



Introduction to the Project Surveillance Plan

Version 1.0

**Prepared for NASA
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Lesson Overview

- **Review of Performance Based Contracting (PBC) Initiatives**
- **Project Surveillance Plan (PSP) Linkage to PBC**
- **PSP Introduction: Directives, Purpose, and Process**
- **Surveillance Plan Structure**
- **Developing Surveillance Strategy and Activities**
- **Specifying Surveillance Metrics and Organization**
- **Creating the Project Surveillance Plan**



Module Training Objectives

- **Overall Objective**
 - **To Gain an Appreciation of the Purpose, Structure, Content, and Method of Creating a Project Surveillance Plan**
- **Goals**
 - **Recall Performance Based Contracting (PBC) Initiatives**
 - **Comprehend Purpose of Project Surveillance Plan (PSP)**
 - **Identify PSP Structure and Content**
 - **Summarize the PSP Creation Process**



Performance Based Contracting within NASA

- **Performance Based Contracting reflects a key strategy to revolutionize NASA: “We will change the way we work with our contractors.”**
- **“We will use performance based contracting” and its processes and products to assure NASA receives “the desired outputs and outcomes of the contract.”**
- **“Performance Based Contracting creates an environment in which companies engage in NASA contracts not only for immediate profits but to gain value from the partnership between Government and industry.”**



Performance Based Contracting Insights

- **Performance Based Contracting is structuring all aspects of an acquisition around the purpose of the work to be performed.**
 - “Pay for results, not just best efforts.”
- **PBC emphasizes objective, measurable performance requirements and quality standards for the following:**
 - **Developing Statements of Work**
 - **Determining contract type and incentive structure**
 - **Selecting contractors**
 - **Performing contract administration**
- **PBC contracts include explicit performance standards for the product delivered. Performance standards are the criteria for determining whether the work requirements are met.**



Performance Based Contracting Insights (Concluded)

- **“The Policy is intended to limit the involvement of Government employees and provide contractors maximum flexibility in meeting the Government’s actual needs. ... how to fulfill that need is entrusted to the contractor.”**



PBC Essential Elements

- **Statement of Work (SOW)**
 - **Define in Terms of Desired End Results**
 - **Embedded System Performance Requirements in SOW**
 - **Unless Absolutely Essential, Do not Specify “how to”**
- **Deliverables**
 - **Clearly Articulated Description**
 - **Includes Hardware, Software, and Data (Product and Program)**
 - **Expected Product Quantity, Quality, Place, and Time**



PBC Essential Elements (Concluded)

- **Incentives**
 - **Traditionally Based on Schedule Performance and Cost Savings**
 - **If Used, Establish Firm Criteria for Award, both Objective and Subjective**
- **Performance Evaluation and Incentive Award Process**
 - **Committees and Panels: Use Prepared Evaluation Materials and Subjective Insights**
 - **No-hassle, Simple Evaluation and Award Process Works Best**
 - **Evaluation and Award Should Be Close to the Period of Performance**
- **Some Contracts May Not Include Incentives for Expected Outcomes**



Types of PBC Options

GOVERNMENT CONTRACT TYPE	TYPE OF PRODUCT PURCHASED	GOVERNMENT RISK/ COST TO ADMINISTER	PERFORMANCE INCENTIVE	AVAILABLE PERFORMANCE METRIC TYPES
FIXED PRICE				
FIRM FIXED PRICE (FFP)	MATURE PRODUCT WITH DETAILED, STABLE SPECIFICATIONS; COTS WITH NO ADAPTATION	LOW/LOWEST	NONE	NONE
FIXED PRICE WITH ECONOMIC PRICE ADJUSTMENT (FP/EPA)	FUELS, BULK COMMODITIES WITH FIRM REQUIREMENTS	LOW/LOW	NONE	NONE
FIXED PRICE INCENTIVE (FPI)				
FIXED PRICE INCENTIVE FIRM TARGET (FPIF)	SUPPLIES OR SERVICES WITH SOME COST OR TECHNICAL UNCERTAINTIES (FIRM DESIGN SPECS)	LOW - MODERATE/ LOW	LIMITED TO COST UNDERRUN SHARING	SINGLE POINT EVALUATION OF COST MANAGEMENT
FIXED PRICE INCENTIVE - SUCCESSIVE TARGETS (FFIS)	SUPPLIES OR SERVICES WITH SOME COST OR TECHNICAL UNCERTAINTIES (FIRM DESIGN SPECS) (LRIP)	LOW - MODERATE/ LOW - MODERATE	LIMITED TO COST UNDERRUN SHARING	MULTI-POINT EVALUATION OF COST MANAGEMENT
COST REIMBURSABLE				
COST PLUS INCENTIVE FEE (CPIF)	SUPPLIES OR SERVICES WITH SIGNIFICANT COST OR TECHNICAL UNCERTAINTY	MODERATE/ MODERATE	FEE - ADJUSTMENT LIMITED BY STATUTE	PROJECTED COST VERSUS ACTUAL COST
COST PLUS AWARD FEE (CPAF)	SUPPLIES OR SERVICES WITH SIGNIFICANT COST OR TECHNICAL UNCERTAINTIES	MODERATE - HIGH/ VERY HIGH	FEE - BASE AND VARIABLE AWARD FEE - MAY INCLUDE SHARE LINE	GOVERNMENT'S APPRAISAL OF PERFORMANCE, SCHEDULE, AND COST
COST PLUS FIXED FEE (CPFF)	WELFARE PROGRAMS	HIGH/LOW	NONE (GUARANTEED FEE)	NONE

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Types of PBC Options (Concluded)

GOVERNMENT CONTRACT TYPE	TYPE OF PRODUCT PURCHASED	GOVERNMENT RISK/ COST TO ADMINISTER	PERFORMANCE INCENTIVE	AVAILABLE PERFORMANCE METRIC TYPES
INDEFINITE DELIVERY				
DEFINITE QUANTITY - INDEFINITE DELIVERY	SPECIFIC QUANTITY OF ITEMS OR SERVICES KNOWN, TIME AND PLACE TO BE DETERMINED	LOW/LOW - MODERATE	NONE	NONE
REQUIREMENTS	FREQUENT RECURRING NEED OF SPECIFIC SUPPLIES OR SERVICES, BUT QUANTITY, PLACE, AND TIME ARE OPEN	LOW/LOW - MODERATE	NONE	NONE
INDEFINITE QUANTITY - INDEFINITE DELIVERY (IDIQ)	FUELS, BULK COMMODITIES WITH BOUNDED REQUIREMENTS	LOW - MODERATE/ LOW	NONE	NONE
TIME AND MATERIAL (T&M)	SUPPLIES AND SERVICES AT A PRE-SPECIFIED LOADED RATE	MODERATE/ LOW - MODERATE	NONE	NONE
LABOR HOUR (LH)	LABOR ONLY	MODERATE/ LOW - MODERATE	NONE	NONE

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Shift in Program Performance Surveillance Philosophy

- **Shifts from oversight to insight**
 - **Contractors will assume increased accountability and responsibility for the integrity of their processes**
- **“PBC is really about getting back to basics, doing acquisition the way laws, regulations, and policy already state. ... What is really required is for us to change our practices...”**



Plans for PBC Implementation

- **Evolutionary phase-in through:**
 - **Agency-wide Awareness and Training**
 - **Building an Experience Base Using Model Programs**
 - **Institutionalizing and Continuously Improving**
- **Budgetary Constraints May Become a Driving Force for Accelerated Evolution**
- **Closely Tied-in to Related Activities:**
 - **Center Reorganization and Headquarters Restructuring**
 - **Advanced Quality Systems (AQS) Initiative**



Project Surveillance Plan Introduction

- **Linked Directly to PBC**
 - **Implementing Instruction for Surveillance and Performance Assurance Monitoring of the Contractor's Effort**
 - **Identifies Up Front "What is Important" and "What Will be Measured" and "By What Standards"**
- **Guidance Tells the PM to have a PSP**
 - **OFPP Policy letter 91-2 on Quality Assurance**
 - **Agencies shall "develop formal, measurable performance standards and *surveillance plans* to assess contractor performance... avoid ... intrusive, process-oriented inspection and oversight programs."**

Project Surveillance Plan Introduction (Concluded)



- **Purpose**
 - **Establish a Unified Strategy for All Participants in the Surveillance Process**
 - **Identify and Focus Surveillance Activities Where Needed**
 - **Specify Key Metrics, Resources, and Related Management Processes**
 - **Identify Surveillance Organization and Assign Program Responsibilities**



Surveillance Plan Structure

Introduction

Background

Project Introduction

Summary of Prime Contractor Requirements

Contractor's Detailed Offer

Contract Type and Incentive Program Summary

Contractor's Proposed Schedule

Surveillance Program Objectives

Applicable NASA Directives, Policies, and Procedures

Surveillance Strategy and Approach

Surveillance Strategy

Approach to Executing the Strategy

General Surveillance Approach

Issue-related Surveillance Approach

Project Surveillance Activities and Schedule

Activities

Schedule

Project Surveillance Metrics and Control Limits

General Program Metrics

Risk Issue Metrics

Response to Performance Outside of Control Limits

Project Surveillance Organization and Required Resources

Organization

Individual Responsibilities

Required Resources



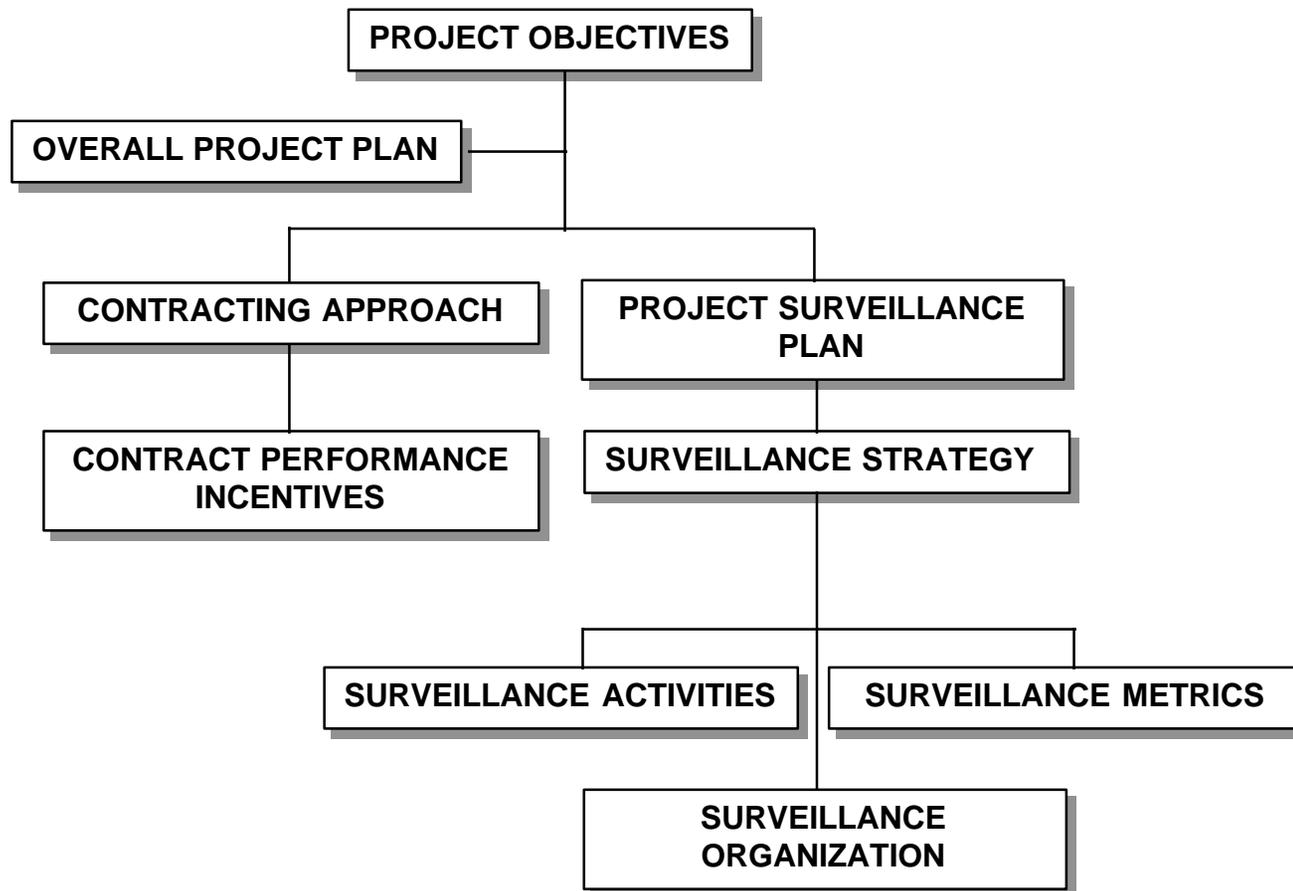
PSP Introduction

- **The Introduction Provides Essential Background Information to Support PSP Strategy Development**
 - **Background - Prior Agency Experience, Specific Project Needs, Other Related Activities**
 - **Project Introduction**
 - **RPF/SOW Requirements**
 - **Proposal Features**
 - **Contract Mechanism**
 - **Top-level Schedule**



Establishing a Surveillance Strategy

Flow Down for Performance Surveillance



Establishing a Surveillance Strategy (Continued)



- **Strategy Selection Depends on Multiple Factors**
 - **Type of Work Being Done**
 - **Type of Contract Awarded**
 - **Past Contractor Performance**
 - **Project Risk**
 - **Public Perceptions**
 - **Policy Directives**
 - **Resource Availability**
 - **Insight versus Oversight Objective**



Establishing a Surveillance Strategy (Concluded)

- **Potential Surveillance Strategies**
 - **Insight versus Oversight Strategy**
 - **Insight Strategy Focuses on Monitoring Contractor Progress and Gaining Assurance of Performance without Reliance on Intrusive Processes**
 - **Oversight Strategy Employs Intrusive Monitoring and Inspection to Assess Contractor Progress**
 - **Issue-focused Strategy**
 - **Surveillance Emphasis Placed on Critical Success Areas**
 - **Mitigate Factors Contributing to Significant Risk**
 - **Program Health Monitoring Strategy**
 - **Surveillance of Key Processes and Outcomes**
 - **Traditional Program Cost, Schedule, CDRL Monitoring, etc.**



Specifying Surveillance Activities

- **Surveillance Activities Must be Integrated with Respect to the Overall Project Strategy, Formal Regulatory Guidance, and the Project Schedule**
- **Surveillance Activities Fall into the Following General Categories:**
 - **Communication**
 - **Focused on Maintaining a Good Rapport among All Participants**
 - **Formal and Written Only When Absolutely Needed for Accuracy or When Contractually Prudent**
 - **Use of Electronic Methods Streamlines Much of the Process, but at the Expense of Personal Contact**
 - **May Include Reports, Metrics, and Other Available Data**



Specifying Surveillance Activities (Concluded)

- **Surveillance Activities**
 - **Product Verification**
 - **Deliverable Acceptance Inspections**
 - **Testing**
 - **FCA/PCA**
 - **Software IV&V**
 - **Assurance Reviews**
 - **Requirements Reviews**
 - **Design Reviews (Preliminary/Critical)**
 - **Status Reviews**
 - **Flight Readiness Reviews**



Identifying Surveillance Metrics

- **Selection of Metrics**
 - **Metrics Should Reflect Project Status or Progress of Key Elements of Essential Processes**
 - **Metrics Provide Objective Performance Measurement of Specific Elements of Strategy and Surveillance Activities**
- **Data Source**
 - **Contractor Provided Data (CDRL-specified)**
 - **Surveillance Organization Generated Data**
 - **Prior NASA-held Performance Metrics**
 - **Externally Provided Benchmarks**



Sample Surveillance Metrics

- **Sample Project Performance Metrics**
 - Labor Effectiveness
 - Product Delivered
 - Delivered Product Quality
 - Critical Path Slippage
 - Class 1 Government-initiated ECPs
 - Cost of Quality
- **Sample Issue-related Metrics**
 - Pump Impeller Reject Rate
 - Launcher Assembly Rework Rate
 - Contractor Accidents per 1,000 Labor Hours
 - Supplier Component Drawing Discrepancy Rate
 - Locally Stored Hydrazine Inventory Level



Identifying Surveillance Metrics

- **Data Collection and Analysis of Metrics**
 - **Look for Trends and Performance-leading Indicators**
 - **Always Use Simple, Intuitive Displays of Data**
- **Management Controls**
 - **Establish Performance “Thresholds” to Identify Minimal Acceptable Performance for All Metrics (Contractor and Surveillance Team)**
 - **“Objective” Performance Goals Represent the Desired Level of Performance**
 - **Take Direct Corrective Action Whenever Any Performance Falls Outside Acceptable Ranges**



Creating the Surveillance Organization

- **Key Participants Come from the PM Organization**
 - **Deputy Program Manager**
 - **Lead Systems Engineer**
 - **Comptroller**
 - **Contracting Officer's Representative**
 - **Contracting Officer's Technical Representative**
 - **Quality/Mission Assurance**
- **Teaming with External Organizations May Provide Synergy and Savings**
 - **DLA/Services**
 - **Other Federal Agencies**
 - **Trade Associations**
 - **Independent Verification Contractors**



Creating the Surveillance Organization (Concluded)

- **Assigning Responsibility**
 - Describe Who Does What within the Surveillance Organization
 - Define Performance Criteria and Metrics for Surveillance Organization Performance
- **Maintaining Accountability**
 - Conduct Regular Internal Reviews for Surveillance Accomplishments and Performance
 - Require Continuous Improvement of Processes with Demonstrated Results
- **Providing Sufficient Resources**
 - Dedicate Sufficient Budget and Capital Resources to Allow People to Perform Their Assigned Tasks
 - Contract for and Provide Incentives for Surveillance Team Performance



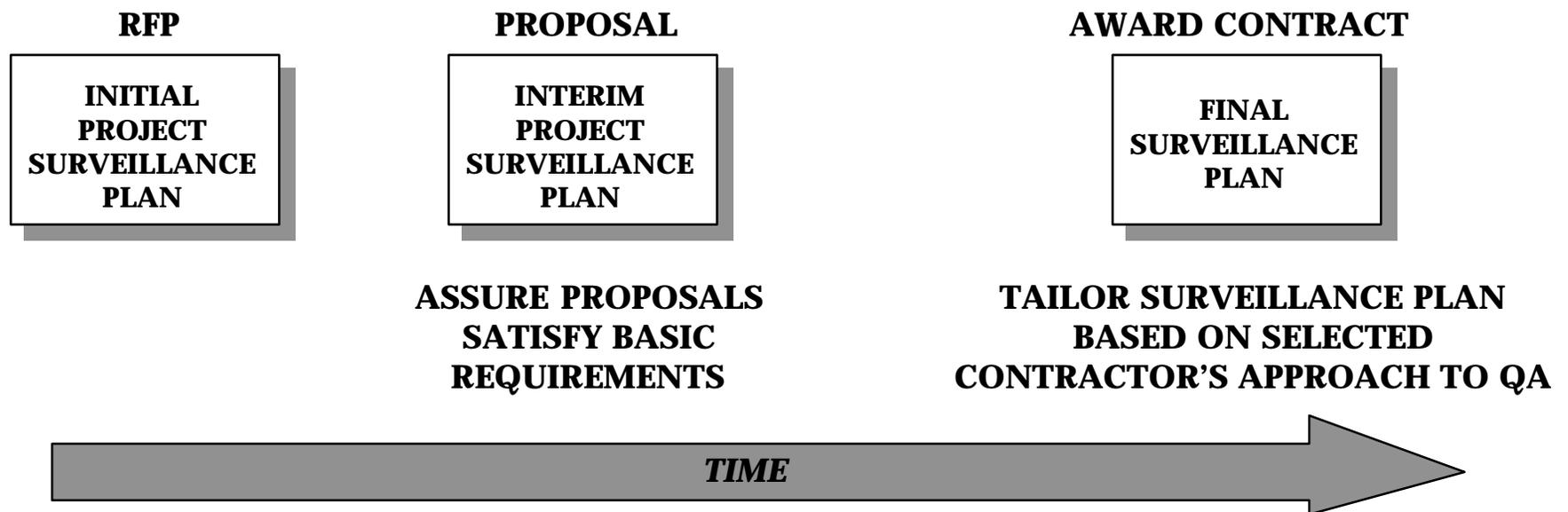
Building the Project Surveillance Plan

- **The Right People Are the Key to Success**
 - **Create an Integrated Project Team with Authority for “Buy-in” and General Approval; Include the Following:**
 - **Project Management**
 - **Systems Engineer**
 - **SR&MA**
 - **Contracting**
 - **Comptroller**
- **Provide the Team the General Program Strategy for Success and Limits on Surveillance Activities - Tell the Team Up Front What Constitutes Successful Completion of Planning Process**
- **Establish Hard Deadlines and Provide Resources and Senior Management Support to Meet the Deadline**



Building the Project Surveillance Plan (Concluded)

- **Timing: During Concept Development, Write a Decisive Initial Plan**
 - **Draft Plan - Concurrent with RFP/SOW**
 - **Finalize during Award/Negotiations with Contractor**



The completion of the PSP requires a multi-phased, iterative approach.



Plan Development Cycle

- **First Plan Requires Discipline and Focus to Structure the Overall Surveillance Program**
 - **Sets the Tone for all Surveillance Activities in the Program**
 - **Should Integrate “Lessons Learned” from Like Programs**
 - **Focuses Attention to Critical Initial Issues**
- **Use the Process - Continue with Iterative Refinement**
 - **Obtain More of the Contractor’s Perspective; Back-off Surveillance When Comfort Level Increases**
 - **Focus on Continuous Improvement of Processes to Meet Program Goals**
 - **Share News of Successes with Others; Develop a “Best Practices” Library**

Summary/Closure



- **Characteristics of an Effective Surveillance Plan**
 - **Considers the following:**
 - **Fiscal Reality**
 - **Risk Assumption**
 - **Integration with PBC Objectives**
 - **Is Created by the Project Organization to Support Needs of the Project**
 - **Provides an Environment for Insight Rather than Oversight Surveillance**
 - **Requires Discipline to Work**
 - **Is Built on Cooperative Government-Contractor Relationships**