ROCKY FLATS CLOSURE PROJECT

Contract No. DE-AC34-00RF01904

Project Control System Description

CLOSURE

ROCKY FLATS CLOSURE PROJECT

March 2, 2000
Rev. 0
Preface

This Project Control System Description (PCSD) is intended to serve as both a general guide and a training tool. The PSCD provides a summary overview of system components required per contract Section H.1 “Project Control System and Reporting Requirements”. Organization of the PCSD is consistent with the requirements of Section H.1 to support Project Control System (PCS) compliance reviews.

Per the contract, any significant changes to the PCS and associated PSCD requires prior written approval by the Contracting Officer. Kaiser-Hill (K-H) reserves the right to implement value-added process improvements to the PCS that do not impact the PCS functionality, commensurate with state-of-the-art project management for like kind projects. The figures, appendices, and attachments contained herein are for informational purposes only.

The PSCD will be updated to include finalized information and project specific forms and data as the baseline planning process and transition to the new contract continues.

1 Significant meaning: major software component change, change in processing methodology or change in overall functionality
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**Introduction**

The primary purpose of this PCSD is to provide direction and guidance toward the establishment and maintenance of a cost effective and efficient performance measurement system. This will, in turn, provide the Rocky Flats Closure Project (RFCP), Department of Energy (DOE) and K-H Project Managers, with timely, user friendly, and reliable cost and schedule performance information to actively support proactive management of the RFCP and contractual reporting. This PCSD integrates DOE authoritative sources (e.g., DOE/PR-036, DOE 430.1) as well as private sector (Project Management Institute “PMI” Body of Knowledge – “PMBOK”) best business practices to achieve a value-added, streamlined approach to project management at RFCP.

The basic objectives of the PSCD is to provide guidance to achieve the following:

- Establish and maintain a project cost, schedule, and technical baseline within the framework of the contract requirements;
- Provide RFCP Project Managers a graded methodology to effectively plan and execute\(^2\) the RFCP baseline;
- Provide for the orderly and systematic authorization of work, budget, and funding to the RFCP;
- Develop and publish timely project management reports that displays technical, cost, schedule, and funding status to the approved baseline plans;
- Measure actual and forecasted cost and schedule status against the RFCP project baseline to determine current (actual) and forecasted performance (trend);
- Maintain a concise and documented audit trail (change control) for changes to the RFCP project baseline;
- Identify potential (forecast) project problem areas in sufficient time to enable the implementation of corrective action(s);
- Utilize a risk-based approach for the development of industry standard project performance measurement baselines to enhance achievability, while at the same time streamlining the PCS process;
- Ensure appropriate flow-down of PCSD requirements to RFCP subcontractors using a value-added graded approach; and,
- Provide a user friendly project management communication tool.

The overall intent of the PCS is to support the definition of work scope, assist with organizing project data, and use processes best suited to the RFCP’s needs, environment, and K-H’s project management philosophy.

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\(^2\) “Executing” is a contract/procurement management term defined as working on approved work scope.
PROJECT CONTROL SYSTEM DESCRIPTION

Drivers and Requirements

The RFCP contract, Section H.1 indicates that “…the contractor shall provide to the Contracting Officer a detailed description of the PCS for review and approval.” The K-H PCS must meet the requirements of the following DOE guidance:

- DOE Order 430.1, Life Cycle Asset Management (LCAM), October 14, 1999;
- Integrated Planning, Accountability, and Budgeting System (IPABS) Handbook, February 16, 1999; and,

Following approval of the PCSD, the Contracting Officer will conduct a compliance review of K-H’s proposed PCS. The Contracting Officer will use the following two (2) references as the main tools to evaluate K-H’s PCS:

- DOE/PR-036, PCS Guidelines Implementation Reference Manual, Interim, December 1992; and,

The PCSD has been developed following the criterion in the DOE/PR-036 as well as the associated DOE guidance, Orders and Notices. Private sector references (PMI) have also been considered as part of the streamlining and value-added focus for this PCSD. Implementation of the PCS system provides for a graded application of project controls commensurate with technical complexity, risk, cost, schedule impact, and overall project importance, as applicable, at the Cost Account (CA) level.

In keeping with this streamlining focus, and as directed by the contract, this PCSD is intended to provide a summary overview of PCS system functionality.

The contract allows K-H to utilize, to the maximum extent possible, the pre-existing PCS as long as the system satisfactorily fulfills the defined requirements. The pre-existing K-H PCS will continue to be utilized with changes in functionality incorporated that are in keeping with the new contract type and a risk graded approach to project management.

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3 Graded approach to project controls is defined as applying the correct level of sophistication for project controls and project management determined primarily by the risk (technical or business) of the associated project.
H.1.02 BASELINE DEVELOPMENT

H.1.02.a Technical Baseline

H.1.02.a.1 Work Breakdown Structure (WBS)

The WBS identifies authorized work scope and then successively subdivides that work scope into increasingly detailed and manageable subsidiary work components. The WBS provides the mechanism to integrate the work scope, cost estimate, and schedule. The contract specifies that the WBS will contain nine (9) major projects (see Figure 1, Page 11).

PMI defines that “…A Work Breakdown Structure is a deliverable-oriented grouping of project elements that organize and define the total scope of the project.”

The WBS is maintained to support project management of the RFCP throughout the life of the project. Substantive changes to the WBS are made via the formal change control process. Administrative changes to the WBS (e.g., spelling corrections) do not require formal change control.

The WBS is maintained in the WBS database (see Figure 2, Page 12) that resides in the K-H Accounting PeopleSoft software package. This database defines the WBS structures utilized in the PCS databases. Each PCS database requires that data be linked, cross-referenced, or associated with a WBS element. In this way, data in the PCS can be reported in a consistent manner to provide performance measurement reporting.

As required per the contract, the lowest level of the WBS for external reporting to the Contracting Officer is the CA, Level 4. The Contracting Officer has approval authority for WBS changes down to the CA level as provided by the contract.

The following listing denotes the external WBS for the RFCP factored down to Level 4.

Level 1: Total RFCP
  Level 2 - Project Level (9 Projects)
    Level 3 - Summary CA
    Level 4 - CA

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4 PR-036 A I b Element 2.
5 PMI Guide to PMBOK, Page 54.
6 See Appendix 1 for a revised RFCP WBS factored down to Level 4.
7 Cost Account level is essentially at the old Work Authorization Documents (WAD) level.
Coding below level 4 is determined by each project manager, subject to review and approval by K-H Strategic Planning & Integration (SP&I) project controls for compliance with system requirements.

The revised WBS will be submitted as part of the Closure Project Baseline (CPB). Approval of the baseline by the Contracting Officer places the WBS under change control. The change control process that is used to institute changes is detailed in K-H SP&I Standard #15 – WBS Management.

The WBS system that currently resides in the PeopleSoft accounting system contains project specific information required by the Cost Accounting Standards (CAS). The WBS system also has the functionality to move work scope (and associated historical costs from PeopleSoft) from one project “leg” of the WBS to another, as may be required by an approved change proposal.

In the interim period (2/1/00-6/30/00), accrued and actual costs are captured in the K-H accounting system based on the pre-existing WBS. Captured costs are then re-mapped to the new WBS structure to calculate Total Project Costs (TPC) beginning on 2/1/00.

The WBS system data integrity is maintained through computer-based security. A K-H Database Administrator (DBA) is assigned to create and maintain the WBS (using change proposals as required). Below the CA level, Cost Account Managers (CAMs) are responsible for creating and maintaining charge numbers for their respective CAs.

Levels of WBS control are:

<table>
<thead>
<tr>
<th>WBS Action</th>
<th>WBS Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create and maintain WBS Levels 1-4</td>
<td>PM through WBS Change Proposals</td>
</tr>
<tr>
<td>Create and maintain project-specific coding structures below CA level</td>
<td>CAM or their designated project analysts</td>
</tr>
<tr>
<td>Create and maintain charge numbers</td>
<td>CAM or their designated project analysts</td>
</tr>
</tbody>
</table>

See Appendix 2 for a complete listing of K-H SP&I Standards. These Standards are currently under revision to reflect the new contract type. Revision to the Standards is scheduled to be completed to support the PCSD Compliance Review. An electronic E-Manual for user friendly Intranet access to the SP&I Standards is also under development. The E-Manual is scheduled to be completed by June 30, 2000.
The following figure identifies the RFCP WBS with the nine (9) projects required per the contract WBS\(^9\).

\[ \text{RFCP} \]

- Rocky Flats Closure Project
- A 371 Complex Project
- B 707 Complex Project
- C 771 Complex Project
- D 776 Complex Project
- E Industrial and Site Services Project
- F Material Stewardship Project
- G Remediation Project
- H EESH&Q Project
- J Support Project

\[ \text{Non-Project Elements} \]

Figure 1

\(^9\) For coding of the Support Project, the letter “i” is not used because it can sometimes be confused with the number “1”. Non-Project element is depicted as a dotted box to reinforce non-RFCP association.
The following figure identifies the primary databases that interface to and are supported by the RFCP WBS:

Figure 2

10 See Appendix 3 for a summary breakout of the PCS databases.
H.1.02.a.2 Technical Baseline

The technical baseline configures the projects’ technical work scope to ensure that defined project objectives are achieved.\textsuperscript{11} A Project Management Plan (PMP)\textsuperscript{12} is developed and maintained for each of the nine (9) RFCP projects and contains the technical work scope. Collectively, these PMPs represent the total work scope of the RFCP. Section 1 of the PMP is the technical baseline scope which is defined as the Project Baseline Description (PBD)\textsuperscript{13}. The PMP uses outputs of the other planning processes to create a consistent, coherent document that can be used to guide both project execution and project control.\textsuperscript{14}

K-H will provide a revision (Revision 5) to the RFCP PMP (total Site level) as part of the June 30, 2000 revised CPB deliverable to the Contracting Officer. The requirements, constraints and assumptions affecting the RFCP will be updated as part of that revision, taking into account both the terms and conditions of the new contract and any other new information/knowledge available to K-H. In particular, the RFCP PMP will be updated to include the new contract requirements (Technical Exhibits C, D and E of Section C of the new contract) and “constraints” (Technical Exhibit A to Section C of the new contract).

The PBD documents are developed in accordance with K-H SP&I Standard 002 - Baseline Development, which provides guidelines and delineates PBD roles and responsibilities. As required in the contract, K-H will submit the PBDs to the Contracting Officer on June 30, 2000.

The PBD documents (electronic copy) reside in the PBD database area of the PCS system. The PBDs contain summary level project information for schedule and cost estimates. These summaries are generated by automated processes from the base data in the Primavera Project Planner “P3” schedule and the Basis of Estimate Software Tool (BEST) cost estimating systems.\textsuperscript{15}

\textsuperscript{11} PR-036, A1a, Page 3-1.
\textsuperscript{12} See Appendix 4 for a sample PMP Table of Contents.
\textsuperscript{13} PBD and Project are synonymous in this PCSD.
\textsuperscript{14} PMI Guide to the PMBOK Page 39.
\textsuperscript{15} These are discussed in detail - Section H.1.02.c and H.1.02.d.3 of this PCSD.
H.1.02.b Roles and Responsibilities

H.1.02.b.1 Organizational Structure

K-H has identified key RFCP project personnel, with their associated roles and responsibilities. For this purpose, a cognizant Cost Account Manager (CAM) has been assigned to each CA. The CAM is empowered with the responsibility and authority to plan and budget approved work scope, manage/control the assigned resources, and execute work activities within the approved technical, schedule and cost baselines. A detailed position description that identifies the CAM responsibilities and reporting relationships is currently under development\(^\text{16}\).

The Organizational Breakdown Structure (OBS) is the functional breakdown of the K-H organization into departments. CAMs assigned to CAs provide an intersection of the OBS and WBS. Functional reporting and project performance monitoring is performed at the CA level and performing organization level (control account\(^\text{17}\)).

It is K-H’s intention to closely align the OBS to the project structure by assigning individuals directly to the specified nine (9) projects. This is referred to as a “projectized” organization\(^\text{18}\). Individuals assigned to projects take daily project direction from the Project Manager\(^\text{19}\). It is intended that functional disciplines required for project execution are assigned directly or matrixed to the project. This creates cohesive and effective project teams.

OBS functional organizations perform the analysis and reporting necessary to control and monitor efficient use of the assigned project human resources based on the project’s priorities and the associated baseline critical paths. Because of K-H’s strong project orientation, functional organizational control and performance monitoring is accomplished at the CA level through the CAM’s.

Status is provided by the CAM and captured in the various sub-elements of the PCS\(^\text{20}\). Aspects of performance measurement and collection of earned value are described later under Section H.1.03.d.1 “Project Performance”. Other applicable RFCP roles and responsibilities are defined in the applicable SP&I Standard.

From a system perspective, the OBS is maintained by K-H Human Resources (HR) in the HR database. K-H employees are assigned to a department in the OBS. Functional disciplines are required to follow the requirements of their functional department. Personnel assigned to the RFCP Baseline for each CA are coded to a department at the resource level. This allows for functional organizational analysis to be generated against the RFCP Baseline. Due to projectization of the RFCP, the OBS and WBS assignments are closely aligned.

\(^{16}\) See page 16 for a partial listing of duties and responsibilities.

\(^{17}\) PR-036, Element 6, Page 3-6.

\(^{18}\) PMI Guide to PMBOK, Page 18.

\(^{19}\) See Appendix 5 for the preliminary functional RFCP Responsibility Assignment Matrix.

\(^{20}\) PR-036, 3A2 Element 6, Page 3-7.
The WBS database maintains the capability to record the assignment of CAMs to CAs. Assignment of individuals as CAMs is under the discretion of K-H management. CAM personnel may change over the life cycle of the RFCP. As changes are made, these new CAMs will be updated in the WBS database.

**H.1.02.b.2 Indirect Cost**

CAMs with the responsibility and authority for managing and controlling indirect costs are identified at the CA level\(^{21}\). Indirect costs are defined as those costs which can not be reasonably identified with a specific final cost objective. These indirect costs are collected in the WBS Project “J, Support Project”. Indirect cost pools include:

- Fringe Benefits;
- General and Administrative (G&A); and,
- Leased Labor Overhead.

Pool components, distribution, bases and allocation processes are as set forth in the K-H Cost Accounting Standards Disclosure Statement.

The cost components of these pools have been identified to the activity level and have also been assigned to project personnel with the responsibility and authority for managing these indirect costs. This method of managing and controlling indirect costs is at a level consistent with the other direct project CAs.

A Responsibility Assignment Matrix (RAM) has been developed which identifies each indirect CA and its responsible CAM\(^{22}\). The K-H Project Manager of Administration is responsible for coordinating the administration of RFCP indirect CAs.

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\(^{21}\) PR-036, 3.2. Element 2, Page 3-6.

\(^{22}\) PR-036,3.2 Element 2, Page 3-6.
H.1.02.b.3  Cost Account Manager Responsibilities

K-H has designated a manager for each CA to be identified as a CAM. The CAM has the responsibility and authority to plan and budget the work, control the resources, and execute activities within the approved technical, schedule and cost baseline. Below is a partial list of CAM responsibilities related to project management and the PCS:

- Develop and maintain scope and technical description for the CA;
- Develop and maintain the CA estimates and budgets;
- Develop and maintain the CA schedule and critical paths;
- Develop and maintain the RAM for work activities within the Cost Account;
- Incorporate lessons learned in CA planning;
- Participate in planning with the project manager to allocate site critical resources to the CA;
- Develop and manage contingency at the CA level;
- Develop subcontract strategies for the CA;
- Develop and submit for approval any required change proposals;
- Maintain interlogic ties to other CAs of the RFCP;
- Report status monthly and quarterly;
  - Analyze cost variances, identify root drivers, and implement corrective actions, as needed.
  - Analyze schedule variances and total float, identify root drivers, and implement corrective actions, as needed.
  - Analyze resource availability vs. resource requirements and develop workarounds or recovery plans, as appropriate.
- Develop Estimates-at-Completion (EACs), as required;
- Develop Estimates-to-Complete (ETCs), as required;
- Integrate an understanding of risk factors into the phases of CA planning and execution;
- Approve purchase requisitions written against the CA;
- Approve invoices for CA work; and,
- Report accrued costs to the CA, as required.

Specific CAM responsibilities and training, based on the new project structure, is under development as part of the RFCP indoctrination for CAMs. Furthermore, K-H SP&I Standards contain Roles and Responsibilities sections that relate the CAM’s responsibilities to each specific standard.
H.1.02.c Cost Estimating

H.1.02.c.1 Estimating Methodologies

Estimates are prepared in accordance with the K-H Cost Engineering Manual, which is compliant with the applicable DOE Orders and Guides.

The overall governing directives for operations at RFCP are:

• DOE Order 430.1A "Life Cycle Asset Management"
• SP&I Standard #4 - "Cost Estimating"

Each estimate is required to have a “Basis of Estimate (BOE),” and is integrated into the WBS at the P3 schedule activity level. Where possible, estimates are activity-based and tied directly to specific sub-elements of the work scope. Estimates for non-project Level of Effort (LOE) activities need not be activity-based, providing the BOE clearly explains and justifies the estimated costs. Each estimate includes elements for escalation and contingency (see below).

Estimates are developed for each P3 schedule activity to achieve a 50% confidence level. This means there is an equal statistical probability that the cost estimate will be underrun or overrun. Subsequent application of contingency results in the final cost estimate used to establish activity Budgeted Cost of Work Scheduled (BCWS) and perform time-phasing of resource requirements.

Estimate integration with the WBS occurs when the scope in each WBS element has a specific and identifiable estimate of cost.

Baseline estimates are developed and maintained in BEST. Detailed lower-tier cost estimates may be prepared in Timberline, Racer, or Excel and then incorporated into BEST, providing all BEST requirements are met.

The K-H project planning process at RFETS classifies cost and schedule uncertainty as "programmatic risk" and develops a range of uncertainty for each of the relevant activities. Analysis of the uncertainties within a project's critical path and cost estimate is conducted to provide insight into how each uncertainty influences the overall project cost and schedule. Sensitivity analysis is also conducted to understand how each uncertainty drives the total project cost and completion date. This information provides the analytical basis for ranking project uncertainties in order of their influence on a project's overall cost and schedule and to calculate the expected value cost for each activity.

Contingency is calculated at the P3 activity-level and is defined as the difference between the mode of the activity cost estimate and the expected value for that activity at a predetermined confidence level. Contingency can be “rolled-up” through the WBS to the project level. Allocation of cost contingency is administered by K-H.

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23 PR-036, Chapter 3, Page 3-8.
24 Mode is defined as the value that occurs more often than any other value in a series of possible values. Hence, it is presumed to be the most typical of the series (PMI Guide to PMBOK).
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Escalation is applied to account for increases in the cost of equipment, material, labor, etc., due to the time value of money. The base for application of escalation includes indirect costs and contingency. Escalation is applied for the period from the date the estimate was prepared to the midpoint of the performance schedule. Current Escalation Indices, as published by DOE-HQ, are generally used in this calculation. The person/organization for the estimate must substantiate and justify the basis selected for escalation.

**H.1.02.c.2 Estimate Preparation**

Estimates are prepared consistent with the established technical baseline and the corresponding WBS element. Each estimate is prepared in accordance with the K-H Cost Engineering Manual. The key elements of the estimating process are:

- Document the Basis of the Estimate;
- Understand the work scope;
- Quantify the work scope;
- Develop unit rate(s);
- Enter data into BEST; and,
- Develop risk factors.

A thorough understanding of the work scope is necessary to effectively estimate project cost\(^{25}\). K-H performs walk downs, as applicable, in support of the estimating process. Walk downs provide the preparer of the estimate an opportunity to assess potential difficulties the project may encounter and include those impacts in the estimate.

The BOE documents the basis of each unit cost used in the estimate. It explains the logic, method, data and calculations used to estimate resources required to perform the project scope.

BEST allows the entry of activities, BOEs, and resources, required for an estimate, into one (1) system. BEST is organized by a WBS hierarchy, with each WBS element relating to one (1) or to many activities. Activities in BEST are further defined by estimate line items, a breakdown of measurable quantities of work below the activity level. For each activity, a BOE designation, an experiential\(^{26}\) or technical risk is determined. The risks factors are represented numerically to identify the risk associated with the estimate and are used in the statistical calculation of contingency (see Section H.1.02.d.2).

Each line item in BEST identifies cost, schedule, and technical risk factors associated with that work scope.

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\(^{25}\) PR-036, Chapter 3, Page 3-8.

\(^{26}\) Knowledge based risk assessment, e.g., vendor quote, historical data, estimator judgment on like kind projects.
H.1.02.d Planning and Schedule Baseline

H.1.02.d.1 Planning Constraints

The external planning constraints (also referred to as planning assumptions) used in the development of the RFCP baseline are primarily derived from the contract between DOE and K-H. The contract Statement of Work (SOW) identifies requirements as well as Government Furnished Services and Items (GFS/I). K-H has quantified programmatic constraints and assumptions that may have an impact on successful completion of the RFCP Baseline. These programmatic constraints and planning assumptions are used in the development of the RFCP baseline. Constraint identification and mitigation is conducted throughout the RFCP project life cycle. Assumptions and constraints are documented in the RFCP PMP which is under revision and scheduled for submittal to the Contracting Officer on June 30, 2000. These identified constraints also serve as the basis for identifying and quantifying programmatic risk to the RFCP.

H.1.02.d.2 Project Risk Management

There are five (5) components to K-H’s risk management process. They are:

1. Identify the potential risk events that have the greatest probability of impacting the RFCP. This process is called programmatic risk analysis;
2. Identify uncertainty within the RFCP to manage the activities that have the greatest potential impact on the project. This process is called programmatic uncertainty analysis;
3. Synthesize the information from the programmatic risk analysis and the programmatic uncertainty analysis to present a clear picture of the threats and opportunities to the RFCP and identify where formal risk mitigation plans need to be developed and managed;
4. Develop and manage the resulting risk mitigation plans to increase the probability of successfully completing the RFCP on schedule and within budget. This requires updating the programmatic risk and uncertainty analyses as the RFCP progresses; and,
5. Enhance K-H’s ability to manage the RFCP using a best business practices approach to decision-making.

K-H is revising the Risk Management Plan (RMP) based on PMI’s approach to project risk management and is incorporating comments received in FY99 from Arthur Anderson, PriceWaterhouse-Coopers, and Ernst & Young. The revised RMP is part of the June 30, 2000 RFCP baseline submittal.

H.1.02.d.3 Schedule Development

Work performed on the RFCP is scheduled by inclusion in a K-H produced and controlled automated precedence diagram method schedule (P3). This schedule consists of the life cycle schedules for work scope defined in the PMPs and is the basis for identifying and analyzing the RFCP critical path.
PROJECT CONTROL SYSTEM DESCRIPTION

Schedule activities are integrated with the WBS and cost estimate to ensure that activity detail, logic, duration and resources fully represent the RFCP work scope. Schedule detail reflects a “rolling wave” concept by which the level of knowledge in the estimate and placement in the project life cycle determine activity detail, in keeping with a risk based graded approach. Schedule durations for key activities may factor in pessimistic, most likely, and optimistic ranges based on risk data entered into the BOE via BEST.

The schedule incorporates identified key project milestones into the schedule network logic. This ensures that milestone status is determined by activity progress. A milestone dictionary database\(^{27}\) is maintained to generate milestone description sheets for attachment to each PMP. The milestone description sheets contain milestone justification/description, milestone completion criteria, and milestone scope. Per the contract, key milestone status is reported monthly and quarterly. The primary quarterly reporting vehicle is the Quarterly Critical Analysis (QCA) report.

Estimated resources are integrated into schedule activities for purposes of analyzing requirements for critical project resources using critical path analysis. The schedule is constructed to ensure that a critical path can be identified for total RFCP life cycle, as well as CAs with an estimated cost above $5M.

The schedule has the capability to distinguish between performance based activities and Level of Effort (LOE) activities. This facilitates analysis of the project critical path for performance based work activities.

Project logic interface ties are identified and maintained in P3 to fully integrate the nine (9) projects at the RFCP level.

**H.1.02.d.4 Schedule Baseline**

The purpose of the schedule baseline is to provide a time-phased resource loaded plan based on the logical sequence of work that incorporates the total work scope as defined through the contract and the WBS. The schedule is integrated with the cost baseline through resource loading and provides the basis for performance analysis (Performance Measurement Baseline\(^{28}\)).

K-H has the ability to electronically compare the RFCP schedule baseline against the working schedule to produce target schedule variance reports. These variance reports assist the Project Managers and CAMs with identification of potential negative schedule trends to facilitate development of corrective actions.

**H.1.02.d.5 Intermediate Schedules**

The integration of detailed schedule activities below the CA level facilitates summarization of the project schedule for reporting purposes. Refinement of work scope and schedule activity detail, from the Project level down through the WBS structure, enables summarization to the intermediate levels within the project structure. Site schedules are prepared in P3 to facilitate schedule integration.

\(^{27}\) PR-036, page 3-12.

\(^{28}\) Guide to the PMBOK, Page 79.
H.1.02.e  Cost

H.1.02.e.1 Cost Accounts

As stated previously, the CA is established at the fourth level of the WBS Structure. Project costs are collected at the CA level via charge numbers. The charge number is the lowest level at which costs are collected and performance measured. Charge numbers are created and linked in the PeopleSoft WBS system. Indirect cost burden definition and Budget & Reporting (B&R) coding are held in the WBS database along with assignment of responsible managers. RFCP Project Managers have discretion on what level of detail below the CA is required to properly manage the project work scope subject to ensuring that the lowest WBS level has a unique fund source for all charge numbers assigned to it.

Charge numbers are unique and can only point to one (1) P3 activity. This ensures that charge number data can be summed vertically through the WBS for reporting at any required level. Conversely, an activity can have multiple charge numbers. For the K-H systems, charge numbers are maintained in the PeopleSoft WBS Database, which is fully integrated with the accounting systems and the PCS. To maintain proper charging practices, a series of codes are attached to a charge number to identify status. Currently these codes are:

- OPEN Open charge number available for accumulating charges;
- PEND Not active to accumulate charges but available for planning Purposes;
- CLAB Closed to labor charges;
- CALL Closed to all charges;
- CLNL Closed to non-labor charges;
- CNNA Closed to new activity.

Each activity must have an established scope, schedule and budget. These activities are placed in the P3 schedule and a cost estimate is built in the BEST system based on the scope. Using the BEST activity estimates as resource loads for the activities in the schedule, a time phased budget is built. Using the time phased budget, the project cost plan/baseline is established and placed under change control.

Estimates in BEST are converted into resource records that are automatically loaded into the RFCP Baseline Schedule in P3. These resources can be loaded using a variety of methodologies. The budget resources for labor hours and non-labor dollars are loaded for time phasing (spreading by accounting month) to produce the time phased budget. Other resource analysis methodologies include OBS (department code) and skill code loadings to facilitate resource leveling. Resources can also be loaded as “raw” dollars to allow cash flow analysis from various planning scenarios. Lastly, planning quantities tracked in BEST can be loaded to analyze resource overloads and resource underloads of critical site resources and capacities.

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29 This coding structure is fully explained in K-H SP&I Standard #3 – Cost Collection.
H.1.02.e.2 Total Value of Accounts

The cost to perform the scope for each CA is collected in that specific CA. Estimates and schedules are developed below the CA level and “rolled up” to the CA.

The estimate for each CA represents its direct budget. Indirect CAs are treated with the same discipline and methodologies as direct CAs.

Fee is calculated based on the provisions in the contract. Fee is budgeted as a single line item for the closure project in the administrative portion of the Support Project area “J” of the RFCP WBS. There is no provision for distribution or allocation of fee below the project level.

The cost baseline contains the following types of budgets:

- The direct budget, distributed to the projects at the CA level and including the fully burdened value of the work scope.

- The indirect budget, established as segregatable portions of the WBS and can be included or excluded as required for reporting. K-H has established burden rates to recover the cost of the indirect activities from the direct work. Specifically, fringe indirect costs are recovered from all workscope (EW05 and non-EW05). Other indirect costs are either direct work to EW05 or allocated to non-EW05 work per an established rate. A recovery account is established to track recovery (over/under) at the established rates for indirect costs. At the end of each fiscal year, a redistribution of any over or under recovery is performed. Further details of this process are provided in the K-H Cost Accounting Standards Disclosure Statement.

Project contingency and escalation are determined as described in Section H.1.02.c.

K-H establishes, maintains, analyzes, and controls the indirect budgets by the same methods used for the direct budgets. Change control and variance analysis thresholds are also applied in the same manner, using a risk based graded approach.

To ensure that all fee bearing mission activities are represented in the RFCP baseline, K-H has established an appropriate earned value methodology for each RFCP activity. Per the contract, only mission specific activities that are 100% complete may be submitted for fee determination. K-H’s PCS has the capability to select those 100% complete fee bearing mission activities for inclusion on the Quarterly Critical Analysis report. This ensures that the baseline represents the total value of all work scope.

K-H maintains remaining duration forecast on schedule activities\(^{30}\) to provide status on the major project critical paths. Internal schedules are statused with resource percent complete and remaining duration to maintain internal project control via critical path analysis.

\(^{30}\) Frequency is determined by K-H.
H.1.02.e.3 Managing Cost Accounts

K-H manages the RFCP at the CA level (and lower as required) providing detailed project controls information to K-H executive management and project personnel. K-H CAMs exercise specific control and decision making authority for their CA.

As part of the process for controlling and managing project performance, scope, schedule, and cost is established at the CA level. Earned value methods are verifiable and consistent with industry standard reporting and earned value calculations for cost and schedule variance analysis. Using pre-established earned value methods, progress is measured against the approved baseline plan. CAMs are required to explain variances and develop corrective action plans, as necessary, when the variance exceeds established thresholds levels. Corrective action plans are preliminarily evaluated in the K-H working baseline in order to assess the effect to the total RFCP.

Contingency is calculated at the P3 activity level and rolled up through the WBS. Management reserve is identified at the project level during the annual funds allocation process. Both are managed at the K-H executive level through the change control/funds management process. Allocation of funding changes to cover over/underruns is delegated to project managers subject to established change control thresholds.

To allow allocation of indirect costs to individual CA work activities, an indirect burden rate is applied. Application of this indirect rate is described in Section H.1.02.b.2 Indirect Cost.
H.1.03  PROJECT PERFORMANCE

H.1.03.a  Funds Management

H.1.03.a.1  Funding Limits

The RFCP funding limit is established by the Approved Financial Plan (AFP) as allowed per the contract\textsuperscript{31}. Funding is assigned to each Project Commitments and expenditures, per the CAS, are tracked against the assigned Project funding. The Project Manager and/or his/her designee reviews and approves procurement requisitions to ensure that funding limits are not exceeded. Periodic Estimates to Complete (ETCs) are performed to ensure early warnings of forecasted funding concerns and to provide a consistent review process.

H.1.03.a.2  Funding Changes

DOE proposed or directed funding changes are analyzed for impacts to the baseline technical scope, schedule, cost elements, target cost, and target schedule. Baseline Change Proposals (BCPs) are submitted to the Contracting Officer consistent with the K-H SP&I Baseline Change Control process\textsuperscript{32}. Project funding adjustments are tracked as part of the K-H change control process. Funding change approval thresholds are established internal to K-H, as allowed per the contract. Contracting Officer approval is required if cumulative fiscal year cost changes on an individual Project exceed $20M or 10\% of the fiscal year Project funding assignment. Project funding levels are submitted once each quarter as part of the Quarterly Critical Analysis report.

H.1.03.a.3  Funding Reconciliation

K-H maintains the ability to reconcile forecasted funding requirements at the CA level on a monthly basis using an ETC methodology. Monthly, K-H will analyze forecasted funding variances. Consistent with the change control process, appropriate adjustments are made to the Project cost plan or contingency funds.

\textsuperscript{31} Section C, Technical Exhibit A, Section VIII, page 23

\textsuperscript{32} K-H SP&I Standard #1.
H.1.03.b Accounting

H.1.03.b.1 Recording Costs

K-H records costs in accordance with the policies and process descriptions detailed in the Accounting System Handbook. K-H maintains the F&A system to ensure that:

- Actual and accrued direct costs are recorded on a timely basis each month;
- Indirect costs are appropriately collected and allocated to the project;
- Tangible and intangible assets are managed to eliminate loss, control disposition, and prevent unauthorized use;
- Financial transactions are executed only in accordance with proper management authorization;
- Financial transactions are recorded in a manner to permit the preparation of corporate and DOE financial reports and statements; and,
- The system results in compliance with Cost Accounting Standards (CAS), Federal Acquisition Regulations (FAR), K-H’s contract with DOE, and K-H’s Disclosure Statements.
H.1.03.b.2 Collecting Costs

The cost management system provides actual cost data/information to the PCS which provides accurate cost results to the Contracting Officer. Figure 3 (next page) illustrates the organization structure, the RFCP WBS, and indicates that project management requirements are both “inputs to” and “customers of” the system. Figure 4 (following page) illustrates RFCP cost management interfaces. Cost management specific reports are available to the Project Managers and CAMs to assist in the identification of root drivers for cost variances and to assist with verification of time card charges.

The primary focus of the cost management system is to assure that:

- Each employee charges time worked only to the specific activity being performed;
- Subcontracted and procured costs are assigned only to the work being performed; and,
- Costs are assigned to the performing organization (OBS) and the work being performed (WBS).

Figure 3 identifies the interfaces between:

- The Organizational Breakdown Structure (OBS);
- The accounting system;
- The Work Breakdown Structure (WBS); and,
- The funding sources, Budget and Reporting Codes (B&R).

Effective cost control includes:\(^{33}\)

- Monitoring cost performance to detect variances from plan;
- Ensuring that appropriate charges are recorded accurately;
- Preventing incorrect, inappropriate, or unauthorized charges; and,
- Informing appropriate project personnel of authorized charges.

\(^{33}\) PMI Guide to PMBOK, Page 79.
PROJECT CONTROL SYSTEM DESCRIPTION

Flow diagram here

This flow chart left out to facilitate making copies for distribution. It has been updated based on comments and will be in the final version.
The flow diagram below illustrates the Accounting interfaces for the RFCP cost management system.
H.1.03.c Work Authorization

H.1.03.c.1 Work Authorization

K-H has established a process for work authorization and work stoppage in K-H SP&I Standard #14 - Work Authorization/Work Suspension/Funds Monitoring. The work authorization process:

- Prevents the performance of unauthorized work;
- Prevents premature starting of work based on the contract phase;
- Prevents procurements that are not formally authorized; and,
- Prevents spending beyond funding limits using a work termination process.

K-H controls the authorization of work for levels within K-H to satisfy the objectives listed above. K-H SP&I Standard # 14 describes work authorization at the following levels:

- K-H executive level to Project Managers;
- Project Managers to the CAMs; and,
- CAMs to subcontractors.

The work authorization process is integrated into key RFCP systems in the following ways:

- Proper change control approval must be complete before new work scope can be authorized;
- The work authorization process is embedded in the procurement process by requiring the CAM's signature before purchases can be made against his/her charge numbers. Purchase requisitions are checked against available funding before they can be released to procurement; and,
- Charge numbers are appropriately closed to prevent charges from accumulating on closed or stopped work.
**H.1.03.c.2 Contract Funding**

Funding for K-H is provided from the DOE Rocky Flats Field Office (DOE-RFFO) by issuance of Approved Financial Plan (AFP) documents (see H.1.03). The AFP document is more commonly known as a Financial Plan or “Fin Plan”. These funding documents are provided on a monthly basis from DOE-RFFO to K-H via an Amendment of Solicitation/Modification of Contract. In support of the RFCP, fiscal year funding is made available at the start of the fiscal year per the contract, Section C, Technical Exhibit A, Section VIII, page 23.

The Fin Plan provides the annual authorization of Budget Authority (BA) to K-H. BA is issued at a nine-digit B&R code level. For RFCP BA (EW05\(^{34}\)), each nine-digit B&R Code is an unique, one-to-one association with a Project. Funding provided to K-H for other DOE Programs is also identified with an appropriate nine-digit B&R Code and may include other identifiers to signify an Activity Data Sheet (ADS), Task (TSK), or other DOE attribute. Transfer of BA by K-H for work to be performed at other DOE sites or national laboratories, or receipt of BA from those sites or laboratories, is also individually displayed on the Fin Plan.

Upon receipt of each Fin Plan, K-H verifies the accuracy and correctness of the BA provided. At a minimum, this verification includes RFCP (EW05) BA transfers to or from K-H and any net zero adjustments between Projects. The results of this review are forwarded to the office of the K-H Chief Financial Officer.

Administration of the authorized BA is performed at the obligation control level, commonly referred to as “ECOR” (Estimated Cost and Obligation Reporting), which is an administrative control level specified by the DOE. BA control by K-H ensures that costs and commitments do not exceed the BA at the ECOR level at any time. BA control is applied at the individual work order level for BA transfers received from other DOE sites or laboratories, through an IWO (Interoffice Work Order) or MPO (Memorandum Purchase Order).

**H.1.03.c.3 Resolving Conflicts**

Conflicts will be resolved consistent with the terms and conditions of the contract and as may be further agreed between K-H and DOE.

\(^{34}\) Closure Project congressional funding source.
H.1.03.c.4 Responsibility to Achieve EESH&Q Compliance

Applicable direct work activities performed at the RFCP utilize the Integrated Work Control Process (IWCP) to meet the contractual requirements of the Integrated Safety Management System. The IWCP provides the system to incorporate the Engineering, Environment, Safety, Health and Quality (EESH&Q) requirements for a specific WBS activity to ensure compliance. The responsibility for the overall controlling EESH&Q documents is the EESH&Q organization. Each of the nine (9) projects is responsible to ensure that the IWCP process is implemented. The projects are also responsible to ensure that each work activity has been subjected to the appropriate reviews by safety professionals to include the controls to achieve compliance. Management assessments are used to monitor continued compliance of the IWCP and identify any corrective actions.

An activity identifying the preparation of the IWCP work packages is included in each project schedule, as applicable.

Per the contract, K-H has authority to authorize emergency corrective actions, as may be necessary, to sustain operations in a manner consistent with applicable environmental, safety, health statutes, regulations, and processes. K-H will notify the Contracting Officer in writing within twenty-four (24) hours of any emergency actions taken.
H.1.03.d Performance Analysis

H.1.03.d.1 Project Performance

Earned Value (EV) activities will be identified during the RFCP baseline development and an appropriate EV methodology selected for each individual scope of work. The EV method used provides a quantitative dollar value of work scope completed to facilitate assessment of project progress.

Each accounting month, project status is reported in the K-H PCS. Industry standard earned value techniques are implemented to report the value of the work performed for each CA. Pre-established earned value methods are used for each activity. Actual start dates, finish dates, and remaining duration for initiated CA activities are posted to the project schedule. Actual costs are transferred from the PeopleSoft accounting system to the PCS. Using Budgeted Cost of Work Scheduled (BCWS), BCWP, and Actual Cost of Work Performed (ACWP), cost and schedule variances are calculated through the CA level. The Cost Variance (CV) is calculated following the formula: BCWP-ACWP.

Schedule Variance (SV) is calculated using the following approach:

- K-H Executive Management Team will select a set of mission activities. This set of mission activities is part of the RFCP baseline submittal of June 30, 2000; and,
- EV will only be earned when the mission activity is 100% complete.
- Schedule variance is a comparison of the dollar amount of the mission activities planned to be 100% complete vs. the actual value of mission activities that are 100% complete each quarter. K-H may expedite activities using best business practices.

This information is included in the Project performance reports. Project performance reports for the project life cycle to-date and total RFCP are then produced and made available to the Contracting Officer for review. The Project Manager reviews differences between planned and actual performance from both a cost and schedule perspective. Corrective actions are identified and implemented. CA level reporting is available internally from the PCS.

Project status is submitted to the Contracting Officer as part of Monthly Performance Review and the Quarterly Critical Analysis, both at the RFCP and Project level.

35 See Appendix 3 for description of the interface.
**H.1.03.d.2 Project Risk and Contingency Management**

A major feature of K-H’s revised Programmatic Risk Management Plan is the ability to determine cost contingency requirements through the use of simulation techniques. The process to be employed entails assessing schedule duration and cost estimate uncertainty at the activity level. Simulation is used to calculate expected duration and cost values. Any difference between the initial cost estimate and the simulation produced expected value is used to establish the requisite cost contingency for each activity.

K-H’s cost contingency development process conforms to DOE cost estimating guidance (i.e., cost uncertainty ranges conform to acceptable estimating variances for each stage of project development as directed in DOE G 430.1-1).

The RFCP operates under the auspices of a number of requirements, constraints and assumptions. These requirements, constraints and assumptions are identified and discussed in the PMP for each project.

Under the new contract, K-H has assumed programmatic and fiduciary responsibility for RFCP assumptions. Therefore, their analysis (specifically, the probability of an assumption proving to be false and the resulting impact on the Closure Project) is a major component of K-H’s Programmatic Risk Management Plan.

See Section H.1.02.c for a discussion on contingency.
H.1.03.d.3 Estimate At Completion

The Estimate at Completion (EAC) represents a realistic arithmetically derived appraisal of the forecast final cost for defined work scope in the WBS and any undefined potential factors affecting the final cost summarized to the total project level. K-H calculates an EAC for each project down to the CA level each quarter for inclusion in the QCA report. This analysis of EAC is based on K-H’s forecast of positive and negative impacts on the projects. EACs are developed in conjunction with the project’s Critical Path Schedule analysis.

The EAC developed considers:

- Unrecoverable schedule variances;
- Actual performance and costs to date;
- Amount of work remaining and expected performance;
- Schedule and cost uncertainty in remaining activities;
- Level of risk for remaining work;
- Emerging and resolved issues;
- Issues related to government furnished items specified in the contract;
- Definitized and undefinitized scope changes;
- Potential claims liability; and,
- Overheads and burdens (both planned and actual).

The development of EACs uses a risk-based graded approach meaning, EAC requirements are more stringent for CAs that have larger, more complex activities and budgets. The integrated affect of schedule issues on EACs are assessed against the total RFCP schedule and the RFCP critical paths using the RFCP hierarchy of schedules.

To assist in development of EACs, K-H will track key RFCP progress indicators e.g., cubic meters of waste (by waste stream). The QCA contains status reporting that compares planned vs. actual performance.
H.1.03.e Reporting

H.1.03.e.1 Periodic Plans and Reports

Performance plans and reports are integral in communicating progress, providing analysis information, and identifying corrective actions and plans to accomplish the RFCP baseline. The PCS consists of technical (scope), cost and schedule data and is used to create integrated informational and analytical reports for the Contracting Officer and K-H management. Various reporting formats and styles are available to capture and display data for analysis and presentation purposes. As the project progresses, the reporting emphasis may change and the system will maintain the flexibility to support the various project management needs for information.

Narrative reports include status information and identify major accomplishments, problems, corrective actions, and the Project Manager’s assessment of progress. Schedule reporting includes critical path analysis and milestone status, both in relation to the approved baseline and the current working schedule. Cost status reports compare project costs to the time-phased baseline for the current month (cost and schedule variance), as well as fiscal year and RFCP life-cycle. Forecasts of the Estimate To Complete (ETC) will also be reported.

K-H will provide specific management, planning, performance and financial reports to the Contracting Officer in accordance with Section J, Attachment F of the contract. These reports reflect performance comparisons to the CPB data. As part of this performance monitoring, K-H will perform internal project status reviews on a monthly basis as part of the information gathering process for Contracting Officer reporting. The E-Manual will delineate specific report information content.

H.1.03.e.2 Quarterly Critical Analysis (QCA)

Once each quarter, K-H will prepare and submit a comprehensive report critically analyzing the overall status of the closure project. The data cutoff date for each QCA is based on K-H’s monthly financial close dates for December, March, June, and September of each fiscal year. This analysis and status also includes selected key metrics. The report, which may be submitted in a briefing format, includes the following major parts:

- Overall narrative status;
- Summary report per DOE Form 1332.2;
- Analysis of schedule trends, and float analysis at the RFCP level;
- Critical path performance analysis;
- Analysis of critical labor skills and other resources;
- Budget and funding tables (see below); and,
- Updates to the project risk mitigation and contingency plan(s).

36 The E-manual is under development and is scheduled to be completed on or before June 30, 2000.
PROJECT CONTROL SYSTEM DESCRIPTION

Included as attachments to the QCA are the following updates (with information provided at the both the Project and RFCP level, except as noted):

- Project milestone schedule plan (per DOE Form 1332.3) showing planned, actual, and forecast dates;
- Annual cost plan (per DOE Form 1332.7);
- Cost management report (per DOE Form 1332.9);
- Cost performance report at the CA and Project level – Format 1; WBS (DOE Form 1332.12); and,
- Cost performance report at the Project level – Format 3; Baseline (DOE Form 1332.14).

The QCA includes and consolidates monthly and quarterly information required under Contract Section J, Attachment F.

The QCA report provides the following estimate oriented project information by Project and CA:

- Total Estimated Cost (TEC);
- Total Project Cost (TPC);
- Estimates-to-Complete (ETC); and,
- Estimates-at-Completion (EAC).

The QCA is transmitted to the Contracting Officer under cover letter signed by the K-H President, within thirty (30) calendar days after the end of the calendar quarter.

H.1.03.e.3 Report Consistency

Effective and consistent reporting is a key feature of the K-H PCS. The PCS is an integrated system of project databases. The project data it holds is created from the planning of the contract scope of work within the established WBS. Reporting is generated from these integrated databases. This ensures that data provided from the PCS is consistent regardless of format.

The PCS:

- Provides timely incorporation of contract changes;
- Provides for reconciliation of estimated target costs vs. authorized work and internal replanning;
- Provides accurate reporting of costs including correction of errors and routine accounting adjustments; and,
- Provides for revisions to K-H estimated costs for DOE directed changes.

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37 PR-036, Chapter 3, Page 3-9.
38 Under this contract TEC and TPC are the same since no capital funds are involved.
H.1.03.e.4 Full Access

K-H will provide the Contracting Officer and his/her designated representatives access to information comprising the PCS. Real time access to the PCS (electronic system) will not be provided on an ongoing basis in recognition of PCS streamlining. Special access arrangements to facilitate announced and scheduled compliance reviews will be made.

H.1.03.e.5 Flow-down Reporting

K-H includes graded reporting requirements for subcontracts to fairly evaluate subcontractor performance. The reporting is structured in such a way as to be easily incorporated in the PCS, typically by electronic means. Progress reporting submitted by subcontractors is reviewed (validated) by K-H project personnel prior to entry into the system.

K-H will ensure that all subcontracts have the required level of reporting to ensure compliance with the terms and conditions of the contract specifically when:

- The value of the subcontract is greater than $12.5 M per year; and/or
- The Contracting Officer determines that the subcontract effort is, or involves, a critical task related to the contract.
H.1.04 BASELINE CHANGE MANAGEMENT

H.1.04.a Baseline Changes

The RFCP baseline consists of technical scope, schedules to implement that scope, and cost estimates. The technical scope is consistent with the contract statement of work. The RFCP schedule commenced on February 1, 2000 and completes on the target completion date of December 15, 2006. The cost estimate reflects the contract target cost, plus fee. The baseline also includes activities that are not part of the target cost but are required to capture the schedule integration of project work (e.g., non EW05 work scope). This initial baseline is the source document for subsequent project control and baseline change management.

The baseline is modified, as required, through a formal, documented change control process. Baseline changes are proposed when necessitated by Contracting Officer directed changes, external events, acts of God, negotiated equitable adjustments, addition of non-Closure funded work, or as specified by the contract.

H.1.04.b Baseline Thresholds

The following table depicts the baseline change control thresholds for technical scope, schedule and cost changes:

<table>
<thead>
<tr>
<th>Level</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOE Headquarters Level</td>
<td>$40M or 20% of the Project costs on an annual basis</td>
</tr>
<tr>
<td>DOE-RFFO Level</td>
<td>$20M or 10% of the Project costs on an annual basis</td>
</tr>
<tr>
<td></td>
<td>Change to Target Cost</td>
</tr>
<tr>
<td></td>
<td>Change to Target Date</td>
</tr>
<tr>
<td>K-H</td>
<td>&lt;$20M</td>
</tr>
<tr>
<td></td>
<td>Addition of non-Closure funded work</td>
</tr>
<tr>
<td></td>
<td>Any other changes up to the Contracting Officer level</td>
</tr>
</tbody>
</table>

*Changes to target cost, target fee, target date or target schedule incentive fee are executed by a contract modification.

Within K-H, the change control thresholds are further delineated between the executive team and the Project Managers. In the event of an emergency, each change level has authority to take any corrective action necessary to sustain operations consistent with applicable environmental, safety and health regulations/processes.

K-H will prepare a monthly overview of the K-H Internal Change Control Board (ICCB) actions taken the previous month for submittal to the Contracting Officer. Format of the overview will be defined based on interaction between K-H and the Contracting Officer.

39 K-H SP&I Standard #1 – Baseline Change Control.
H.1.04.c Spending Variance

As spending variances occur, the Project Manager has authority to make appropriate funding adjustments within the Project’s CAs. The PCS change control process is able to distinguish between tracking CA funding changes from baseline changes.

The K-H change control process tracks, manages, and provides for approval of changes in funding levels as a separate, but integral part of the overall change control process.

H.1.04.d Change Control Processing

Project personnel are empowered to initiate a request that may result in a change proposal. The change request/proposal is developed in the change control database and documents the impact of the change to baseline technical scope, schedule and cost. The Project Manager reviews the change request and depending upon the level of change, it is approved for consideration by the next level of authority, or disapproved. Records of approved change proposals (baseline and funding) are maintained in the change control database for the life of the project. In the event of an emergency, each change level has authority to take corrective action necessary to sustain operations consistent with applicable environmental, safety and health regulations/processes. Should this corrective action change exceed the K-H change thresholds, DOE shall be notified as defined in the contract.

H.1.04.e Baseline Update and Earned Value System

The baseline update to the RFCP, Rev 3a and the selected mission activities to be used for EV fee determination purposes will be submitted on June 30, 2000. This updated baseline will:

- Incorporate the contract statement of work and the terms and conditions;
- Include approved baseline changes from February 1, 2000 through June 30, 2000;
- Align project costs and the expected conditional incentive fee with the anticipated annual contract funding level;
- Address Ernst and Young findings on the review of RFCP Revision 3a; and,
- Contain the same or lower level of detail as RFCP Revision 3a under the prior contract.

H.1.04.f Target Cost and Schedule Adjustments

The Contracting Officer will execute any changes to target cost, target fee, target date or target schedule incentive fee changes via a contract modification. Baseline changes do not imply a need for a contract modification.
<table>
<thead>
<tr>
<th>WBS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>371 Complex Project</td>
</tr>
<tr>
<td>AA</td>
<td>371 Closure</td>
</tr>
<tr>
<td>AAA</td>
<td>Project Management</td>
</tr>
<tr>
<td>AAB</td>
<td>Facilities Management</td>
</tr>
<tr>
<td>AAC</td>
<td>Deactivation</td>
</tr>
<tr>
<td>AAD</td>
<td>Decommissioning</td>
</tr>
<tr>
<td>AAE</td>
<td>Facility Material Stewardship</td>
</tr>
<tr>
<td>AAF</td>
<td>PuSPS</td>
</tr>
<tr>
<td>AAG</td>
<td>Wet Residues</td>
</tr>
<tr>
<td>AAH</td>
<td>Salt Residues</td>
</tr>
<tr>
<td>AAJ</td>
<td>SS&amp;C Residues</td>
</tr>
<tr>
<td>AAK</td>
<td>B374 Waste Operations</td>
</tr>
<tr>
<td>B</td>
<td>707 Complex Project</td>
</tr>
<tr>
<td>BA</td>
<td>707 Closure</td>
</tr>
<tr>
<td>BAA</td>
<td>Project Management</td>
</tr>
<tr>
<td>BAB</td>
<td>Facilities Management</td>
</tr>
<tr>
<td>BAC</td>
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<tr>
<td>BAD</td>
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</tr>
<tr>
<td>BAE</td>
<td>Facility Material Stewardship</td>
</tr>
<tr>
<td>BAF</td>
<td>Metal Size Reduction and Storage</td>
</tr>
<tr>
<td>BAG</td>
<td>Salt Residues</td>
</tr>
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Appendix 2
K-H Planning & Integration Standards

SP&I STANDARDS
Standard 1 – Baseline Change Control
Standard 2 – Baseline Planning
Standard 3 – Cost Collection
Standard 4 – Cost Estimating
Standard 5 – Earned Value Reporting
Standard 6 – Estimate at Completion
Standard 7 – Funding Determination for Commodities and Services
Standard 8 – Management/Organizational Reporting
Standard 9 – Progress Tracking System
Standard 10 – Scheduling
Standard 11 – Utilizing Benchmark Data
Standard 12 – Validation
Standard 13 – Project Performance Reporting
Standard 14 – Work Authorization/Work Suspension/Funds Monitoring
Standard 15 – Work Breakdown Structure Management
Standard 16 – Project Management Plan
Standard 17 – Schedule Integration
I. Systems Overview

The proposed Project Controls System is implemented through a collection of databases that hold the RFCP Baseline. The databases are implemented on legacy systems from the original K-H contract that have existed since the conversion from the mainframe in May 1996. In discussions with K-H personnel the system’s common names are typically used. A translation is provided below.

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<td>Scope</td>
<td>Project Database</td>
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<tr>
<td>Performance Baseline</td>
<td>Spread Tables (Formerly called M*PM)</td>
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<td>Cost Estimate</td>
<td>Basis of Estimate Software Tool (BEST)</td>
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<tr>
<td>Schedule</td>
<td>Primavera Project Planner (P3)</td>
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<td>Change Proposal (CP) Database</td>
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*Not part of the PCS but included here because of the interfaces that exist

The PCS and its associated parts are under configuration control. As required in section H.1.01(e), K-H will provide the Contracting Officer or designees access to pertinent records, data, and plans to allow approval of proposed changes.

K-H reserves the right to change the PCS as required to satisfy business purposes while staying committed to providing the level of control committed to by this document.
II. Features

1. Data sharing
Information in the PCS databases is integrated and shared. This is accomplished through automated interfaces. Only one database in the PCS contains the master data. Master data is then shared to other databases to satisfy speed, convenience, and system design tradeoffs. Updating of shared data is performed in a timely fashion to ensure that published reports are consistent.

The WBS database is a prime example of the way integrated project data is shared with the other project databases. The WBS database has functions that “push down” the information into the other databases “informing” them of the current structure. The updated structure is available to develop plans.

Other interfaces that currently exist:

- Cost Elements\(^{40}\) from PeopleSoft to BEST;
- Date information from the P3 schedule to spread table functions;
- Performance values applied to the PPR database; and,
- Actual cost transferred from PeopleSoft to the PCS.

2. Data Structure

Data in each database is structured so that it is capable of being joined with data in the other databases to produce performance reports.

3. Data Access Control

Each database in the PCS has its own rules for access control to protect the Site baseline. There are physical controls (access lists) and management processes (Change Proposals) which control changes made to the Site Baseline. Further, independent internal consistency checks are made between the databases to ensure that the Site baseline’s integrity is maintained. Under no circumstances can the Site baseline be changed without the proper process being invoked.

\(^{40}\) Cost element listing provided in this appendix.
Put PCS Flow Chart Here

This flow chart left out to facilitate making copies for distribution. It has been updated based on comments and will be in the final version.
Below is a preliminary list of cost elements used to develop estimates and collect actual costs:

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6. PERFORMANCE FEEDBACK

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PMP Appendices

Appendix A - Project Schedules
Appendix B - Project Cost Estimate (BEST)
Appendix C - Project Baseline Description (PBD)
Appendix D – Waste Management Plan
Appendix E – Equipment List
Appendix F – Risk Management Plans
### Functional Responsibility Assignment Matrix

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