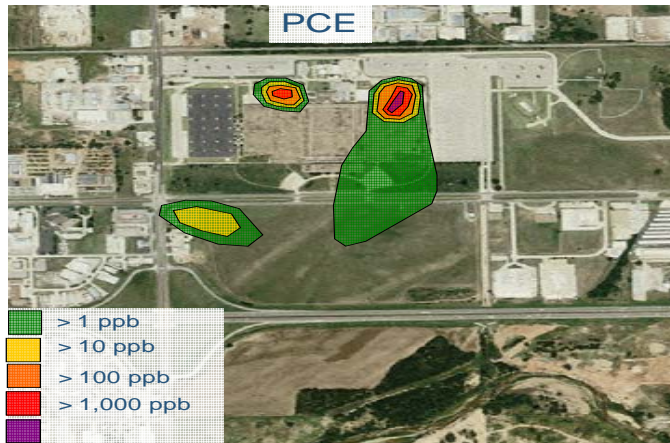
Case Study – Former Oklahoma Telecommunications Facility (The Good)

- Source area excavation and thermal treatment
- Also utilized mobile SVE/CATOX system for in situ treatment of moderately impacted soils
- Approximately 19 tons of VOCs removed
- *In Situ* Enhanced Reductive Dechlorination
- Periodic injection of high fructose corn syrup (HFCS) solution (carbon source)
- Upon ODEQ approval, decommissioned and properly abandoned wells

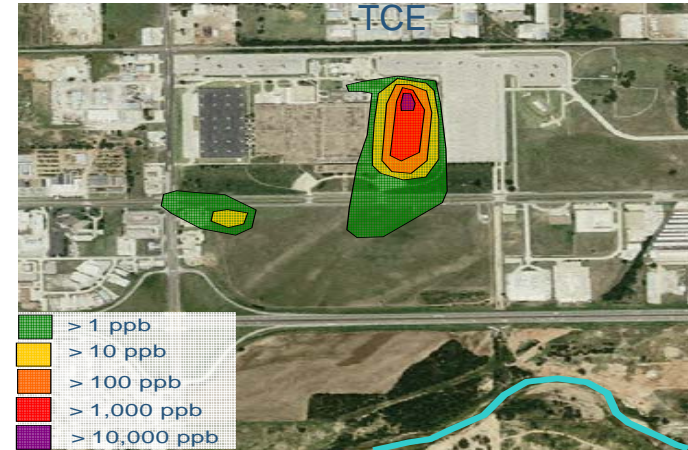


Case Study – Former Oklahoma Telecommunications Facility (The Good)

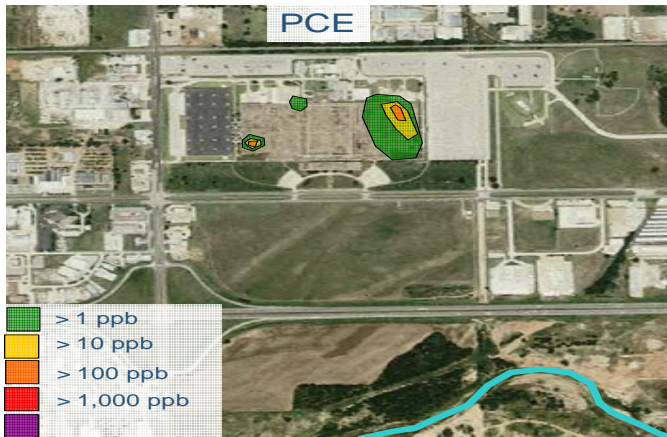
Pre-ERD (November 2004)



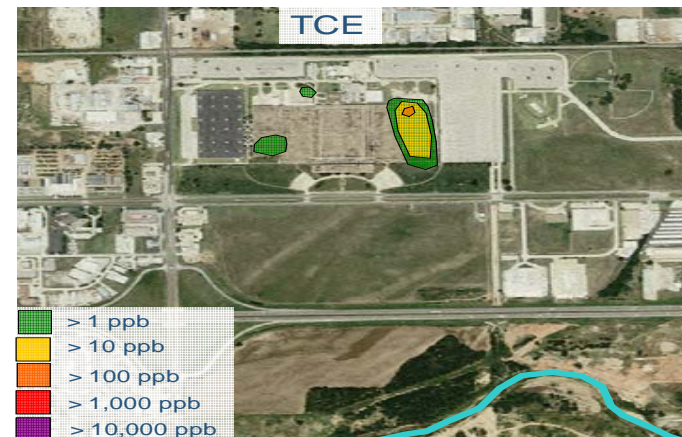
Pre-ERD (November 2004)



July 2009



July 2009



Case Study – Former Oklahoma Telecommunications Facility (The Good)

- Successful implementation of the remediation strategy
 - Revised MNA model and monitoring indicate that MCL will not migrate beyond property boundary
- Project is on track and is predicted to meet closure schedule
- Win/Win for Client, Consultant/Contractors, New Property Owner, Regulators and Insurer
- Keys to PBC success
 - CSM fully developed and characterization was complete
 - Remediation goals negotiated/approved prior to PBC
 - PBC efficiencies outpaced uncertainties/cost contingency = lower cost to PRP
 - All stakeholders (including regulator) embraced PBC
 - Tri-party backstop protection via Cost-cap insurance

Case Study- Former Sydney, Australia MGP and Waste Disposal Site (The Bad)

- 75,000 m³ soil impacted by Pesticides/PCBs/Dioxin and Metals – if risk assessment approved
- 400,000 m³ if RA not approved
- Guaranteed Cost under PBC
- Cost-cap policy for Consultant/Engineer and RP
- Thermal Treatment and Stabilization of Cont. Soil
- Construct 250 m Seawall and 200 m Slurry Wall
- Redevelopment into high density residential units



Case Study- Former Sydney, Australia MGP and Waste Disposal Site (The Bad)

- Regulators opposed to redevelopment plan and delayed review of risk assessment, vicious cycle of addressing comments and then getting new ones
- Multiple sets of competing comments by several agencies
- Developer had long history of turmoil with agencies
- Insurer had just entered RSL market – the first big one for them
- Client micro-managed process and didn't provide for flexibility required for successful PBC
- AECOM had no prior relationship with Client, Regulators, and was new player in Sydney market

Case Study- Former Sydney, Australia MGP and Waste Disposal Site (The Bad)

- Unsuccessful implementation of the strategy
- Challenges with risk assessment prompted insurer to go different direction
- Bad for Client, Consultant, and Insurer
- Ultimately ~ 200,000 m³ of soil required treatment in negotiated settlement with regulator = significant loss for Insurer
- Keys to PBC failure
 - Regulator not on board with PBC and aggressive redevelopment schedule
 - CSM not fully developed to satisfaction of regulator prior to PBC
 - Remediation goals not negotiated/approved prior to PBC
 - Complexity of multiple regulators with competing views

Case Study – Large Retail/Terminal Portfolio (The Ugly)

- 115 retail/terminal sites in Pennsylvania with former/divested Texaco distributor; largest in USA
- Property transfer prompted desire to cap costs – sites sold in 3 large groups (2 retail, 1 terminal)
- One of the first large portfolio PBCs in U.S. - 1995
- Eight small to medium consultants hired to address sites via PBCs
- Regulator and state UST fund not involved in or aware of PBC approach
- Remediation Cost-cap Policy with Insurer – Consultants not named as additionally insured



Case Study – Large Retail/Terminal Portfolio (The Ugly)

- AECOM hired under new PBC
 - Sites grouped by status – guaranteed costs, more characterization then move to PBC, select sites with no guarantee/PBC
- 10-year contract initiated in 1999 with RBCA focus
- Final cost projections 2x to 3x original PBC portfolio cost
- Current status
 - 100 sites closed with PA Act 2 Liability Protection
 - 58 pathway elimination closures (no remediation)
 - 31 remediated to site-specific (elevated) standard
 - 11 remediated to statewide health standard (i.e., MCLs)
 - Mean site closure cost (retail sites): \$168,607
 - 15 sites active
 - 9 projected for 2009 closure
 - 6 projected to extend beyond 2009 (2 large terminals and 4 retail sites) are either under offsite litigation or additional contamination found

Case Study – Large Retail/Terminal Portfolio (The Ugly)

- Unsuccessful implementation of the strategy – consultant defaults due to unanticipated conditions
- Ugly with major cost implications for Client and Insurer
- Despite Client protections, administrative and legal cost over-runs were very significant and problems impacted regulatory relationship
- Keys to PBC failure
 - Regulator not on board with PBC in advance
 - State UST Fund not on board with PBC in advance
 - CSM not fully developed and characterization was incomplete
 - Remediation goals not negotiated/approved prior to PBC
 - Ultimate land use not considered in remedial strategies
- Generally consultants not financially secure so Insurer gained little from forcing them to honor contract (i.e. bankruptcy)

Lessons Learned on Performance-based Contracts

- Be realistic on time required to extinguish liability – regulatory turn around can be a ‘wild card’
- Ideally the CSM would be fully developed with characterization completed and remediation goal established
- All stakeholders (including regulators) should embrace PBC
- Final land use (and land use restrictions) should be defined up front, along with provisions for necessary legal and public relations support
- Significant unknowns = Risk = Cost Premium
- Remediation Technology Risk is manageable; characterization and remedial goal risk may not be

Lessons Learned on Performance-Based Contracts

- Understand client goals and priorities
- Portfolios of sites work better than individual contracts and more effectively mitigate financial risks to contractor
- Financial security and PBC experience of contractor should be heavily considered (success on challenging sites?)
- Establish alignment in contract for win/win outcome
- Contractor should empower unencumbered and focused execution teams
- PBC and Sustainable/Green Remediation can co-exist (incentivize and incorporate into milestone payments)

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Questions?



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