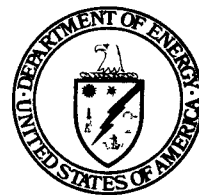


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**RRT Management Control System**

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# **Performance Measurement System**

## **Surveillance Guide**

**March 30, 1976**

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**U.S. Department of Energy**  
Assistant Secretary for Energy Technology  
Division of Reactor Research & Technology

**Reprinted April 1978**

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## RRT Management Control System

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# Performance Measurement System

## Surveillance Guide

**March 30, 1976**

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Note: This document was previously published by the Energy Research and Development Administration (ERDA) prior to the activation of the U.S. Department of Energy (DOE) and is being reprinted without any substantive changes. Therefore, wherever ERDA is mentioned, its functions have been transferred to DOE. Furthermore, the Division of Reactor Development and Demonstration has been renamed the Division of Reactor Research and Technology.

**U.S. Department of Energy**  
Assistant Secretary for Energy Technology  
Division of Reactor Research & Technology  
Washington, D.C. 20545

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PERFORMANCE MEASUREMENT SYSTEM  
SURVEILLANCE GUIDE

This document provides guidance approved by the Director/RDD for use during surveillance of contractor systems meeting the RDD Performance Measurement System (PMS) criteria for cost and schedule control systems. Users of this guide are encouraged to submit recommendations for refined procedures, through channels, to the Assistant Director for Planning and Budget at the above address.

TABLE OF CONTENTS

	Page
Foreword	
Chapter 1. Policy and Objectives	
1. Purpose of This Guide . . . . .	1-1
2. Surveillance Policy . . . . .	1-2
3. Concept of Surveillance . . . . .	1-2
4. Objectives of Surveillance. . . . .	1-2
5. Scope of Surveillance . . . . .	1-3
6. Terminology . . . . .	1-3
7. Functional Descriptions . . . . .	1-3
8. Revisions and Additions . . . . .	1-4
9. References. . . . .	1-4
Chapter 2. Administrative Aspects	
1. Surveillance Administration . . . . .	2-1
2. Memorandum of Agreement (MOA) and Surveillance Plan . . .	2-1
3. Changes and Deviations. . . . .	2-2
4. Surveillance of Subcontractors. . . . .	2-3
5. Surveillance at Other Locations of Prime Contractor . . .	2-4
6. Staff Visits. . . . .	2-4
7. System Application on Subsequent Programs or Contracts. .	2-4
8. Training. . . . .	2-5
9. Surveillance Records and Reports. . . . .	2-5
Chapter 3. Surveillance Responsibilities	
1. General . . . . .	3-1
2. PMS Surveillance Responsibility . . . . .	3-2
3. Contract Surveillance Relationship to PMS Surveillance. .	3-2
4. Contracting Officer (CO). . . . .	3-3
5. Surveillance Monitor. . . . .	3-4
6. CCO Contract Administration Specialists . . . . .	3-4

	Page
7. CCO Production/Construction Operations Specialists. . . .	3-5
8. CCO Engineering Specialists . . . . .	3-5
9. CCO Quality Assurance Specialists . . . . .	3-5
10. CFA . . . . .	3-6
11. Responsibilities Prior to Contract Award. . . . .	3-6
12. Responsibilities Between Contract Award and Acceptance (Phase I). . . . .	3-7
13. Responsibilities After Acceptance (Phase II). . . . .	3-8

#### Chapter 4. Planning and Performing Surveillance

1. Introduction. . . . .	4-1
2. Planning for Surveillance . . . . .	4-1
3. The Surveillance Plan . . . . .	4-1
4. Performing Surveillance During Phase I. . . . .	4-3
5. Performing Surveillance During Phase II . . . . .	4-4
6. PMS Surveillance Review Techniques - General. . . . .	4-6
7. Organization Criteria Surveillance. . . . .	4-7
8. Planning and Budgeting Criteria Surveillance. . . . .	4-9
9. Accounting Criteria Surveillance. . . . .	4-12
10. Analysis Criteria Surveillance. . . . .	4-14
11. Revisions and Access to Data Criteria Surveillance. . . .	4-15
12. Indirect Costs Surveillance . . . . .	4-17
13. System Discipline Surveillance. . . . .	4-18
14. Status Indicators . . . . .	4-18
15. Sampling. . . . .	4-19

#### Figures

2-1 Suggested Format for PMS Surveillance Summary Checklist. .	2-6
3-1 Typical Phases of PMS Implementation and Surveillance. . .	3-7
3-2 Responsibility Assignments . . . . .	3-9

Attachment 1 List of Acronyms

Attachment 2 Glossary of Terms

Attachment 3 Model Memorandum of Agreement

Attachment 4 Surveillance Plan Outline

## CHAPTER 1

### POLICY AND OBJECTIVES

#### 1-1 Purpose of This Guide:

A. Uniform Guidance. This guide provides uniform guidance for the Reactor Development and Demonstration Division (RDD) and other Energy Research and Development Administration (ERDA) organizations responsible for surveillance of the RDD Performance Measurement System (PMS) criteria for cost and schedule control systems. Guidance for implementation of the PMS criteria and acceptance of a contractor's management control system is provided in RDD/PMS-2, PMS Implementation Guide.

B. Procedural Guidance. The procedural guidance contained in this guide should be adapted to specific organizational structures and to specific situations as they arise. Details concerning the PMS surveillance of each contractor's management control system should be developed by the Cognizant Contracting Office (CCO), coordinated with the Cognizant Federal Auditor (CFA), and agreed upon by RDD Project Management. Any procedures employed should be consistent with the guidance contained herein and in the PMS Implementation Guide.

C. Assistance to Users. The guidance furnished herein will provide assistance to:

- (1) RDD Project Management in formulating surveillance plans and determining resource requirements,
- (2) RDD surveillance personnel in accomplishing their surveillance functions, and
- (3) Contractors in understanding the requirements of the surveillance program and responding to them.

D. Relationship to PMS Implementation Guide. This PMS Surveillance Guide is to be used in conjunction with the PMS Implementation Guide which covers the actions leading to the review and acceptance of management control systems which are required to comply with the PMS criteria. Specifically, the PMS Implementation Guide explains the organizational relationships and administrative procedures before and during contract performance until the management control system is accepted. It outlines the Demonstration Review process, including the composition of the Demonstration Review Teams, the functions of all involved, and the coordination required. It also discusses the objectives and interpretation of the PMS criteria and the implementation procedures, including preaward and contractual actions resulting from applying a PMS requirement. Any conflict between the Implementation and Surveillance Guides should be brought to the attention of the RDD PMS Steering Committee for resolution.



## 1-2 Surveillance Policy:

It is RDD policy for CCOs, Cognizant Federal Auditors (CFA), and Project Management to:

A. Perform recurring reviews to evaluate the effectiveness of a contractor's policies and procedures to assure that the contractor's management control system continues to meet the PMS criteria and generates valid data.

B. Base such reviews on recurring evaluation of internal management control practices and selective tests of internal and external reported data during the life of the contract.

## 1-3 Concept of Surveillance:

PMS surveillance begins with the award of the contract, continues through system demonstration and acceptance (Phase I), and extends throughout the duration of the contract (Phase II). Familiarization with the contractor's management control system should begin during the contract proposal stage. The surveillance plan should be formulated by the CCO during Phase I and fully implemented after system acceptance. This guide contains information on preparation of a surveillance plan and on the conduct of surveillance operations. PMS surveillance of the contractor's system and review of data emanating from that system are to be accomplished by qualified individuals from the cognizant CCO and CFA in accordance with the succeeding chapters of this guide. Surveillance normally is the responsibility of a member of the CCO who has been designated as the Surveillance Monitor and who is assisted by personnel from the functional divisions of the CCO and CFA.

## 1-4 Objectives of Surveillance.

The objectives of PMS surveillance are:

A. To insure that the contractor's management control system continues to meet the PMS criteria and to provide:

- (1) Valid and timely management information,
- (2) Timely indications of actual or potential problems, and
- (3) Baseline integrity.

B. To insure that the contractor's required PMS reports contain:

- (1) Information that is derived from the same data base as that used by the contractor's management,
- (2) Explicit and comprehensive variance analyses including proposed corrective action, and
- (3) Information that depicts actual conditions.

#### 1-5 Scope of Surveillance:

Performance Measurement System surveillance consists of:

- A. Understanding the contractor's internal management control system,
- B. Monitoring the contractor's implementation of his management control system on the applicable contract,
- C. Participating in Implementation Visits, Readiness Assessments, and Demonstration Reviews, and monitoring the contractor's corrective action following each of these activities,
- D. Monitoring throughout the life of the contract the continuity, consistency, reliability, and effectiveness of the system in operation. This function includes the following:

- (1) Assuring that the accepted system is in fact being used in the management of the program,

- (2) Evaluating changes to the accepted system to assure continuing compliance with the criteria,

- (3) Conducting periodic system reviews, evaluations, and testing to insure that the quality of the accepted management control system is maintained, and

- (4) Informing the contractor and RDD of any uncorrected deficiencies which affect overall acceptability of the contractor's management control system, and requesting that corrective action be initiated.

- E. Assuring that contractor-prepared reports (internal and external) identify current and potential problems,

- F. Reviewing, evaluating and processing external contractor PMS reports, and

- G. Monitoring the contractor's corrective actions required as a result of PMS surveillance.

#### 1-6 Terminology:

Abbreviations used are explained in the List of Acronyms, Attachment 1. Terms relating to planning and administering the PMS surveillance function are defined in the Glossary, Attachment 2.

#### 1-7 Functional Descriptions:

This guide makes appreciable use of functional descriptors rather than current titles of specific ERDA organizational elements. For example, the Cognizant Contracting Office (CCO), is that group of individuals responsible for administration of a contract regardless of the name of the ERDA office or offices in which they may reside.

This approach provides the following advantages:

- (1) Permits maximum flexibility in application of guidance,
- (2) Permits maximum flexibility in organization, in reorganization, and in redesignation of organization titles, and
- (3) Requires minimum revision to this guide, with attendant savings in time and manpower.

#### 1-8 Revisions and Additions:

Persons using this guide are encouraged to submit suggestions for improvements to appropriate focal points. When proposed revisions have been coordinated and jointly approved they should be forwarded to the Assistant Director for Planning and Budget, (AD/B), RDD/ERDA, Washington, D.C. 20545.

#### 1-9 References:

Persons interested in additional information regarding the RDD PMS are encouraged to read the following documents:

##### A. RDD/PMS-1, Summary Description:

Reactor Development and Demonstration Division

Provides an overview of PMS application, implementation and operation.

##### B. RDD/PMS-2, Performance Measurement System Implementation Guide:

Reactor Development and Demonstration Division

Provides guidance to ERDA and contractors concerning requirements for acceptable PMS. Contains the PMS criteria and detailed discussion of the criteria, organizational relationships, and implementation procedures. Attachments include the various clauses, checklists, and formats used with the criteria.

##### C. RDD/PMS-3, Performance Measurement System Contractor Reporting Instructions

Reactor Development and Demonstration Division

Provides guidance for preparation of the PMS reports required from contractors. These reports include the Cost Performance Report (CPR), the Schedule Status Report (SSR), and the Contract Funds Status Report (CFSR). The reports provide the means to collect summary level cost and schedule performance data and funding data for project management purposes. Included are the data item descriptions for placing the reports on contract.

D. RDD/PMS-4, Performance Measurement System Data Analysis Guide:

Reactor Development and Demonstration Division

Provides guidance for PMS data analysis. Contains a collection of techniques to determine cost and schedule status, identify trends and forecast a future status position using PMS contractor reports. Includes examples for deriving performance indices, performing smoothing techniques, etc.

E. Techniques Handbook - Project Management

Work Breakdown Structures

ERDA Handbook 0805.3-Part 1

Establishes criteria governing the preparation and employment of work breakdown structures to insure that the total project effort is fully planned and that all efforts contribute directly to the project objectives.

## FOREWORD

One of the most important goals of this Division is improved management of the Liquid Metal Fast Breeder Reactor (LMFBR) Program, its projects and supporting activities. This goal must be rigorously pursued if we are to accomplish the objectives of the LMFBR Program in today's environment of budgetary constraints and schedular discipline. In moving toward an improved management capability, we are instituting a number of policy and procedural changes and will continue to investigate new ways and techniques to further improve the way we do business.

The application of the Performance Measurement System (PMS) on major contracts is a significant step toward the accomplishment of our management improvement goal. Incorporation of the cost and schedule control systems criteria approach within the PMS will insure that a contractor's progress is sufficiently visible to reliably evaluate accomplishments and to provide the basis for timely and meaningful management decisions. Using PMS, project status will be presented in terms of established project objectives and contract values which provide a baseline from which project accomplishment can be measured.

This document is one of a series of PMS guides and instructions that has been prepared to assist ERDA and industry personnel in using the PMS. The PMS Surveillance Guide contained herein provides guidance concerning the continuing review of contractors' systems required to meet the PMS. It also contains discussion of surveillance administrative aspects, responsibilities, and procedures.

*Eric S. Beckjord*

Eric S. Beckjord, Director  
Division of Reactor Development  
and Demonstration

*BS*

## CHAPTER 2

### ADMINISTRATIVE ASPECTS

#### 2-1 Surveillance Administration:

A. General. This chapter is devoted to a discussion of the relationships that exist between RDD and various ERDA components during the surveillance of contractors' management control systems and describes those administrative procedures applicable to the surveillance effort. The responsibilities of the participants and the procedures applicable to the implementation of the PMS criteria are explained in the RDD/PMS-2, PMS Implementation Guide.

B. Coordination of Surveillance. The CCO and CFA participate in reviews of the contractor's management control system, perform required surveillance, and report to the Project Director via the CCO or Contracting Officer (CO) as appropriate. The RDD PMS focal point for coordination is responsible for providing general guidance regarding surveillance, conducting PMS staff assistance visits, and maintaining liaison with the other focal points on matters related to PMS.

C. Contractor Questions. For contractor questions involving interpretations of PMS requirements which cannot be resolved by the CO, the CO will refer the matter to the RDD PMS focal point for coordination via the Project Director. The focal point may, when necessary, refer the matter to the RDD PMS Steering Committee.

#### 2-2 Memorandum of Agreement (MOA) and Surveillance Plan:

A. Development of MOA. A Memorandum of Agreement is a negotiated agreement that establishes and describes in general terms the responsibilities and relationships between the RDD Project Director and CCO relative to PMS surveillance. The MOA should be developed in conjunction with the surveillance plan. The MOA will be submitted by the cognizant CCO to the Project Director for approval and formal agreement. This MOA should be signed before or immediately after the completion of a Demonstration Review or Subsequent Application Review (see para. 3-12d, and Attachment 3). If the parties to the MOA concur, an informational copy of the MOA may be provided to the contractor.

B. Surveillance Plan. The Surveillance Plan is generated by the Surveillance Monitor in consonance with other CCO representatives, the CFA and Project Management. The surveillance plan augments the MOA. It is the plan that describes how the CCO with CFA representation will carry out the PMS surveillance responsibilities as agreed to in the MOA. Development of the plan may be discussed with the contractor. This plan should be submitted to the Project Director for concurrence and should be implemented as soon as possible after a Demonstration Review or Subsequent Application Review. Development and content of the surveillance plan are covered in para. 4-3 and Attachment 4.

C. Applicability. A separate MOA normally will be executed for each contract where PMS is invoked, even though a reapplication of a previously accepted management control system is intended. If there is more than one contract within a particular program at the same contractor's facility, one MOA and one surveillance plan may be sufficient. If there is more than one program at a contractor's facility, separate MOAs with one basic surveillance plan should suffice.

## 2-3 Changes and Deviations:

After demonstration and acceptance of a contractor's management control system, the contractor updates the system description document to reflect the accepted management control system and it becomes a part of the contract. A contractor is then contractually obligated to maintain his management control system in accordance with his accepted system description. Acceptance of a contractor's management control system as meeting the criteria is not intended to inhibit continuing innovations and improvement of his management control system.

A. Contractor-Proposed Changes. The proposed changes will be submitted by the contractor to the cognizant CO for approval in accordance with the contract terms and delegation of authority. Changes proposed by the contractor should, when the subject makes it appropriate, be discussed by the CCO with the cognizant audit office, and may be referred by the CCO to the Project Director. Changes requiring interpretation of the criteria should be referred by the Project Director to the appropriate PMS focal point prior to reaching a decision on their acceptability. The CO should advise the contractor of the acceptability of such proposed changes within 60 days after receipt from the contractor.

B. Deviation from Accepted System. During surveillance, if the contractor's practices are found to differ from the accepted system description or if unilateral changes to the accepted management control system have been made without RDD approval, the changes will be analyzed and, if necessary, the CO should require correction of deficiencies.

(1) If deficiencies are discovered in the contractor's compliance with his accepted management control system, they will be identified as system deficiencies to differentiate them from project problems. The contractor will be advised of the system deficiencies by the Surveillance Monitor. The observing CCO specialist or auditor will document the event and report to the Surveillance Monitor the corrective action being taken. The CCO specialist or CFA will follow-up to determine when the discrepancy is resolved and will advise the Monitor accordingly.

(2) System deficiencies that cannot be resolved promptly with the contractor by the surveillance personnel will be referred to the CO for corrective action. Unless urgency dictates an exception, reports to the Project Director concerning such deficiencies will follow the reporting frequency cited in the MOA.

C. When Accepted System Does Not Meet PMS Criteria. Contractors' management systems should be in compliance with the PMS criteria when accepted by RDD. In those instances when surveillance personnel determine that the contractor's accepted management system is not meeting the criteria, the contractor and CO should be promptly notified. The information provided should detail the specific areas of deviation. The Project Director should be notified of major discrepancies and advice should be sought from all parties regarding items of major disagreement. In those cases where problems cannot be resolved by the Project Management, the discrepancy will be referred to the RDD PMS focal point for PMS coordination and when necessary, from there to the RDD PMS Steering Committee for resolution.

D. Withdrawal of Acceptance. When a PMS problem is escalated to the RDD PMS focal point for coordination or the RDD PMS Steering Committee for resolution, the burden of proof is on the contractor to demonstrate that his management control system and its operation in fact comply with the system as accepted. If the contractor is unable to substantiate his claims, he will be formally notified through the CO that he must take corrective action within 60 days. The CCO will monitor the corrective actions. If inadequate action is taken by the contractor, the formal acceptance of his management control system will, if conditions warrant, be withdrawn by the RDD PMS focal point for coordination.

#### 2-4 Surveillance of Subcontractors:

Subcontracts, excluding those that are firm-fixed-price, may be selected for PMS criteria application by mutual agreement between the prime contractor and the Project Director on the basis of dollar value and/or criticality of the subcontract to which PMS criteria will be extended. Subcontracts selected should be identified in the prime contract.

A. Responsibility. When a subcontractor is contractually required by the prime contractor to comply with the PMS criteria, PMS surveillance is a basic responsibility of the prime contractor to perform as a part of his total management of the subcontract. The CCO function normally is limited to evaluating the effectiveness of the prime contractor's management of his subcontract. However, in accordance with the provisions of ERDA Procurement Regulations there may be occasions when a prime contractor will request CCO assistance to perform or assist in performing limited or complete PMS surveillance. Such support administration is not to be construed as a discharge of the prime contractor's contractual obligations and basic responsibilities in managing the subcontract. Where appropriate, a written request will be made by the prime contract CCO to the local CCO for the performance of PMS surveillance in connection with the subcontract.

B. Conditions. The prime contract CO should make arrangements to provide such assistance only when, in his opinion, it would be in the best interests of ERDA to perform this contractor responsibility. Such assistance should generally be provided only when:

(1) The prime contractor is unable to accomplish the required surveillance because it would jeopardize the subcontractor's competitive position or when proprietary data are involved, or



(2) There is a business relationship between the prime contractor and subcontractor not conducive to independence and objectivity, as in the case of parent-subsidiary or when prime and subcontracting roles of the companies are frequently reversed, or

(3) The subcontractor is sole source and the subcontract costs represent a substantial part of the prime contractor costs.

C. Letter of Support Delegation. When the CO determines that it is in the government's best interest, surveillance will be performed by the cognizant CCO at the subcontractor's facility. In this case, a Letter of Support Delegation should be issued by the CO of the prime contractor facility to the CO who has cognizance of the subcontractor's facility. The request confers the authority necessary to perform the requested PMS surveillance functions. The request should clearly state the applicable functions to be performed. They should be basically the same as those performed at the prime contract level. The CCO at the subcontract level will be responsible for requesting CFA assistance.

#### 2-5 Surveillance at Other Locations of Prime Contractor:

Substantial work performed at other locations or divisions of the prime contractor may require surveillance by another CCO. Where appropriate, the request for support administration should be made by the office having contract administration cognizance of the contract. The procedures for support administration should be essentially the same as those indicated under paragraph 2-4 above.

#### 2-6 Staff Visits:

Following acceptance of a contractor's management control system, there are occasions where representatives from RDD and other ERDA offices will visit the contractor's facility in connection with PMS matters. Normally, these are Staff Assistance Visits and Subsequent Application Reviews.

These visits are desirable, facilitate coordination of mutual problems, and further a common understanding by all parties concerned. They provide an excellent opportunity to review with the contractor and cognizant CCO any proposed changes that the contractor has made or may wish to make and to resolve areas that may be troublesome to either the contractor or RDD regarding PMS requirements.

#### 2-7 System Application on Subsequent Projects or Contracts:

A. Subsequent Application Review. If a contractor with a management control system that has been accepted as meeting PMS criteria is awarded a new contract with the criteria requirement, there may be no need to conduct another full series of PMS reviews. Instead, there may be a Subsequent Application Review by an RDD team to determine that the contractor has properly applied his previously accepted management control system to the new contract. A

Subsequent Application Review normally requires only a few days and the team is smaller than a Demonstration Review Team.

B. Coordination. The RDD PMS focal point for coordination directs the Subsequent Application Review and will notify the other ERDA PMS focal points to determine their desire to participate in the review and will coordinate the dates and requirements of the visit with the cognizant CCO.

## 2-8 Training:

All individuals involved or likely to become involved with PMS surveillance should receive specialized training dealing with management control systems concepts, performance measurement requirements, interpretation of PMS criteria and surveillance of management control systems at the earliest practical date. ERDA Workshops prepare personnel to participate in the Demonstration Review process and deal with the maintenance and surveillance of a contractor's cost and schedule management control system. Such training should be supplemented by additional instruction and on-the-job training to enlarge upon background experience and classroom training wherever possible.

## 2-9 Surveillance Records and Reports:

### A. Records.

(1) The PMS Surveillance Monitor will assure that the results of surveillance program efforts are documented and maintained as part of a chronological record of the contract. A surveillance file will be established to contain all pertinent data and information regarding the surveillance program. The file should include areas reviewed, findings, actions taken, and results.

(2) A chart of the type shown in Figure 2-1 may be prepared monthly and maintained by the Surveillance Monitor. Use of this chart will provide a historical summary which gives an overview as to which surveillance areas were reviewed in various functional areas of the contractor's organization. Reviews of such summaries should be undertaken periodically to ascertain that the proper areas of surveillance are being emphasized and that no surveillance areas or functional elements are being unduly neglected or over-emphasized.

B. Reports. The Memorandum of Agreement should identify all desired PMS surveillance reports, their distribution, and general contents. These reports should normally be limited to periodic reports of surveillance activity and evaluation of appropriate contractor-prepared reports. However, provisions for any special reports, such as problem analysis reports, may also be included. PMS surveillance reports should normally be forwarded to the Project Director. Additional distribution, such as the contractor, may be listed in the MOA.

(1) Contract Administration Reports. The PMS Surveillance Monitor should prepare a periodic (normally monthly) report of the CCO PMS surveillance activities and results. The overall report should include an intact copy of appropriate CFA audit reports which contain reported deficiencies or

PMS SURVEILLANCE SUMMARY

Project \_\_\_\_\_ Report Month \_\_\_\_\_ Monitor \_\_\_\_\_

AREA OF SURVEILLANCE	FUNCTIONAL/ORGANIZATIONAL ELEMENT					
Organization						
Planning & Budgeting						
Accounting						
Reports/Analysis						
Revisions and Access to Data						
Indirect Costs						
System Discipline						

Figure 2-1. Suggested Format for PMS Surveillance Summary Checklist

recommendations pertaining to PMS surveillance. Whenever significant findings or observations have been made by the Surveillance Monitor, a copy of the report will be forwarded to the Project Director for information, guidance, or action. Although a thorough evaluation of the contractor's monthly CPR or similar reports may not be required, sufficient sampling of significant data items should be evaluated to assure data prepared by the contractor is timely and accurate and that it reflects the actual conditions. A statement and comments relative to the above should be submitted to the Project Director in sufficient time to be of value in his analysis of the contractor's monthly CPR.

(2) CFA Reports. Reports should provide clear statements of the scope of the review and any deficiencies noted, together with recommendations for their correction. Comments should also be provided regarding the results of discussions with the contractor's representative on deficiencies disclosed. The report should be forwarded to the local CCO with sufficient copies for further distribution. To insure that all pertinent data have been considered, the audit findings and recommendations should be discussed with the CO, and the contractor when appropriate, prior to issuance of the report. There may be instances where issuance of a formal audit report will not be necessary. Recognizing that PMS surveillance is a continuing process, there should be frequent contact between Project Management personnel, CCO personnel, and the auditor on questions or situations that may be readily resolved. Verbal advice supported by a memorandum may suffice in these instances.

## CHAPTER 3

### SURVEILLANCE RESPONSIBILITIES

#### 3-1 General:

PMS surveillance requires participation and full cooperation of the Project Management, the CCO, the CFA, and the contractor. If surveillance is to be conducted successfully, a spirit of mutual cooperation and proper rapport must exist among all interested parties in their interactions. Most areas specifically referred to below cannot be segregated solely as PMS surveillance, but are discussed herein to emphasize their relationship to PMS surveillance which this guide is designed to cover.

#### A. Contract Office for Administration.

(1) The cognizant CCO is responsible for:

(a) Performing post-award surveillance of contractor progress toward demonstrating that the management control system meets the PMS,

(b) Providing assistance in the review and acceptance of the contractor's management control system, and

(c) Performing post-acceptance surveillance to insure continuing operation of contractor's accepted management control systems.

(2) PMS does not obviate any of the techniques, functions, or responsibilities normally accomplished by the CCO. However, it does facilitate the use of the more classical methods of contract administration. For example, the monthly CPR, which shows the cost/schedule status of the contract for the previous monthly report period, highlights significant cost/schedule variances that have occurred, and their probable causes. The data in the CPR quantify the magnitude of existing problems and potential problems and indicate cost/schedule trends which are used for estimating contract completion costs. Reliable data in this format are very useful for effective contract administration as well as management decision-making.

#### B. Cognizant Federal Auditor (CFA).

(1) The Cognizant Federal Auditor has the following responsibilities which are directly related to PMS surveillance: Audit, examine and/or review contractors' and subcontractors' accounts, records, documents, and other evidence, systems of internal control, accounting, costing and general business practices and procedures to the extent and in whatever manner is considered necessary to provide advice to contract administration personnel and other government levels having authority and responsibility to take action on

- (i) the acceptability of incurred costs and estimates of costs to be incurred as represented by contractors incident to the administration of contracts, and
- (ii) adequacy of contractors' accounting, financial management systems, and estimating procedures.

(2) CFA responsibility for surveillance of contractors' procedures and practices is inherent in most ERDA contracts, whether or not covered by PMS. CFA audit policy is accomplished with full coordination of the CO through a review of the contractor's operation as a totality, identifying and evaluating all activities which either contribute to or have an impact on proposed or incurred costs of government contracts. As indicated in the PMS Implementation Guide, the auditor has specific responsibility in the area of PMS surveillance to perform review of (i) the contractor's accounting system policies and procedures, (ii) financial data contained in various reports, and (iii) evaluations of the effectiveness of the contractor's financial policies and procedures. Each of these areas as well as others are reviewed as they affect all government contracts, whether or not they contain a PMS requirement. Information reported to the PMS Surveillance Monitor may be derived from any aspect of the audit review.

### 3-2 PMS Surveillance Responsibility:

PMS surveillance involves management control system discipline and data verification. Basically this surveillance requires evaluating the operation of a contractor's management control system to assure that the contractor:

A. Manages the contract using a management control system that meets the PMS described in written procedures and accepted by the Demonstration Review team,

B. Provides continuous, timely, consistent, and accurate summary level data emanating from that management control system in reports to RDD.

### 3-3 Relationship of Contract Surveillance to PMS Surveillance:

A. PMS surveillance is one of the functions performed by the CCO as part of total contract administration. Inherent in CCO's responsibilities for contract administration is responsibility for providing assessments of contract status to Project Management.

B. Contract status is provided to RDD by the contractor through PMS reports specified as contract data requirements in the contract. These PMS reports are developed using cost and schedule data from the contractor's internal management control system. In assessing such reports, both internal and external, it should be recognized that the information they contain is only a portion of the total CCO/CFA visibility. Care should be exercised to avoid evaluating reports independently of the various reviews and evaluations performed by CCO functional specialists and the CFA auditor.

C. The Project Director may desire the CCO to do independent contract assessment including trend analysis. Where the Project Director desires such an assessment and the CCO agrees to perform the service, the responsibilities of each party should be clearly spelled out in the MOA to avoid unnecessary duplication of effort. In developing comments to the Project Director on the validity of the contractor's cost and schedule reports, the Monitor should assure consistency with all information available to the CCO relative to current and potential problems impacting upon project cost and/or progress.

The CCO responsibility for contract administration includes providing Project Management and other RDD offices with evaluation of required reports, program performance, and any current or potential problems, their impact and what corrective action has been taken by contractor management.

#### 3-4 Contracting Officer (CO):

The CO assigned to each contract acts as the CCO contact with the Project Director, Cognizant Federal Auditor, and the contractor. He is the individual designated as the agent of the government responsible for assuring that the provisions of the contract are complied with, and as such, must be kept apprised of the cost/schedule performance, as well as compliance with PMS provisions of the contract.

#### 3-5 Surveillance Monitor:

A. Selection. Because PMS surveillance requires the participation of the varied expertise of the CCO, e.g., production specialists, engineers, quality assurance specialists, overhead specialists, price analysts, contract specialists, a single individual must be assigned the overall responsibility for the coordination and accomplishment of the total PMS surveillance program within the CCO. This individual is the PMS Surveillance Monitor. He is selected on the basis of his background and knowledge. He should also possess the ability to relate contract and project performance and assure that the data presented by the contractor to RDD are accurate, timely and consistent with the contractor's internal data. When practicable, the Surveillance Monitor should be the CCO representative who participated in the Demonstration Review.

B. Duties. The PMS Surveillance Monitor has the following responsibilities:

(1) Assuring that the CCO executes a Memorandum of Agreement prior to Phase II surveillance activity,

(2) Assuring CCO coordination with the auditor in the preparation of the surveillance plan to assure that the surveillance is performed in a systematic manner,

(3) Executing a program of PMS surveillance to assess continuity and consistency in the operation of the contractor's accepted management control system,

(4) Performing (a) recurring evaluations of the effectiveness of the contractor's policies and procedures, and (b) selective tests of the contractor's cost and schedule data flow and external performance measurement reports to determine validity of reported data,

(5) Assuring that the cost, schedule, and contract-related financial and program status reports submitted to the Project Management are timely and accurate, and depict actual conditions,

(6) Calling upon the total CCO financial activities when required to assist in accomplishing the CCO PMS surveillance plan,

(7) Assuring that accurate and adequate files are maintained relative to PMS surveillance matters,

(8) Acting as the point of contact in matters relative to PMS surveillance within the CCO, and,

(9) Assuring that the CCO and CO and Project Management are fully advised of status of cost and schedule control surveillance and any major problems pertaining thereto.

C. Planning. Normally monthly, the PMS Surveillance Monitor should meet with other surveillance personnel to discuss items of interest and concern from the previous surveillance effort; to plan future surveillance effort; and to draft, discuss, or review the surveillance report. The PMS Surveillance Monitor will solicit the views of the team and will determine the scope, depth, areas of surveillance activities for the subsequent period. Specific actions will be assigned to the team members as may be required in preparation of the current surveillance efforts. The intent is to examine the contractor's complete system at least once during a twelve-month period. This will require: (1) evaluating all the important features and disciplines of the contractor's accepted management system; (2) performing this evaluation in each major functional group of the contractor's project organization; and (3) performing this evaluation in the most active areas of the work breakdown structure.

D. Working Relationships. The full cooperation of all surveillance personnel is imperative if surveillance is to be effective. Each person involved in surveillance should have an understanding of the intended evaluation methods of the other surveillance personnel. Periodic discussions and the exchange of ideas should be encouraged and joint evaluations made in areas of joint responsibility to the extent it appears they will be productive. Paragraphs 3-6 through 3-10 indicate which of the CCO functional specialists normally have responsibility for various aspects of surveillance. This is not intended to preclude the involvement of other personnel in that area since local situations may dictate some adjustments as a matter of practicality. For example, CCO specialist responsibilities may be assigned to personnel assigned to Project Management, even though the CCO resides in an Operations Office.

### 3-6 CCO Contract Administration Specialists:

Normally have the following responsibilities:

A. Evaluating, with the CFA, the PMS reports required by the contract to insure that the data are actually traceable through the contractor's management control system,

B. Forwarding to the CFA a list of all PMS reports submitted as indicated in the contract data requirements list, and which require audit verification of financial data,



C. Reviewing contract costs and financial data,

D. Evaluating the effectiveness of the contractor's change control procedures and his method of handling management reserve and undistributed budget, and,

E. Assuring coordination of all CCO elements.

### 3-7 CCO Production/Construction Operations Specialists:

Normally have the following responsibilities:

A. Evaluating the contractor's scheduling controls and techniques,

B. Evaluating cost/schedule performance variances that exceed the thresholds established in the contractor's cost/schedule control system,

C. Reviewing and evaluating the contractor's material control system, including procurement,

D. Performing recurring evaluation of the scheduling system and manufacturing and/or construction control system, and,

E. Coordinating with other CCO specialists, Project Management, etc. to resolve problems within the purview of the production/construction operations responsibility.

### 3-8 CCO Engineering Specialists:

Normally have the following responsibilities:

A. Making periodic survey of the contractor's engineering management system,

B. Evaluating the contractor's engineering control and techniques, including change control,

C. Evaluating cost/schedule performance variances that exceed the thresholds established in the contractor's cost/schedule control system,

D. Performing recurring evaluations of the scheduling system and engineering management system, and,

E. Coordinating with other CCO specialists, Project Management, etc. to resolve problems within the purview of the engineering responsibility.

### 3-9 CCO Quality Assurance Specialists:

Normally have the following responsibilities:

A. Evaluating the contractor's quality assurance inspection procedures, controls and techniques,

B. Assessing performance deficiencies against requirements of the contractor's quality and reliability assurance program to ascertain causes, cost and schedule impact, and corrective actions,

C. Making periodic surveys of the contractor's cost and schedule control systems in conjunction with other CCO Divisions, and,

D. Coordinating with other CCO Specialists, Project Management, etc., to resolve problems within the purview of the quality assurance responsibility.

### 3-10 CFA:

Normally has the following responsibilities:

A. Reviewing the contractor's accounting system for compliance with the criteria and contract provisions including verification that there is consistency with related budgeting and work authorization systems,

B. Determining the accuracy and reliability of the financial data contained in the contract cost reports prepared from the contractor's systems,

C. Providing for the surveillance reviews in A and B above to include:

(1) Recurring evaluation of the effectiveness of the contractor's policies and procedures

(2) Selective tests for the validity of reported data.

D. Reporting any significant unresolved deficiencies to the PMS Surveillance Monitor,

E. Incorporating the appropriate PMS surveillance requirements into routine audit programs and procedures, and,

F. Advising the monitor regarding CFA surveys of contractor systems and regarding other audits which may bear on cost/schedule control system acceptability of PMS surveillance.

### 3-11 Responsibilities Prior to Contract Award:

Certain actions taken prior to contract award are related to subsequent surveillance activities:

A. RDD. RDD has responsibility for determining its PMS requirements on new or existing programs. Once the decision is made to apply PMS to a new procurement, a PMS clause is included in the solicitation document. A contractor responding to the solicitation is required to indicate the extent to which his

existing management control system meets the PMS criteria in RDD/PMS-2 and how his present management control system could be revised, if necessary, to meet the criteria. RDD has the responsibility of evaluating the responses and providing appropriate guidance to the Source Evaluation Board.

B. CCO and CFA. Prior to contract award, the CCO and CFA will respond to any of RDD's queries regarding the contractor's response to the solicitation, his present operation, and his ability to meet PMS criteria. Where there is a current contract with PMS provisions, the CCO can indicate to RDD how the contractor is performing and can provide any other pertinent information.

### 3-12 Responsibilities Between Contract Award and Acceptance (Phase I).

Surveillance of a contractor's management control system used on a contract requiring PMS compliance officially commences with contract award. Prior to the acceptance of the management control system, surveillance normally falls in the areas indicated in the following subparagraphs. If an inordinate amount of time passes before management control system approval, increased emphasis should be given to the surveillance responsibilities listed under Phase II surveillance.

EVALUATION OF PROPOSALS (PREAWARD)	IMPLEMENTATION VISIT (AFTER CONTRACT AWARD)	READINESS ASSESSMENT	DEMONSTRATION REVIEW	ACCEPTANCE	SURVEIL- LANCE  PHASE II
	SURVEILLANCE: PHASE I				

Figure 3-1 Typical Phases of PMS Implementation and Surveillance

#### A. Verification of Reported Data.

(1) It should be established early in the program whether the contractor's procedures for accumulating costs and related data and reporting them to RDD accurately reflect internal accounting data. Reconciliation of reported information with internal accounting data is the responsibility of the contractor. The reconciliations should be reviewed periodically by the auditors. The evaluation of the reasonableness of scheduling data and contract status as reported is the responsibility of the CCO.

(2) Verification of data in contractor's cost and schedule reports, both internal and external, is one of the important aspects of surveillance and requires extensive participation by the CFA representatives and the CO. When problem areas or inconsistencies are detected, the cognizant specialists assigned to the CCO will be requested to investigate and report to the monitor. Evaluation of the PMS external reports, such as CPR and CFSR, should be accomplished at the time of submission.

B. Familiarization with Contractor's Management Control System. During Phase I, all surveillance personnel should become familiar with the contractor's management control system in preparation for assuming responsibilities as members of the Demonstration Review team. Surveillance personnel should monitor the contractor's progress toward full compliance with the PMS criteria. The CCO should keep RDD advised of the contractor's progress in upgrading his management control system to conform with the PMS criteria. This will assist in scheduling the Readiness Assessment and Demonstration Review.

C. Continuity. The Project Management, the CCO, and the CFA must be involved in the Demonstration Review activity. Because of the difficult task of communicating understanding of complex management control systems, it is highly desirable that the individual or individuals participating in the Demonstration Review remain active in the PMS surveillance activity.

D. Memorandum of Agreement. The purpose of the MOA is to assure that all participants understand their responsibilities in the surveillance program. For this reason, an MOA must be consummated between the CCO and Project Management. The provisions of the Memorandum of Agreement (see paragraph 2-2 and Attachment 3) will vary depending upon such circumstances as CCO resources and the requirements of the Project Director. There should be no unnecessary duplication of responsibilities and functions and, of more importance, the MOA should assure that all major aspects of the program are covered and responsibilities assigned. The MOA should also provide a means for resolving problems and promoting better communications. The CO will coordinate with CFA prior to consummation of the MOA. In consonance with the MOA, a Surveillance Plan should be prepared and followed by surveillance personnel (see paragraph 2-2 and Attachment 4).

### 3-13 Responsibilities After Acceptance (Phase II):

A. References. Responsibilities pertaining to the surveillance of a contractor's management control system are included in paragraph 3-4 through 3-11, and in Chapter 4 in the discussion of detailed surveillance planning and techniques.

B. Responsibility Assignment Chart. Preparation of a chart similar to Figure 3-2 should serve to make responsibility assignment clear to all concerned. If desired, some of the surveillance areas listed may be combined or further subdivided by contractor organizational element. In cases where more than one organizational element has responsibility in a particular area of surveillance, the chart should show which organizational element is designated as the Office of Primary Responsibility (OPR) for the area and

<u>AREAS OF SURVEILLANCE</u>	RESPONSIBILITY OF			
	CO	Surv. Monitor	CFA	CCO Funct. Spec.
Organization				
Work Definition and Planning				
Work Responsibility Assignment				
Work Authorization				
Planning and Budgeting				
Scheduling				
Budgeting				
Management Reserve				
Accounting				
Cost Accumulation				
Material Accounting				
Verification				
Analysis				
Variance Analysis				
Estimated Cost at Completion				
Revisions and Access to Data				
Incorporation of Changes				
Baseline Integrity				
Indirect Costs				

(The surveillance of System Discipline and Problem Identification should be performed on a continuing basis in conjunction with other daily activities.)

Figure 3-2. Responsibility Assignments

indicate the other organizational elements also responsible for surveillance in that area.

## CHAPTER 4

### PLANNING AND PERFORMING SURVEILLANCE

#### 4-1 Introduction:

This chapter discusses the surveillance function and provides guidance for the development of realistic surveillance plans and the evaluation of contractor's management control systems.

#### 4-2 Planning for Surveillance:

With the commencement of contract performance, contractors are expected to implement management control systems which comply with the PMS criteria. Planning for surveillance should begin as soon as it is anticipated that a contract will be awarded. Active surveillance should commence immediately after contract award to ensure that management control system implementation is satisfactory and to highlight any obvious system deficiencies. Continuing surveillance should be directed toward all procedures and functions of the contractor's cost and schedule control system. From immediately after contract award, through all phases of system implementation and demonstration, and until system acceptance, activity should be devoted to gaining a full understanding of the contractor's management control systems, to monitoring the implementation of the PMS criteria, and to planning and developing the comprehensive surveillance plan for Phase II. Prior to or immediately after the completion of a Demonstration Review or Subsequent Application Review, a Memorandum of Agreement (MOA) should be executed between the COA and the Project Director. The MOA in conjunction with the surveillance plan defines the surveillance to be performed.

#### 4-3 The Surveillance Plan:

##### A. Purpose and Content.

(1) Because PMS does not prescribe a specific management control system, each CCO may be monitoring a unique system consisting of different scheduling, budgeting, cost accumulation, etc., subsystems. The main purpose of the surveillance plan is to provide an organized and comprehensive set of guidelines and techniques for use by cognizant CCO personnel in performing PMS surveillance on the management control system. Primary considerations in the design of the surveillance plan are the specific contractor management control system being evaluated, the contractual requirements, the requirements of the Project Director and the availability of personnel. Non PMS surveillance functions may be added to the surveillance plan and reflected in the MOA when agreed upon by the CCO and the Project Director.

(2) The surveillance plan will normally consist of two basic sections, one devoted to general guidance and management responsibilities and one devoted to specific procedures and techniques. The first section should describe organization responsibilities, reference documents, frequency

of reports, the review cycle, and other general administrative information. The second section should outline and discuss techniques of accomplishing surveillance, tests to be used, areas to be evaluated, and functional skills within the CCO to be used. The plan should indicate the auditor's responsibility to review the contractor's financial management system and perform other surveillance activities as required by agency directives.

(3) The surveillance plan should require, as a minimum, that during the course of each twelve-month period such reviews are made as to assure that the accepted system is being maintained in accordance with the PMS criteria. The surveillance plan should contain procedures for conduct of surveillance throughout the life of the contract. However, the plan should not be so rigid as to result in routine mechanical reviews. Instead it should be flexible and require periodic reevaluations to determine redirection of emphasis necessary to meet changing conditions. It should provide for adjustment in effort and shift of emphasis as the project progresses and as familiarity with and confidence in the contractor's management control system are gained. A suggested outline of a surveillance plan will be found in Attachment 4.

#### B. Considerations in Developing the Plan.

(1) Contractor Management Control System. A detailed knowledge of the contractor's management control system, subsystems, policies, procedures, etc., is the necessary starting point in the development of an effective surveillance plan. Specifically their interrelationships, dependencies, and control points must be understood by the Monitor and CFA.

(2) Demonstration Review Report. The Demonstration Review Report is an excellent source of information concerning how and under what conditions the contractor's management control system was accepted. This report presents a summary of the overall condition of the contractor's management system and highlights areas requiring surveillance emphasis at the time of the Demonstration Review. The Demonstration Review Report, coupled with the Monitor's evaluation of the management control system, will assist in the construction of a surveillance plan which covers all areas.

(3) Project Director Requirements. The surveillance plan should support the Project Director's needs and avoid duplication of effort. The CCO and Project Director's representatives establish a mutual understanding in the MOA as to their responsibilities, and the surveillance plan should be written, or amended as necessary, to satisfy these requirements. For example, if the CCO is to support the Project Director with analysis of contract progress, the surveillance plan must be developed around a functional and financial approach. If, however, the CCO is limited mainly to system surveillance, the plan should be oriented to system discipline and data verification.

(4) Reports and Other Documents. There are a number of reports generated by both contractor and ERDA representatives in carrying out total contract performance and administration, respectively. Items such as appropriate financial plans and budgets, engineering and manufacturing status reports, test results, and manpower projections should prove invaluable for the surveillance personnel as additional sources of information. The Monitor and CFA should consider such sources and the associated information



in developing the surveillance plan.

(5) Management Support and Available Manpower. In developing the MOA and the surveillance plan, the CCO should assure that both are kept within the bounds of the responsibilities, manpower, expertise, capabilities, and resources available. The number of people and functional expertise required will vary based on the scope of the contract and the characteristics peculiar to the contractor and program.

(6) Flexibility. The surveillance plan must be flexible enough to allow the Monitor to change emphasis as the contract progresses, to respond to special requests from RDD, and to investigate current problem areas. The plan must allow for some independence and initiative by the Monitor. He should not be restricted by a mechanical-type plan that calls for the same detailed management control system checks from contract start to contract completion. The Monitor should emphasize system surveillance and discipline at the outset. He must be assured that the system works properly, that the contractor uses the system to manage the contract, and that no deviations are being made by contractor personnel. Once this is accomplished, the Monitor may spend more time on problem areas, variances, estimate at completion (EAC), and data analysis in consonance with the Project Director's needs as reflected in the MOA.

(7) References. Primary references used in the formulation of the surveillance plan in addition to this Surveillance Guide are:

(a) The PMS Implementation Guide

(b) Contractor's Internal Cost/Schedule Control Systems Description and Procedures, and

(c) The ERDA Manual.

#### 4-4 Performing Surveillance During Phase I:

Since project decisions must be made from the day of contract award, contract administration including PMS surveillance, must also begin upon contract award to assure RDD that the provisions of the contract are being met despite the fact that the contractor's management control system has not yet been reviewed or demonstrated and found acceptable.

A. Familiarization. During Phase I the cognizant CCO/CFA personnel should become thoroughly familiar with the contractor's management control system and monitor the contractor's implementation of the system.

B. Emphasis on Exceptions. In examining the contractor's management control systems and its outputs during Phase I, surveillance personnel should emphasize analysis of the system's characteristics and identification of features not meeting the PMS.

C. Transition to Phase II. In those cases where management control system acceptance is delayed for an extended period of time after contract award, PMS surveillance should shift towards Phase II activities (see paragraph

4-5). When dealing with data and reports from an unaccepted (or unacceptable) contractor management control system, emphasis should be placed on the necessity for verifying data and assuring consistency between status/cost information and information from other sources of CCO/CFA visibility.

#### 4-5 Performing Surveillance During Phase II:

Phase II surveillance should ensure that the contractor's management control system continues to meet the objectives. During Phase II, surveillance personnel should concentrate their activities on review of the management control system and evaluations of contract data and reports.

##### A. Scope and Frequency of Reviews.

(1) General. Surveillance personnel should never become so involved in detail as to lose sight of the overall purposes of an acceptable cost and schedule control system, the purpose of which is to provide timely, accurate cost/schedule data to both contractor and RDD/ERDA management personnel for making decisions. The scope and frequency of surveillance reviews in any and all areas should be dependent upon individual circumstances which may include the extent of the contractor's internal system surveillance, the size of the project(s), prior surveillance experience, number of major contract changes, R&D phase, overall status of the program, etc.

(2) Surveillance Schedule. In order to maximize the visibility and return for expended surveillance effort, it is necessary to be aware of anticipated contract activity. The PMS Surveillance Monitor should base his schedule on major activity which considers the number and dollar value of open cost accounts and work packages each month by major functional area. This schedule should project at least three months in advance of the current month and should be updated whenever significant changes occur. The data will be used as a guide in determining areas of emphasis for surveillance each month. The areas emphasized should normally be those areas with the highest rate of activity or with serious problems.

(3) Surveillance Scope. Surveillance activity should normally be planned in detail at least three months in advance for routine surveillance of those areas selected based on rate of activity. Routine surveillance should be planned on an annual or more frequent cyclical basis to insure thorough coverage of the following major surveillance areas: organization, planning and budgeting, accounting, analysis, revisions, indirect costs, and system discipline. Also, one or more cost accounts in each major functional area should be reviewed quarterly in depth to assess the adequacy of integration of all sub-systems at the cost account level and to assess the knowledge of system operations at the work package level. Surveillance of major problem areas will necessarily be on an individual basis and should address such questions as: (a) Has the contractor properly identified the problem and its cause? (b) Has the impact of the problem been correctly assessed? and (c) Does the proposed corrective action address the pertinent issues?

B. Resolved Issues. Resolved issues should be reopened only if it is

believed that performance measurement is being significantly distorted. To avoid reopening resolved issues, consideration should be given to the information available in reports and files pertaining to acceptance of the management control system, namely the reports of Demonstration Review, Redemonstration Review(s), if any, and Subsequent Application Reviews.

C. General Approach. In evaluating the contractor's management control system during Phase II, surveillance personnel must always remain cognizant of the requirements of the criteria in RDD/PMS-2. In order to assure that these requirements continue to be met, surveillance personnel may perform the following functions:

(1) Evaluate the Management Control System. Review the contractor's practices to assure they are in consonance with the accepted system description. As part of the Demonstration Review process, each contractor submits a formal description of the accepted management control system supported by detailed operating procedures. Once accepted, the system description and related procedures form the basis for the review of the actual operation. These documents should be reviewed and tests performed to determine if the contractor's practices comply with the stated procedures and if management utilization of system and data is appropriate. In the course of PMS surveillance, the CCO/CFA should be continually alert to contractor practices, procedures, and systems that do not meet the PMS criteria.

(2) Evaluate System Changes. Evaluate all changes to the accepted system. The Surveillance Monitor must be made aware of all changes to the contractor's management control system. (See para. 2-3).

(a) Changes will be evaluated as to compliance with the criteria, impact on the integrity of the management control system, effect on contractual provisions, and cost of implementation. The proposed changes should be subjected to an immediate and exhaustive evaluation to determine acceptability and to allow for rapid implementation if approved. The purpose is to detect those changes to an accepted management control system which are not in compliance with the criteria and may impact project visibility.

(b) Changes to a management control system may affect many areas; e.g., procedures, reliability of data inputs and outputs, and variance analysis techniques. For example, format changes, modification of methods and standards, computer program changes, changes in budget priority, etc., could affect the reliability of data inputs and outputs. In addition, changes in Budgeted Cost of Work Performed (BCWP) calculation methods, variance analysis thresholds, and EAC updates could affect the results of contractor variance analysis. These types of changes could directly affect the data upon which management decisions are made. See Chapter 2 for the procedures to be followed in the review and approval of management control system changes proposed by the contractor or advocated by CCO personnel.

(c) In addition, the surveillance personnel should always be concerned that the system description accurately describes the accepted system and should be vigilant for unauthorized contractor departures from the accepted system. Deviations should be brought to the immediate attention of the

contractor and resolved in accordance with the procedures in Chapter 2.

(3) Verify the Data Base and System Discipline. On a recurring basis, the surveillance personnel should perform evaluations as to the validity and traceability of the contractor's cost and schedule data flow. Comparing the results with other appropriate internal and external data reports, the surveillance personnel are able to ascertain the accuracy of the contractor's data base and the discipline of both the contractor's management personnel and the management control system involved. In addition, by tracing the cost and schedule data flow, the Monitor is able to determine that all applicable subsystems related to cost and schedule control are integrated and use the same data source.

(4) Verify Reconciliations. Contractor reconciliations of appropriate financial data should be verified periodically to assure that data presented in various external reports and documents are valid, reconcilable, and traceable to other external financial reports and to cost and schedule data bases in the contractor's management control system. Differences isolated in the data must be explained consistently and logically. The mechanics of the contractor's procedure for reconciling data should be reviewed in the early stages of contract surveillance. After attaining assurance that reliable procedures are consistently followed, such verifications should be required less frequently.

(a) Since the cost account is usually the level at which variance analysis is conducted and the level at which internal performance measurement is required by the PMS, the reporting and accounting summarization process must begin at this level and extend "vertically" up the WBS and "horizontally" through the contractor's functional organizations. The isolation of negative and positive variances also occurs at this level and provides the basis for variance analysis. This does not preclude measurement and control at lower levels.

(b) The depth, intensity, and frequency of reconciliations will be influenced by such factors as the relative importance of the data, past reliability of contractor data, the degree of stability or change existing in the contractor's organization, the number of subsystems and operations, the number of contracts, etc. Decisions on frequency and depth of reconciliations and the actual techniques to be employed will be made at each location.

#### 4-6 PMS Surveillance Review Techniques - General:

As previously stated, each contractor's management control system is unique and therefore must be evaluated according to the existing situations, contract requirements, etc. The information that follows is intended for guidance when evaluating the adequacy of the management control system in operation.

A. Basic PMS Requirements. Each element of the contractor's organization must have a work authorization and release system and logical work definition,

work planning and responsibility assignment. The management control system must have integrated scheduling, budgeting, and manpower planning. In addition, the ability to trace, analyze, and control overhead costs and management reserve must be present. The contractor must have a cost accumulation and material control system to collect actual costs which are then compared to the budgetary figures for performance measurement and analysis. The most important uses of any management control system are to define the work, establish a realistic plan for accomplishing the work, isolate variances from plan, identify and trace problems to their source, and develop alternatives for corrective action. A fundamental responsibility in the acquisition of major energy/support systems is to assure that project visibility status reports and reliable estimates-at-completion are generated periodically. Thus the real test of any management control system is its ability to provide accurate and timely indications of actual performance as a basis for sound forecasts of end results. The capability to allow for contractual revisions and yet maintain baseline integrity is a management necessity and should be one of the prime areas for evaluation by the Surveillance Monitor.

B. Use of Guidance. Each of the major areas for surveillance is presented below with certain techniques and questions which may be used in determining system integrity and assuring that the management control system continues to operate as accepted. The questions are not meant to be all-inclusive, nor are they intended to constitute a checklist to be routinely checked off. Rather, the discussion is intended to provide guidance to assist the Monitor in determining what should be considered in the performance of PMS surveillance.

#### 4-7 Organization Criteria Surveillance.

The organization criteria address the work definition and the contractor integration of the planning, scheduling, budgeting, work authorization, and cost accumulation subsystems. The contractor is required to achieve full integration of these subsystems with each other, the CWBS and the organizational structure.

##### A. Work Definition and Planning.

(1) The work required to accomplish contract objectives must be based on only one Contract Work Breakdown Structure (CWBS) constituting the framework within which the work is identified, scheduled, planned and controlled. Starting with the total contract, then proceeding with the contract line items, the work must be successively divided by the contractor in a manner which represents the manner in which work is to be performed, to the point where WBS elements, cost accounts, and work packages are defined for planning and control of cost and schedule.

(2) It is the CCO responsibility to determine whether work scope is within the framework of the WBS, whether the responsibility of the work is clearly defined, and whether performance measurement can be accomplished for the designated WBS elements and for organizational functions.

B. Work Responsibility Assignment. The contractor's organizational structure breaks out and indicates the personnel responsible for accomplishment of the work. The PMS requires that each segment of work be the responsibility of only one organization. To accomplish this, the WBS and organizational structure must be interrelated. This interrelationship may occur at any level, but it must occur at the level where performance of work is measured, normally the cost account level.

C. Work Authorization.

(1) Prior to work actually starting and as far in advance as practicable, the contractor's work authorization system must define the work to be done and formally assign it to the responsible organization. In addition, schedules and budgets should be established for all work at appropriate levels in the CWBS. Task authorizations, work orders, or other contractor's unique operational forms may be used.

(2) Surveillance of work authorization systems throughout the contractor's organization is the responsibility of both the CCO and the CFA auditor. The CCO has primary responsibility for assuring that specific work authorizations will flow down to the proper WBS element and functional organizations responsible for work performance. The auditor's prime responsibility is to determine that the work authorization system provides a framework for properly accounting for all costs.

D. Subcontracting. Subcontracting may constitute a substantial portion of contract costs. Surveillance of this area should address planning, determination of requirements, budgeting, procurement, inventory control, material accounting, analysis and visibility, and performance measurement for subcontracts.

E. Technique (Organization Criteria). Periodically, a review should be conducted using questions similar to the following:

(1) Is all the work required to accomplish contract objectives identified, scheduled, planned, and controlled within the contract work breakdown structure?

(2) Is the contract work successively divided within the work breakdown structure in a manner which represents the way the work is to be performed? At the lower levels of work breakdown structure, are cost accounts and work packages defined for the planning and control of cost and schedule?

(3) Are the subcontractor tasks clearly defined and identified to the appropriate WBS element?

(4) Is the prime contractor adequately monitoring his subcontracts?

(5) Are adequate methods for incorporating performance data from subcontractors into the WBS and associated reporting system being used?

(6) Are the processes for planning, budgeting, and authorizing work defined and traceable to the lowest level?

(7) Are Cost Accounts:

(a) Adequately described and clearly defined as to start and end dates?

(b) The responsibility of a single organization unit?

(c) Capable of segregating level of effort (LOE) from measured work for performance measurement purposes?

(d) Correlated with the contract work breakdown structure?

(e) Planned by elements of cost, labor, material, other direct charges?

(8) Are Work Packages:

(a) Associated with work authorizations and identifiable within the contractor's basic planning documentation?

(b) Adequately described and clearly defined as to scheduled start and end dates?

(c) The responsibility of a single functional organization?

(d) Reasonable in duration so as to minimize subjective work-in-process assessments?

(e) Established in terms of dollars, man-hours, or other measureable units?

(f) Properly classified as discrete or apportioned, and separated from level-of-effort work?

(9) Is level-of-effort work minimized?

(10) Are responsibilities for determination of material requirements, procurement, inventory control, issue of material, and accounting clearly defined?

#### 4-8 Planning and Budgeting Criteria Surveillance:

##### A. Scheduling.

(1) The PMS criteria require that the contractor maintain a schedule plan which describes the sequence of work and identifies the interdependencies required for accomplishing the contract work. It also requires that the contractor's scheduling system be properly integrated with his work authorization

and budgeting systems at the cost account level. Further, the contractor must show planned and actual status of the contract effort performed by functional units within this organization. Analysis of the scheduling system should be performed to determine how planned and actual status is maintained, that the scheduling system is properly integrated with the budgeting and work authorization systems, and that it is formal, complete, and consistent.

(2) It is the CCO's responsibility to assure that the contractor has scheduled his work properly to meet contractual requirements. Particular attention should be paid to proper time phasing of tasks, traceability of schedules, and proper selection of milestones. The ability of the contractor to accomplish the work within the contractually established time frame should be assessed.

#### B. Budgeting.

(1) As work is progressively defined in greater detail, budgets for the planned work should be assigned. Budgets may be stated in dollars, man-hours, or other measurable units. No specific technique is required, but all work must receive a budget. The assignment of budgets to scheduled segments of work produces a time-phased budget against which actual performance can be compared. The establishment, maintenance, and use of this budget baseline are extremely important aspects of performance measurement.

(2) All surveillance personnel should be familiar with the contractor's total budgetary system, particularly contract budgeting. It is the CFA's responsibility to evaluate the contractor's total budgetary system. The CCO's primary concern will be with the contract budget. In the program area, the CCO is responsible for evaluation of the contractor's procedures in the broad area of planning, execution, reporting status, and performance measurement. The CFA evaluates labor and overhead rates and other factors used to arrive at estimated costs reflected by contract budgets and related variances.

#### C. Management Reserve.

(1) The PMS criteria permit the establishment of management reserve which is that portion of the contract budget withheld for management control purposes rather than identified with the accomplishment of a specific task or set of tasks. The contractor is required to maintain adequate identification of and controls for management reserve. While management reserve may be established at various levels, it is not to be included within the performance measurement baseline because this would distort performance measurement. When management reserve is applied, it is then included in the performance measurement baseline. Management reserve does not include undistributed budget. Budget is "undistributed" only until budget planned can identify the budget to WBS elements at or below the level reported in the CPR.

(2) Changes in management reserve can provide an indication of contract status. Management reserve activity furnishes visible documentation of the contractor's understanding and performance of his contractual work requirements. Frequent or extensive use of management reserve may indicate trouble spots or a rearrangement of work requirements.



(3) It is the responsibility of surveillance personnel to bring to the attention of the CO any improper use of management reserve and/or early depletion of a major portion of the reserve. Monitoring of the application of management reserve is primarily the responsibility of the PMS Surveillance Monitor.

D. Technique (Planning and Budgeting Criteria). Periodically, conduct a review using questions similar to the following:

(1) Does the contractor maintain a schedule which describes the sequence of work and identifies the interdependencies required for development, production, and delivery requirements of the contract?

(2) How is the contractor's scheduling system integrated with his budgeting and cost accumulation systems for the various levels of the CWBS?

(3) Are the scheduling systems and budgetary documents used by the contractor properly integrated and traceable from the detail to the summary level?

(4) Are the indicators used in depicting planned and actual status accurate representations of the milestone, start, or completion dates of the effort they serve to identify?

(5) Are changes to the schedule adequately controlled?

(6) Are the budgetary techniques and the accumulation of actual costs of work performed (ACWP) consistent?

(7) Does the contractor budget and earn value of BCWP in accordance with the accepted system description?

(8) Is Budgeted Cost for Work Scheduled (BCWP) properly determined?

(9) Are the cost account values and schedules traceable and reconcilable from work packages to various summary levels?

(10) Where management reserve is used, is it identified and controlled?

(11) Does the aggregate of all direct budgets, indirect budget allocations, undistributed budget, and management reserve equal the contract target cost plus the estimated cost for authorized work not yet priced? If not, is the baseline acceptable, and has proper approval for baseline change been obtained?

(12) Is the scheduling of planned values for material consistent with the monthly time-phasing of cost accounts?

(13) Are material budgets estimated at the cost account level and based on defined quantities and estimated prices?

(14) Are the budgets for contract material procurement traceable to the material portion of the cost account budgets?

#### 4-9 Accounting Criteria Surveillance.

A. Cost Accumulation. The PMS basically require that BCWS, BCWP, and ACWP be summed directly from the cost account level up to the WBS and across the functional organization structure to the contract level by cost element. After indirect costs are accumulated and allocated, they are applied at the level selected by the contractor for management control. They too must summarize from the applied level to the contract level without further allocation.

#### B. Material Accounting.

(1) The contractor's method for recording direct costs for material, either on an applied or other acceptable basis, must facilitate performance measurement. It should provide for determination of unit or lot costs when appropriate. Where the applied direct cost basis is used, the material costs are applied to the applicable cost account in the time period when material is (i) actually consumed, or (ii) withdrawn from inventory for use, or (iii) uniquely identified to the contract and scheduled for use within 60 days, or (iv) composed of major components or assemblies that are specifically and uniquely identified to a single serially numbered end item. If a contractor's system is accepted on other than an applied cost basis, actual direct costs are recorded upon receipt of material, or upon payment, dependent on the system.

(2) In any event, the contractor's material accounting system should provide for: (i) determination of price and usage variance, (ii) accurate cost accumulation which assigns the material costs to the specific cost account for which it was budgeted, (iii) recognized costing techniques acceptable to CFA, and (iv) cost-effective material accountability. In addition, the contractor should be able to account individually for high value or critical material, purchased parts, and subcontracted items.

(3) The contractor is required to maintain records of outstanding contract commitments for material. A methodical and timely review of material commitments versus budgets is extremely important. Timely determination of price and usage variance of material is essential to effective control of costs. By comparing commitments and expenditures with material budgets, material cost variances are available long before issuing the material into work-in-process, giving management greater reaction time. When the variances indicate that material costs will exceed the budgets assigned, the contractor should reflect these differences in a revised estimated cost at completion.

C. Verification. Verification that cost accumulation and distribution practices comply with the ERDA Manual and generally accepted accounting practices is a basic responsibility of the CFA. The CFA's responsibility extends to verifying that material costs for PMS reporting purposes are recorded in accordance with the accepted management control system. Other reported costs, both direct and indirect, should reflect the same data included in the contractor's accounting records.

D. Technique (Accounting Criteria). Periodically, conduct a review using questions similar to the following:

- (1) Does the actual cost data reconcile as required at selected levels?
- (2) Are direct charges summations from the lowest point of cost accumulation without intermediate allocations?
- (3) Are labor, material, and other direct costs accurate and charged to the proper cost account?
- (4) Are the applied indirect rates acceptable?
- (5) Are the burdens charged, either actuals or approved billing rates, verified periodically? (If the latter, determine how adjustments are made.)
- (6) Does the contractor operate a well-disciplined and consistent system in accumulating and determining the value of BCWS, BCWP, and ACWP?
- (7) Are material charges recorded at the point of usage or by another acceptable method?
- (8) Is the material control system adequately explained and documented, including planning, requisitioning, and issuing to using elements?
- (9) Are material requirements defined in sufficient detail to facilitate identification, pricing, and procurement of material?
- (10) Are material commitments and expenditures compared with the applicable material budgets?
- (11) Are variances between budgets, commitments, and expenditures analyzed to determine the cause and recommended corrective action?
- (12) Does inventory planning support the manufacturing schedule?
- (13) Does inventory control provide acceptable accountability for material?
- (14) Are actual costs for material recorded on an applied direct cost or other basis capable of providing price and usage variance?
- (15) Is the contractor able to account for high value or critical purchased parts and significant subcontract procurement?
- (16) Can unit or lot costs, as appropriate, be determined?

#### 4-10 Analysis Criteria Surveillance:

A. Variance Analysis. The PMS criteria require the contractor's management control system to have the capability to isolate variances and identify the factors causing the variances, thus enabling contractor managers to develop alternative solutions and implement corrective action. The contractor is required to explain all significant cost and schedule variances (those that exceed established thresholds). It is the responsibility of the CCO to assure that the contractor's statements are accurate and timely and that his proposed corrective actions are feasible and reasonable within the scope of the contract. When quantity and quality changes result in schedule variances or cost variances, evaluation of these variances may require analysis by technical specialists of the CCO. In some instances, CFA assistance may be required concerning rate variances, but CCO personnel should be familiar with this area in order to evaluate the explanation of rate variances.

#### B. Estimated Cost At Completion (EAC).

(1) The contractor is required to periodically develop estimates of projected costs at completion using all available information. The EAC should consist of actual costs to date plus latest revised estimates for all remaining work. Price variances applicable to material commitments should be reflected in EAC, and the EAC should be reconcilable to the contractor's funding reports.

(2) The CCO, in conjunction with CFA, should assure that the contractor is uniform in his method of estimating cost at completion and that he properly explains not only the causes for any revised EACs but also their impact on the contract. Although monthly reports to RDD include the contractor's current EAC, it should be recognized that major variances usually do not develop in a month's time and may be the result of many relatively small variances over a period of many months.

(3) When EACs indicate that cost and schedule targets are in jeopardy, timely actions by contractor and RDD Project Management are required. After a contractor revises an EAC and at other appropriate times (e.g., when there is an unchanging EAC over a lengthy period of time or particularly when cost and schedule variances are significant) a thorough and coordinated evaluation of EAC should be made by both CCO and CFA surveillance personnel. Whenever a substantial change in EAC is reported or otherwise indicated, the analysis should be designed to determine whether the new estimate is reasonable. It should also determine whether the change should have been recognized earlier and, if so, what changes to the management control system may be necessary to prevent similar surprises in the future.

C. Technique (Analysis Criteria). A review using questions similar to the following should be conducted periodically:

(1) Is the contractor's calculation of BCWP for each cost element accurate?

(2) Does the Cost Performance Report identify significant variances?

(3) Have the significant variances been traced to the lowest level necessary to establish the cause of each variance?

(4) Are the narrative descriptions of significant variances, identified causes, and proposed remedies valid and adequate?

(5) Do forecasts of costs at completion include consideration of existing variances?

(6) Are the thresholds established for defining significant variances being adhered to?

(7) Does the contractor's variance analysis in the problem analysis section of the CPR reconcile with his internal variance analysis reports at various levels?

(8) Is detailed cost account analysis of significant variances performed, and if needed, is proper management action taken?

(9) Is the EAC updated periodically to reflect current performance and management insight?

(10) Do estimated resources required (labor, material, etc.) appear reasonable to perform remaining work?

(11) Are projected labor and overhead rates acceptable?

(12) If material commitments or expenditures differ from budgets, is the difference reflected in EAC?

(13) Does the reported EAC agree with the EAC developed and used by the contractor?

(14) How are corrective action plans implemented and evaluated?

(15) Does the prime contractor have acceptable visibility of subcontractor performance?

(16) Does the method of incorporating subcontractor performance data into the prime contractor's management control system provide for accurate, traceable performance measurement?

#### 4-11 Revisions and Access to Data Criteria Surveillance.

A. Incorporation of Changes. Because of the inherent uncertainty in the development and production of an energy/support system, there are bound to be contractual modifications and internal replanning actions.

(1) Changes may be due to:

(a) A change in the contractual scope of work,

(b) The final negotiated price for authorized work differing from that estimated and budgeted,

(c) Replanning to accommodate schedule changes or other factors that may have caused the original plan to become unrealistic,

(d) Transfer of budget from one WBS element or organization to another provided that corresponding work is also transferred.

(2) The PMS requires contract changes to be processed expeditiously and incorporated in a timely manner and that authorized unpriced work be planned and controlled like definitized work.

B. Baseline Integrity. To maintain a meaningful performance measurement baseline, the contractor's management control system must be capable of incorporating authorized changes so that all documents relating to affected elements reflect the change. Also, disciplines must be present to avoid unacceptable budget transfers or changes. Although internal replanning does not require contractual action, it may impact upon the performance measurement baseline.

C. Responsibility. The Surveillance Monitor is responsible for assuring that the contractor incorporates revisions in a timely manner and maintains baseline integrity.

D. Technique (Revisions Criteria). Periodically, a review should be conducted using questions similar to the following:

(1) Does the contractor's change control system provide the information required for tracing the change through the entire planning system to determine the following:

(a) Effect on work authorization,

(b) Effect on budgets and schedules,

(c) Effect on the estimated cost at completion.

(2) Are changes to the performance measurement baseline made only as a result of contractual redirection, internal replanning, or use of management reserve?

(3) Are these changes controlled, adequately documented, clearly traceable, and accurately reported?

(4) Is the change control procedure adequate? Do the contractor's practices indicate adherence to his change procedures? Are changes incorporated in a timely manner?

(5) Are internally generated changes that affect the total time sequencing (beginning and end dates) of cost accounts reviewed and evaluated?

(6) Are procedures for adding or cancelling work packages adequately and faithfully employed?

#### 4-12 Indirect Costs Surveillance:

A. General. Indirect costs account for a major portion of the costs of any program and it is therefore imperative that surveillance include that portion of the contractor's management control system which controls indirect costs. Many of the aspects which are important in the surveillance of direct project management must be of equal concern in the indirect cost area if PMS surveillance is to be effective. These include the proper placement of responsibility, realistic planning and budgeting, periodic variance analysis, and proper accounting for costs, both historical and projected.

B. Responsibility. It is the auditor's responsibility to analyze overhead cost control through evaluation of budgets and related procedures and practices, and to advise the CCO of his findings. Coordination between the CO, other members of the CCO staff, and the auditor is required to avoid duplication of effort in this area.

C. Review Questions. Analysis of a contractor's management of indirect costs should be performed periodically. Questions requiring answers might include the following:

(1) Are indirect cost pools clearly identified and is control responsibility assigned to managerial positions in a logical manner?

(2) Are indirect costs planned and budgeted on a time-phased basis coinciding with established accounting periods?

(3) Are indirect budgets established on a facility-wide basis commensurate with firm and potential business?

(4) Are the facility-wide indirect budgets updated in a timely manner to reflect the realization or nonrealization of potential business and/or changes in the planning base?

(5) Are indirect costs and variances from budgeted amounts analyzed by management personnel at the proper level and corrective action taken in a timely manner when necessary?

(6) Do the indirect rates used to compute the contract indirect cost estimates-to-complete properly reflect historical experience, economic escalation, anticipated business volume, and appropriate financial planning for the period of contract performance?

(7) Are projected indirect rates revised in a timely fashion to reflect changing workload projections, etc., to provide accurate EAC?

#### 4-13 System Discipline Surveillance:

A. Requirement. The prime responsibility for maintaining system discipline rests with each contractor. Contractor personnel must assure that the management control system continues to function as accepted and that any changes or deviations thereto are properly documented and processed in accordance with paragraph 2-3. The degree of contractor surveillance activity will have a direct bearing on the intensity of the government surveillance effort. The adequacy of the contractor's system discipline is one of the important areas to be evaluated by government personnel. By performing the various reconciliations, analyses, and traceability tests described in the previous pages, surveillance personnel should be able to determine whether:

- (1) The contractor's system has integrity and reliability,
- (2) Management uses and relies on the accepted management control system,
- (3) The contractor's system is properly controlled and resulting data are properly employed by appropriate levels of management.

#### B. Technique (System Discipline).

(1) In order to assure that the contractor has a management control system which has good discipline, can errors discovered in tests described above be traced to their source for correction? Errors discovered may be caused by:

- (a) Mathematical inaccuracies,
- (b) Management control system deficiency which prevented reconciliation or permitted the same data to be accumulated from two or more separate sources,
- (c) Personnel not properly trained in the use of the management control system,
- (d) Failure to take necessary management actions,
- (e) Lack of internal control.

(2) Bring the problems resulting from these deficiencies to the contractor's attention for prompt resolution.

#### 4-14 Status Indicators:

One of the primary purposes of the RDD PMS is to increase visibility into the status of a contractor's progress. This gives management, both RDD and contractor, early recognition of potential problems so that corrective action may be taken before these problems severely impact cost and/or schedule. The following is a list of indicators which may suggest potential or actual system problems. At the first indication that such problems exist,



surveillance personnel should investigate the area in detail to determine whether a system problem or a project problem is involved.

- A. Inadequate work definition (especially in upcoming months),
- B. Difficulty in establishing realistic budgets within the constraint of target cost,
- C. Large amounts of undistributed budget,
- D. Lack of schedule integration, poor schedule control,
- E. Frequent schedule deviations,
- F. Frequent performance measurement baseline changes,
- G. Frequent use of management reserve,
- H. Lack of coordination between contractor functional groups,
- I. Poor variance analysis,
- J. Large or frequent cost variances,
- K. Failure to reevaluate EAC as the situation dictates,
- L. Poor change procedures,
- M. Unawareness of problems,
- N. Consistently optimistic projections,
- O. Lack of management attention and corrective action,
- P. Subcontractor delays or extended subcontract negotiations,
- Q. Management control systems fail to provide advance warning of major problems,
- R. Frequent and extensive changes to plans,
- S. Contractor plans do not reflect actual conditions and are not being revised.

#### 4-15 Sampling:

A. General. Because only a limited amount of data can possibly be examined by surveillance personnel, sampling must be used to accomplish meaningful surveillance. One of the most common methods of selecting data for surveillance is through sampling techniques.

B. Technique and Sample Size. Which one of the sampling techniques to be used (selective, stratified, or random sampling) and sample size are decisions to be made. In highly automated systems which have proven reliable in the past, the probability for error is very low and so a relatively small sample is usually sufficient for providing a conclusion. For manual systems where the error ratio significantly increases, a larger sample will be required for reliability.

C. Sample Selection. The surveillance plan should be constructed so that it gives due consideration to the critical areas of the program. The samples normally should be selected from those areas that are weak or suspect or have high risk or high dollar value. Critical areas include but are not limited to:

(1) Areas that directly affect contract milestones, e.g., elements on the critical path,

(2) Areas associated with high technical risk or high dollar amounts, e.g., new welding techniques,

(3) Areas that may be affected by large or critical subcontracts, e.g., sole source situations, and,

(4) Areas that have shown out-of-tolerance performance to date, either favorable or unfavorable.

ATTACHMENT 1

LIST OF ACRONYMS

AAA	Assistant Administrator for Administration
ACWP	Actual Cost of Work Performed
AD	Assistant Director
ANE	Assistant Administrator for Nuclear Energy
BAC	Budget at Completion
BCWP	Budgeted Cost for Work Performed
BCWS	Budgeted Cost for Work Scheduled
CCO	Cognizant Contracting Office
CFA	Cognizant Federal Auditor
CFSR	Contract Funds Status Report
CO	Contracting Officer
CPR	Cost Performance Report*
C/SCSC	Criteria for Cost and Schedule Control Systems
CWBS	Contract Work Breakdown Structure
DCAA	Defense Contract Audit Agency
EAC	Estimated Cost at Completion
ERDA	Energy Research and Development Administration
FCM	Division of Facilities and Construction Management
LOE	Level-of-Effort
MCS	Management Control System
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
OC	Office of Controller
OIR	Office of Internal Review
PMS	Performance Measurement System
RDD	Reactor Development and Demonstration Division
SEB	Source Evaluation Board
WBS	Work Breakdown Structure

\* or equivalent

## ATTACHMENT 2

### GLOSSARY OF TERMS

ACCEPTED SYSTEMS SUMMARY LIST. An itemization of contractor systems that have been accepted as meeting the PMS.

ACTUAL COST OF WORK PERFORMED (ACWP). The costs actually incurred and applied or distributed in accomplishing the work performed within a given time period.

ACTUAL DIRECT COSTS. Those costs identified specifically with a contract, based upon the contractor's cost identification and accumulation system as accepted by ERDA. (See Direct Costs).

ALLOCATED BUDGET. (See Total Allocated Budget).

APPLIED DIRECT COSTS. The amounts charged to work in process in the time period associated with the consumption of labor, material, and other direct resources, without regard to the date of commitment or the date of payment.

APPORTIONED EFFORT. Effort (e.g., Quality Assurance) that by itself is not readily divisible into short-span work packages but which is related in direct proportion to a specific measured effort.

AT COMPLETION VARIANCE. The difference between EAC and BAC. At any point in time, it represents a forecast of budget overrun or underrun.

AUTHORIZED WORK. That effort which has been definitized and is on contract with ERDA plus that for which definitized contract costs have not been agreed to but for which written authorization has been received by the contractor.

BUDGET AT COMPLETION (BAC). (See Total Allocated Budget).

BUDGETED COST FOR WORK PERFORMED (BCWP). The sum of the budgets for completed work packages and completed portions of open work packages, plus the appropriate portion of the budgets for level of effort and apportioned effort.

BUDGETED COST FOR WORK SCHEDULED (BCWS). The sum of the budgets for work packages, planning package, etc. scheduled to be accomplished (including in-process work packages), plus the level of effort and apportioned effort budgeted for the relevant time period.

BUDGETS FOR WORK PACKAGES. (See Work Package Budgets).

COGNIZANT FEDERAL AUDITOR (CFA). Represents the cognizant audit organization responsible for conducting audit reviews of the contractor's accounting system policies and procedures for compliance with the criteria.

CONTRACT BUDGET BASE. The negotiated contract cost plus the estimated cost of authorized unpriced work.

COGNIZANT CONTRACTING OFFICE (CCO). The organizational elements designated to perform the contract administration responsibilities. The CCO function may be located at Field Operations Offices, Project Offices, Site Offices or Headquarters.

CONTRACTING OFFICER (CO). The ERDA Contracting Officer responsible for administering an existing contract. Typically has additional responsibilities, e.g., contract negotiation and execution.

CONTRACTOR. An entity in private industry which enters into contracts with the Government. In this guide, the word also applies to government-owned, government-operated activities which perform work on major energy programs.

COST ACCOUNT. A management control point at which actual costs can be accumulated and compared to budgeted cost for work performed. A cost account is a natural control point for cost/schedule planning and control since it represents the work assigned to one responsible organizational element on one Contract Work Breakdown Structure (CWBS) element.

COST VARIANCE. The difference between BCWP and ACWP. At any point in time it shows whether the work actually performed has cost more or less than that budgeted.

DEFENSE CONTRACT AUDIT AGENCY (DCAA). A DOD agency that provides, on request, accounting and financial services regarding contracts to non-DOD government organizations responsible for procurement and contract administration.

DIRECT COSTS. Any costs which are identified specifically with a particular final cost objective. Direct costs are not limited to items which are incorporated in the end product.

ESTIMATED COST AT COMPLETION (EAC). Direct costs, plus indirect costs allocated to the contract to date, plus the estimate of costs (direct and indirect) for authorized work remaining.

ESTIMATE TO COMPLETE. The estimate of costs (direct and indirect) for authorized work remaining.

FOCAL POINT. In a particular organization, e.g., RDD, the principal point of contact for coordination and exchange of information related to PMS implementation or surveillance.

GENERAL & ADMINISTRATIVE (G&A). A form of indirect expenses incurred in the direction, control, and administration of contractor operation.

INDIRECT COSTS. Costs which, because of their incurrence for common or joint objectives, are not readily subject to treatment as direct costs.

INITIAL BUDGET. (See Original Budget).

INTERNAL REPLANNING. Replanning actions performed by the contractor within the recognized total allocated budget.

LEVEL OF EFFORT (LOE). Support type effort (e.g., vendor liaison) that does not readily lend itself to measurement of discrete accomplishment. It is generally characterized by a uniform rate of activity over a specific period of time.

MANAGEMENT RESERVE. The portion of the contract's total allocated budget withheld for contractor management control purposes rather than designated for the accomplishment of a specific task or set of tasks. It is not a part of the Performance Measurement Baseline.

MEMORANDUM OF AGREEMENT (MOA). An agreement between Project Management and the CCO establishing the scope of responsibility of the CCO with respect to the PMS surveillance functions and objectives.

MEMORANDUM OF UNDERSTANDING (MOU). An agreement between a contractor and a cognizant Contracting Officer indicating the contractor's intention to use accepted management control systems on future contracts which require compliance with the PMS.

NEGOTIATED CONTRACT COST. The estimated cost negotiated in a cost-plus-fixed-fee contract or the negotiated contract target cost in either a fixed-price-incentive contract or a cost-plus-incentive-fee contract.

ORIGINAL BUDGET. The budget established at, or near, the time the contract was signed, consistent with the negotiated contract cost.

OVERHEAD. (See Indirect Costs).

PERFORMANCE MEASUREMENT BASELINE. The time-phased budget plan against which contract performance is measured. It is formed by the budgets assigned to scheduled cost accounts and the applicable indirect budgets. For future effort not planned to the cost account level, the performance measurement baseline also includes budgets assigned to higher level CWBS elements and undistributed budget. It will reconcile to the contract budget base. It equals the total allocated budget less management reserve.

PERFORMING ORGANIZATION. A defined unit within the contractor's organizational structure which actually performs the work.

PLANNING PACKAGE. A logical aggregation of work within a cost account, normally the far term effort that can be identified and budgeted in early baseline planning, but which will be further defined.

PROJECT DIRECTOR. The individual within the Division Staff Office, Field Operations Office, or designated Project Office responsible for executing an approved RDD project within well defined boundaries of time, resources, and performance requirements.

PROJECT MANAGEMENT. The Division Staff Office, Field Operations Office, or designated Project Office responsible for directing an RDD project and headed by a Project Director, or equivalent.

REPLANNING. (See Internal Replanning).

REPROGRAMMING. A comprehensive replanning of the effort remaining in the contract resulting in a revised total allocated budget which exceeds the contract budget base.

RESPONSIBLE ORGANIZATIONAL ELEMENT. A defined unit or individual within the contractor's organizational structure assigned responsibility for accomplishing specific tasks.

SCHEDULE VARIANCE. The difference between BCWP and BCWS. At any point in time it represents in dollars the difference between work actually performed (accomplished) and work scheduled to be accomplished.

SIGNIFICANT VARIANCES. Those differences between planned and actual performance which require further review, analysis, or action. Appropriate thresholds should be established as to the magnitude of variances which will be considered significant and, therefore, will require variance analysis.

STEERING COMMITTEE. A group composed of RDD officials responsible for designation of PMS to RDD contracts. The group considers major policy aspects of PMS and provides high-level interpretation of PMS requirements.

SURVEILLANCE MONITOR. The individual responsible for coordinating PMS surveillance functions to assure that the surveillance objectives are accomplished.

SURVEILLANCE PLAN. A document, consistent with a Memorandum of Agreement, which establishes the procedures for accomplishing PMS surveillance.

TOTAL ALLOCATED BUDGET. The sum of all budgets allocated to the contract. Total allocated budget consists of the performance measurement baseline and all management reserve. Total allocated budget and budget at completion (BAC) are synonymous.

UNDISTRIBUTED BUDGET. Budget applicable to contract effort which has not yet been identified to CWBS elements at or below the lowest level of reporting to RDD.

VARIANCES. (See At Completion Variance, Cost Variance, Schedule Variance, and Significant Variances).

WORK BREAKDOWN STRUCTURE. A product-oriented family tree division of hardware, software, facilities, and other items which organizes, defines, and displays all of the work to be performed in accomplishing the project objectives.

- (1) Project Summary Work Breakdown Structure (PSWBS). A summary WBS tailored by project management to the specific project with the addition of the elements unique to the project. Generally, the PSWBS will identify project elements through the third level.
- (2) Contract Work Breakdown Structure (CWBS). The complete WBS for a contract developed and used by a contractor within the guidelines of ERDA Handbook 0805.3 Part 1 and in accordance with the contract work statement.

WORK PACKAGE BUDGETS. Resources which are formally assigned by the contractor to accomplish a work package, expressed in dollars, hours, standards, or other definitive units.

WORK PACKAGES. Detailed short-span jobs, or material items identified by the contractor for accomplishing work required to complete the contract. A work package has the following characteristics:

- (1) It represents units of work at levels where work is performed.
- (2) It is clearly distinguished from all other work packages.
- (3) It is assignable to a single organizational element and cost account.
- (4) It has scheduled start and completion dates and, as applicable, interim milestones all of which are representative of physical accomplishment.
- (5) It has a budget or assigned value expressed in terms of dollars, manhours or other measurable units.
- (6) Its duration is limited to a relatively short span of time or it is subdivided by discrete milestones to facilitate the objective measurement of work performed.
- (7) It is integrated with detailed engineering, manufacturing, or other schedules.



## ATTACHMENT 3

### MODEL MEMORANDUM OF AGREEMENT BETWEEN CCO AND THE RDD PROJECT DIRECTOR WITH RESPECT TO SURVEILLANCE OF CONTRACTORS' COST AND SCHEDULE CONTROL SYSTEMS

(IMPORTANT NOTE: This Memorandum of Agreement (MOA) is for guidance purposes only. It is intended to provide assistance in ascertaining that all the appropriate aspects of PMS surveillance are encompassed in the preparation of a specific surveillance plan. It is not intended that this MOA provide a mandatory, rigid required format in any respect.)

#### 1. Purpose

The purpose of this MOA is to establish the responsibilities of the RDD Project Director and the CCO with respect to PMS surveillance under all contracts issued by the RDD Project Director. The agreement is based upon the policy and objectives of the criteria for Cost and Schedule Control Systems and the PMS Implementation Guide, RDD/PMS-2.

#### 2. Scope

This agreement describes the responsibilities and working relationships between the CCO and the Project Director and the activities necessary to assure continuing effective contractor control, use and reporting of cost, schedule, and technical performance within the purview of the PMS requirements. This agreement is applicable to all RDD Project Director contracts performed at \_\_\_\_\_ Company, located in \_\_\_\_\_ which incorporate PMS requirements.

#### 3. Responsibilities

##### A. Project Director

(1) Provide overall management of the acquisition project, including support of the surveillance team to assure continued contractor compliance with the PMS.

(2) Insure that the CCO is kept fully informed of pertinent project events to include appropriate communications between the Project Director and the contractor. Project awareness is necessary so that the CCO may be fully effective and responsive in providing the required support at all times.

(3) Direct the contractor, through the CO, after consultation with the appropriate PMS focal point, to effect major changes to his management control systems, if required to achieve continued compliance with PMS.

(4) Request any problem analysis required beyond the scope of the MOA. Such requests will be addressed to the CCO.

(5) Provide required specialized technical support needed for effective accomplishment of the surveillance program as requested.

B. CCO:

(1) Provide overall assurance that the contractor's management control system continues to meet the requirements of PMS.

(2) Develop and implement a surveillance plan which provides the details for accomplishing system surveillance and maintenance in conjunction with and consistent with this MOA.

(3) Review the surveillance plan on a periodic basis to insure that it continues to provide a framework for effective PMS surveillance.

(4) Provide specialized support or problem analysis as agreed to in this MOA.

(5) Keep the Project Director advised of the status of contractor's management control systems and PMS related activities.

(6) Maintain records and submit reports as required by this MOA.

4. Surveillance Plan Framework.

(Details to be mutually determined by the Project Director and CCO in coordination with CFA. May include all or part of the following):

A. Monitor the contractor's corrective actions resulting from the Demonstration Review.

B. Receive, evaluate, reconcile, and process external contractor performance and financial reports, e.g., Cost Performance Reports (CPR), Contract Funds Status Reports (CFSR), etc. Verify that data is submitted in accordance with the reporting requirements.

C. Utilize external and internal reports in performing general CCO functions per the ERDA Manual.

D. Assure continuity, consistency, quality, and usefulness of the system in operation. This includes the following:

(1) Assuring that the contractor's accepted management control system is, in fact, being used by the contractor to manage the project.

(2) Evaluating changes (government-imposed or contractor-generated) to the system to ensure continued compliance with the criteria.

(3) Insuring that system discipline and integrity are maintained.



E. Performing periodic system reviews, evaluations, and tests to insure maintenance of system integrity. Frequency of such efforts should be established in the surveillance plan and should insure complete review of the system over a specified period of time. Frequency of total system review will be as mutually agreed with the Project Director.

F. Informing the contractor and Project Director of any uncorrected deficiencies which affect overall validity of the contractor's system.

G. Performing periodic evaluations of estimated costs at completion.

#### 5. Records Maintenance

The CCO will establish and maintain a central file for all pertinent data and correspondence regarding the PMS project. The CCO will assure that the file contains updated regulatory and guidance material pertaining to the project. The file, as a minimum, will contain copies of all correspondence with the contractor and the Project Director, description of the contractor's management control system, accepted changes to the system, memoranda of meetings, monthly surveillance reports/activities, reconciliations of appropriate reports from the contract data requirements list, and deficiency situations requiring corrective actions.

#### 6. Surveillance Review Meetings Between Project Director, CCO, and OIR.

(This section will provide for both scheduled and unscheduled joint meetings pertaining to the PMS surveillance program.)

#### 7. Terms of Agreement

This agreement is effective upon signature by all parties. It is intended to remain in force for the duration of the specified contract(s). However, the terms of this agreement are subject to change at any time by mutual consent of the parties hereto.

APPROVED:

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CCO Chief

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Date

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Project Director

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Date



## ATTACHMENT 4

### SURVEILLANCE PLAN OUTLINE

(See paragraph 4-3 of this guide for discussion of factors to be considered when preparing a surveillance plan. Development of the plan may be coordinated with the contractor.)

#### I. General

##### A. Purpose

- provide detailed surveillance procedures
- accomplish systematic surveillance
- produce objective evidence of that surveillance
- may address relationship to contract surveillance (see paragraph 3-3).

##### B. Objective

- to insure that contractor's management control system continues to meet the PMS requirements.

##### C. References

- See paragraph 4-3B (7) of this guide for examples.

##### D. Records

- See paragraph 2-9A of this guide for guidance on types of records to be maintained.

##### E. Reports

- in accordance with the Memorandum of Agreement
- see paragraph 2-9B of this guide
- include report subjects, distribution, and general content (format, if required).

#### II. Responsibilities

##### A. General

- See paragraphs 3-1, 3-2, 3-3, and 3-4 of this guide.

##### B. Surveillance Monitor

- See paragraph 3-5 of this guide for typical Surveillance Monitor responsibilities.

C. Subsequent sections should include responsibilities of all participants in the surveillance effort. Examples are in paragraphs 3-7 through 3-13 of this guide.

### III. General Procedures

#### A. Planning

- periodic meeting of team (paragraph 3-5 c).
- activity planning (paragraph 4-5A (3)).
- sample selection (paragraph 4-15).
- scheduling (paragraph 4-8A).

#### B. Conduct of Surveillance

- refer to paragraphs 4-4 and 4-5.

### IV. Detailed Procedures

- tailor to contractor's system (paragraph 4-3B (1)).
- address each subsystem or surveillance area (paragraph 3-13B).

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