Performance-Based Acquisition of Environmental Restoration Services

Office of the Deputy Under Secretary of Defense
(Installations and Environment)

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About this Handbook

Performance-based acquisition (PBA) has the potential to expedite environmental remediation, attract innovative solutions, and save taxpayer dollars. The U.S. Department of Defense (DoD) offers this Handbook to Components (i.e., Army, Navy, Air Force, Marine Corps, Defense Logistics Agency) as a broad framework for using PBA to effectively address and fulfill environmental restoration responsibilities. DoD recognizes that each Component has its own procedures for implementing PBA in accordance with the Federal Acquisition Regulations (FAR) and the Defense Federal Acquisition Regulations Supplement (DFARS), but presents this Handbook as a reference tool for additional information on the use of PBA when conducting environmental restoration activities.

This Handbook is also intended to familiarize Federal, tribal and state regulators, contractors, and community members with the PBA concept and to provide a source of information on how Components use PBA to fulfill their cleanup responsibilities. A collective understanding of the PBA process will allow the Components to successfully implement performance-based contracts when conducting environmental restoration activities under the Defense Environmental Restoration Program (DERP).

- **Chapter 1** will introduce the reader to PBA; discuss the use of PBA in environmental restoration and its relationship to laws and policies addressing performance-based acquisition; and examine the benefits and challenges of PBA contracts.
- **Chapter 2** will identify different contract types that can be coupled with performance-based elements including firm fixed price, firm fixed price with insurance, cost-plus-award-fee, and cost-plus-incentive-fee.
- **Chapter 3** will lead the reader through the PBA process, providing strategies and guidance for implementation. This chapter will also present a stage by stage approach of the PBA process. Although the process is presented in a stage format, the stages do not necessarily have to be conducted in the presented order.
- **Chapter 4** will assist the reader in determining the appropriate time to engage regulators in PBA projects and will discuss various partnering strategies.
- **Chapter 5** will describe environmental insurance, the insurance policies applicable to PBA, and provide suggestions on effectively using insurance with PBA.
- **Chapter 6** will summarize important points in the Handbook and direct the reader to resources for additional information on PBA.

Throughout the Handbook, notes in the margin emphasize important points, provide easy reference to topics and issues, and cross reference concepts addressed elsewhere in the Handbook. Text boxes provide additional information and describe Component experiences with various aspects of PBA.

The following appendices provide additional information:

- **Appendix A** defines commonly used acronyms.
- **Appendix B** provides definitions for contextual reference to assist in understanding the larger concepts addressed in the Handbook.
- **Appendix C** provides summaries of major contract types.
- **Appendix D** presents case studies of lessons learned by the Army, Navy, and Air Force.
- **Appendix E** provides additional background information on the Army's and Navy's experiences with PBA.
- **Appendix F** provides guidance for using one performance-based contract for multiple sites.
- **Appendix G** provides resources for locating PBA training.
- **Appendix H** provides a list of references for additional information.

Chapter 1: Introduction to Performance-based Acquisition

PBA is an acquisition strategy that allows the Federal government to contract for results, as opposed to managing the process by which the work will be performed. PBA aptly lends itself to the goals of "faster – better – cheaper," by encouraging both the government and the contractor to maximize the use of innovative and intelligent solutions.

While PBA is applicable to many types of contracting, DoD has recognized its potential to obtain results in environmental restoration projects in particular. DoD is building a strong record of experience in using PBA to perform a wide range of cleanups and encourage contractor innovation. Components have effectively used PBA for tasks ranging from the simple, such as removal of underground storage tanks, to the complex, such as the cleanup and closeout of an entire military base.

A PBA approach gives the contractor the flexibility to decide how to balance the tradeoffs between short-term and long-term best-value alternatives, and provides the incentive to choose the most efficient and effective technologies and methods to optimize the cleanup process. Although PBA encourages the use of the most cost-effective and innovative cleanup solutions considering both technical variables and total cost, its implementation should not be taken lightly. PBA methods may not be appropriate in all environmental restoration situations.

1.1 Main Features of PBA

The same legal authority—the FAR—that generally governs Federal procurement also governs the Federal government's use of PBA. The FAR Part 2.101 defines PBA as an acquisition structured around the results to be achieved as opposed to the manner by which the work is to be performed.

The hallmark of PBA is focusing on the results the contractor must achieve, rather than the manner in which they conduct the work. PBA identifies an ultimate end state that the contractor must reach, as well as interim objectives and/or milestones the Component uses to evaluate the contractor's performance and provides partial payment. PBA is intended to ensure that required performance quality levels are achieved and that total payment is related to the degree to which services are performed to meet contract standards.

PBA contracts contain a Performance Work Statement (PWS), or Statement of Objectives (SOO), rather than a prescriptive Statement of Work (SOW). The PWS defines only performance standards (interim and end-state objectives of the contract, also known as performance measures) and leaves the specific execution methods to the contractor.

Measurable performance standards

The Component must be able to measure whether the contractor has met the performance standards. Performance standards may be either quantitative or qualitative; qualitative standards leave the Component some discretion in determining whether the standards

were met. The Component pays the contractor only upon satisfactorily meeting or exceeding the standards of performance. PWSs may also include interim objectives and milestones when the contractor's performance is evaluated and partial payment is provided.

Acquisition Team—See Chapter 3, Stage 2

Performance-based contracts also include a Quality Assurance Surveillance Plan (QASP) that specifies how the Component will determine whether performance standards are met. It is vital that the Component form a knowledgeable Acquisition Team (discussed further in Chapter 3) to work through the acquisition phases and contract execution. During execution, Acquisition Team members should work closely to follow the QASP in evaluating whether milestones have been met and whether the conditions for incentives have been fulfilled.

Incentives

Performance-based contracts may offer the contractor financial incentives for exceptional performance. Incentives may reward innovation, timeliness, and cost efficiency. Generally, incentives should be used only for those aspects of the work where exceptional performance would provide the most benefit to the Component. These contracts may also offer deductions for failure of the contractor to perform to an acceptable level. Deductions may include a reduction in fee, a reduction in price if the contract is Firm Fixed Price (FFP), withheld partial payments for failure to meet milestones or performance standards, or pass-through of any fines for missing Federal Facilities Agreement deadlines. The specific performance standards in the QASP should incorporate incentives to ensure measurability. See FAR Part 16.4.

Characteristics of a Performance-based Contract

- Describe contract requirements in terms of results, rather than methods of performing the work.
- Use measurable performance standards.
- Follow a QASP to monitor contractor's progress.
- Specify procedures to reduce fee or price when services do not meet contract requirements.
- Include performance incentives when appropriate.

The term "performance-based contract" encompasses a broad range of contracts that share the defining characteristics outlined in the FAR. A contract that includes enough of these characteristics is considered a performance-based contract. For example, the Federal Procurement Data System requires at least 80 percent of the contract specifications to be performance-based for the contract to qualify as performance-based. These performance-based features may be used with any contract. It is possible for parts of the contract to have performance based features; for example, parts of the work statement may be prescriptive, while others may be performance-based. ***It is essential for the Component to engage properly trained contracting support staff—from the point at which the Component considers using PBA through contract award—to ensure that the Component complies with FAR requirements in incorporating performance-based features.***

1.2 Transition from Traditional Contracting Approaches

PBA demands significant distancing from traditional contracting practices and embracing less-familiar methods. With PBA, the government must now focus on setting meaningful desired "outcomes" with contract monitoring and quality assurance, rather than prescribing remediation methods. This focus allows contractors to explore new technologies and develop and execute more creative and efficient work plans.

DoD has traditionally used process-oriented contracts with prescriptive work statements for environmental restoration activities. Prescriptive work statements provide a high level of specificity with respect to the work that must be completed, establishing the types of cleanup activities the contractor is to perform. With such specific directions, the contractor has little room and few incentives to use innovative approaches or new technologies without considerable administrative burden and risk.

PWSs, on the other hand, define the "what" rather than the "how." PWSs delineate the work requirements in terms of results rather than in terms of how to perform the work. By focusing on results, the contractor has flexibility in the contract to determine the best way to achieve the stated results, through use of innovative technologies or other methods. With this structure, the contractor bears greater responsibility for achieving contract objectives and financial risk.

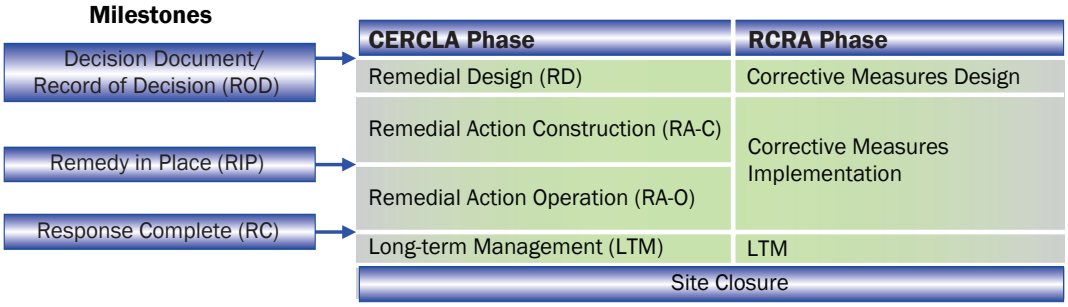
1.3 Use of PBA for Environmental Restoration

In the context of environmental restoration, PBA is most often used for cleanup and post-cleanup activities, but may also be used for other parts of the restoration process such as site characterization. Because Components are most familiar with using PBA for cleanup and post-cleanup activities, this subsection first addresses use of PBA in this context. This subsection then discusses use of PBA for characterization only, use of PBA for both characterization and cleanup and, finally, use of PBA for activities at Base Realignment and Closure (BRAC) installations and other surplus properties.

Cleanup and Post-Cleanup Activities

PBA may be used to accomplish any or all activities generally associated with developing the Decision Document or Record of Decision (ROD), conducting removal and remedial actions, conducting long-term monitoring, and establishing institutional controls (ICs). Components may use PBA for contracts to conduct discrete cleanup phases needed to meet applicable regulatory requirements, or use PBA for one contract covering all cleanup phases. Figure 1-1 lists the cleanup phases under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA).

Figure 1-1. Cleanup Phases



Characterization

Characterization of a specified site, with regard to one or more specified contaminants, may be a performance-based contract objective when the goal is to move a site forward in the remediation process. Performance-based methods work best when there is too much uncertainty to require contractors to achieve Remedy In Place (RIP) or Responce Complete (RC), or when not enough information is available to provide additional scope for an overall PWS. For example, a performance-based contract may be awarded to participate in technology feasibility studies during investigation phases. If characterization is conducted under the contract, a clearly defined endpoint, such as a signed Decision Document or regulatory approval of a Remedial Investigation/Feasibility Study (RI/FS) is necessary to determine when the contractor's objectives have been met.

As an alternative to using PBA for characterization, the Component may consider using other performance-based approaches, such as the TRIAD approach (an accelerated site characterization process that includes systematic planning, dynamic work strategies, and real-time measurements) for investigation phases, while restricting PBA to cleanup phases.

> **PBA Use: Range of Contract Sizes and Scopes**
> The Army has awarded more than 50 contracts using PBA in its active and BRAC programs. The contracts range in size from two soil contamination sites at Fort Irwin, California with an award price of approximately $500,000, to a nearly installation-wide contract at Lake City Army Ammunition Plant, Missouri with an award price of over $52 million. The scope of the Army's PBA contracts range in complexity depending on the installation.

Characterization and Cleanup

Use of PBA for investigation phases

PBA may also be appropriate for both characterization and cleanup of sites whose contamination is contained and easily identified, such as fueling stations, or otherwise well-defined sites. In these cases, the performance objective for characterization should clearly establish the analytes to be addressed in the characterization and the maximum vertical and horizontal delineation, based on Preliminary Assessment (PA) data. However, where there are significant uncertainties with a site (i.e., the type and extent of contamination is largely unknown or radiological material, unexploded ordnance (UXO), chemical warfare materiel (CWM), or biological materiel may be present), using PBA for a contract covering both characterization and cleanup may not be appropriate. In those circumstances, a performance-based contract focusing solely on characterization, or process-oriented contracting may be more appropriate.

BRAC and Surplus Properties

Components may also use PBA when transferring BRAC or surplus properties, allowing the property recipients and their contractors to integrate cleanup and redevelopment activities. While PBA provides contractors with more flexibility in choosing cleanup methods, the remedy remains subject to the approval of the lead agency and regulator. DoD retains final decision authority over technical cleanup methods and technologies as lead agency for most cleanups, depending upon the legal authority under which the cleanup is being conducted. See Chapter 4 for additional discussion on cleanup authorities and the role of DoD versus the regulator as lead agency.

Use of PBA with BRAC & surplus sites

1.4 Environmental Restoration as "Services" or "Construction"

Thus far, most non-DoD agencies have restricted their discussions of PBA to its use for acquisition of services, as opposed to construction. Environmental restoration activities may be classified as either "services" or "construction," depending upon the specific activity being performed. For example, long-term management and investigation activities alone might logically fall into the "services" category whereas actual excavation or implementation of another remedy typically falls under "construction."

Services or construction

This distinction is relevant because most laws, regulations, and policies addressing PBA have done so only in the context of service contracts. For example, Part 37.6 of the FAR, "Service Contracting" addresses performance-based contracting as a service contract. The Office of Management and Budget's (OMB's) annual percentage targets for PBA applies only to service contracts.

Use of a performance-based approach to acquire services is known as performance-based service contracting (PBSC) or performance-based service acquisition (PBSA). While the terms PBA, PBSC, and PBSA are sometimes used interchangeably, their difference, as stated by the FAR, is important.

PBA vs. PBSA/PBSC

- PBSC and PBSA, as governed by Part 37 of the FAR, technically apply only to contracts for recurring services, which exclude architecture/engineering (A/E) and construction services. FAR Part 37.102 states that PBA should be used to the maximum extent possible, except for A/E and construction contracts (and utility services and services incidental to supply purchases). Examples of services falling into this category are janitorial and grounds maintenance services.
- PBA, as used in this Handbook, refers to environmental restoration activities, which are generally nonrecurring and are not considered A/E or construction services. As such, it does not technically fall within the definition of PBSC and PBSA of FAR Part 37, although this Handbook relies on the elements of PBA as stated by FAR Part 37 as guidance.

The Component (specifically, the comptroller staff and the contracting officer) should examine the environmental restoration contract to determine whether the predominance of work to be performed is service-related, and whether those services are nonrecurring A/E or construction services governed by FAR Part 36 or recurring services governed by FAR Part 37. Even where FAR Part 36 is applied, DoD generally follows the definitions found in FAR Part 37, describing the purpose and features of PBA, for its environmental restoration performance-based contracts.

1.5 PBA Benefits

PBA offers many benefits over traditional contracting methods when used for environmental restoration activities. Primarily, PBA introduces efficiencies to restoration by providing incentives for contractors to use the best techniques available.

Innovative Approaches

While there are certain "tried and true" approaches to environmental remediation, contractors may be aware of novel, cutting-edge approaches that achieve the same or better results. Because PBA provides the contractor with flexibility in choosing how to meet the performance objectives, PBA encourages contractors to use such innovative approaches.

Risk-Sharing

The Component can benefit by sharing some of its risk with the contractor through PBA. While the Component remains ultimately liable under CERCLA for completing environmental restoration activities, using performance-based features (see Chapter 2) can provide Components with the assurance that contract objectives will be met for a certain price. In addition, Components may choose to require the use of cost-cap and/or pollution legal liability insurance, or contractors may choose to acquire such insurance to protect against cost overruns. If the Component chooses to require insurance, the Component should have expert personnel available to evaluate best value for bids with insurance, as insurance may significantly increase the proposal prices of bids. See Chapter 5 for additional information on types of insurance available to manage risk. Sharing risk through a PBA allows Components to reduce the financial uncertainties involved with fulfilling their environmental restoration requirements while allowing contractors more flexibility and control to take decisive and timely action when unforeseen circumstances arise.

Time Savings

In many cases, using PBA may result in expedited completion of the work due to increased flexibility in decision-making and motivation of contractors to meet the schedule milestones. This "locked in" schedule provides the Component with predictability in meeting and scheduling goals and the certainty necessary for planning future projects.

Additionally, while Components may find preparation of a PBA proposal package to be resource-intensive, the time required for such preparation will diminish as Components and contractors become more familiar with PBA.

Cost Savings

PBA may result in significant cost savings because PBA provides the contractor with the flexibility to select the most effective technologies to meet objectives. PBA is well suited for grouping several project sites into a single contract because such groupings enhance contractor flexibility. This arrangement may achieve economies of scale through shared resources, administrative functions, and insurance risk distribution (see Appendix F). When insurance is used, contractors realize additional advantages through reduced insurance premiums by combining contractor flexibility and site grouping. Components realize many of these benefits through lower pricing from contractors.

PBA Cost Savings Example

The Navy is successfully using PBA to clean up and close out the Charleston Naval Base in South Carolina. The contract was awarded for just under $30 million in February 2000, representing a 17 percent savings compared to the government estimated Cost to Complete at the time. The contract included insurance providing "cost-cap" protection up to $65 million.

1.6 Suitability for PBA

See Chapter 3, Stage 1 on selecting sites for PBA

PBA may not be appropriate for all environmental restoration projects. The primary considerations in determining the suitability of a project for PBA are risk and uncertainty. PBA shifts a significant amount of risk to the contractor, who then bears the risk resulting from uncertainties of the contamination, the potential for failure of the cleanup remedy, and the potential for costs to skyrocket. PBA is less appropriate where significant uncertainty remains, such as when a site characterization is needed to identify the type, extent, and source of contamination. Other factors that create uncertainties include the existence of radioactive waste, CWM, or UXO. These materials and wastes pose special and unique safety and liability risks for contractors. In addition, insurance policies may exclude certain items from coverage, creating a number of difficulties for the contractor when managing risks. Where too much risk is to be transferred through a performance-based approach, Components may experience limited competition for the work or may lose cost-efficiency. PBA may also be less appropriate when the government has technical or operational reasons to minimize its risk by overseeing and controlling the work performed. Therefore, allocation of risks and liabilities may be a major factor in deciding whether or not PBA is appropriate or if the use of insurance in the contract is feasible.

1.7 PBA Challenges

Acquisition Team—See Chapter 3, Stage 2

Certain challenges require a new way of thinking about the Components' and contractors' roles. A new contracting method requires the government to acquire new skills and expertise in selecting sites, reviewing and awarding contracts, and evaluating results. Many of these obstacles can be addressed with the help of comptroller staff and the contracting officer (collectively referred to as "the Acquisition Team"). The main PBA challenges facing the Components thus far include time and funding restrictions, availability of resources, long-term costs, contract oversight and administration, and stakeholder buy-in. Each challenge is discussed further below.

Time and Funding Restrictions

A primary challenge to PBA use is the time restriction statutorily imposed on Federal services contracts by the Anti-Deficiency Act. The Anti-Deficiency Act prohibits, among other things, signing a contract for the payment of money that has not yet been appropriated. The Component's Acquisition Team members should work together to address time and funding restrictions. Current law allows a Component to enter into a multi-year contract for services where funds would otherwise be available for obligation only within the fiscal year for which it was appropriated, where the Component determines that a number of conditions are met, such as the following:

- There will be a continuing requirement for the services;
- The furnishing of such services will require a substantial initial investment or the incurrence of substantial contingent liabilities; and
- The use of such a contract will promote the best interests of the United States by encouraging effective competition and promoting economies of scale in operations. (See 10 USC § 2306c).

While this provision allows funding to be executed over several years, it may be difficult for the Component to find that the required conditions have been met. Even where these conditions are met, the provision still restricts contracts to a five-year period. Many environmental services projects can exceed this period. The statutory restriction puts the Components and contractors in a situation where contracting for out-year services is uncertain.

Options to address funding limitations

One option for Components is to use options for out-years and to budget in the initial fiscal year of the contract for all activities in the first five years. A base-contract amount is established for the initial part of the contract on a five-year basis. After the fifth year, if the Component is satisfied with the contractor's performance and funds are appropriated for the next five-year period, the Component may exercise the option years for the remaining amount of the contract. This provides some incentive for the contractor to perform well to maintain the contract and allows the Component to plan for the entire project and retain the flexibility to continue the contract depending on the availability of funds after the five years have expired. The Component should consult with the Acquisition Team to identify current legal requirements in the United States Code, FAR, and DFARS regarding multi-year funding and review these options in light of those requirements.

Availability of Resources

A related challenge that the Components face is juggling funding among several performance-based contracts. Because PBA often requires a large amount of funding up-front, the Components face decisions on how to allocate funds among projects. Where a Component is using PBA for several contracts, it may be necessary to prioritize among them to ensure that each has the funding it needs to meet applicable schedules and requirements.

Consideration of Long-Term Costs

Another challenge is examining contract bids in light of the life-cycle cost of the project. In some cases, the contractor may select a remedy that costs the Component more in the long-run due to cost obligations that are associated with the remedy, but which are not reflected in the bid because these costs extend beyond the contract. The Components should make clear in the acquisition process that it will examine life-cycle costs and provide the basic description of the analysis it will conduct in that examination.

Contract Oversight/Administration

Another potential challenge of PBA is determining the level of contract oversight. The term "oversight" rather than "administration" is often used in the context of PBA. In PBA, the Component focuses on contract management and quality assurance (QA) to assure that goals are met, rather than demanding or ensuring that specific cleanup techniques are followed. This may require the Component to shift internal skills or provide training to staff in order to accommodate these changes. At sites with smaller teams, the more sophisticated PBA QA duties and contract management may be burdensome but remain an integral part of effective contract execution.

The Component should consider contract oversight issues as part of the acquisition process. Establishing mechanisms for contract oversight through a QASP will allow the Component to monitor cost and the contractor's progress toward metrics.

Stakeholder Buy-In

Regulator and stakeholder buy-in to a PBA approach is essential (see Chapter 4). While communities stand to benefit from the accelerated cleanup that is made possible under a PBA scheme, community members and other stakeholders may express concern regarding a new contracting approach. Early in the cleanup process, to the degree possible, the Component should take a proactive approach in educating the community on the difference between PBA and conventional contracting approaches, including its costs and benefits. Components should be prepared to provide their rationale for selecting the site as appropriate for PBA. While PBA grants contractors flexibility, the concerns of stakeholders should be considered and addressed in an appropriate manner.

Chapter 1 Review

When used in the appropriate circumstances, PBA offers significant advantages over traditional contracting methods. These contracts can become an important tool for channeling the contractors' innovative approaches to cleanup, resulting in faster, cheaper, and better cleanups—and ensuring that DoD Components receive measurable, concrete results from their contractors.

PBA can present a number of challenges, but close coordination with the Acquisition Team will allow the Components to appropriately address them early in the process. The above discussion does not present an exhaustive list of all the potential challenges that may arise with PBA implementation. For this reason, DoD Components are encouraged to share with each other their lessons learned, success stories, and strategies for overcoming obstacles. With a better understanding of the skills required to implement PBA and strategies for overcoming obstacles, Components can maximize the advantages of using PBA.

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Chapter 2: Contract Types

The options for incorporating performance-based features into contracts are virtually limitless. The FAR Part 37.102 establishes firm fixed price contract types as the preferred type for performance-based service contracts; however, any contract type can be made into a performance-based contract by including the features discussed in Chapter 1.

Both the public and private sector use firm fixed price contracts primarily for performance-based environmental remediation. Fixed price contracts accompanied by environmental insurance are common with environmental remediation activities. Cost-reimbursement contracts, although less common with PBA, also offer the opportunity to incorporate performance-based contracting features. Additionally, for BRAC sites, Environmental Services Cooperative Agreements (ESCAs), offer powerful alternatives to PBA when transferring surplus property and environmental cleanup to state or local governments, tribal governments, or nonprofit conservation organizations. Before evaluating the following contract types for use with PBA, the Component should work with the Acquisition Team to obtain input. Together, they may consider whether project conditions are stable enough for firm pricing and how much risk would be appropriate to transfer to the contractor given the condition of the site.

Acquisition Team—See Chapter 3, Stage 2

2.1 Firm Fixed Price

The basic framework of a FFP contract is that the contractor agrees to reach a certain end state in return for a fixed payment established by competitive price or negotiation. If the contractor achieves the end state for less cost than the award, the contractor realizes a profit. If the contractor achieves the end state for costs exceeding the award, the contractor must absorb those extra costs. An incentive for the contractor to manage costs throughout the process is inherent in the FFP contract, and the contractor assumes the financial risk of failure.

Incentives are inherent in FFP contracts

Historically, FFP contracts have been most commonly used for environmental restoration projects with well-defined work and quantifiable uncertainties. This approach, however, tends to limit FFP contracts to specific sites where investigations are well underway or complete, such that the type and extent of contamination is known. Traditionally, FFP contracts include clauses making the government financially responsible for unforeseen or changed conditions from those stipulated in the contract technical documents. Contractors may rely on details and assumptions in the Request For Proposal (RFP), award documents, supporting documents, proposals and referenced documents for the equitable adjustments to cover unforeseen expenses. Nevertheless, at least one Component has had success in using performance-based FFPs for activities under investigation and completion of a ROD.

The FAR allows for the use of fixed-price contract types other than FFP, including fixed price with economic adjustment, fixed price with award fee, fixed price with incentive, fixed price with firm incentive (firm targets), and fixed price with incentive (successive targets).

Appendix C provides a summary table of the FAR's description of each fixed price contract type, as well as potential advantages and disadvantages of each.

Recent Component experience with fixed-price contracting for large-scale or fence-to-fence, whole-base cleanups, proves that performance-based FFPs offer advantages even in the presence of significant unknowns about the extent or nature of the cleanup. As a result, the contractor spreads its risk over more environmental sites and across a larger financial undertaking.

2.1.1 Fixed Price Contract with Insurance

The fixed price contract with cost-cap insurance—also known as the guaranteed fixed price remediation (GFPR) contract—addresses the risk of cost overruns (i.e., those situations where the nature and extent of the cleanup is different or greater, and more costly than anticipated). GFPRs may also include pollution legal liability insurance.

The cost-cap insurance component of GFPRs protects the contractor from cost overruns and provides the Government and regulators with assurance that the work will be completed for the fixed price. In simplest terms, cost-cap insurance addresses issues at known sites where the extent or nature of the cleanup is more extensive than initially projected. This type of insurance is also known as "stop-loss" insurance because it "stops" the contractor's "loss" for amounts incurred by the contractor to achieve the performance objectives.

The pollution legal liability insurance component of GFPRs protects the contractor from claims arising from contamination on or emanating from the covered site (i.e., property listed in the policy). Pre-existing conditions known to the insured when obtaining the policy are usually excluded from coverage.

Premiums for insurance used with GFPRs generally cost from 6 to 15 percent of the total cleanup cost and may cost up to 30 percent. Insurance also generally includes retentions, deductibles, and/or co-insurance.

Fixed price contracts with insurance are most appropriate in the same situations that firm fixed price contracts are appropriate, but the insurance provides the Component with assurance that the work will be performed without cost overruns for unforeseen or changed conditions. Chapter 5 contains a more detailed discussion of both cost-cap and pollution legal liability environmental insurance types.

See Chapter 5 for more on insurance

2.2 Cost-Reimbursement Contracts

PBA is not limited to FFP contracts

Cost-reimbursement contracts can incorporate performance-based qualities that make it a "performance-based contract." Cost-reimbursement contracts pay the contractor for costs expended in conducting the work defined in the contract and a contractor fee that contributes to contractor profits. As shown in the summary table in Appendix C, the FAR allows the use of cost-plus-award fee, cost-plus-incentive fee, and cost-plus with fixed fee. The following discussion addresses two common performance-based, cost-reimbursement contracts: cost-plus-award fee and cost-plus-incentive fee.

2.2.1 Cost-Plus-Award Fee

A cost-plus-award fee contract is used when it is neither feasible nor effective to devise a pre-determined objective performance target. The cost-plus-award fee contract is a cost-reimbursement contract that provides for a fee consisting of:

(a) A base amount (which may be zero) fixed at inception of the contract; and

(b) An award amount, based upon a judgment evaluation by the Government, sufficient to provide motivation for excellence in contract performance.

The award fee should be tied to identifiable interim outcomes, discrete events or milestones, in such areas as quality, timeliness, technical ingenuity, and cost-effective management. The Component determines the amount of the award fee based on criteria included in the contract. The contract may establish intervals at which the Component will evaluate performance and evaluate whether to provide partial payment of the fee. This provides an incentive to improve poor performance or continue good performance.

The Acquisition Team should refer to DoD Acquisition, Technology and Logistics (ATL) policy on the role award fees should play in acquisition strategies. The Acquisition Team should also refer to any Component-specific guidance on award fees. For example, the Air Force has released guidance on award fee contracts.

Incorporating Performance-based Features into Existing Contracts

The Navy is incorporating performance-based features into its existing contracts, including cost-plus-award fee remedial action contracts. The Navy is structuring delivery order awards to include performance-based objectives, standards, and quality assurance, thereby increasing contractor flexibility and innovation. At the same time, the cost of transferring risk can be minimized in situations where there is greater uncertainty.

2.2.2 Cost-Plus-Incentive Fee

A cost-plus-incentive fee contract is a cost-reimbursement contract that provides for an initially negotiated fee to be adjusted later by a formula based on the relationship of total allowable costs to total target costs.

An incentive fee is a supplemental award amount (in addition to the base amount fixed at the inception of the contract) provided to the contractor in return for some measurable level of technical performance. Examples of measurable levels of performance include actual costs, timing, and performance benchmarks. The award amount is determined by a formula based on total target costs and total allowable costs. The contract specifies a target cost, a target fee, a fee adjustment formula, and minimum and maximum fees within which the adjustment formula operates.

Cost-plus-incentive fee contracts are most appropriate where the technical solutions (i.e., type of remedy selected) potentially have long-term consequences for the Component. Incentive fees tied to long-term results provide financial motivation for contractors to deliver solutions with more favorable long-term characteristics.

2.3 ESCAs

For sites being closed and transferred outside of DoD, either under BRAC or as other excess property, the Component may enter into an ESCA. An ESCA is an "assistance" agreement, whereby the local government agrees to perform all cleanup necessary to meet regulatory standards in exchange for grant funds provided by the Component. Components are authorized to enter into ESCAs under 10 U.S.C. § 2701(d)(1). These agreements, often used in conjunction with the early transfer authority under CERCLA, allow the local redevelopment authority (LRA) to obtain title to the property before cleanup is complete and to assume cleanup responsibility for the property. ESCAs allow the Component to remain substantially involved in the cleanup process, whereas the Component's involvement would be significantly less if a financial grant were provided for the cleanup.

PBA Use with ESCAs and Insurance

The Navy used performance-based work statements at the Mare Island Shipyard BRAC installation located in the San Francisco Bay area of California. The $130 million cleanup included UXO removals and is being accomplished under an ESCA with performance work statements and insurance protections that give the contractor wide latitude in choosing cleanup methods for achieving regulatory closure. The Navy negotiated from what it determined to be the most likely cleanup solution cost, based on available data. The ESCA is being considered a success because it has allowed the contractor to meet its goal of site closure at reasonable cost, despite scheduling and land transfer hurdles. ESCA payments and insurance coverage provide the Navy some protection against rising costs from remedy failure.

Performance-based ESCAs are useful for BRAC sites

Performance-based features can be incorporated into ESCAs to provide for more efficient, results-driven cleanups. For example, an ESCA may include a performance work statement that provides for progress payments to be made upon reaching certain cleanup milestones, such as RIP or RC. Another option is to allow the LRA to submit periodic vouchers for reimbursement of actual expenses up to a certain percentage of a total amount (e.g., up to 90 percent of $5M), then provide the LRA with the remaining percentage upon reaching a final milestone, such as regulatory closure.

Chapter 2 Review

In examining which contract type is most appropriate, the Component should review the intricacies of each contract type, with the participation of Acquisition Team members (see the next chapter for a list of Acquisition Team members). The Acquisition Team will help determine what degree of responsibility it wants to provide to the contractor—FFP contracts provide the contractor with full responsibility for performance costs by directly tying profit to costs, while cost-plus-fixed fee contracts reimburse the contractor for allowable and allocable costs and fix the negotiated fee. While performance-based characteristics can be incorporated into any contract type, the above contract types are used most often. If the Acquisition Team determines that a project is best suited for a traditional time and materials contract or another contract type not mentioned, the opportunity still exists to include performance-based features to encourage an accelerated schedule or cleanup.

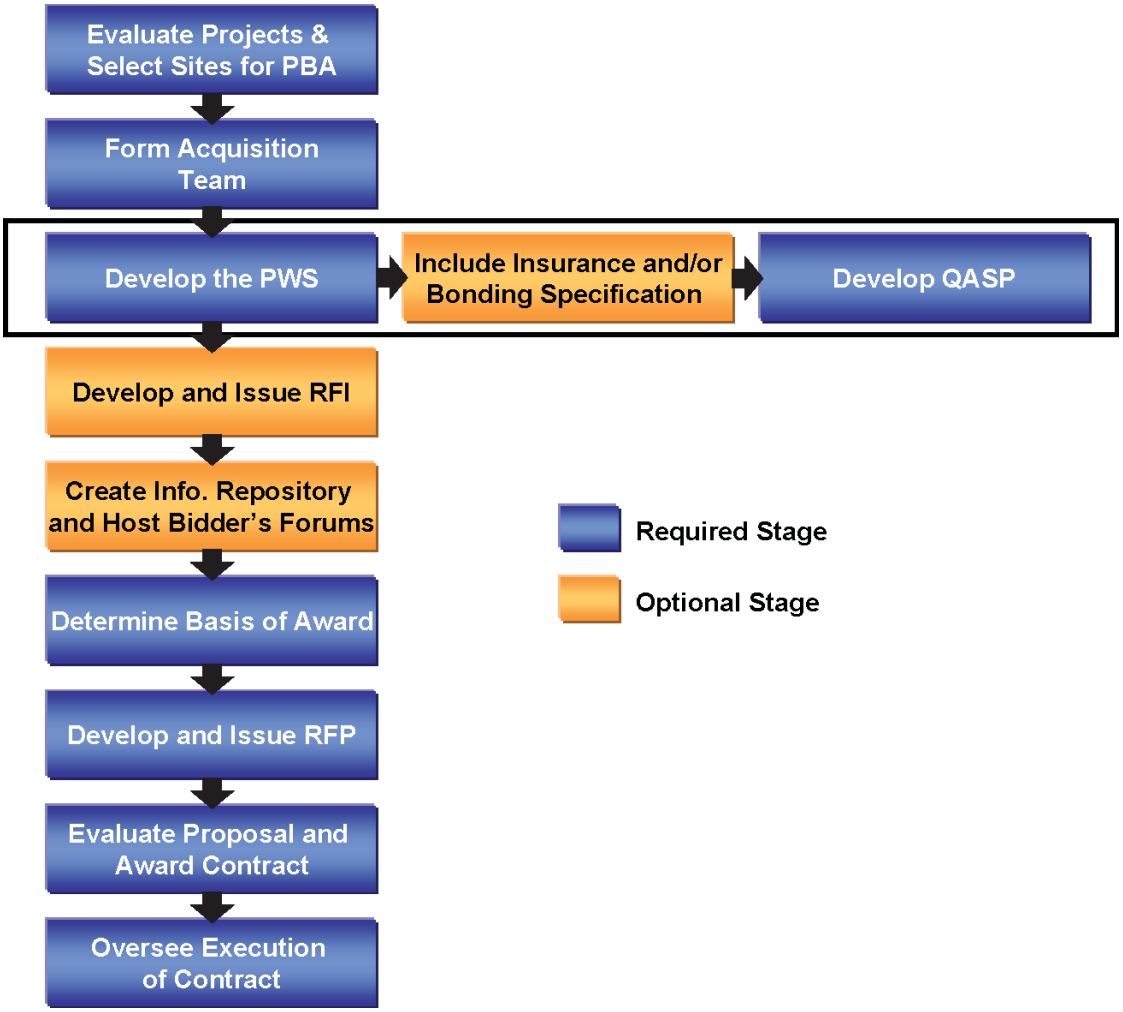
Chapter 3: Implementation Guide

Chapter 3 provides a high-level overview of the process for implementing PBA, beginning with evaluating projects and sites for PBA, through solicitation and overseeing execution of the contract. This chapter is broken into stages to highlight each significant consideration in PBA; it does not mandate strict compliance with the order or content of the stages as they are presented.

A successful PBA requires significant up-front preparation. By carefully developing the solicitation package and PWS up-front, the Component minimizes the potential for difficulties in contractor execution of the contract. The first few stages in the PBA process require considerable time and effort to minimize complications in executing the contract. By choosing the appropriate projects and sites for PBA, and issuing a well drafted, thorough PWSs, the Component can later focus on ensuring that the contractor meets performance objectives.

The key stages of PBA are outlined in Figure 3-1. These stages include the concepts outlined in the Seven Steps to Performance-Based Services Acquisition issued by the Office of Federal Procurement Policy available at www.acquisition.gov, as well as additional concepts useful to preparing for and executing PBA. The dark blue boxes indicate stages that are essential to any RFP solicitation, while the other boxes indicate additional, optional stages the Component may undertake in preparing for a PBA RFP. Following Figure 3-1 are descriptions identifying the considerations in each stage of a successful PBA.

Figure 3-1. PBA Stages



Stage 1: Evaluate Project and Select Sites

Determining whether an environmental project may benefit from the use of a contract that incorporates one or more performance-based characteristics is first necessary for a successful PBA. As mentioned earlier, environmental uncertainties do not preclude the use of performance-based provisions; however, the Component can control the amount of uncertainty through the site selection strategies discussed below.

Typically, not all members of the Acquisition Team (discussed further in Stage 2) will participate in evaluating a project and sites for PBA; instead, only the Component's base environmental program manager, base program manager, Command project manager, and Command program manager will participate. The contracting expert member of the Acquisition Team may also participate at this stage to estimate an anticipated contract price.

Evaluating Projects for PBA

Deciding whether to use a PBA for any given project requires a cost-benefit analysis. PBA allows the Component to share risk with the contractor, while providing the contractor with greater flexibility and schedule predictability. However, the Components must be aware that the more risk they transfer to the contractor, the higher the contract price the Component will have to pay.

In deciding whether to use PBA for investigation and/or cleanup of a site, the Component should first collect all information known on the type and extent of contamination and other relevant variables. This will allow the Component to identify uncertainties related to the condition of the site. The Component should then balance whether the benefits of using PBA outweigh the costs. In conducting this balancing exercise, the Component should keep in mind the following principles:

Army Site Selection Strategies: Reduce Uncertainty

The Army analyzes each site during the candidate evaluation process to determine whether sufficient data is available to warrant using PBA for the site. In some cases, the Army conducts additional sampling to reduce uncertainty in characterization before the procurement action. At Fort Jackson, South Carolina, the Army performed an expedited study to assess the thickness of existing soil covers on 165 acres of landfills; the results of the study were passed to the bidders resulting in a $5 million reduction in bid prices. At Iowa Army Ammunition Plant, Iowa, the Army conducted an expedited study of streams to identify potential hot spots contributing to the RDX concentration in the surface water. At Red River Army Depot, Texas, the installation conducted a stream sampling event to delineate the outer extent of the sediment contamination to help bidders bound the uncertainty of getting to remedy in place for the off-site sediment contamination.

- The greater the site uncertainty, the greater the risk that will be transferred to the contractor, and the greater the contract price;
- The greater the site uncertainty, the greater the flexibility of the contractor, and potential for innovative solutions.

Another important factor to consider in evaluating a project for PBA is whether metrics can be identified for the project that will allow for measurement of contractor performance.

Selecting Sites

Choosing what sites are appropriate for PBA is of paramount importance. The sites included in a contract affect the level of certainty and, consequently, the ability of contractors to price proposals and the cost of insurance premiums. If an evaluation has identified several sites that are appropriate for PBA, the Component should then select one or more sites based on available funding, competing projects, and applicable Defense Program Goals (DPGs). The Component may also consider at this stage whether to issue one contract for all sites or issue separate contracts for each site. Identifying whether to issue one contract for several sites (i.e., "group" sites) can directly affect the marketability and ultimate success of the contract.

Components have a lot to gain by issuing one contract for several sites. Components may take the approach of issuing one contract for an entire installation, including all previously identified sites on an installation, including all land on an installation, or "grouping" sites. When Components decide to group sites, it is important for the Component to include contract objectives that certain sites must meet DPGs. Appendix F describes the benefits of using one contract for multiple sites and contains guidance for each of these options, including a list of "do's" and "don'ts" for grouping sites.

Developing the PWS requires a team approach

Stage 2: Form an Acquisition Team

Wherever possible, the Component should assemble an Acquisition Team—a team of personnel, each possessing at least one of the following areas of expertise:

- Technical knowledge to determine the desired end state;
- Program knowledge to determine availability, time restrictions, and external timing goals of funding;
- Budgeting knowledge to advise on contracting issues;
- Legal knowledge to review the contract documents and advise on legal issues such as FAR compliance; and
- Contracting knowledge to assist in preparation of the contract documents and advise on procurement issues.

The perspective, skills, and areas of knowledge brought by each Team member assists in translating cleanup requirements to contract objectives and ensures that all of the necessary elements are considered for developing a thorough PWS. Environmental personnel and program managers can contribute to the technical and program knowledge, respectively, to the Team.

Typical Acquisition Team Members

- Base environmental program manager
- Base program manager
- Base comptroller
- Command project manager
- Command program manager
- Contracting officer
- Counsel

While each member of the Team should have fulfilled PBA training requirements, at least one member of the Team should specialize in drafting PBA documents, if possible. This person should be skilled in drafting task statements, without prescribing details, and drafting objectives and corresponding performance standards. It is recommended that each Component train a "PBA Drafting Expert" to garner this skill. This skill is essential for writing clear, well-defined PWSs. The PBA Drafting Expert should become an in-house specialist for drafting PWSs for environmental restoration activities.

The Team and contracting staff should engage in dialogue throughout the solicitation, award, and implementation of the contract, to help resolve any issues that arise.

Stage 3: Develop the PWS

The PWS defines the results desired, whereas a conventional SOW provides a prescriptive description of the manner in which the results are to be achieved. The PWS is a legal document that is part of a contract. In the event of a conflict between the Component and the contractor, a court would look to the language of the PWS. For this reason, it is imperative that the Component clearly describe the contractor's obligations in the PWS.

Each of the PWS elements must contain clear and specific language to allow for a mutual understanding of the end state objectives and milestones and how the Component will measure them. The PWS need not be lengthy or detailed, just very clear on the role and responsibilities of the contractor. The level of detail necessary for the PWS does not depend upon the contract price or length of time for performance. For example, the U.S. Pentagon is accomplishing its 12-year renovation (architectural and construction) of Wedges 2 through 5 with only a 16-page technical specification.

At a minimum, the PWS should contain background information on the site, a SOO, a list of performance objectives (i.e., tasks the contractor must perform), a list of performance standards corresponding to each of the objectives showing how the Component will measure whether the performance objectives were met, and a list of references to applicable documents. The PWS should also include a description of any data outputs in accordance with Section 3.7 of *Military Handbook (MIL-HDBK) 245D, Handbook for Preparation of Statement of Work*.

The SOO as an Alternative to PWS

Instead of developing a PWS, the Component may choose to develop only the SOO and require the competing contractors to develop the work statement, including performance objectives and standards and a quality assurance plan. The SOO is a more limited document than the PWS, providing high level descriptions of the solicitation goals, without a list of tasks to be performed or the performance standards. This approach provides the contractor with maximum flexibility to identify performance objectives and standards appropriate for the Component's stated objectives. While the Component spends less time preparing the SOO than it would a PWS, it will spend time reviewing the approaches suggested by contractor proposals.

Identifying Appropriate Performance Objectives

Some sites are identified as having too much uncertainty to require site closure as a performance objective (i.e., the contractor will have to assume the worst case scenario). In these cases, the Army has modified the performance objective from site closeout to a signed Decision Document to be more appropriate to a characterization effort. At Camp Roberts, California, the installation had not yet completed a Remedial Investigation, leaving significant uncertainty. For this reason, the Army crafted a performance objective for Camp Roberts' six sites to require an Army-approved Record of Decision, with Regulator approval or concurrence. The contractor is still operating under a FFP PBC; however, the PWS includes a performance objective appropriate for the circumstances.

Stage 3(a): Include Background Information on the Site and Project

The PWS should include a brief environmental history of the site, if appropriate. Relevant background documents may be referenced and provided separately (at a repository, on compact disc, or on a website). The PWS (or SOO) will clearly state that the contract is performance-based, and clarify that it is the contractor's responsibility to:

- Supply the labor, equipment, and materials necessary to fulfill contract requirements;
- Address any technical issues that arise;
- Coordinate with and obtain approval of the appropriate regulators (if applicable); and

- Work with any stakeholders regarding any innovative approaches used to meet contract requirements.

This section of PWS should also indicate the place of performance, the possibility of option years, Component points of contact (POC), and general requirements, including:

- Preparation of documents to keep the Component informed;
- Identification of any means of completing the work that would be unacceptable (e.g., identifying whether land use controls are acceptable or if the cleanup should allow for unrestricted future land use); and
- Directions for handling investigation- or remediation-derived wastes.

The period of performance (POP) and payment schedules are usually included in the RFP and contract award documents. Including them in either the PWS or SOO may lead to discrepancies where they are changed in one document, but not the other.

Stage 3(b): Draft the Statement of Objectives

The SOO should include statements describing the objectives of the contract in terms of the ultimate desired outcome. The statements should be kept simple, avoiding the use of adverbs and adjectives. Examples include:

- The objective of the contract is to acquire contractor services to attain the Federal and state cleanup standards necessary for RC.
- The objective of the contract is to acquire contractor services to obtain a "no further action" letter signed by the New York Department of Environmental Protection and U.S. Environmental Protection Agency (EPA) Region 2.
- The objective of the contract is to acquire contractor services to obtain a "no further action" letter signed by the New York Department of Environmental Protection and U.S. EPA Region 2 that supports unrestricted land use for the project site.

Note that the first example does not require the contractor to obtain regulator sign-off on site closeout, whereas the second example focuses on requiring the contractor to obtain regulator sign-off, assuming that the contractor will have to meet applicable cleanup standards to obtain the sign-off. The third example adds the limitation of intended land use as a requirement so the contractor will know that remedies not supporting an unrestricted land use will not be acceptable. If land use limitations such as "industrial use" are acceptable to the component for some areas of the installations, stipulating that in the SOO could significantly reduce costs.

Stage 3(c): Identify Performance Objectives

To clearly state contractor objectives, the Acquisition Team must conduct an analysis to identify the desired outcomes, and identify discreet objectives for achieving the desired contract outcomes. For example, if the purpose of the contract is to achieve RC at a site, the Team may identify "achieve RC" as an objective, but because this objective is broad, the Team should first conduct an analysis to ensure that any means of achieving RC that the Contractor may devise will be acceptable. If the Team determines that the purpose of the contract is more specific, such as reaching certain numerical remedial goals in groundwater, surface water, subsurface soil, and surface soil, the performance objective should state so. In such cases, the objective statement will identify the environmental media and the contaminant of concern; for example:

- Achieve the U.S. EPA Region 3 Risk-Based Concentration level of 400 parts per million for lead in the soil at Landfill A.

The level of specificity the Component is able to include in the objectives may depend upon whether investigation activities have been completed. If investigation has not yet occurred, the Component may not be able to specify contaminants, but knows that certain standards must be met. In this case, an appropriate objective statement may be:

- Achieve EPA Region 3 Risk-Based Concentration levels in the soil at Landfill A for each contaminant of concern present above EPA draft soil screening levels.

The performance objectives should explicitly state if regulator signoff is necessary, in addition to cleanup objectives. If the Component wants the contractor to achieve regulatory closure, in addition to reaching certain cleanup standards, it must include an objective statement:

- Obtain written approval of the soil cleanup at Landfill A from the Pennsylvania Department of the Environment.

Use of PBA for MEC and CWM

The Army has contracted for a variety of activities through FFP PBC mechanisms. In FY 2005 and FY 2006 the Army awarded performance-based contracts at Redstone Arsenal and Dugway Proving Ground respectively. The contracts required the contractor to identify and address known and suspected areas where Munitions and Explosives of Concern (MEC) and CWM exist as part of their remediation approach. In both cases, the contractors were unable to obtain insurance for the necessary activities, but agreed to self-insure the work to meet the guarantee required in the PWS.

Regardless of the level of specificity appropriate for the circumstances, the objectives should be simple statements that include a verb and an object. Carefully consider which verb best describes the task. For example, “remove lead from soil” may not be technologically feasible; however, stating “remove lead-contaminated soil” restricts the options available to the contractor. The Team should brainstorm on the verbiage that best conveys the desired result. Each task statement should include only one verb and one subject; if there are more, they should be separated into distinct objectives.

Stage 3(d): Draft Performance Standards

Performance standards are measurable criteria used by the Component to help determine whether the contractor has met performance objectives. For each performance objective, the Acquisition Team should draft a corresponding performance standard. Environmental remediation performance standards often correspond to numerical remedial standards; where such standards are known, the Team may include them. Figure 3-2 presents how performance objectives are translated into performance standards.

Figure 3-2: Sample Performance Objectives and Standards

Performance Objective	Performance Standard
Achieve the U.S. EPA Region 3 Risk-Based Concentration level of 400 parts per million for lead in the soil at Landfill A	Laboratory reports showing numerical results of verification sampling
Achieve U.S. EPA Region 3 Risk-Based Concentration levels in the soil at Landfill A for each contaminant of concern present above EPA draft soil screening levels	Laboratory reports showing numerical results of verification sampling
Obtain written approval of the soil cleanup at Landfill A from the Pennsylvania Department of the Environment	"No Further Action" letter for soil at Landfill A signed by the Pennsylvania Department of the Environment

For additional assistance in conducting the analysis necessary to draft performance objectives and standards, see *Guidebook for Performance-Based Service Acquisition in the Department of Defense* (December 2000).[1]

Stage 3(e): Draft Acceptable Quality Levels (AQLs), as Appropriate

AQLs are the allowed deviation from a stated performance standard. The Component may decide that the AQLs should state that no deviation is acceptable. Regardless, the AQLs should be in quantifiable terms to the extent possible. AQLs clearly convey what performance is expected.

Incentives help reach supplemental goals

Stage 3(f): Include Incentives, as Appropriate

The PWS should describe any incentives offered to encourage the contractor to exceed minimum objectives. Incentives can be written into performance-based contracts in order to accelerate schedules or to achieve supplemental goals above and beyond the minimum objectives. The strategy behind incentives is to entice the contractor to exceed the cleanup objectives in exchange for the incentive payment.

Under the DoD environmental restoration program, funds must be allocated and obligated for the entire amount of the base contract and the incentives. Incentives must be included in the initial funding request as planned expenditures for the cleanup. Unfortunately, this also means that if the contractor fails to meet the objectives to receive the incentives then the funds must be used on another part of the contract or given back to the source. If crafted well and financially attractive to the contractor, incentives will almost certainly help achieve supplemental goals beyond the stated minimum objectives.

Incentives should focus on the core of the contractor's execution of the contract. They can focus on time of execution, quality assurance measures, or other measures tied to successful outcome of the goals set in the PWS and milestones in the final contract. Ultimately, incentives should focus on moving the contractor toward the end goals as quickly and efficiently as possible.

[1]Note that the *Guidebook for PBSA in the Department of Defense* uses "acceptable quality levels" for what is referred to as "performance standard" in this Handbook and uses "performance standard" for what is referred to as "performance objective" in this Handbook.

The Component may also write the PWS to allow for withholding payment if the contractor fails to meet the performance objectives or fails to meet established deadlines. The PWS should clearly outline such consequences in advance, tying them to unsuccessful completion of the goals and milestones of the project and making them proportionate to the scale of the particular missed objective.

Stage 3(g): Add Requirements for Sharing or Retaining Risk

The Component should identify quantifiable risks and determine up front whether to address those risks by insurance, contracting for a warranty, performance bonding, or simply retaining some or all financial risk. Retaining liability for newly discovered contamination or new sites may be cost effective when compared to insurance premiums. If insurance is cost-effective, the Component typically stipulates the cost-cap, pollution legal liability, or a combination of both, in the solicitation. If the Component is planning to address a risk with insurance, it must require that bidders include insurance as part of their proposal package by including an insurance quote or by providing suitable evidence of financial capability and a legally binding commitment for "self-insurance".

See Chapter 5 for more on insurance

Acceptable Risks for Active versus BRAC

PWSs for properties that the Component is tranferring, such as BRAC properties, should attempt to minimize long-term Government liabilities by shifting as much risk as possible to the contractor with respect to conditions that have not yet been well characterized. At active bases, the Compponent may choose to retain more risk and liability, rather than pay a premium to transfer that responsibility to the contractor.

If Components do not require insurance, bidders generally will not include insurance as part of their proposal because including insurance would drive their bid price up, putting them at a disadvantage. (See Chapter 5 for more information on environmental insurance.) Performance bonds may be desirable as an extra precaution against contractor insolvency. Contract warranties ensure that if the remedy fails within a certain time period, the contractor will fix it. Warranties are most effective when the contractor is already conducting long-term monitoring or other additional work at the site, so that they are readily available to fulfill their warranty responsibilities. These concepts are described further in Chapter 5.

Stage 3(h): Develop a Preliminary Quality Assurance Surveillance Plan

The QASP is an internal document that provides an oversight plan for the Component. The FAR requires that agencies develop QASPs, and that the QASPs contain measurable inspection and acceptance criteria corresponding to the performance standards contained in the statement of work. See FAR 37.6 and 46.4. The Component should develop a preliminary QASP concurrent with the PWS to outline how it will measure compliance with the performance standards.

The QASP is a tool for the Component's benefit

The QASP should be finalized only after the Component has received the contractor's Quality Control Plan (QCP) (also known as a Quality Assurance Plan (QAP)). The QASP relies heavily on the contractor's QCP. The contractor develops the QCP for internal use, to ensure that it delivers high quality service. Often, the QCP is part of the proposal, and may be incorporated into the contract. In a true performance-based environment, the contractor is contractually responsible for quality control, leaving the Component to focus on the performance outcome. When the Component focuses on the results, the contractor has the flexibility to determine the best way to achieve those results, through the use of innovative technologies or other methods. This structure also shifts greater responsibility for

achieving contract objectives and financial risk of failure to the contractor. When successfully drafted and implemented, the QASP and QCP work together to provide seamless quality assurance/quality control.

The QASP differs from the QAP under prescriptive contracts in that:

(1) The QASP focuses on the level of performance required by the PWS, rather than the methodology used by the contractor to achieve that level of performance; and
(2) The QASP is used in conjunction with the contractor's QCP.

See Stage 9 for information on what QASPs should include.

Quality Assurance Surveillance Plans (QASPs)
The Component must follow its QASP to ensure that the contractor actually fulfills the terms of the contract. In examining whether performance standards have been met, the Component should consider what services or outcomes they bought, whether they received those services or outcomes, and whether they received the services and outcomes in a timely manner. In measuring performance, the Component should ask:

- What did we buy?
- Are we getting what we asked for?
- Are we measuring the right thing to determine whether we're getting what we asked for?
- Is what we bought being delivered in a timely manner?

Stage 4: Develop and Issue an RFI as Appropriate

PBA solicitation and procurement must follow the basic Federal procurement process but may include additional stages to increase communication with potential bidders. The basic Federal procurement process is: (1) develop and solicit a RFP; (2) award the contract; and (3) execute the contract. The Component may consider conducting market research by issuing a Request for Information (RFI) prior to issuing the RFP.

An RFI allows the Component to initiate a two-way dialogue with potential bidders to obtain input on pricing and allocation of unquantifiable risk or liability, and identify "showstoppers" in a fixed-price competition. RFIs are especially useful for cleanups that are complex or large in scope. An RFI describes, in detail, the Component's objectives for the contract, the salient elements of the acquisition plan, and potential evaluation criteria. The Component may ask specific questions of prospective contractors in the RFI, and consider meeting with the potential bidders to discuss their concerns or recommendations.

Stage 5: Create an Information Repository and Host Bidders' Forums

The Component should ensure that potential bidders have sufficient information to make an informed bid by making technical data and site information available. The Component should establish data repositories, either in paper, on compact disc, or via a website, and ensure access for all potential bidders.

Full information will increase the accuracy of proposals and facilitate the efficiency of the bidding process. In certain instances, failure to disclose all known information can even lead to contractor claims for additional reimbursement.

Though potential bidders often request additional information, the Component should assess whether the amount of information available is sufficient for the industry to submit a price proposal. The marginal reduction in pricing risk resulting from the additional technical data collection may not outweigh the costs of the new research or the delay in starting the cleanup; however, the converse can also be true. Pre-qualifying a short-list of contractors may be appropriate under certain circumstances; the team should consult their contracting officer regarding this option if making a lot of technical information available to all prospective contractors is overly burdensome.

Weigh benefits of providing additional information

Stage 6: Determine Basis of Award

The Component, in conjunction with the Acquisition Team, should decide before issuing the RFP whether it will base the award on lowest price or "best value" and state the basis in the RFP. Best value is generally preferable for complex environmental work because the Component may want to consider the bidder's past performance, reliability, and qualifications. The Component retains ultimate liability for the cleanup under CERCLA, so it benefits from selecting a contractor best suited to follow through on its obligations under the contract. Also, the best value approach allows the Component to consider tradeoffs between proposals with remedies with low first cost and those proposals offering better total life-cycle solutions.

"Best Value" is the preferred award basis

The goal of PBA is to spur innovation and increase efficiency in the cleanup process. Lowest bid selection encourages all contractors to offer the lowest cost bid, which generally results in all contractors employing the similar, lowest cost, technique. This focuses contractor innovation on first cost solutions for the PBA project and limits the benefits of the PBA. The lowest bid criteria should only be used for simple cleanup projects that would otherwise not benefit from cost and technical tradeoffs in the selection of remedies, such as removing an underground storage tank or similar basic cleanup projects.

In determining which bid is the best value, the Component should examine the technical approach for feasibility, including the time schedule and financial resources proposed. The long-term viability of the proposed action should also be considered in the best value determination.

Stage 7: Develop and Issue the RFP

The Component will develop the RFP in close coordination with all Acquisition Team members. The RFP should state the basis for bid evaluation and the dates of any site visits or forums for potential contractors to obtain more information regarding the RFP.

The Component should request in the RFP that the contractor proposals spell out technical solutions or anticipated approaches. This allows the Component the information needed to ensure that the prospective contractors understand the scope of the project and have the sophistication to anticipate potentially workable solutions. Even when the Component does not specifically request such information, prospective contractors may choose to

Specify contractor duties

include it. Regardless, the Component should not incorporate any technical proposals into the contract because doing so may be interpreted as acceptance of a particular technical approach that might later be used by the contractor as the basis for claims for additional compensation. A claim for additional compensation is particularly possible where the contractor encounters difficulties reaching regulatory approvals or in field application of the stated technology for the particular technical approach that was incorporated into the contract. PBA is intended to give contractors maximum flexibility to reach the stated objectives, not a particular solution. Therefore, the Component should not commit to a particular solution as part of the initial contract award.

Stage 8: Evaluate Proposals and Award Performance-based Contract

Calculate an IGE

The Component, with the help of the Acquisition Team members, will evaluate the proposals and award the performance-based contract. In evaluating the proposal's prices, the Component should have its own Independent Government Estimate (IGE) to compare the proposals. Developing a cost estimate as a baseline comparison for the work the contractor will actually do may be difficult because such work has most likely not yet been identified. Nonetheless, using a benchmark and examining other factors not explicitly quantified in that estimate, the Component can identify which proposal will most likely result in a high-quality, cost-effective, and timely completion. This is especially important at BRAC and surplus property cleanups.

Adjusting PWS Scope

Even though a procurement has been released for bid, the Army will continue to review the PWS and, if found necessary, adjust the scope to address concerns from the bidders. For example, during the bid process for Fort Meade, Maryland, bidding contractors expressed concern over their ability to achieve RIP for a particular groundwater site. Although the Army believed there was sufficient characterization, the bidders did not agree. As such, to avoid bids being overly conservative, the Army changed the performance objective for that site to achieve a signed Decision Document. The following remedial action will be addressed on a subsequent performance-based contract.

In developing the IGE for use in evaluating performance-based cleanup proposals, DoD adds the cost of insurance only if it is requiring the contractor to obtain insurance. The technology and management advantages available to the contractors should more than offset the cost of any insurance they may buy.

Reconsider the PBA if necessary

If the Component does not believe the "best value" proposal is in its best interest, even after considering these additional factors, it should then either terminate the performance-based cleanup solicitation or return to one or more of the prospective contractors to determine the cause of any inflated pricing. Likewise, if prices greatly exceed the Component's expectations (or if only one or no proposals are received), the Component would have a legitimate reason to reassess the amount of data available or the extent to which it is shifting open-ended risk and liability to the contractors. In such cases, DoD should engage in additional industry dialog and the rebalancing of risk and liability.

Stage 9: Oversee Execution of the Contract

As soon as possible after awarding the contract, the Component should finalize the QASP, incorporated with the QCP, to ensure a complete quality assurance/quality control system

is in place. The finalized QASP directs the Component's oversight of contract execution. As discussed in Stage 4, the QASP sets out how the Component will verify the contractor's compliance with the performance standards, through one or more systematic surveillance methods.

The final QASP should include:

- A restatement of performance objectives and standards;
- The roles and responsibilities of Acquisition Team members in implementing the QASP;
- The surveillance methods and tools Acquisition Team members will use to verify the contractor's compliance with the performance standards, including quantity, quality, and timeliness requirements; and
- A schedule for surveillance and a description of how the Acquisition Team will document compliance.

Surveillance Methods & Frequency

For each performance objective and associated performance standard, the QASP should answer who, what/how (i.e., what method), when, and where surveillance will occur. Three examples of commonly used surveillance methods include periodic inspection through visual inspection, random sampling, and reporting by the contractor. The QASP should include a surveillance schedule that is sufficient to fairly evaluate performance throughout the contract period, and that allows adjustment to a less rigorous surveillance schedule when surveillance results are showing consistently good performance.

Both the methods and frequency must leave the contractor with the flexibility necessary to employ their own means of meeting and exceeding the requirements of the contract. Overzealous oversight in the QASP adversely impacts the results of a PBA competition by not giving contractors enough flexibility to employ innovative techniques. For this reason, the Component should include only that monitoring necessary to ensure that performance measures are achieved.

Documenting Compliance

The QASP describes how the Component will document compliance with performance objectives and standards. Documentation may include:

- A chronological log of the Component's oversight actions, including brief summaries of inspections or discussions with the contractor regarding performance; and
- Records such as correspondence with the contractor, deficiencies (i.e., notifications of unacceptable contractor performance, which are identified either by the contractor or by the Component), and corrective action reports.

Adjustment of Metrics

The contract should include provisions allowing the Acquisition Team and contractor to adjust the metrics by which they measure fulfillment of performance standards. Including such flexibility in the contract allows the Acquisition Team and contractor to adjust the metric if they agree that another metric is more appropriate after some of the contract is executed.

Measuring Long-term Contracting Responsibilities

The Acquisition Team can measure whether past actions have been fulfilled, but must find other ways to satisfy itself that the contract has been fulfilled with respect to future responsibilities of the contractor—e.g., where the contract requires the contractor to be responsible for long-term integrity of the remedies, long-term operation and maintenance of a treatment facility, or long-term monitoring and reporting. The Acquisition Team can address more active long-term responsibilities, such as operation and maintenance or monitoring, in one of several ways:

- The contractor agrees to perform long-term responsibilities for a certain time frame and DoD makes payment(s) accordingly (this is the most common approach);
- The contractor hires another firm to perform the long-term responsibilities and warrants, with a bond or otherwise, that the work will be done in accordance with the contract requirements; or
- The contractor puts funding into an escrow account that will deliver a funding stream sufficient to support the ongoing work for the stipulated time frame.

These approaches ensure that the contractor/developer leaves behind some viable mechanism to assure the work will be performed as required. This is especially important for projects on BRAC or surplus property because such property will be transferred out of the Component's control to a new owner for reuse. CERCLA requires that the Component have mechanisms in place to ensure cleanup is maintained and obligations are fulfilled for the future user.

Post-Performance Evaluations

At the completion of the contract, the Acquisition Team must prepare a past-performance evaluation of the contractor for any contract in excess of $100,000, in accordance with Section 42.15 of the FAR.

Chapter 3 Review

While the specifics of each contract will vary, the above stages provide a roadmap for navigating through the selection of sites for PBA to solicitation and implementation of PBA. The Component will increase its likelihood of successfully completing these stages by carefully choosing sites and projects, issuing a well thought out solicitation package, and providing thorough data to potential bidders. Clearly communicating contract objectives and expectations early in the process significantly reduces the occurrence of difficulties in the future.

Chapter 4: Environmental Regulator Involvement

Environmental regulators play a significant role overseeing environmental restoration, regardless of whether the Component contracts with a third party to conduct restoration activities. However, because PBA provides contractors with more latitude in choosing the means of carrying out restoration activities, the roles of regulators, contractors, and Components must be explicitly defined. By fostering a mutual understanding of roles and responsibilities, better coordination can streamline the PBA process for all stakeholders. Additionally, to ensure that regulators maintain an active and influential role in the PBA process, DoD uses a collaborative decision-making process, seeking mutual agreement with regulators at critical decision points in the PBA process.

This chapter provides background on the respective roles of state and Federal regulators for environmental restoration in general, and then discusses the roles of regulators, Components, and contractors in light of the *Performance-Based Contracting for Environmental Cleanup Programs—Department of Defense Statement of Principles* jointly developed by DoD and regulators in 2004. This chapter then discusses the Defense & State Memorandum of Agreement/Cooperative Agreement (DSMOA/CA) funding framework for regulator oversight. Finally, some regulator concerns and potential strategies for addressing those concerns are discussed.

The roles and responsibilities of the regulator, Component, and contractor will vary according to existing relationships among the parties, project uncertainty, risk, and other considerations. The roles and responsibilities described in this chapter are based on those outlined by the Statement of Principles and DSMOA/CA. Project-specific circumstances may alter these roles somewhat. These are intended as a starting point for Component discussion with regulators and contractors as to their appropriate roles and responsibilities for a given project. Explicitly establishing a mutual understanding of the roles and responsibilities will facilitate the PBA process.

4.1 Regulator Role in Environmental Restoration

DoD is the lead agency for addressing contamination at sites under its jurisdiction, custody, or control when cleanup is conducted under the CERCLA, pursuant to Executive Order 12580. When cleanup is conducted under RCRA, either the U.S. EPA or the authorized state environmental regulator serves as the lead agency. In either case, DoD has responsibility and authority for investigating releases, selecting a remedial action, planning and implementing response actions, and conducting public participation. The regulator retains an oversight and enforcement role. Whether the EPA or the state environmental regulator is the primary regulator will depend upon whether the site is listed on the National Priorities List (NPL) for CERCLA cleanups and will depend upon whether the state has an authorized RCRA program for RCRA cleanups.

EPA will be the regulator at NPL sites

4.1.1 NPL Sites

EPA is the lead regulator for sites listed on the NPL. While EPA and the state may enter into an agreement for the state to act as the lead regulator at NPL sites, such agreements are not common. For all sites listed on the NPL, CERCLA requires the Component to enter into an interagency agreement with EPA, commonly known as "Federal Facility Agreement," within 180 days after completion of the RI/FS.

Federal Facility Agreements are site-specific agreements between the EPA and the Component to establish a schedule for developing, implementing, and monitoring response actions at the site. DoD and EPA released model provisions for Federal Facility Agreements in 1988. The model provisions provide for EPA review and comment on draft and final documents. The Component must address EPA comments on primary documents, designated by the Agreement, or submit the issue to dispute resolution. Disputes over comments on secondary documents are not subject to dispute resolution. While the concurrence of the state regulator is not required for Decision Documents for NPL sites, the Component will actively seek to resolve any outstanding issues with the state regulator.

In 2000, EPA and DoD revised the model language to incorporate the principles from the 1996 Report of the Federal Facilities Environmental Restoration Dialogue Committee, an advisory committee Federally charted by EPA that included representatives of the U.S. Departments of Agriculture, Defense, Energy, and the Interior; state, tribal, and local governments; and numerous other nationally, regionally, and locally based environmental, community, environmental justice, and labor organizations. The revised model language provides a process to address prioritization, set schedules, and develop budgets to achieve schedules. The provisions allow the DoD Component to seek the regulators' approval for a change in the agreed-upon milestones and allow the regulators to consider fiscal constraints. See *Final Report of the Federal Facilities Environmental Restoration Dialogue Committee: Consensus Principles and Recommendations for Improving Federal Facilities Cleanup* (April 1996).

The State will be the regulator at non-NPL sites

4.1.2 Non-NPL Sites

For sites not listed on the NPL, the DoD is the lead agency, while the state environmental regulator is the lead regulator. The exception is if the non-NPL site is located on or affects tribal land, in which case the affected Tribe may take the lead regulator role. EPA may be the lead regulator at non-NPL sites where the state or Tribe request that EPA take this role or EPA exerts its authority to take this role. The concurrence of the state, Tribe, or EPA is not required on Decision Documents for non-NPL sites. However, the Component will actively seek to resolve any outstanding issues with the regulator on non-NPL documents, especially where the property has been or will be transferred outside DoD.

4.2 Roles in the PBA Process

A mutual understanding of the respective roles of the regulator, contractor, and Component in the PBA process is necessary for clear communication and reasonable expectations. The following sections describe the role of each major player in the PBA process. The Component should discuss these respective roles with the regulator and contractor to ensure that all parties agree. If the parties do not agree, the Component should work with the regulator and contractor to identify ways to work around any mismatch in the parties' understandings of their roles.

4.2.1 Regulator's Role

DoD joined with state regulators in June 2004 to discuss their respective roles in the PBA process. The resulting *Statement of Principles* establishes that regulators have a vested interest in the quality of cleanup and that DoD collaboration with regulators is essential to successful cleanup.

The *Statement of Principles* affirms that DoD will continue to coordinate with regulators and communities when "considering options for performance-based contracting." In accordance with this policy, DoD has coordinated with, and sought the input of, regulators (as well as other stakeholders) in developing this Handbook.

The *Statement of Principles* provides that DoD will provide the following opportunities for the regulator to participate in the evaluation of the site, contract acquisition, and contract execution:

- Attend the installation and contract team meetings;
- Participate in the development of performance measures and comment on the PWS;
- Participate in the Bidder's conference to present regulatory views to prospective contractors;
- Maintain an active role by reviewing remedial activities prior to implementation;
- Provide comments on site documents; and
- Concur with remedy completion.

To ensure that the regulator is afforded opportunities to participate early in the process, the Component should take the following steps:

(1) Request Regulator Input for Using PBA for Specific Site(s)

The Component should notify the regulator as soon as it considers using PBA for a specific site or sites. This notification need not be formal, but should request the input of the regulator on any issues the regulator foresees with respect to the selected site or sites. The Component may also choose to invite the regulator to the installation's contract team meetings where discussions about the suitability of the site(s) for PBA occur. Obtaining this input will pave the way for future communications with the regulator about cleanup of the site and allow the Component to spot potential issues with obtaining regulatory signoff of the cleanup using PBA.

(2) Consider Regulator's Views of Applicable or Relevant and Appropriate Requirements (ARARs)

To smooth the way for obtaining regulator approval and minimize potential disagreements between the regulator and contractor regarding identification of ARARs, the Component may consider the regulator's views with respect to ARARs and, if appropriate, incorporate them into the performance objectives and standards of the contract. This will align the regulators' interests with those of the contractor, so that they may cooperatively work toward the same goals.

(3) Allow Regulators to Present Their Views to Prospective Bidders

The quality of proposals that a Component receives will depend somewhat on the bidders' understanding of the ARARs. Allowing the regulator to present its views to prospective bidders at the site visit, or at another scheduled time, will provide potential contractors with the opportunity to resolve any technical and legal differences with the regulator prior to submitting proposals.

(4) Meet with the Regulator and Contractor to Discuss Schedule

The ability of the contractor to perform the cleanup according to a specific schedule may be affected by the regulator's ability to conduct oversight activities, including reviewing documents, within a certain time period. For this reason, it is important for the contractor and regulator to review the anticipated cleanup schedule once an award is made and before the contractor undertakes field work.

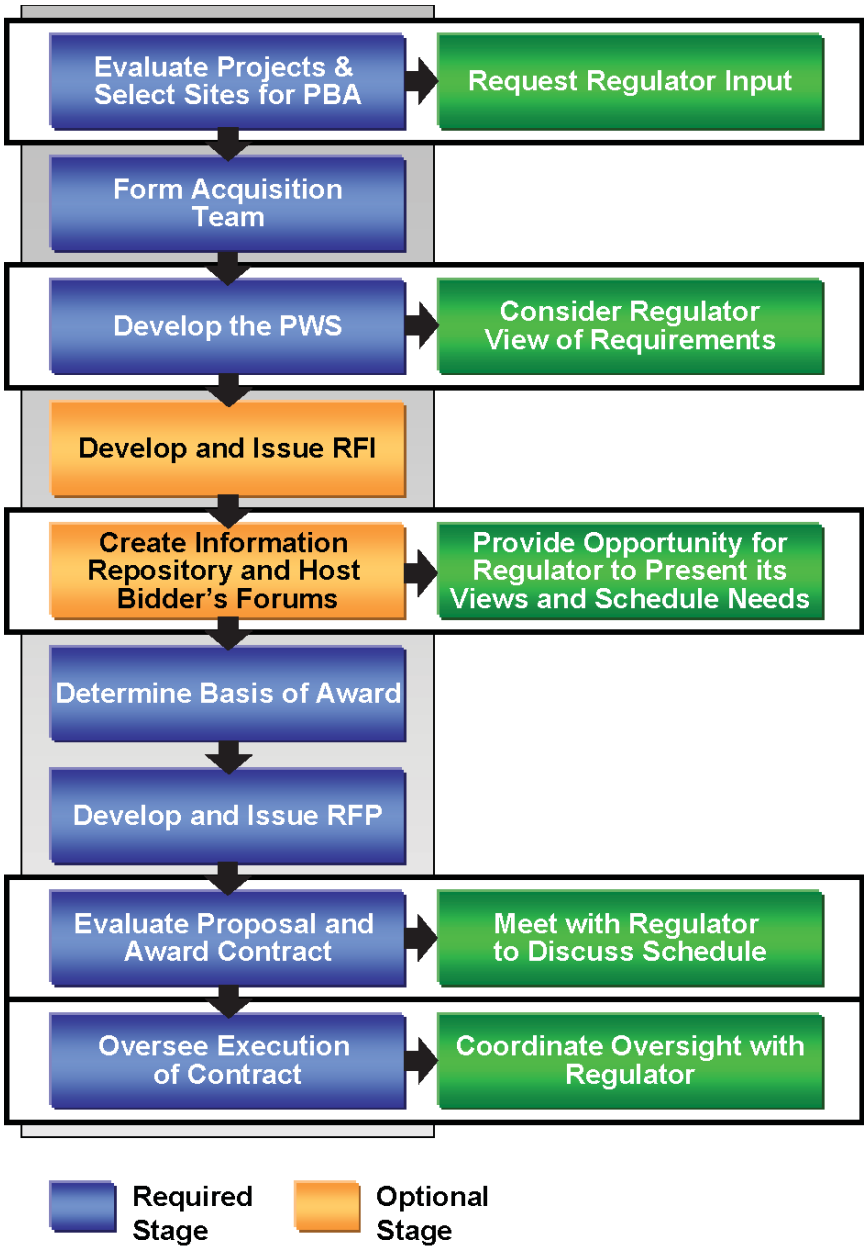
(5) Coordinate Oversight with Regulator

By coordinating oversight with the regulator, both the Component and regulator can target their resources and reduce duplication of effort. DoD and regulators, through the Association of State and Territorial Solid Waste Management Officials (ASTSWMO), are in the process of developing a model QASP with a focus on this cooperative approach.

While these points of regulator interaction are based on the *Statement of Principles* developed with state regulators, the process applies equally to EPA at NPL sites.

These stages are depicted in green in Figure 4-1 on the next page.

Figure 4-1. PBA Stages and Regulator Input



4.2.2 Component's Role

Under PBA, the contractor takes a greater role in the cleanup process, making decisions on how to meet the contract's objectives, while the Component takes more of an oversight role. The Component will continue to remain liable for the cleanup; however, PBA provides the contractor with the flexibility to achieve contract objectives using the means it determines to be the most efficient. The Component will continue to interface with the regulators throughout the PBA process, as the Component will take an active role both in acquisition and execution of the contract. The Components must continue to review and approve significant documents the contractor submits to the regulator to ensure the contractor meets contract objectives. However, the Component need not be involved in

The Component remains liable for the cleanup

every communication between the contractor and regulator regarding the manner in which performance objectives are met, because the contractor has the most control over the manner in which the cleanup is conducted at that point. At a minimum, the Component will interface with the regulators in the following ways:

- Attending important regulator meetings with the contractor;
- Reviewing any potentially precedent-setting decisions or actions by the contractor;
- Reviewing and signing agreements and Decision Documents;
- Helping conduct community involvement activities; and
- Managing and monitoring long-term operations.

4.2.3 Contractor's Role

The contractor may be the primary POC for the regulator

Once the performance-based contract is awarded, the Component and contractor may agree that the contractor will serve as the primary POC for the regulator. The Component should clearly communicate to the contractor that, even as the primary POC for the regulator, the contractor must provide the Component with the opportunity to participate in any conversation or negotiation with the regulators. While the Component will remain involved by engaging in the activities listed in Section 4.2.2 and overseeing the contractor's work, the contractor may be making day-to-day decisions regarding the cleanup work. If any disputes arise between the contractor and regulator, the contractor may refer the matter to the Component to determine whether there is a need for contract modification or other action.

While the Component or DoD signs all Decision Documents and retains ultimate responsibility and liability for cleanups, the regulator may still have concern with giving contractors the right to select a remedy or make other cleanup decisions. The Component/DoD can address these concerns by considering regulators' input when crafting the objectives and standards to describe what outcomes will be acceptable.

4.3 DSMOA Framework for Funding

Funding for state oversight of environmental restoration conducted under PBA may be necessary. DoD established the DSMOA/CA program as a framework for funding state regulator oversight. This program was established by Section 211(B) of the Superfund Amendments and Reauthorization Act (SARA) to expedite environmental restoration through partnerships with states and territories. See 10 U.S.C. §§ 2701 - 2710. Under this program, DoD enters into overarching agreements with states for oversight of military environmental restoration activities at specified DoD installations. After signing a DSMOA with DoD, the state or territory may enter into a cooperative agreement (CA) to obtain reimbursement from DoD, through the U.S. Army Corps of Engineers Headquarters, in support of environmental cleanup at NPL sites, non-NPL sites, and RCRA corrective action sites.

The funding provided through a CA may reimburse the state/territory costs (incurred after October 16, 1986) for any of the following activities conducted from the time the site is identified to long-term management:

- Technical review of documents and data that DoD is required to submit under agreement with the state/territory, documents and data that DoD requests review of, or documents and data that the state/territory requests under applicable state/territorial law;

- Identification and explanation of ARARs for the response action;
- Site visits to review DoD response actions for compliance with ARARs and other agreed-to requirements;
- Cooperation with DoD in conducting public education and participation activities;
- Services requested by DoD in connection with participation in technical review committees;
- Preparation and administration of CAs, including estimates of state/territorial costs; and
- Other services set out in the DSMOA or installation-specific cleanup agreements.

The DSMOA process requires the state and DoD to develop a joint execution plan for tasks, including milestones and state oversight activities, to be completed over the next two-year DSMOA/CA period, and a more general description of work to be completed in later years. DoD then obligates the money based on those estimates.

DSMOA operates on a two-year schedule

Likewise, DoD has entered into a Memorandum of Understanding with EPA to fund full-time equivalent (FTE) assistance to expedite environmental restoration at sites located on BRAC installations. This process requires EPA to provide DoD with estimates of FTEs for the two fiscal years following the current fiscal year, by February 15 of each year. DoD then evaluates those estimates and, by July 31 of each year, issues an FTE ceiling amount for the following two fiscal years. FTE assistance is available for sites located on BRAC installations closed as part of the first four BRAC rounds, but is not available for sites located on BRAC installations identified in the 2005 BRAC round.

These funding processes support collaborative decision-making and mutual agreement between DoD and the state regulator by ensuring that regulators are involved in the planning for future activities.

4.4 Common Regulator Concerns and Potential Solutions

Because PBA is not yet routinely used for cleanup of DoD sites, regulators and Components are still working through identifying their respective roles and funding issues. The following subsections describe some concerns expressed by regulators and some potential solutions for addressing those concerns.

Concern – Insufficient Component Oversight: State regulators have found that some PBA contractors complete tasks without sufficient oversight from the Component. This reduced oversight by the Component requires increased oversight from the regulator, increasing the regulator's workload and putting a strain on their resources.

Potential Solution: The Component should ensure that it develops the QASP in close coordination with the regulator to establish expectations with respect to how often and at what points the Component will conduct oversight.

Concern – Increased Resource Requirements: Regulators obtain DSMOA funding through a process in which the Component lists the tasks that must be accomplished to meet milestones, and the regulator determines what oversight activities it needs to perform for each of those tasks. The estimated costs of performing these oversight activities become the basis of the two-year DSMOA funding or one-year funding under FTE assistance. However, the timing and nature of the underlying tasks may change when a performance-

based contract is awarded, changing the timing and level of oversight. The regulator must adjust its resources to ensure that it has the staff and funding available to meet any accelerated schedules.

Potential Solution: Components can address this concern in four ways:

- Engage regulators as early in the PBA process as possible, preferably when considering various sites for PBA. Informing regulators of which sites are contemplated for PBA and the anticipated timing of solicitations will enable regulators to plan their funding requirements farther in advance.
- Encourage the contractor to coordinate its schedule with the regulator, by scheduling a meeting through the Component upon award of the contract.
- Modify approved funding levels, to the extent possible within existing resources, to accommodate any accelerated schedules where changes in funding are required. This will ensure that the regulator has the resources to provide timely reviews.
- Agree with the regulators on a standard template report format to allow them to know in advance what each report will contain and what sections to focus on, so they do not have to search within the report for information.

Concern – Public Suspicion: Without a strong understanding of what a PBA is and how it differs from traditional contracting vehicles, the public may harbor dissatisfaction with the cleanup process and may even believe that regulators are not fulfilling their duties.

Potential Solution: The Component seeks public input for all phases of the cleanup through participation on a Restoration Advisory Board (RAB) or through public notice and comment on major cleanup decisions. Nevertheless, additional opportunities for public education and participation may be appropriate when considering and using PBA. If the Component and regulators determine that the public, including members of the community in the vicinity of the site, are concerned about the use of PBA, it may consider scheduling a public meeting or making a presentation at a RAB meeting. At the meeting, the Component may discuss how PBA differs from traditional contract vehicles and, depending on the point at which the meeting occurs, discuss the specifics of the contract as applied to the particular site at issue. The opportunity for public input offered by participation in a RAB is still available under PBA. The Component may consider using RAB meetings as a forum for both an initial presentation and updates on progress. Additionally, the Component is still obligated to comply with public notice and comment provisions of the National Contingency Plan (NCP) and parallel state law requirements; this public notice is also an opportunity to describe the PBA approach.

Concern – Lack of Contractor Liability: The contractor's immediate goals are to maximize profit and meet the terms of the contract. Regulators are concerned that these goals do not align with CERCLA's nine criteria aimed at balancing implementability, effectiveness, and cost with making the site as protective of human health and the environment as possible. Unless the contractor is itself a potentially liable party or property owner, the regulator will not have direct recourse against it for failing to comply with its recommendations or submit acceptable documents. Regulators may suggest that the Component require the contractor to enter into a consent order or similar agreement with the regulator describing the property covered, known conditions, scope of work, enforceable schedules, and consequences for noncompliance.

Potential Solution: Requiring the contractor to enter into an enforceable agreement with the regulator would unnecessarily add a layer of bureaucracy and discourage contractors from bidding on the performance-based contract. The Component is the liable party for

the cleanup; therefore, the regulator retains recourse against the Component. To reduce the potential for conflicts between the contractor and regulator, the Component should ensure that the performance objectives reflect ARARs. Additionally, the Component should review significant documents submitted to the regulator, as appropriate, faithfully follow the surveillance methods established by the QASP, and use the tools outlined in the QASP to ensure contractor compliance.

Chapter 4 Review

Conducting cleanups under a performance-based contract requires the Component to be proactive in ensuring that all parties understand and agree to the roles of the regulator, contractor, and Component. Agreeing to these roles up front helps focus attention on the substantive cleanup issues, rather than procedural issues such as who has signatory authority on a particular document.

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Chapter 5: Environmental Insurance

Environmental insurance may be a useful tool for managing risks in certain PBA cleanups. At appropriate sites, environmental insurance may mitigate business risk from uncertainties and allow contractors to bid less conservatively. However, sites with nearly full characterization may not benefit from insurance because the insurance costs will outweigh its benefits. The Component should carefully examine whether insurance is beneficial for its specific projects. The Component's decision to require insurance is completely discretionary, but the Component should base the decision on an analysis balancing anticipated benefits against the cost of insurance premiums.

The Component may also consider how requiring environmental insurance will affect the ability of small business contactors to compete. Whether the effect is positive or negative is still unclear. In theory, environmental insurance may help level the playing field for small businesses by allowing them to compete with large businesses where they otherwise would not be able to because they could not absorb a cost overrun. Practically, this may not be the case, because obtaining environmental insurance may be cost-prohibitive for small business contractors. Insurers are generally more comfortable offering competitive prices to contractors with whom they have an existing relationship, whether they be small or large businesses.

Section 5.1 describes the main types of environmental insurance policies the industry currently offers to contractors conducting environmental cleanup; section 5.2 describes other types of insurance and risk mitigation tools; section 5.3 provides guidance on solicitations for environmental insurance; and section 5.4 briefly discusses oversight required for contractor execution of a performance-based contract with environmental insurance.

5.1 Major Environmental Insurance Policy Types

A limited number of insurers carry environmental insurance products, and those insurers are increasingly selective in the contractors and projects they will insure. Insurers will usually partner with contractors with whom they have an existing relationship. These insurers offer two main types of environmental insurance policies for PBA cleanups, though the names attributed to them may differ: cost-cap cleanup (CCC) and pollution legal liability (PLL). Some insurers also offer hybrid policies with complementing coverages. Because environmental risks associated with each property are unique, the underwriting of environmental policies must often be done on a case-by-case basis, meaning that there is no prescribed ratings structure to automatically determine the premium for each environmental policy. The following descriptions provide approximate premiums and policy limits merely as a rough guideline; actual premiums will depend upon the unique environmental risks and characteristics of the property being insured.

5.1.1 Cost-Cap Cleanup Policies

Cost-cap insurance addresses cost overruns

CCC policies cover unforeseen cost overruns the contractor incurs during cleanup (i.e., where the cost to perform the cleanup is greater than that estimated by the contractor). CCC policies are also known as stop loss policies because they "stop" the contractor's "loss," and cost containment policies. CCC policies will typically cover cost overruns only where one of the following events triggers the additional costs:

- Discovery of unidentified pollution during cleanup;
- Discovery of additional amounts of pollution; and
- Change in environmental regulatory requirements requiring additional cleanup.

Typically, contamination discovered after the completion of the insured cleanup is excluded from coverage. Pollution legal liability policies, described in the next subsection, are designed to cover contamination discovered after completion of the cleanup.

Insurers typically require all available site investigation documents, a cleanup plan approved by the regulator, and a cost estimate before providing a CCC policy. Additionally, insurers typically require a self-insured retention (SIR) in the amount of the cleanup estimate plus an additional 10 to 30 percent of the cleanup estimate in CCC policies. Some insurers also require co-payments once the SIR is exhausted.

Important Insurance Features

Insurers often include features in environmental insurance policies that must be exhausted before the insurer will pay, requiring the insured to bear some of the risk of loss:

Self-insured Retentions: Pre-defined percentage above the cleanup bid for which the contractor "retains" responsibility. For example, if the bid is $10 million, and the retention is 10 percent ($1 million), the contractor cannot draw on the insurance until its total costs exceed $11 million.

Deductibles: Pre-defined dollar amount which the contractor must pay to obtain the coverage payout from the insurance company. Deductibles currently range from $500,000 to $2 million.

Co-Insurance: Pre-defined percentage of the coverage payout which the contractor must pay. This is also known as "co-payment." Insurers will often require co-insurance where it classifies the project as a high risk and is uncomfortable with bearing 100 percent of the cost overruns (above the deductible).

CCC policies usually offer a 10-year maximum term, with coverage ending at completion of the project, following receipt of regulatory signoff of the cleanup. Premiums for such policies range from 6 to 15 percent of the total bid award, but vary depending on the extent of site investigation, documentation provided, and chance of discovering additional contaminants. Insurers generally are interested in providing CCC policies only for cleanups in excess of $1M. Policy limits range from $2M to $150M.

5.1.2 Pollution Legal Liability Policies

PLL policies provide coverage for claims

PLL policies provide coverage to owners and operators of sites, though some policies are specifically directed to contractors. PLL policies generally provide coverage for claims arising from contamination on or emanating from the covered site (i.e., property listed in the policy). Pre-existing conditions known to the insured when obtaining the policy are usually excluded from coverage.

PLL policies typically provide coverage for first-party claims for bodily injury and property damage. First-parties include the insured, in this case, the contractor. If the contractor's

employees incur bodily injury or the contractor's property is damaged, the contractor may file a claim against the insurer. PLL policies sometimes also provide coverage for third-party claims for bodily injury, property damage, and cleanup costs resulting from a pollution event on, at, or from the covered site. However, in many cases, third-party coverage is provided separately from PLL policies. Third parties include anyone other than the insured. Adjacent property owners are common third-party claimants because contamination may migrate onto their property, causing injury to their health, property damage (including diminution of property value), and the need for cleanup of their property.

PLL policies not only provide liability protection while the cleanup is being conducted, but may also provide protection when the cleanup is complete. For example, a PLL policy may protect the contractor in the following events:

- The remedy fails;
- Previously undiscovered contamination is discovered after the contract for cleanup has been completed;
- Environmental regulatory requirements change, requiring additional cleanup (i.e., a regulatory "reopener")—including revisions to regulatory action levels or cleanup goals due to updated risk assessment/toxicology findings for contaminants of concern or the addition of new contaminants to regulated substances lists; and
- Third parties file claims for bodily injury, property damage, or cleanup costs after the cleanup is complete.

PLL insurance may also be relevant if drilling monitoring wells for investigation inadvertently causes contamination of a previously unaffected groundwater aquifer or worsens contaminant levels in that aquifer.

PLL policies typically include a deductible of at least $5,000 per incident. Insurers will usually require Phase I site assessments and any other environmental studies conducted before providing a PLL policy. PLL policies usually offer a 10-year term. Premiums for these policies vary, but are generally at least $5,000. Policy limits range from $1M to $150M.

5.2 Other Policy Types

Additional insurance policies exist to protect contractors against other aspects of remediation activity risks, such as finite risk policies, errors and omissions (EO) policies, ICs or post-remediation care policies; and policies for utilities damages.

5.2.1 Finite Risk Policies

Finite risk insurance policies allow the insured to transfer responsibility for conducting the cleanup of BRAC sites to the insurer. Under these policies, the insured pays the insurer premiums equal to the present value of the projected cleanup cost. Under blended finite coverage, the coverage provided by CCC and PLL policies is included. In these cases, the insured pays a lump sum equal to the projected cleanup cost and premiums to cover any CCC or PLL coverage. The part of the money covering the cleanup cost is placed into a commutation account, used to pay cleanup costs. The insurer then retains a contractor to conduct the cleanup.

These policies are especially useful in transferring long-term responsibilities to a third-party entity when the Component is transferring BRAC property. One benefit of using a finite risk policy is that it may lower the risk of contractor default, because insurance companies generally have more assets to cover unexpected cost overruns than contractors. Another benefit is that, because the insured pays up front, the insurer, rather than the contractor, assumes the risk that inflation will make the remediation more costly, or that expenditures must occur sooner or later than expected.

These policies usually address the known and potential unknown site conditions up to a certain dollar amount for a specified period of time. Finite risk may incorporate the same protection provided by CCC policies and PLL policies, and may be tailored to the specific risks posed by an individual site.

5.2.2 Errors and Omissions Policies

EO policies cover contractors from damages, including pollution liability, from acts, errors, or omissions in performing their professional services. This type of policy covers the contractor in the event it fails to detect contamination during investigations or is negligent in designing a remedial system. An EO policy may also cover the operability and functionality of cleanup systems (e.g., pump and treat, incinerators for soil or waste treatment). Its coverage extends to items such as proper locations and quantities of groundwater monitoring wells and quantities of reagent for in-situ treatment, and may even extend to strict liability under environmental laws.

5.2.3 IC or Post-Remediation Care Policies

At least one insurer has started offering insurance specifically covering ICs or post-remediation care. These policies are similar to EO policies, but are specific to ICs and post-remediation care. The policies cover cost overruns from designing and putting ICs into place, including engineering controls such as fences, and third-party claims for bodily injury, property damage, and cleanup costs in the following instances:

- There were errors in the design or establishment of the IC;
- There was an error or omission by the party responsible for maintaining or enforcing the IC; and
- The IC failed, despite proper design and establishment.

Because this type of insurance is new, the Component should check its availability before requiring it in specifications.

5.2.4 Performance Bonding

Before requiring a performance bond, the Component should refer to FAR and DFARS provisions on bonding, as well as the Miller Act (40 U.S.C. §§ 3131 – 3134) and consult with the Acquisition Team. A performance bond is a bond issued by an insurer or another company to guarantee that the contractor will satisfactorily complete the cleanup. The bond ensures that funding will be available to complete the cleanup if the contractor defaults. No risk is transferred away from the contractor under a performance bond.

Performance bonding is most appropriate in situations where there is a risk that the contractor will become insolvent. If insurance is required, insurers will evaluate the contractor's risk of insolvency, and factor that into its decision to insure or not insure that contractor and determine a premium. The unwillingness of insurers to insure a contractor may be an indication of the contractor's risk of insolvency.

Performance bonding may not be necessary if insurance is obtained and coverage for contractor default is included in the policy. However, performance bonding may be required for construction activities under the Brooks Act, even where insurance has been purchased. Insurers may agree to additionally insure the Component and allow the Component to retain another contractor where the original contractor defaults.

5.3 Soliciting and Reviewing Bids

Environmental insurance can be a useful tool in certain circumstances. The contractor may obtain insurance on its own; the Component may request that the contractor obtain insurance and provide funding; or the Component may require the insurance to be included the bid. The following provides guidance on identifying when environmental insurance is appropriate, writing specifications for environmental insurance, and reviewing the environmental insurance portion of a bid.

5.3.1 When to Require Insurance in the Solicitation

The Component should examine the project and determine whether environmental insurance is appropriate for the site being addressed. Insurance is a useful tool for some, but not all, sites. Sites with nearly full characterization and limited cleanup methods will not benefit from insurance, because the cost of the insurance will be higher than the risk mitigation that the policy provides. On the other hand, insurers will not insure sites where there are significant data gaps that prevent quantification of risk. Even if insurers were willing to insure sites for which there is poor characterization, they would likely raise premiums to account for the increased potential for claims. Insurance is appropriate for those sites at which there has been enough site characterization to quantify the risks.

A site must be well characterized for insurance

Once the Component determines that environmental insurance is appropriate for the site, it should include a requirement for insurance in the RFP. While it may be true that the market will dictate when insurance is appropriate, the Component will prevent delays in the solicitation process by requiring insurance where it is appropriate. If the Component were to leave the option to buy insurance, those bidders who choose not to buy insurance may drastically under-bid the competitors, because they will not include insurance premiums in the bid price. On a cost basis, this would put the bidders who include insurance in the bid at a disadvantage even though the proposal may be more effective overall.

Include a requirement for insurance, where appropriate

The inclusion or exclusion of insurance in a bid will affect the price. For this reason, even if the Component decides during development of the RFP not to require insurance, the Component may still have to weigh whether insurance is appropriate during evaluation of the bids.

5.3.2 Writing Specifications for Insurance

Once the Component has determined that insurance would be a useful tool at the site, it should begin drafting specifications for insurance with the help of the Acquisition Team. Clarity is of the utmost importance in writing specifications. The Acquisition Team will help ensure that specifications are not ambiguous (i.e., subject to more than one interpretation). For example, a specification for insurance for “reopeners” can be interpreted to require either a warranty or insurance for changes in cleanup standards after completion of cleanup. Also, there is a specific vernacular that insurers are accustomed to using. Components should ensure that the specifications comply with this vernacular rather than confusing it. For example, insurers use the word “warranty” to mean “policy term.”

Checking the insurance industry's use of terms before including them in specifications and including a glossary of insurance terms in the PWS will ensure that all parties have the same understanding of what coverage is being proposed.

5.3.2.1 What to Include in Specifications

Both the attorney and contracting officer members of the Acquisition Team should play prominent roles in drafting the specifications. The specifications should include the type of insurance, acceptable policy term, acceptable policy limit, provisions on assignability, naming the Component as an "additional insured," and insurer rating requirements.

Potentially Unquantifiable Risks
Cleanup of munitions and munitions-related risks may be both hard to quantify and uninsurable. For example, at one bombing range site, insurers reviewed bids ranging from $4M to $8M, indicating to the insurer that the contractors were uncertain how to clean the site.

- Policy Type: The Component should consider the policy types listed in Section 5.1. It may not be necessary to state which types of insurance policies are required, as this will be obvious from the coverage required; the Component should nevertheless consider what types of policies are available to the contractor. CCC policies are generally applicable to environmental restoration projects, but whether PLL policies will be useful may depend on whether third-party claims are likely. For example, if the site is adjacent to a residential area, then PLL would be advisable. If the site is in a deserted area where the potential for human or environmental exposure beyond the boundaries of the site is low, then PLL policies may not be useful.

- Policy Term: Insurers typically do not issue policies for longer than a ten-year term. The highest risk in a project generally comes in the first three to five years of the project; therefore, depending upon the characteristics of the specific site, the specifications for policy term should range from three years to 10 years.

- Policy Limit: As with policy terms, the specifications should require a limit that is available in the marketplace. Specifying a policy limit in the same amount as the estimated cleanup cost will generally not be available in the marketplace. For example, if the Component has estimated that the cleanup will cost $40M, then a $40M policy limit would not generally be appropriate. Currently, insurers will generally not insure projects with limits below $1M or above $10M. Few carriers will provide insurance with a policy limit exceeding $10M, so any specification for insurance over $10M will limit contractors' ability to competitively source the insurance.

- Coverage: The Component should specify what conditions and events the insurance should cover. Some coverages to consider include:

    - Known conditions at the sites covered by the PWS;
    - Cleanup cost overruns;
    - Discovery of unknown contamination within the scope of cleanup activities;
    - Remedy failure;
    - Regulatory changes during remediation;
    - Regulatory re-openers after site closure; and
    - Remedy failure following site closure.

For the re-openers and remedy failure after site closure, the Component should specify how much coverage should be available per occurrence, and specify a policy limit for several occurrences at once (e.g., regulatory re-openers and remedy failure after site closure shall be covered by a policy having limits of $1M per occurrence and $3M aggregate).

- Assignability: The policy should include a provision allowing the benefits of the policy to transfer to the Component as the additional insured, stating that it will respond to the Component's request to assign the policy within 30 days, and stating that it will not unreasonably withhold assignment of the insurance to another contractor.

- Name Component as Additional Insured: Whenever environmental insurance is required, the Component should also require that it be named an "additional insured" in the policy. This allows continuity of coverage in cases where the contractor becomes insolvent.

- Insurer Rating: The insurer should be rated A- (Excellent) FSC IX or better by A.M. Best.

Claims Made vs. Occurrence Based

Environmental insurance policies usually provide coverage on a claims-made basis. Claims-made coverage means that the claim for coverage must be made during the period that the policy is in effect. In other words, the trigger of coverage is a claim being made during the policy period.

Under claims-made coverage, if contamination occurred in 2003, and an environmental insurance policy was in effect in 2003, the insured would be able to obtain coverage for that contamination event only if it makes the claim in 2003. If the insured does not discover the contamination until 2005, when the policy is no longer in effect, there will be no coverage for the claim. Under occurrence-based coverage, on the other hand, the contamination would be covered regardless of when the claim was made because the trigger is the occurrence of the contamination, and the contamination occurred in 2003, when the policy was in effect.

Some policies may provide for an extended reporting period, during which coverage is provided beyond the term of the policy. Typical extended reporting periods are 30 or 60 days; but the insured may purchase longer extensions.

5.3.2.2 What to Exclude from Specifications

In preparing specifications, Components should exclude two categories of items: items that are better left to negotiation between the contractor and insurer, and items that are commonly excluded from insurance policies.

Items that are better left to negotiation include the amount of the SIR, deductible, or co-payment. Excluding these items from the specifications allows the contractor and insurer to add, delete, or vary the amounts of these items in their negotiations.

Components should also exclude items commonly excluded from insurance policies. If Components require coverage for something that insurers generally exclude, they may stall the solicitation process or, at the very least, severely restrict competition. For example, at this point in time, regulatory standards for cleanup of munitions (i.e., to what depth a site should be cleared of munitions) are unclear. Insurers therefore generally exclude UXO and other munitions from coverage. Insurers will also generally exclude other risks they consider to be extraordinary and high-risk occurrences, and therefore "uninsurable," such as:

- CWM;
- Radioactive materials;
- Lead-based paints;
- Asbestos; and
- Natural resource damage claims (NRDC).

In addition to these exclusionary items, some insurers are excluding "non-performance" costs from coverage. These exclusions may include:

- Non-compliance/criminal acts;
- Labor disputes;
- License suspension;
- Bankruptcy;
- Unreasonable delay in the contractor's performance of cleanup activities; and
- Faulty workmanship.

5.3.3 Two-Step Bid Process

A two-step bid process is preferable to allow insurers sufficient time to fully examine each bid and craft an insurance policy that adequately meets the needs of that bid. A two-step process would require the Component and contracting officer to first select contractors based on qualifications and technical ability, without examining cost. After that first round of selection, then the Component and contracting officer would request bids from the selected contractors with technical approach, cost, and insurance. However, if the Component is using an indefinite delivery/indefinite quantity (ID/IQ) contract, where a short list of contractors is already qualified, a two-step bid process is not necessary to shorten the list of contractors soliciting insurers for policies.

Insurers do not have the capability to thoroughly examine the bids of more than five contractors at any one time. When the insurers are overloaded with bids to review, they are forced to craft policy packages that are conservative, because they do not have the time to thoroughly review the risks associated with each. Narrowing the universe of contractors for whom insurers must develop insurance bids will thereby result in more tailored insurance policies. It is imperative that the first step not include cost, otherwise, the insurers will have to prepare insurance bids for just as many contractors, only in the first step of the two step process, rather than in the second step when the universe of contractors has been narrowed.

5.3.3.1 High-Quality Data and Independent Access

Insurers closely examine the feasibility of the work included in each bid to determine whether existing data support the assumptions made by the contractor. For this reason, the insurers must have access to the highest quality data available. Insurers expect that the data will be incomplete to some degree, but if the gaps are too large and the assumptions too expansive, insurers will not be willing to provide insurance. Early access to these data would also limit the number of policy amendments required.

Components should also consider providing a separate site visit for insurers to give them the opportunity to review the site without the influence of contractors. As third-party reviewers of bids, insurers can identify whether a contractor is making unreasonable assumptions or underbidding. A site visit helps provide insurers with an additional independent source of information from which to examine contractors' proposed technical approaches.

5.3.3.2 Adequate Review Time

The primary challenge an insurer faces in insuring cleanup of installations is the limited time available to provide quality input to contractors' bids. Insurers are underwriting 10 to 12 bids at any one time, and are unable to provide an adequate review of a bid in the short time periods that Components have traditionally provided. While providing insurers with more time to review data and formulate insurance bids will require Components to conduct additional advance planning, such advance planning will directly impact the quality of insurance packages included in bids.

5.3.4 Reviewing Insurance in Bids

When reviewing insurance in bids, the Component should evaluate the proposed policy on its own merits, but consider the terms and conditions in light of the whole technical bid to gain a sense of what risks remain uninsured. The Component should focus on examining the terms of the bid, including the policy limits, terms, and premiums to ensure that they are acceptable and consistent with the project.

As part of this review, the Component should examine: (1) the amount of the deductible, (2) the amount of any co-payment, and (3) the point at which the SIR "attaches," because these are uninsured areas of risk. The Component should also examine the terms and conditions of the policy itself to examine how much risk the contractor and insurer are assuming, and how they are assuming the risk in light of the entire bid. Components are encouraged to subject the bids to legal review or review by an independent broker.

5.4 Overseeing Environmental Insurance Requirements

Insurers regularly receive status reports from contractors they insure regarding issues at the site and the status of tasks being conducted. These reports enable insurers to determine, in advance, the likelihood of a future claim. By the time a claim occurs, the insurer has already placed the site on a "watch list" for potential claims. Insurers cite a history of contractors failing to send these reports. It is in the Component's interest to make sure that the contractor is sending these status reports, to reduce the potential for a dispute over a claim.

Chapter 5 Review

While requiring environmental insurance in a solicitation adds time and effort to the PBA process, its benefits to both the Component and contractor may be significant. Components should consider requiring environmental insurance for sites where some uncertainty remains regarding the extent or type of contamination, and carefully describe in the specifications the coverage to be provided.

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Chapter 6: Conclusions

PBA has the potential to result in cleanups that are faster, cheaper, and better through innovative approaches, time savings, and cost savings. To realize this potential, Components must have a strong understanding of the challenges that often accompany use of PBA and must establish a well-integrated, knowledgeable, and active Acquisition Team. Interaction with Acquisition Team members should occur early and often, throughout the PBA process, as well as post-award to measure performance. The Component should always keep the following questions in mind: what did we buy, is what we bought what we asked for, and did we get what we paid for?

While the Component must identify the most compatible contract type for any contract, the Component faces additional considerations for PBA. PBA requires a weighing of different pros and cons in light of the specific project and determining which type will motivate the contractor, minimize administrative burdens, and transfer the appropriate amount of risk. The transfer (or retention) of risk is an essential component of PBA. Determining how much risk and which risks the Component would like to transfer to the contractor will guide the choice of a contract type, the performance-work statement, and whether insurance is required.

Additionally, because the risk inherent in PBA projects tends to increase the level of caution and scrutiny exercised by contractors, regulators, and members of the public, the Component should attempt to reach a mutual understanding, with regulators in particular, regarding roles and responsibilities. Making expectations of roles and responsibilities explicit is essential to developing a positive working relationship that will facilitate, rather than impede, the cleanup process.

While the specifics of implementation will vary by Component and by site, this handbook provides a framework for implementation and offers tips to overcoming challenges. Appendix H provides a list of references for additional information on PBA; Components are also encouraged to review Component-specific guidance.

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Appendeix A: Acronyms

ACSIM ..... Assistant Chief of Staff for Installation Management

A/E ..... Architecture/Engineering

AFCEE ..... Air Force Center for Environmental Excellence

AQL ..... Acceptable Quality Level

ARAR ..... Applicable or Relevant and Appropriate Requirement

ASTSWMO ..... Association of State and Territorial Solid Waste Management Officials

ATL ..... Acquisition, Technology, and Logistics

BIC ..... Business Initiative Council

BRAC ..... Base Realignment and Closure

CA ..... Cooperative Agreement

CCC ..... Cost-Cap Cleanup

CONOPs ..... Concept of Operations

CTO ..... Contract Task Order

CWM ..... Chemical Warfare Materiel

CERCLA ..... Comprehensive Environmental Response, Compensation and Liability Act

DERP ..... Defense Environmental Restoration Program

DFARS ..... Defense Federal Acquisition Regulations Supplement

DNAPLs ..... Dense Non-Aqueous Phase Liquids

DoD ..... U.S. Department of Defense

DPGs ..... Defense Program Goals

DSMOA/CA ..... Defense & State Memorandum of Agreement/Cooperative Agreement

EO ..... Errors and Omissions

EPA ..... U.S. Environmental Protection Agency

ERP ..... Environmental Restoration Program

ESCA ..... Environmental Services Cooperative Agreement

FAR ..... Federal Acquisition Regulations

FFP ..... Firm Fixed Price

FTE ..... Full-time Equivalent (employee)

FY ..... Fiscal Year

GFPR ..... Guaranteed Fixed Price Remediation

IC ..... Institutional Control

ID/IQ ..... Indefinite Delivery/Indefinite Quantity

IGE ..... Independent Government Estimate

IRP ..... Installation Restoration Program

LRA ..... Local Redevelopment Authority

LTM ..... Long-Term Management

MEC ..... Munitions and Explosives of Concern

NAVFAC ..... U.S. Naval Facilities Engineering Command

NCP ..... National Contingency Plan

NPL ..... National Priorities List

NRDC ..... Natural Resource Damage Claims

OMB ..... Office of Management and Budget

PA ..... Preliminary Assessment

PBA ..... Performance-based Acquisition

PBSA ..... Performance-based Service Acquisition

PBSC ..... Performance-based Service Contracting

PLL ..... Pollution Legal Liability

PMP ..... Project Management Plan

POC ..... Point of Contact

POP ..... Period of Performance

PWS ..... Performance Work Statement

QA ..... Quality Assurance

QAP ..... Quality Assurance Plan

QASP ..... Quality Assurance Surveillance Plan

QCP ..... Quality Control Plan

RAB ..... Restoration Advisory Board

RA-C ..... Remedial Action Construction

RA-O ..... Remedial Action Operation

RC ..... Response Complete

RCRA ..... Resource Conservation and Recovery Act

RD ..... Remedial Design

RFI ..... Request for Information

RFP ..... Request for Proposal

RI ..... Remedial Investigation

RI/FS ..... Remedial Investigation/Feasibility Study

RIP ..... Remedy in Place

ROD ..... Record of Decision

SARA ..... Superfund Amendments and Reauthorization Act

SC ..... Site Closure

SIR ..... Self-insured Retention

SOO ..... Statement of Objectives

SOW ..... Statement of Work

USAEC ..... U.S. Army Environmental Center

UXO ..... Unexploded Ordnance

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Appendix B: Definitions

Co-Insurance. A pre-defined percentage of the coverage payout which the contractor must pay. This is also known as "co-payment." Insurers will often require co-insurance where it classifies the project as a high risk and is uncomfortable with bearing 100 percent of the cost overruns (above the deductible).

Contract. A term used to describe a variety of agreements for the procurement of supplies or services. An agreement, enforceable by law, between two or more competent parties, to do or not to do something, which is not prohibited by law, for a legal consideration.

Cost Reimbursement. Refers to the family of pricing arrangements that provide for payment of allowable, allocable, and reasonable costs incurred in the performance of a contract, to the extent that such costs are prescribed or permitted by the contract.

Cost-Plus-Award-Fee Contract. A cost-reimbursement contract that provides for a fee consisting of (1) a base amount (which may be zero) fixed at inception of the contract and (2) an award amount, based on a judgmental evaluation by the government, sufficient to provide motivation for excellence in contract performance. Cost-Plus-Award-Fee contracts are covered in FAR Subpart 16.4, Incentive Contracts. See FAR 16.404-2 for a more complete description and discussion of application of these contracts. See FAR 16.301-3 and FAR 16.404-2(c) for limitations. (FAR 16.305)

Cost-Plus-Fixed-Fee Contract. A cost-reimbursement contract that provides for payment to the contractor of a negotiated fee that is fixed at the inception of the contract. The fixed fee does not vary with actual cost but may be adjusted as a result of changes in the work to be performed under the contract. This contract type permits contracting for efforts that might otherwise present too great a risk to contractors, but it provides the contractor only a minimum incentive to control costs. (FAR 16.306)

Cost-Plus-Incentive-Fee Contract. A cost-reimbursement contract that provides for the initially negotiated fee to be adjusted later by a formula based on the relationship of total allowable costs to total target costs. This contract type specifies a target cost, a target fee, minimum and maximum fees, and a fee adjustment formula. After contract performance, the fee payable to the contractor is determined in accordance with the formula. The formula provides, within limits, for increases in fee above target fee when total allowable costs are less than target costs and for decreases in fee below target fee when total allowable costs exceed target costs. This increase or decrease is intended to provide an incentive for the contractor to manage the contract effectively. When total allowable cost is greater than or less than the range of costs within which the fee-adjustment formula operates, the contractor is paid total allowable costs plus the minimum or maximum fee. (FAR 16.404-1)

Deductible. A pre-defined dollar amount which the contractor must pay to obtain the coverage payout from the insurance company. Deductibles currently range from $500,000 to $2 million.

Economy of Scale. Achieving increased efficiency or cost saving by combining processes that share common attributes.

Fee. In specified cost-reimbursement pricing arrangements, fee represents an agreed-to amount beyond the initial estimate of costs. In most instances, fee reflects a variety of factors, including risk, and is subject to statutory limitations. Fee may be fixed at the outset of performance, as in a cost-plus-fixed fee arrangement, or may vary (within a contractually specified minimum-maximum range), as in a cost-plus-incentive fee arrangement.

Firm Fixed Price Contract. Provides for a price that is not subject to any adjustment on the basis of the contractor's cost experience in performing the contract. This contract type places upon the contractor maximum risk and full responsibility for all costs and resulting profit or loss. It provides maximum incentive for the contractor to control costs and perform effectively and imposes a minimum administrative burden upon the contracting parties. (FAR 16.202-1)

Fixed Price. Refers to a family of pricing arrangements whose common discipline is a ceiling beyond which the Government bears no responsibility for payment. In the case of a firm fixed price arrangement, the agree-to price is not subject to any adjustments by reason of the contractor's cost experience in the performance of the contract.

Fixed-Price-Award-Fee Contract. A fixed-price contract with an added award amount of dollars set aside for a contractor to earn for providing service judged by the government to be above satisfactory.

Fixed-Price-Incentive-Firm Contract. The fixed-price incentive firm contract provides for an adjustment of profit and the establishment of the final contract price by means of a formula based on the relationship of final costs to a negotiated target cost. Under this type of contract the following elements are negotiated at the outset: a target cost, a target profit, a ceiling price, and a formula for establishing final price and profit.

Incentive. Stated rewards and/or consequences that may be employed to motivate a contractor to achieve higher levels of performance under a given contract; can be monetary or nonmonetary; can be based on schedule, management, or cost. An incentive may be positive or negative.

Indefinite-Delivery/Indefinite-Quantity Contract. A type of indefinite-delivery contract that provides for an indefinite quantity, within stated limits, of services to be furnished during a fixed period, with deliveries or performance to be scheduled by placing orders with the contractor. (FAR 16.504)

Indirect Cost. Any cost not directly identified with a single final cost objective but identified with two or more final cost objectives or with at least one intermediate cost objective. Also, referred to as overhead or burden.

Performance Work Statement. A statement of work for performance-based contracts that defines requirements in clear, concise language identifying specific work to be accomplished. To the maximum extent practicable the statement of work will 1) describe

the work in terms of "what" is to be the required output rather than "how" the work is to be accomplished or the number of hours to be provided; 2) enable assessment of work performance against measurable performance standards; 3) rely on the use of measurable performance standards and financial incentives in a competitive environment to encourage competitors to develop and institute innovative and cost-effective methods of performing the work; and 4) avoid combining requirements into a single acquisition that is too broad for the agency or a prospective contractor to manage effectively.

Performance-based. Being associated with outcome or results to be achieved rather than with process and the manner in which the results are achieved.

Performance-based Acquisition. Structuring all aspects of an acquisition for environmental restoration services around the purpose of the work to be performed as opposed to either the manner by which the work is to be performed or broad and imprecise statements of work.

Periodic Surveillance. Surveillance consisting of the evaluation of samples selected on other than a 100 percent or statistically random basis. This is not a preferred method of surveillance and cannot be used as a basis of deduction from payments because it does not provide a statistical basis for deducting for nonconforming performance.

Progress Payment. A payment made as work progresses under a contract on the basis of percentage of completion accomplished, or for work performed at a particular stage of completion.

Quality Assurance. Those actions taken by the government to check goods or services to determine that they meet the requirements of the SOW.

Quality Assurance Surveillance Plan. A plan measuring performance against standards in the Performance Work Statement. A good QASP should include a surveillance schedule and clearly state the surveillance method(s) to be used. The QASP also establishes how resources will be used to ensure that the government receives what it is paying for. Development of the QASP also allows the government to clearly define the amount of contract administration resources needed. The detail regarding a particular task should be commensurate with the importance of the task. The QASP should focus on the quality, quantity, and timeliness, etc., of the performance outputs to be delivered by the contractor, and not on the steps required or procedures used to provide the product or service.

Record of Decision. A CERCLA document that outlines the selected remedy, the alternatives considered when selecting the remedy, the facts relating to cleanup, and the laws or regulations that may govern cleanup at both NPL and non-NPL remediation sites. The Record of Decision also includes a Responsive Summary or responses to public comments on the alternatives and proposed remedy.

Remedy or Remedial Action. Those actions consistent with a permanent remedy implemented instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, and to prevent or minimize the release of hazardous substances so that they do not migrate and pose an unacceptable risk to present or future public health, welfare or the environment.

Restoration Advisory Board. A forum composed of representatives from DoD, EPA, state and local governments, tribal governments, and the affected community to discuss cleanup

issues at a particular installation. RAB members provide their individual advice to the Installation Commander or District Engineer concerning environmental cleanup at military installations or Formerly Used Defense Sites.

Risk. An assumption of possible monetary loss or gain in light of the job or work to be done. One of the elements to be considered in the negotiation of a fair and reasonable price, as well as in determining the type of contract under which performance will occur.

Self-insured Retentions. A pre-defined percentage above the cleanup bid for which the contractor "retains" responsibility. For example, if the bid is $10 million, and the retention is 10 percent ($1 million), the contractor cannot draw on the insurance until its total costs exceed $11 million.

Service Contract. A contract that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task. (FAR 37.101)

Statement of Objectives. Also known as SOO, this is more general statement of objectives than the PWS. According to guidance provided in the Office of Federal Procurement Policy's Performance-Based Service Acquisition July 2003, a Statement of Objectives is a summary of key agency goals, outcomes or both that is incorporated into performance-based service acquisitions in order that competitors may propose their solutions including a technical approach, performance standards and a quality assurance surveillance plan based upon commercial business practices. The SOO may be incorporated into the PWS, or may be issued as an alternative to the PWS.

Statement of Work. A document that describes accurately the essential and technical requirements for items, materials, or services including the standards used determine whether the requirements have been met. In PBA, the SOW is referred to as a PWS to reflect the emphasis on measuring performance.

Surveillance. A function of contract administration used to determine contractor progress and to identify any factors that may delay performance. Involves government review and analysis of (1) contractor performance plans, schedules, controls, and industrial processes and (2) the contractor's actual performance under them. (See FAR 42.201)

Appendix C: Contract Type Summary Table

Firm Fixed Price	
Description	• Establishes fixed price for the services and costs, such that the Contractor may maximize its fee by keeping costs low.
Advantages	• Transfers the maximum amount of risk and cost responsibility to Contractor. • Contractor profit incentive to minimize costs. • Imposes a minimum administrative burden on contracting parties.
Disadvantages	• Component would still share in costs if contractor were to become insolvent.
Most Suitable When…	• Specifications are reasonably definite functional or detailed specifications, and • Contracting officer can establish fair and reasonable prices at the outset, such as when: (a) There is adequate price competition; (b) There are reasonable price comparisons with prior purchases of similar services on a competitive basis or supported by valid cost or pricing data; (c) Available cost or pricing information permits realistic estimates of the probable costs of performance; or (d) Performance uncertainties can be identified and reasonable estimates of their cost impact can be made, and the contractor is willing to accept a firm fixed price representing assumption of the risks involved.
FAR References	• FAR 16.202 for definition. • FAR 16.202-2 for more information on when suitable. • FAR 16.406 for contract clauses required in solicitations and contracts.

Firm Fixed Price with Economic Adjustment	
Description	• Establishes a fixed price with an economic price adjustment that provides for upward and downward revision of the stated price upon the occurrence of specified contingencies. The adjustment may be (1) based on established prices; (2) based on actual costs of labor or material; or (3) based on cost indexes of labor or material. • May be used in conjunction with an award-fee incentive and performance or delivery incentives when the award fee or incentive is based solely on factors other than cost.
Advantages	• Contractor profit incentive to minimize costs.
Disadvantages	• More risk than firm fixed price because of adjustment.
Most Suitable When...	(1) The contracting officer determines that it is necessary either to protect the contractor and the Government against significant fluctuations in labor or material costs or to provide for contract price adjustment in the event of changes in the contractor's established prices; (2) There is serious doubt concerning the stability of market or labor conditions that will exist during the period of performance; and (3) Contingencies that would otherwise be included in the contract price can be identified and covered separately in the contract.
FAR References	• FAR 16.203-1 for definition. • FAR 16.203-2 and 203-3 for limitations. • FAR 16-203-4 for contract clauses. • FAR 16.406 for contract clauses required in solicitations and contracts.

Fixed Price with Award Fee	
Description	• Establishes a fixed price and award fee for performance.
Advantages	• Contractor incentive to minimize costs. • Contractor incentive to excel in performance areas. • Component discretion in evaluating for the supplemental award and conditions affecting performance.
Disadvantages	• Slightly more cost risk than fixed price because of supplemental awards. • More performance risk than firm fixed price. • Additional administrative effort /cost to monitor and evaluate performance.
Most Suitable When…	(1) The administrative costs of conducting award-fee evaluations are not expected to exceed the expected benefits; (2) Procedures have been established for conducting the award-fee evaluation; (3) The award-fee board has been established; and (4) An individual above the level of the contracting officer approved the fixed-price-award-fee incentive.
FAR References	• FAR 16.404 for definition. • FAR 16.406 for contract clauses required in solicitations and contracts.

Fixed Price with Incentive	
Description	• Establishes a fixed price that provides for adjusting profit and establishing the final contract price by a formula based on the relationship of final negotiated total cost to total target costs. • Final price is subject to a price ceiling, negotiated at the outset. • May be firm target or successive target (described below).
Advantages	• Contractor incentive to minimize costs. • Contractor incentive to meet additional metrics.
Disadvantages	• More cost risk than fixed price. • More performance risk than firm fixed price because Component shares in cost overruns. • Low flexibility for the Component if work scope changes because price and targets must be renegotiated. • Additional administrative effort/cost to monitor and evaluate performance.
Most Suitable When…	(1) A firm fixed price contract is not suitable; (2) The nature of the services and other circumstances of the acquisition are such that the contractor's assumption of a degree of cost responsibility will provide a positive profit incentive for effective cost control and performance; and (3) If the contract also includes incentives on technical performance and/or delivery, the performance requirements provide a reasonable opportunity for the incentives to have a meaningful impact on the contractor's management of the work. See FAR 16.403.
FAR References	• FAR 16.403 for definition. • FAR 16.406 for contract clauses required in solicitations and contracts.

Fixed Price Incentive (Firm Target)	
Description	• Specifies a target cost, a target profit, a price ceiling (but not a profit ceiling or floor) and a profit adjustment formula, all of which are negotiated at the outset. • Upon completion of the contract, the parties negotiate the final cost and the final price is established by applying the formula.
Advantages	• Contractor incentive to control costs to a level lower than the target cost, in order to maximize profit.
Disadvantages	• More cost risk than fixed price. • More performance risk than firm fixed price because Component shares in cost overruns. • Low flexibility for the Component if work scope changes because price and targets must be renegotiated. • Additional administrative effort/cost to monitor and evaluate performance.
Most Suitable When...	(1) Parties can negotiate at the outset: (a) A firm target cost, (b) Target profit*, (c) A profit adjustment formula that will provide a fair and reasonable incentive, and (d) A ceiling that provides for the contractor to assume an appropriate share of the risk. *When the contractor assumes a considerable or major share of the cost responsibility the target profit should reflect this responsibility.
FAR References	• FAR 16.403-1 for definition. • FAR 16.403-1(c) for limitations. • FAR 16.406 for contract clauses required in solicitations and contracts.

Fixed Price Incentive (Successive Targets)	
Description	• Specifies an initial target cost, an initial target profit, an initial profit adjustment formula to be used for establishing the firm target profit, including a ceiling and floor for the firm target profit, the production point at which the firm target cost and firm target profit will be negotiated, and a ceiling price, except for any equitable adjustment under stated circumstances. • Parties negotiate the firm target cost at the specified production point, giving consideration to cost experience and other factors. • The firm target profit is established by formula. Parties may negotiate a firm fixed price or negotiate for establishing the final price using the firm target cost and firm target profit, then negotiating final cost at completion.
Advantages	• Formula allows for incentive to account for changes that might affect the contract (for successive targets).
Disadvantages	• More cost risk than fixed price (formula provides a lesser degree of contractor cost responsibility than would a formula for establishing final profit and price). • More performance risk than firm fixed price because Component shares in cost overruns. • Low flexibility for the Component if work scope changes because price and targets must be renegotiated. • Additional administrative effort/cost to monitor and evaluate performance.
Most Suitable When...	(1) Available cost or pricing information is not sufficient to permit the negotiation of a realistic firm target cost and profit before award; (2) Sufficient information is available to permit negotiation of initial targets; (3) There is a reasonable assurance that additional reliable information* will be available at an early point in the contract performance so as to permit negotiation of either: (a) A firm fixed price, or (b) Firm targets and a formula for establishing final profit and price that will provide a fair and reasonable incentive; (4) The contractor's accounting system is adequate for providing data for negotiating firm targets and a realistic profit adjustment formula, as well as later negotiation of final costs; and (5) Cost or pricing information adequate for establishing a reasonable firm target cost is reasonably expected to be available at an early point in contract performance. *This additional information is not limited to experience under the contract but may be drawn from other contracts for the same or similar items.
FAR References	• FAR 16.403-2 for definition. • FAR 16.403-2(b) for suitability and limitations. • FAR 16.406 for contract clauses required in solicitations and contracts.

Appendix D: Case Studies

Performance-Based Contracts: Lessons Learned

Even with the relatively limited experience Components have had with PBA, each has identified some critical factors or "win themes" that have contributed to the success of PBA. Two of the most universal themes are teamwork and communication. As described below, partnering relationships among the Component, contractor, and regulators were key to the successful completion of project goals. Part of this teamwork included involving the regulators early in the process to pave the way for future collaboration. The following case studies—Charleston Naval Base, Fort Leavenworth Army Base, and Randolph Air Force Base—provide some illustrations of "lessons learned" in implementing PBA.

Charleston Naval Base	
Type of Contract Used	Firm Fixed Price with Cost-Cap Insurance and 20-year Environmental and Stop Loss Insurance Policy
Contract Terms	Contractor is responsible for all sites within the installation boundaries and "white space" that may contain newly discovered sites. Contractor is responsible for site investigations, remedial action to close sites, regulatory approvals, property transfer documentation, operation and maintenance of remedial systems for 20 years, and liability for newly discovered sites. Exclusions for unexploded ordnance, radiological waste, biological and chemical warfare materiel, sediments beyond a certain point, and changes to the reuse plan.
Contract Price	$28.8 million
Incentives	None beyond payment at milestones.
Modifications	The contract was slightly modified with a few administrative changes and a single scope change; the completion time for the contract was adjusted accordingly.

The Navy used PBA to address contamination and complete the transfer of property at the Charleston Naval Base, a BRAC installation located in Charleston, South Carolina. The base consisted of approximately 2,000 acres of under-utilized infrastructure.

☑ Provide bidders with sufficient information

To assist bidders in acquiring appropriate information and documentation for the Charleston contract, the Navy established a library of relevant documents and held bidding conferences. The regulators, contracting officer, and the South Carolina Director of Environmental Restoration took part in the bidding conferences. In addition to bidding conferences, an industry forum was held to discuss the different approaches to environmental remediation.

☑ Engage regulators early in the process

The regulators, contractor, and project manager agreed that the early involvement of regulators played a significant role in shaping a cooperative working environment and facilitating the project's progress. During the solicitation process, the Director of Environmental Restoration took part in the brainstorming prior to setting guidelines, criteria, and milestones for the contract. Given the newness of performance-based contracts, the Navy granted regulators the authority to assist in modeling the contract. Because this was the first performance-based contract, both in-house and private consultants were hired to develop an Independent Government Estimate (IGE) for comparison purposes. The regulators also agreed to allow bidders to directly address them with questions, allowing more informed proposals. Finally, the Navy awarded the contract based on a "best value" evaluation, with contractor reputation as a main consideration.

☑ Engage stakeholders in development of the contract

Throughout the drafting of the contract, underwriters and engineers took part in defining the SOW and establishing milestones. Additionally, the regulators were involved in setting development actions for the contract.

☑ Work through regulator resource constraints as much as possible

As a result of a hiring freeze at the state level, in addition to the already limited state resources, there was initial strain between the regulators, contractor, and the program manager. The regulators, contractor, and program manager overcame this strain with hard work and communication. In performance-based contracting, there is an accelerated pace of Decision Documents, hence there is more pressure on regulators to quickly revise and approve documents. According to one state regulator, performance-based contracts are marketed as faster, cheaper, and more efficient, but it is much more difficult for the regulator because of the faster pace of document approval and inadequate state resources. A project manager was present at the Charleston sites at all times and held responsible for overseeing progress. Both the regulator and the program manager believed that teamwork and a focus on the common goals assisted them in coming to a mutually agreeable timeframe.

Fort Leavenworth Army Base	
Type of Contract Used	Guaranteed Fixed Price Remediation
Contract Terms	Contractor is responsible only for identified sites. Fort Leavenworth's contract included end points which clearly defined the work that was to take place along with specific solutions for these sites. The contractor provided documents such as a Statement of Basis and remedy as a platform for their performance evaluation.
Contract Price	$19 million
Incentives	None beyond payment at milestones.
Modifications	The contract was not modified except for administrative changes, which had no impact in the overall scope of the project.

Fort Leavenworth, located in Fort Leavenworth, Kansas, was the subject of a pilot study for the Army in 2001. Fort Leavenworth is a 5,634-acre U.S. Army facility. The Fort was established in 1827 and is the oldest operating Army installation west of the Mississippi River. Nineteen sites were identified for cleanup, primarily to address groundwater contamination.

☑ Identify reasons for using PBA

The Army chose PBA because it promised a reduction in the time required to complete the cleanup, a decrease in the number of cost overruns, and an increase in funds on the ground to do the actual cleanup. In addition, the PBA permitted the contractor to promptly respond to regulatory requests for additional fieldwork and/or modifications in contrast to halting and delaying the progress until the contract terms could be updated. This particular type of contract shifted a majority of the responsibility for financial risks and deadlines to the contractor.

☑ Maintain close involvement with the regulators

Regulators participated in the bidding conferences and, upon award, a regulatory team actively conducted oversight activities throughout the project life cycle. Fort Leavenworth's program manager pointed out that the close involvement with the regulators helped them build excellent working relationships.

☑ Address up-front how disputes will be resolved

To ensure smooth workflow, the contractor worked directly with the regulators. However, recognizing the potential for disputes to arise, the Army employed dispute resolution.

Randolph Air Force Base	
Type of Contract Used	Firm Fixed Price (awarded by the U.S. Army Corps of Engineers)
Contract Terms	Contractor is responsible for cleanup of eight sites.
Contract Price	N/A
Incentives	N/A
Modifications	N/A

Randolph Air Force base is located in the northeastern portion of Bexar County, Texas, approximately 13 miles northeast of the central business district of the city of San Antonio. The main base area of Randolph encompasses approximately 2,893 acres.

☑ Solicit regulator input prior to solicitation

The U.S. Army Corps of Engineers (the Corps) invited the participation of the regulators in setting milestones and writing the SOO. By the time solicitation occurred, the regulator had already been involved in the development of the contract and understood the goals and desired outcomes of the contract. The regulators could then meaningfully participate in the bidding conferences, which were held to provide information and documentation to the bidders.

☑ Encourage the contractor to establish a Project Management Plan

The contractor created and maintained a detailed Project Management Plan (PMP) describing the activities that were necessary to take place in order to conduct and conclude work established in the PWS. The PMP addressed quality control issues to assure quality, consistency and completeness of all deliverables. Furthermore, the PMP specified tasks, technical approach, project team responsibilities milestones, deliverables, resources required for planning, execution, and completion of all contract related activities. Finally, the PMP ensured that all participants clearly understood project activities and requirements and that all were aware of the concept, approach, execution and completion criteria of performance-based contracting.

Conclusion

In each of these cases, the Component smoothed the way for a teamwork approach. Although not specifically mentioned above, each contract required the development of a Quality Assurance Plan and a Quality Control Plan, to ensure that appropriate quality assurance/quality control standards were met and health and safety activities were incorporated into all project activities. While the above case studies have some clear lessons learned in common, Components should keep in mind that there is no “cookie cutter” approach to PBA.

Appendix E: Component Programs

Army PBA Program

The Army first implemented PBA as a Business Initiative Council (BIC) initiative by piloting performance-based contracts at two active installations in Fiscal Year (FY) 01-02. In FY03, the Assistant Chief of Staff for Installation Management (ACSIM) tasked the U.S. Army Environmental Center (USAEC) with the technical implementation of the PBA program for active, or Installation Restoration Program (IRP), Army installations. The Army has subsequently implemented an Army-wide initiative, with assistance and cooperation from multiple U.S. Army Corps of Engineers Districts across the country, to standardize the use of PBA for environmental cleanup. Implementation goals, indicated by the percentage of the total IRP budget, and performance against those goals, are included in Figure E-1. It should be noted that the overall goals eventually level off at 60 percent of the total program because there are installations where PBA may not be the most appropriate tool.

Figure E-1. Army IRP PBA Goals

Fiscal Year	PBA GOAL	ACTUAL
FY03	3-5% ($12-20M)	9% ($37M)
FY04	30% ($120M)	36% ($141M)
FY05	50% ($200M)	51% ($202M)
FY06	60% ($240M)	54% ($214M)
FY07+	60% ($240M)	

Within the Army's framework of PBA implementation, performance-based contracts exhibit the following characteristics: (1) use of firm fixed price contracts; (2) defined performance objectives, milestones, and standards; (3) use of incentives or insurance to enhance performance; and (4) flexibility and accountability for results. Performance-based contracting requires the contractor of an environmental cleanup project to achieve specific cleanup objectives outlined in a performance work statement, usually for a fixed price. Projects range in complexity and price, and include such activities as conducting remedial investigation and characterization, achievement of Remedy in Place and/or Response Complete at any number of site types, including soil, sediment, and groundwater sites, as well as sites where there is known or suspected UXO and chemical and biological warfare materiel. The contractor may be required to buy environmental insurance to cover additional costs that may occur if cleanup expenses exceed the contract price. A performance-based contract for environmental cleanup does not relieve the Army of the

environmental liability for the project. However, it does shift more responsibility and accountability for the cost, schedule, and results of the project from the Army to the contractor.

Since this initiative began in 2000, the Army has awarded 52 performance-based contracts worth $577 million at 87 active installations. The contracts cover cleanup activities in 38 states and Puerto Rico and in all 10 Environmental Protection Agency regions. The PBA efforts have locked in cleanup schedules and environmental liabilities at 643 IRP sites. The cost-to-complete for those 643 sites was originally estimated to be about $854 million, resulting in a cumulative cost avoidance of $277 million (33 percent).

The Army plans to continue implementing PBA at the active IRP installations, and also, is broadening the scope of this contracting mechanism for LTM actions associated with groundwater operations and monitoring, and cleanup of other Army environmental liabilities such as BRAC sites, Compliance-Related Cleanup sites, Military Munitions Response Program sites, and Formerly Used Defense Sites.

Navy PBA Program

PBA is a core component of the U.S. Naval Facilities Engineering Command's (NAVFAC's) Environmental Business Line Acquisition Strategy. The goal of NAVFAC's Environmental Acquisition Strategy is to continually match the type of work to be performed with the most cost-effective and efficient type of contractual vehicles to meet the mission of our Environmental Programs. The Strategy focuses on the development of a balanced and diversified contracting approach to meet Command-wide program requirements. The intent of this focus is to increase our acquisition options and flexibility, minimize our risk exposure, and meet our political and legislative contracting mandates. Most importantly, this strategy strives to make the best contractual solutions available to meet the full range of our corporate and client needs. As part of this strategy, NAVFAC intends to expand the use of performance-based contracting to all projects where performance work statements may improve contract performance, while allowing the Government to reduce cost and manage its risk.

Within the NAVFAC Environmental Business Line, it is important to look at the use of PBA holistically, and with respect to other strategy goals and objectives, including the increased use of fixed-price vehicles and the expansion of small business opportunities. NAVFAC's balanced and diversified acquisition strategy has incorporated a variety of contract tools, including large cost contracts, SB fixed-priced ID/IQ, and multiple award contracts allow competition among a pre-selected group of contractors.

With respect to PBA, NAVFAC believes that no one size fits all. NAVFAC's approach intends to integrate and utilize PBA techniques throughout the entire acquisition strategy, as PBA techniques can be applied within all contract mechanisms to varying degrees. It is often not a question of whether to use PBA or not, but rather, to what degree to use PBA techniques. There is often a perception that PBA equates to only large guaranteed fixed-price remediation contracts. Although NAVFAC has executed similar contracts, these only represent one end of the spectrum. PBA may have greater potential when used prior to remedy selection; however, PBA also provides useful techniques even after the remedy is determined. For example, NAVFAC has realized these benefits when incorporating its use on remediation projects that are awarded prior to a 100 percent remedial design.

Ultimately, the appropriate use of PBA relies on the analysis of risk and reward. PBA has significant potential for improved performance and cost savings through the encouragement of greater innovation and flexibility. However, these benefits must be weighed against the cost associated with the shifting of risk to the contractor. As a result, the inherent level of uncertainty and relationships with other stakeholders that are critical factors of environmental cleanup, are also important considerations when evaluating the cost of transferring risk versus the potential benefits of PBA.

Air Force PBA Program

The Air Force ILEVR and Air Force Center for Environmental Excellence (AFCEE) have compiled guidance on performance-based contracting. The AFCEE guidance presents AFCEE's position regarding PBA and outlines the Concept of Operations (CONOPs) for how AFCEE will execute PBA for the Air Force Environmental Restoration Program (ERP). AFCEE conducted a series of workshops and focus group meetings with its internal staff, customers, and industry partners to craft this PBA implementation approach. The collaborative nature of AFCEE's CONOPs development ensured key stakeholder buy-in and position statements that reflect diverse viewpoints. This AFCEE CONOPs complements the ILEVR guidance by detailing how AFCEE will execute PBCs for the Air Force ERP with specific discussion on AFCEE contracts, processes, and approaches.

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Appendix F: One Contract for Multiple Sites

Including All Sites on an Installation

If the Component intends to award the contract for an entire installation, it should specify whether the contract is for identified sites only, not including areas of contamination that have not yet been identified as sites, or whether the contract is all-encompassing, including both known and unknown sites. Limiting the contract to only known sites provides certainty regarding the required cleanup and minimizes the risk of identifying unknown or additional contamination, making the contract more attractive to bidders.

The alternate approach—including all land within the installation's boundaries—includes cleanup responsibilities for areas that have not been investigated or identified as sites because there is no direct reason to believe they are contaminated. This approach ensures the Component that all contamination discovered during the contract performance period will be addressed by the contractor without the need for the Component to negotiate additional work into the contract through a contract modification or separate contract. This approach may also create significant savings in Installation Restoration Program management and oversight by closing out all sites at an installation. The downside to this approach is that it increases uncertainty and financial risk. Though the probability may be small that additional contamination exists, the potential costs in terms of time and money to address any newly discovered contamination creates additional financial risk for contractors. The uncertainty will raise the premiums for environmental insurance to cover the potential expenditures to address newly discovered contamination, will make contractors less willing to bid, and raise initial costs. Nonetheless, if unknown sites are included in the contract, environmental close-out of all the sites both known and unknown during one contract mobilization may be worth the incremental added cost to the Component.

Benefits of Using One Contract for Multiple Sites

- *Spreading Risk.* If most sites in the PBA have quantifiable risks, contractors may be more willing to include other sites in the PBA that have less quantifiable risks, because they can apply cost savings for the sites with known contamination to cover costs arising from the other sites' uncertainties.
- *Potential Reductions in Insurance Premiums.* Spreading risk across multiple sites can also lower overall project costs by lowering insurance premiums.
- *Economies of Scale.* A contractor can share administrative and cleanup resources, including equipment and personnel, across sites that otherwise would be executed by multiple contracts and possibly contractors. This eliminates duplicative tasks and lowers overall project costs, allowing the contractor to close the sites in the most efficient manner from a business and administrative perspective.
- *Faster Execution.* Using one contract for multiple sites can speed completion of remediation activities by ensuring that up-front work is taken on each site; whereas, if the work was completed under separate contracts, the activities would likely be staged over time.

Grouping Sites

Multiple sites can be "grouped" (i.e., included in the same contract). Usually, sites are grouped when they are located at the same installation; however, it may also be possible to group sites that are located at different installations. Grouping requires a cautious approach as missteps can cause confusion in contracting, drive up proposal costs, lead to disputes with contractors, and derail cleanup efforts. To best garner the advantages of grouping, sites in a group should have similar types of contamination and/or geology, and be within a single regulator's jurisdiction.

The consolidation of procurement requirements that result from grouping sites may have an adverse effect on the participation of small businesses. For this reason, in making the decision to group sites, the Component is statutorily required to conduct market research to determine whether the consolidation of procurement requirements is "necessary and justified." See 15 U.S.C. § 644(e) and FAR 7.107 for additional information on these requirements.

In choosing whether to group sites, the Component should examine its progress against Defense Program Goals and weigh cleanup priorities given the funding available. In choosing what identified sites to include in a group, the Component should consider the following recommendations:

DO:

- ☑ Include sites that are important to close-out,
- ☑ Include sites in one state regulator's jurisdiction, to minimize confusion and administrative costs.
- ☑ Group sites with similar types of contamination and similar geology, to allow for the use of similar techniques and technologies on the maximum number of sites, reducing costs and increasing efficiency through economies of scale.
- ☑ Include as many sites as possible that have clear cleanup requirements, allowing the risk of sites that are not as well defined to be spread across the project as a whole.
- ☑ Ensure that sufficient Component staff will be available to monitor site progress.

DO NOT:

- ☒ Include too many sites without clear cleanup requirements, making risk difficult to quantify; this will likely drive up insurance premiums and reduce the number of contractors willing to bid.
- ☒ Unreasonably increase the scope of work by including so many sites in the contract that only a few contractors are able to handle the resulting scope, complexity, resource requirements, or financial demands.

Appendix G: Training Resources

The following companies are not endorsed by DoD, but are offered only as examples of companies providing performance-based contracting training.

Companies Offering Training in Performance-Based Service Contracting

- Business Management Research Associates, Inc.
  3949 Pender Drive, Suite 300
  Fairfax, VA 22030-6033
  Phone: 703-691-0868
  www.bmra.com

- Kalman and Company, Inc.
  POC – Barbara Kalman
  5366 Virginia Beach Boulevard, Suite 303
  Virginia Beach, VA 23462
  Phone: 757-461-4292
  Fax: 757-461-3832
  www.kalmanco.com

- Mr. William S. Coleman, Jr.
  6917 Andre Drive
  Indianapolis, IN 46272
  Phone: 317-876-1622
  Fax: 317-872-4621

Companies Offering PBA Training in Environmental Restoration

- Aarcher Institute of Environmental Training
  910 Commerce Road
  Annapolis, MD 21401
  Phone: 410-897-0037
  Fax: 410-897-9104
  www.aarcherinstitute.com

- Calyptus Consulting Group
  76 Bedford Street, Suite 22
  Lexington, MA 02420
  Phone: 781-674-0041
  Fax: 781-674-0038
  www.calyptusgroup.com

- Jefferson Solutions, L.L.C.
  POC – Mr. Allan V. Burman
  President
  1401 K Street, NW, Suite 900
  Washington, DC 20005-3105
  Phone: 202-626-855
  Fax: 202-626-8578
  www.jeffersonconsulting.com/divisions_gov.htm

- Market Access International
  4301 Wilson Boulevard, Suite 1003
  Arlington, VA 22203
  Phone: 703-807-2755
  Fax: 703-807-2728
  www.marketaccess.org

- MSC ASSOCIATES, INC.
  POC – James E. Hutcheson
  2961-A Hunter Mill Road, # 804
  Oakton, VA 22124-1709
  Phone: 703-242-7928/703-928-8957
  Fax: 703.242.0497
  www.msca.com

- The Performance Institute
  POC – Blake Zach
  1515 North Courthouse Road, Suite 600
  Arlington, VA 22201
  Phone: 571-259-8639/703-894-0481
  Fax: 703-894-0482
  www.performanceweb.org

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