



CIO-SP2i – Performance-Based Contracting Kit

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Introduction

This document explains what PBSC is and provides a PBSC template for performance requirements, sample PBSC performance statements, and a complete sample PBSC Statement of Work (SOW).

PBSC is described in the memo of August 8, 1997 from the administrator of the Office of Management and Budget (OMB) to the Agency Senior Procurement Executives and the Deputy Undersecretary of Defense. The memo requires the following minimal components for PBSC:

1. Performance requirements that define the work in measurable, mission-related terms.
2. Performance standards (i.e., quality, quantity, timeliness) tied to the performance requirements.
3. A Government quality assurance (QA) plan that describes how the contractor's performance will be measured against the performance standards.
4. If the acquisition is either critical to agency mission accomplishment or requires relatively large expenditures of funds, positive and negative incentives tied to the Government QA plan measurements.

Notes:

- In memo item 1 above, OMB's use of "mission-related terms" means that requirements are to be couched in terms of *what* is required, not *how* it is to be produced.
- In PBSC, OMB gives direction for writing performance requirements, performance standards, a quality assurance plan, and positive and negative incentives. Other aspects of the acquisition process are not discussed.
- OMB has not directed agencies to make *all* of their acquisitions PBSC, but rather to encourage the use of PBSC *to the maximum extent possible*. Therefore, do not try to squeeze all your requirements into the PBSC mold if some of them are inappropriate fits. For example, building a structure according to architectural drawings is usually not stated in PBSC terms because the drawings specify *how* the structure is to be built.
- The OMB memo calls for positive and negative incentives for critical agency mission requirements or for relatively large expenditure acquisitions. Therefore, do not attempt to define incentives for every requirement. State incentives for the most significant and critical requirements of a task. Also, you must have sufficient staff available to evaluate performance, so do not plan for what you cannot do.

The following sections will aid you in preparing PBSC SOWs. Section II contains a PBSC SOW outline. Section III contains a template for individual performance requirements. Sections IV and V contain samples that have been culled from a variety of actual Government agencies and

documents, modified for this presentation: section IV contains sample performance requirements and section V contains a sample of a complete SOW.

PBSC Sow Outline

A. Introduction: background and overall task description

B. List of performance requirements

1. Requirement 1
 - a) Performance Requirement
 - b) Performance Standard
 - c) Quality Assurance Plan
2. Requirement 2
 - a) Performance Requirement
 - b) Performance Standard
 - c) Quality Assurance Plan
3. Etc.

C. List of other requirements

D. Deliverables list

Note: The Quality Assurance Plan may be consolidated into a separate document or placed paragraph-by-paragraph in the SOW as shown in this outline.

PBSC Template

This section explains how to write PBSC Performance Requirements, Performance Standards, and Quality Assurance Plans.

Performance Requirement

For each requirement, state *what* work product is to be produced or performed, but do not tell the contractor *how* they must go about it. Say, "Write a user manual suitable for first time users," but do not specify topics, organization, language usage, or format. Say, "Automate process X," but do not prescribe a design.

Performance Standard

Explain how good the work must be in measurable terms. For example, specify quantity, production level, delivery schedule, response time, and availability of equipment, verified customer complaint rate.

State what level of performance is required to meet the Performance Standard. For example, if the Performance Standard was to “repair equipment within four hours of failure,” a Minimum Acceptable Performance may be “meet the Performance Standard for 95% of all repairs.”

The Minimum Acceptable Performance statement can be used as a basis for positive or negative incentives. If you do this, state what the incentives are, including how they are computed. A reduction formula may be used to reduce payment when the Minimum Acceptable Performance level is not met. See the specific examples below.

Quality Assurance Plan

Explain how you will determine if the Performance Standard has been met. Examples include unannounced periodic inspection, 100% inspection, sampling and testing, tabulation of validated customer complaints, inspection of contractor’s records, complete reading of written products.

Sample PBSC Performance Requirements

PERFORMANCE REQUIREMENT FOR IMAGE CONVERSION

Existing images converted to (new format). Existing index database migrated to (new database) and populated with existing information from (old database).

Performance Standard

99% of data transferred to the new system suffers no conversion errors and is usable when the new system is made available.

+/- 0.5% of total CLIN price for each variance of 0.5% from the performance standard.

Quality Assurance Plan

Random sample of converted images and index database records will be inspected.

PERFORMANCE REQUIREMENT FOR DOCUMENTATION

Documentation for the system administrator is accurate, complete, and easy to use.

Performance Standard

All functions performed by the system administrator, including future customization of the system, are documented accurately.

Full payment shall be made for 100% compliance. For each function overlooked by the documentation, 1% of total firm-fixed-price shall be withheld until compliance is achieved.

Quality Assurance Plan

Review documentation via independent verification and validation to ensure functions and operations are properly documented. Survey system administrator(s) for ease of use.

PERFORMANCE REQUIREMENT FOR SYSTEM ADMINISTRATOR TRAINING

System administrator(s) shall receive training appropriate for their intended use of the new software.

Performance Standard

The system administrator(s) trained can perform at the 85% proficiency level at the end of training.

Training pricing may be adjusted by a percentage proportional to the stated performance standard. Maximum price paid shall be the task order price for the training CLIN; minimum price shall be 75% of the price for the training CLIN.

Quality Assurance Plan

Proficiency tests and validated calls to and response by system administrators; audit of training course by program manager.

PERFORMANCE REQUIREMENT FOR PRODUCT MALFUNCTIONS

Product malfunctions and failures for all components of the Document Management System shall be resolved within one business day of notification.

Performance Standard

95% of service equipment is restored to service within the stated time.

The firm-fixed-price for this CLIN shall be reduced by 2% if the performance standard is not met.

Quality Assurance Plan

User complaints/ trouble tracking will be reviewed, noting delays caused by equipment being unavailable.

PERFORMANCE REQUIREMENT FOR SOFTWARE DEVELOPMENT

Software capable of performing the requisite functions shall be delivered in accordance with the stated schedule, including shorter-term milestones.

Performance Standard

The stated delivery dates shall be met unless the Government and the Contractor agree to a new completion date.

Full payment shall be made for 100% compliance.

Quality Assurance Plan

100% inspection.

PERFORMANCE REQUIREMENT FOR EASE OF USE

Image viewing system is easy to use, easy to learn and adds to user efficiency and satisfaction.

Performance Standard

95% of staff can access documents for which they have permission after no more than one hour of training.

Quality Assurance Plan

Random sampling of users to measure how quickly they can learn to use the system for basic access to documents.

PERFORMANCE REQUIREMENT FOR ADP MAINTENANCE

The contractor shall perform Automated Data Processing (ADP) preventive and remedial maintenance services for Government-owned computer equipment including central processing units, direct access storage devices, tape devices, laser printers, and other associated equipment for the (name site location). (List equipment or refer to equipment list.) (Refer to maintenance record for past year.)

Performance Standard

The contractor shall resolve equipment malfunctions within four hours, twenty-four hours per day, seven days per week.

Minimum Acceptable Performance

A four-hour resolution time is the minimum acceptable performance. For each hour late, payment will be reduced by 1% of the replacement price of the affected equipment.

Quality Assurance Plan

The Government will assess contractor performance by 100% inspection of user trouble reports, contractor incident tracking reports, and contractor maintenance records.

PERFORMANCE REQUIREMENT FOR COMPUTER NETWORK MAINTENANCE

This Statement of Work (SOW) establishes and defines the requirements for maintenance of the (Insert Name) Network. The contractor shall provide all material, labor, supplies, vehicles, test equipment, tools, and any other items required to maintain the (Insert Name) Network as outlined in this SOW. The scope of this SOW provides for the maintenance of the (Insert Name) Network equipment located at (Specify Location(s)). The equipment to be maintained is listed in Attachment 1 to this SOW.

The contractor shall maintain the system in accordance with the original equipment manufacturer's (OEM) recommended engineering and maintenance practices commencing (Insert Date). All parts, spares, labor, supplies, vehicles, test equipment, tools, and any other items necessary for system maintenance for the life of the contract shall be included in the monthly maintenance price. The term "system" refers to the equipment listed in Attachment 1 and software associated with the listed equipment. It does not include equipment added to the system by others or the interconnecting communications system.

The contractor shall perform preventive maintenance on the system including scheduled preventive maintenance such as periodic tests, inspections, and all other preventive maintenance services/practices recommended by the OEM.

The contractor shall perform remedial maintenance after notification that equipment is inoperative.

The contractor shall provide, for the term of the contract, service personnel trained and certified by the respective OEMs sufficient to ensure system performance and compliance with the maintenance requirements outlined herein.

Performance Standard

The contractor shall perform remedial maintenance after notification that equipment is malfunctioning. Maintenance on any piece of equipment covered by this contract shall commence within a maximum of four hours after notification by the Government. All attempts will be made to fully restore the equipment to full operational capability within eight hours of notification of malfunction.

Minimum Acceptable Performance

An eight-hour resolution time is the minimum acceptable performance. For each hour late, the monthly payment will be reduced by 1% as follows:

1. Determine all the equipment that is unavailable due to the malfunction. Let p = the replacement price of all the unavailable equipment. Let P = the replacement price of all equipment being maintained under this contract. Then p/P is the proportion of value of equipment that is unavailable.
2. Let N be the number of hours late.
3. Let F be the monthly fee due.
4. The reduction $R = .01 \times N \times p/P \times F$.

Quality Assurance Plan

The Government will assess contractor performance by 100% inspection of user trouble reports, contractor incident tracking reports, and contractor maintenance records.

Sample PBSC SOW

The following pages contain an abridged sample SOW utilizing PBSC concepts for performance requirements, performance standards, and quality assurance plans.

Performance Work Statement

Upgrade of DoC NIST ATP's Document Management System

BACKGROUND INFORMATION

The U. S. Department of Commerce (DoC), National Institute of Standards and Technology (NIST) was established by Congress to assist industry in the development of technology needed to improve product quality, to modernize manufacturing processes, to ensure product reliability, and to facilitate rapid commercialization of products based on new scientific discoveries.

In support of the NIST mission, the Advanced Technology Program (ATP) accelerates the development of innovative technologies for broad national benefit through partnerships with the private sector. Through a competitive process, the ATP provides multi-year funding to single

companies and to industry-led joint ventures. Proposers submit proposals to ATP in order to be considered for funding.

Three years ago, ATP established a document scanning and viewing system to permit secure online viewing of proposals that were delivered to ATP in hard copy form. It also allows archival of numerous other paper documents. This system uses Input/Accel products from ActionPoint for image capture, and Optika's FilePower products for storage management and viewing. The images are stored on a Hewlett Packard SureStore 320EX 320GB Jukebox, which contains four optical drives and 32 slots for 5.2 GB disks. The disk server PC has one optical disk drive (5.2 GB).

SCOPE

Optika no longer supports its FilePower products, so ATP must migrate the file management and viewing portion of its system to another product. In the process of doing so, ATP seeks to 1) store TIFF images using an open standard format, 2) gain better control of printing of viewed documents, and 3) expand the system to provide carefully controlled access to PDF files that will come from ATP's future Electronic Submission System (under development).

CONTRACTOR REQUIREMENTS

The Contractor must procure, on behalf of DoC NIST (the licensee), necessary copies/licenses of commercial off-the-shelf (COTS) software, then integrate it into/customize it with ATP's existing systems to meet the following requirements. All software in this system must allow users to view images from computers running Windows NT, Windows 2000, and Windows 98. All software procured by the Contractor under this task order must comply with the relevant Section 508 technical standards described in Attachment 4 of this performance work statement. As noted above, DoC NIST must be the licensee of the software, not the Contractor.

The Contractor must recommend any hardware upgrades that are needed to support the enhanced system.

The Contractor must provide the source code for the DMS, all software purchased for or provided to the Government during the development of the system, and all documentation related to the system development, implementation, and maintenance.

See Attachment 1 for Desired Outcomes, Performance Standards, Monitoring Methods and Incentives/Disincentives.

The period of performance for this task order will be twelve months, beginning on the date of task order award.

GOVERNMENT RESPONSIBILITIES

The COTR will provide supervised access to ATP's Document Management System, including existing image files, index and retrieval database, and software. ATP staff will be available as needed to facilitate integration of new developments with the existing DMS and with the ATP Oracle Proposal Management System.

REPORTING REQUIREMENTS AND DELIVERABLES

The Contractor must deliver the desired outcomes from Section C above according to the performance standards noted in the Quality Assurance Plan. The Contractor must provide some reports to the COTR on an ad hoc basis in response to ATP staff inquiries.

The Contractor must submit a brief written report to the COTR and orally discuss it with the COTR every two weeks after commencement of the task order.

PROGRAM MANAGEMENT AND CONTROL REQUIREMENTS

See text in Section E above.

INSPECTION AND ACCEPTANCE CRITERIA

The COTR will monitor the Contractor’s activities and accomplishments and will indicate acceptance or nonacceptance of the deliverables. The deliverables identified in Section E. above will be inspected and either approved or, if they are not acceptable, rejected by the COTR. The Contractor may be required to revise such deliverables if they are incorrect or unacceptable. Such inspections will occur within five days after the COTR receives such deliverables.

ATTACHMENTS

- Attachment 1: PWS Table
- Attachment 2: Quality Assurance Plan
- Attachment 3: Existing Document Management System Hardware and Software [not included]
- Attachment 4: Rehabilitation Act of 1973, Section 508 IT Accessibility Requirements [not included]

Attachment 1: PWS Table for Upgrading ATP’s Document Management System

Desired Outcomes	Performance Standard	Monitoring Method	Incentive / Disincentive
TIFF image files are stored on the existing jukebox, which acts as a logical drive to the disk server. Index and retrieval database is in Oracle 8i and is integrated / synchronized with ATP’s Proposal Management System (PMS) as needed. Daily backup capability is established. PDF files stored on another ATP server can be retrieved and backed up through same management system. A successful operational capability demonstration (OCD) will be performed prior to full implementation.	100% compliance is required for customer satisfaction, performance, and utility. No performance degradation for PMS observed by users or system administrators. OCD results will be analyzed in accordance with the QAP.	Review OCD results and analyses to ensure that required functionality is provided. User complaints/ trouble tracking will be reviewed, noting delays caused by database efficiency. Random system/network tests will be conducted using standard testing techniques	Full payment shall be made for 100% compliance. For each 5% degradation in PMS performance observed by system administrators, the firm-fixed-price for the CLIN will be reduced by 1%.

Desired Outcomes	Performance Standard	Monitoring Method	Incentive / Disincentive
<p>Web-based interface for controlled viewing of images for up to 80 named users or 10 concurrent users. Role-based access for viewing and printing controlled by user name, using information from ATP's Secured Intranet and PMS. Application integrated with ATP Secured Intranet (Cold Fusion). Printing logged by user name in database with copy number. Unique copy number also printed on each printed copy. Tools implemented so system administrator can create logical access controls, monitor and generate reports of printing by user name and copy number, and restrict printing to specific printers. A successful operational capability demonstration (OCD) will be performed prior to full implementation.</p>	<p>100% compliance is required for customer satisfaction, performance, and utility. No security breaches are detected. OCD results will be analyzed in accordance with the QAP.</p>	<p>Software licenses reviewed for quantity specifications. Random system tests will be conducted using standard testing techniques.</p>	<p>Full payment shall be made for 100% compliance. For each security breach detected, 1% of CLIN payment shall be withheld until compliance is achieved. For each of the four printing/logging features (logging, copy number, reporting, printer control) that is not fully functional, 10% of CLIN payment shall be withheld until compliance is achieved.</p>
<p>Existing images converted to Group IV TIFF, removing Optika's proprietary header. Existing index database migrated to Oracle 8i and populated with existing information from MS-SQL database (version 6.5)</p>	<p>99% of data transferred to the new system suffers no conversion errors and is usable when the new system is made available.</p>	<p>Random sample of converted images and index database records will be inspected.</p>	<p>+/- 0.5% of total CLIN price for each variance of 0.5% from the performance standard.</p>

Desired Outcomes	Performance Standard	Monitoring Method	Incentive / Disincentive
<p>Input Accel produces Group IV TIFF images with no proprietary header. Transaction processing to move images and associated images from the capture side (Input Accel) to the storage side (the jukebox and index and retrieval database) allows full interoperability between the new viewing system and the existing scanning system. A successful operational capability demonstration (OCD) will be performed prior to full implementation.</p>	<p>100% compliance is required for customer satisfaction, performance, and utility. OCD results will be analyzed in accordance with the QAP.</p>	<p>Random system tests will be conducted using standard testing techniques</p>	<p>Full payment shall be made for 100% compliance.</p>
<p>Tool available to allow creation of a self-contained CD-ROM that contains everything necessary (viewer software, database, index records, page data forms, etc.) to retrieve and display the published data or images. Images on the CD-ROM are only viewable when a valid user name and password</p>	<p>100% compliance is required for customer satisfaction, performance, and utility. No security breaches are detected. OCD results will be analyzed in accordance with the QAP.</p>	<p>Software licenses reviewed for quantity specifications. Random system tests will be conducted using standard testing techniques.</p>	<p>Full payment shall be made for 100% compliance. For each security breach detected, 1% will be deducted from the total firm-fixed-price until full compliance is achieved.</p>

are provided. Necessary licenses are procured for up to 20 CDs each year. A successful operational capability demonstration (OCD) will be performed prior to full implementation.			
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Desired Outcomes	Performance Standard	Monitoring Method	Incentive / Disincentive
Documentation for the system administrator is accurate, complete, and easy to use.	All functions performed by the system administrator, including future customization of the system, are documented accurately.	Review documentation via independent verification and validation to ensure functions and operations are properly documented. Survey system administrator(s) for ease of use.	Full payment shall be made for 100% compliance. For each function overlooked by the documentation, 1% of total firm-fixed-price shall be withheld until compliance is achieved.
System administrator(s) shall receive training appropriate for their intended use of the new software.	The system administrator(s) trained can perform at the 85% proficiency level at the end of training.	Proficiency tests and validated calls to and response by system administrators; audit of training course by program manager.	Training pricing may be adjusted by a percentage proportional to the stated performance standard. Maximum price paid shall be the task order price for the training CLIN; minimum price shall be 75% of the price for the training CLIN.
Product malfunctions and failures for all components of the Document Management System (those listed in Attachment 3 as well as anything procured to support this contract) shall be resolved within one business day of notification.	95% of service equipment is restored to service within the stated time.	User complaints/ trouble tracking will be reviewed, noting delays caused by equipment being unavailable	The firm-fixed-price for this CLIN shall be reduced by 2% if the performance standard is not met.

Desired Outcomes	Performance Standard	Monitoring Method	Incentive / Disincentive
All software that is part of the Document Management system (that listed in Attachment 3 as well as that procured to support this contract) shall be updated to the most recent release within one week of that release becoming available.	95% of software is updated to the most recent version within the stated time.	100% inspection of product versions.	The firm-fixed-price for this CLIN shall be reduced by 2% if the performance standard is not met.
Upgrade the operating system on all DMS components to Windows 2000 and upgrade all Input Accel products to most recent versions.	100% compliance is required for customer satisfaction, performance, and utility.	100% inspection of product versions.	Full payment shall be made for 100% compliance.
Software capable of performing the requisite functions shall be delivered in accordance with the stated schedule, including shorter-term milestones.	The stated delivery dates shall be met unless the Government and the Contractor agree to a new completion date.	100% inspection.	Full payment shall be made for 100% compliance.
Image viewing system is easy to use, easy to learn and adds to user efficiency and satisfaction	95% of ATP staff can access documents for which they have permission after no more than one hour of training.	Random sampling of users to measure how quickly they can learn to use the system for basic access to documents.	

Attachment 2: Quality Assurance Plan Upgrading ATP's Document Management System

Objective: The purpose of this plan is to provide a quality surveillance plan for the upgrade of ATP's Document Management System. This plan provides a basis for the Contracting Officer's Technical Representative (COTR) to evaluate the quality of the Contractor's performance. The oversight provided for in the contract and in this plan will help to ensure that service levels reach and maintain the required levels throughout the contract term. Further, this plan provides the COTR with a proactive way to avoid unacceptable or deficient performance, and provides verifiable input for the required annual past performance evaluations.

Performance Standards:

- A. **Quality Level:** By monitoring the Contractor, the COTR will determine whether the performance levels set forth in the contract have been attained. Quality standards (i.e. performance standards) for all tasks are specified in the Performance Work Statement, Section C.
- B. **Frequency:** Prior to contract award, the COTR will evaluate the current levels of performance, according to the standards set forth in this contract. During the performance of this contract, the COTR will take periodic measurements (i.e. conduct surveillance), as specified, and will analyze whether the negotiated frequency of measurement is appropriate for the work being performed. Adjustments may only be made by a modification to the contract.
- C. **Management Responsiveness:** The COTR will determine whether the Contractor has managed the contract effectively and efficiently, as specified in the quality standards set forth in Section C of the PWS. The COTR will confirm whether the Contractor has satisfactorily met all reporting requirements, including subcontracting reports when applicable.

Evaluation Methods: The COTR will conduct performance evaluations based upon Section II above and the required performance levels set forth in the contract. The following techniques will be used to perform surveillance:

- A. **System Performance Report.** The COTR will review performance records of the Document Management System and Oracle databases to ensure that the required security, reliability, efficiency, and availability have been provided. Outages, problems, resolutions, etc. shall be noted and availability calculated as stated in the contract. Results shall be shared with the contracting officer.
- B. **Service Level Monitoring.** The Contractor is required to resolve product malfunctions and failures quickly. Customer feedback will be sought and the IRG service request logs shall be reviewed to ensure that reported problems are resolved as quickly and efficiently as possible.
- C. **Operational Capability Demonstration.** ATP staff will execute all functions in the Document Management System to verify that the functionality meets the acceptance criteria. ATP staff will also attempt to breach the DMS' security and perform other illegal operations. Results of the testing will be documented, and the COTR will review these results for compliance with the contract.

D. **Inspections.** ATP staff will conduct 100% inspections of software licenses and software versions, and will inspect random samples of converted images and datafiles. Documentation will be inspected for accuracy and completeness. Results of the inspections will be documented, and the COTR will review these results for compliance with the contract.