**Department of Energy**
Washington, DC 20585

NOV - 3 2004

MEMORANDUM TO LINTON BROOKS
ADMINISTRATOR, NNSA

DAVID GARMAN
ACTING UNDER SECRETARY, ESE

FROM: BRUCE M. CARNES
ASSOCIATE DEPUTY SECRETARY

SUBJECT: Certification of Earned Value Management

Earned Value Management (EVM) is a key component of the Department's acquisition management system. It provides DOE and contractor management with vital performance indicators and facilitates proactive management of our projects and programs. DOE requires the use of EVM on all projects with a total cost of $20M or greater since the issuance of DOE O 413.3 in October 2000. DOE **IT** projects also require the use of EVM when the investment is $5M or greater.

The Office of Management and Budget (OMB) has also recognized the benefits of EVM and is requiring agencies to use EVM and to certify that the EVM systems are compliant with the national EVM standard (ANSI/EIA-748). Certification of our contractors' EVM systems is a key factor in the Department's compliance with the President's Management Agenda (PMA).

Implementation of an EVM certification program was one of the action items in the 2004 Departmental Management Challenge. The Office of Engineering and Construction Management (OECM), in conjunction with the Defense Contract Management Agency, established and successfully piloted a certification process. We are now ready to begin full implementation.

In accordance with the PMA, the Department must certify each contractor's EVM system by the end of FY 2006. To achieve this goal, I ask that each program office responsible for projects requiring the use of EMV develop, in coordination with OECM, a certification review schedule. Priority should be given to major system acquisitions and any high risk projects that are approaching Critical Decision 2. A list of projects that currently require the use of EVM and those that will require the use of EVM upon approval of Critical Decision-2 is attached.

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I also ask that your organization provide OECM with answers to the following questions for each of your contractors:

- Is the use of EVM a contract requirement?
- Is the EVMS compliant with the national standard? (See the attached document containing the 32 Earned Value Management System guidelines that describe an ANSI compliant system.)
- If not, what are the known shortcomings that must be remedied prior to certification?
- Is EVM being used to manage projects?

I request that you provide your responses to both requests to OECM by Tuesday, **November 30, 2004**. If you have any questions about this memorandum, please contact me at 6-2550 or Jim Rispoli at 6-5195.

Attachments

## National Nuclear Security Administration

### Past CD-2

| Project Name | Site | TPC ($K) |
|---|---|---|
| Stockpile Management Restructuring Initiative, KC (99-D-127) | Kansas City Plant | $ 138,949 |
| National Ignition Facility (96-D-111) | Lawrence Livermore | $ 2,248,097 |
| Terascale Simulation Facility (00-D-103) | Lawrence Livermore | $ 95,317 |
| Engineering Technology Complex Upgrade (02-D-105) | Lawrence Livermore | $ 27,700 |
| Sensitive Compartmented Information Facility (01-D-800) | Lawrence Livermore | $ 25,102 |
| National Security Sciences Building (NSSB) (03-D-102-LANL-NSSB) | Los Alamos | $ 97,600 |
| NMSSUP (Phase I) (99-D-132-LANL) | Los Alamos | $ 73,951 |
| CGR-1.5.06-Waste Management Mitigation TA 50/54.5 (01-D-703) | Los Alamos | $ 31,436 |
| CGR-1.5.05-Part-Site-Wide Alarm System Replacement (01-D-701) | Los Alamos | $ 27,920 |
| CGR-1.5.02-Emergency Operations Ctr. Replacement (01-D-702) | Los Alamos | $ 22,416 |
| U1h Shaft Construction Project | Nevada Test Site | $ 27,240 |
| Highly Enriched Uranium Materials Facility (01-D-124) | Oak Ridge Y-12 | $ 313,800 |
| Purification Facility (03-D-122) | Oak Ridge Y-12 | $ 49,920 |
| FCAP, 3500 Ton Hydraulic Press (88-D-122-42) | Oak Ridge Y-12 | $ 29,773 |
| Stockpile Management Restructuring Initiative (98-D-124) | Oak Ridge Y-12 | $ 27,900 |
| SNM Component Requalification Facility (03-D-123) | Pantex Plant | $ 23,640 |
| Weapons Evaluation Test Laboratory (01-D-126) | Pantex Plant | $ 23,480 |
| OMEGA EP (XX-D-XXX-47) | Rochester | $ 76,500 |
| Distributed Information Systems Laboratory (01-D-101) | Sandia - CA | $ 38,008 |
| Microsystems and Engineering Sciences Applications (01-D-108) | Sandia - NM | $ 518,469 |
| Z-Machine refurbishment Project (XX-D-XXX-34) | Sandia - NM | $ 90,400 |
| Test Capabilities Revitalization (Phase I) (04-D-101) | Sandia - NM | $ 47,252 |
| Exterior Communications Infrastructure Modernization (04-D-102) | Sandia - NM | $ 25,178 |
| Tritium Extraction Facility (98-D-125) | SRS | $ 506,439 |
| SMRI Tritium Facility Modernization & Consolidation (98-D-123) | SRS | $ 141,761 |

## National Nuclear Security Administration

### Prior to CD-2

| Project Name | Site | TPC ($K) |
|---|---|---|
| Consolidate/Renovate Computing Facilities | KCP | $ 377,000 |
| TA-55 Infrastructure Reinvestment Project (06-D-140-02) | LANL | $ 160,000 |
| Security Perimeter Project (05-D-701-LANL) | LANL | $ 32,000 |
| DX High Explosives Characterization Project (05-D-140-01) | LANL | $ 40,000 |
| TA-55 Radiography Facility (06-D-140-01) | LANL | $ 40,000 |
| NIF Cryogenic Target System | Lawrence Livermore | $ 145,000 |
| Energetic Materials Processing Center (06-D-401) | Lawrence Livermore | $ 47,100 |
| Chemistry & Metallurgy Research Facility (CMR) Replacement Project (95-D-102) | Los Alamos | $ 743,000 |
| NUMSSUP (Phase II) 05-D-170-01) | Los Alamos | $ 240,000 |
| Criticality Experiments Facility (formerly TA-18 Mission Relocation) Project (04-D-128) | Los Alamos | $ 142,800 |
| Power Grid Infrastructure Upgrade (05-D-602) | Los Alamos | $ 20,000 |
| Fire Stations No. 1 & No. 2 Replacement Project (06-D-402) | Nevada Test Site | $ 25,200 |
| Building B-3 Remediation, Restoration and Upgrade (06-D-404) | Nevada Test Site | $ 40,000 |
| Enriched Uranium Manufacturing Facility | Oak Ridge Y-12 | $ 1,100,000 |
| Security Improvements Project (05-D-170) | Oak Ridge Y-12 | $ 300,000 |
| Beryllium Capability (BeC) Project (05-D-402) | Oak Ridge Y-12 | $ 52,800 |
| Steam Plant Life Extension (05-D-160-02) | Oak Ridge Y-12 | $ 50,200 |
| Compressed Air Upgrades Project (05-D-601) | Oak Ridge Y-12 | $ 21,400 |
| Building 12-64 Production Bays Upgrade (05-D-401) | Pantex Plant | $ 44,100 |
| High Explosive Pressing Facility (04-D-103-02) | Pantex Plant | $ 38,400 |
| Zheleznogorsk Plutonium Production Elimination Program | Russia | $ 570,000 |
| Seversk Plutonium Production Elimination Program | Russia | $ 360,000 |
| Test Capabilities Revitalization (Phase II) (05-D-140-02) | Sandia - NM | $ 70,000 |
| TA-1 Heating System Modernization (05-D-160-01) | Sandia - NM | $ 56,500 |
| Mixed Oxide Fuel Fabrication Facility | SRS | $ 1,850,000 |
| Pit Disassembly and Conversion Facility | SRS | $ 1,230,000 |
| Capability for Advanced Loading Missions (04-D-127/02-D-103-140) | SRS | $ 56,000 |

| ENVIRONMENTAL MANAGEMENT (Budget Line-Items) | Past CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| Waste Treatment and Immobilization Plant, (2012:01-D-416) | ORP | $ 5,781,000 |
| Immobilized High Level Waste Interim Storage Facility (2035:03-D-403) | ORP | $ 70,000 |
| Glass Waste Storage Building #2, (2035:04-D-408) | SRS | $ 77,386 |

| ENVIRONMENTAL MANAGEMENT (Operating Projects) | Past CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| Radioactive Liquid Tank Waste Stabilization and Disposition, (2035:ORP-0014) | ORP | $ 24,330,467 |
| Nuclear Facility D&D - Remainder of Hanford, (2035: RL-0040) | Richland | $ 7,484,499 |
| Solid Waste Stabilization and Disposition - 200 Area, (2035: RL-0013) | Richland | $ 6,304,172 |
| Nuclear Facility D&D - River Corridor Closure Project, (2012:RL-0041) | Richland | $ 3,135,901 |
| SNF Stabilization and Disposition, (2012:RL-0012) | Richland | $ 1,749,552 |
| NM Stabilization and Disposition - PFP, (2012:RL-0011) | Richland | $ 1,743,013 |
| Soil and Water Remediation - Groundwater/Vadose Zone, (2035: RL-0030) | Richland | $ 1,591,809 |
| Nuclear Facility D&D - Fast Flux Test Facility Project, (2035: RL-0042) | Richland | $ 809,843 |
| Operate Waste Disposal Facility, (2035: RL-0080) | Richland | $ 241,760 |
| Soil & Water Remediation, (2006:RF-0030) | Rocky Flats | $ 2,289,300 |
| Nuclear Facility D&D/North Side Facility Closures, (2006:RF-0040) | Rocky Flats | $ 1,828,039 |
| Nuclear Facility D&D/South Side Facility Closures, (2006:RF-0041) | Rocky Flats | $ 786,669 |
| Solid Waste Stabilization and Disposition, (2006:RF-0013) | Rocky Flats | $ 761,839 |
| Nuclear Facility D&D - East Tennessee Technology Park, (UE D&D:OR-0040) | Oak Ridge | $ 1,837,944 |
| Nuclear Facility D&D - Y-12, (2035:OR-0041) | Oak Ridge | $ 1,070,451 |
| Solid Waste Stabilization and Disposition, (2012:OR-0013B) | Oak Ridge | $ 808,665 |
| Nuclear Facility D&D - Oak Ridge National Laboratory, (2035:OR-0042) | Oak Ridge | $ 668,476 |
| Solid Waste Stabilization and Disposition, (2006:OR-0013A) | Oak Ridge | $ 461,081 |
| Soil and Water Remediation - Melton Valley, (2006:OR-0030) | Oak Ridge | $ 352,067 |
| Nuclear Facility D&D - East Tennessee Technology Park, (2012:OR-0043) | Oak Ridge | $ 151,058 |
| Soil and Water Remediation - Offsites, (2012:OR-0031) | Oak Ridge | $ 97,622 |
| Solid Waste Stabilization & Disposition - Fernald, (2006:OH-FN-0013) | OH-Fernald | $ 1,489,368 |
| Soil and Water Remediation - Fernald, (2006:OH-FN-0030) | OH-Fernald | $ 1,110,343 |
| Non-Nuclear Facility D&D - Fernald, (2006:OH-FN-0050)) | OH-Fernald | $ 512,267 |
| Nuclear Facility D&D - Miamisburg, (2006:OH-MB-0040) | OH-Miamisburg | $ 484,192 |
| Solid Waste Stabilization and Disposal - Miamisburg, (2006:OH-MB-0013) | OH-Miamisburg | $ 202,237 |
| Soil and Water Remediation - Environmental Restoration and Site Support - Miamisburg, (2006:OH-MB-0030) | OH-Miamisburg | $ 163,773 |
| Nuclear Facility D&D - Columbus (West Jefferson), (2006:OH-CL-0040) | OH-Columbus | $ 31,570 |
| Soil and Water Remediation - LLNL - Main Site, (2006:VL-LLNL-0030) | OAK:LLNL | $ 122,993 |
| Soil and Water Remediation - Lawrence Livermore National Laboratory Site, (2006:VL-LLNL-0031) | OAK:LLNL | $ 122,039 |
| Solid Waste Stabilization and Disposition, (2006:VL-LLNL-0013) | OAK:LLNL | $ 74,441 |
| Soil and Water Remediation - Sandia, (2006:VL-SN-0030) | ALBUQ:Sandia | $ 276,158 |
| Soil and Water Remediation - Pantex, (2012:VL-PX-0030) | ALBUQ:Pantex | $ 175,050 |

| ENVIRONMENTAL MANAGEMENT (Budget Line-Items) | Prior to CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| Depleted Uranium Hexafluoride 6 Conversion, (UE D&D:02-U-101) | Portsmouth & Paducah | $ 731,572 |
| Salt Waste Processing Facility Project, (2035:03-D-414) | SRS | $ 440,000 |
| 3013 Container Surveillance & Storage Capability, (2012:04-D-423) | SRS | $ 89,700 |

| ENVIRONMENTAL MANAGEMENT (Operating Projects) | Prior to CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| Radioactive Liquid Tank Waste Stabilization and Disposition, (2035:SR-0014C) | SRS | $ 11,867,072 |
| NM Stabilization & Disposition, (2012:SR-0011B) | SRS | $ 4,057,568 |
| Soil and Water Remediation, , (2035:SR-0030) | SRS | $ 2,707,661 |
| Solid Waste Stabilization and Disposition, , (2035:SR-0013) | SRS | $ 2,449,932 |
| Nuclear Facility D&D, (2035:SR-0040) | SRS | $ 1,585,793 |
| NM Stabilization and Disposition, (2035:SR-0011C) | SRS | $ 1,276,496 |
| SNF Stabilization and Disposition, (2035:SR-0012) | SRS | $ 348,680 |
| NM Stabilization & Disposition, (2006:SR-0011A) | SRS | $ 122,290 |
| Nuclear Facility D&D-Portsmouth, (UE D&D:PO-0040) | Portsmouth | $ 4,132,651 |
| NM Stabilization and Disposition-DUF6 Conversion, (PO-0011X) | Portsmouth | $ 908,593 |
| Solid Waste Stabilization and Disposition, (UE D&D:PO0013) | Portsmouth | $ 352,935 |
| Nuclear Facility D&D-Portsmouth GCEP, (PO-0041) | Portsmouth | $ 80,000 |
| Nuclear Facility D&D-Paducah, (UE D&D:PA-0040) | Paducah | $ 2,739,824 |
| NM Stabilization and Disposition-DUF6 Conversion (PA-0011X) | Paducah | $ 1,281,846 |
| Solid Waste Stabilization and Disposition, (UE D&D:PA-0013) | Paducah | $ 329,699 |
| Radioactive Liquid Tank Waste Stabilization and Disposition -West Valley High Level Waste Storage, Non-Defense, (2035:OH-WV-0014) | OH-West Valley | $ 594,298 |
| Nuclear Facility D&D - West Valley, (2006:OH-WV-0040) | OH-West Valley | $ 423,035 |
| Solid Waste Stabilization & Disposition - West Valley, (2006:OH-WV-0013) | OH-West Valley | $ 266,505 |
| Soil and Water Remediation - Ashtabula Closure Project, (2006:OH-AB-0030) | OH-Ashtabula | $ 45,000 |
| Soil and Water Remediation - Nevada Test Site and Offsites, (2035:VL-NV-0030) | Neveda-NTS | $ 1,990,663 |
| Solid Waste Stabilization and Disposition - NTS, (2012:VL-NV-0013) | Neveda-NTS | $ 76,660 |
| Operate Waste Disposal Facility - Nevada (2035:VL-NV-0080) | Neveda | $ 159,821 |
| Radioactive Liquid Tank Waste Stabilization and Disposition, (2035:ID-INEEL-0014C) | ID-INEEL | $ 2,953,554 |
| Radioactive Liquid Tank Waste Stabilization and Disposition, (2012:ID-INEEL-0014B) | ID-INEEL | $ 2,357,775 |
| Solid Waste Stabilization and Disposition, (2012:ID-INEEL-0013)Includes AMWTP | ID-INEEL | $ 1,921,077 |
| Soil and Water Remediation, (2035:ID-INEEL-0030C) | ID-INEEL | $ 1,849,946 |
| Soil and Water Remediation, (2012:ID-INEEL-0030B) | ID-INEEL | $ 1,148,952 |
| Nuclear Facility D&D, (2012:ID-INEEL-0040B) | ID-INEEL | $ 1,148,952 |
| Non-Nuclear Facility D&D, (2035:ID-INEEL-0050C) | ID-INEEL | $ 1,022,798 |
| SNF Stabilization and Disposition, (2035:ID-INEEL-0012C) | ID-INEEL | $ 755,938 |
| SNF Stabilization and Disposition, (2012:ID-INEEL-0012B-D) | ID-INEEL | $ 705,270 |
| Non-Nuclear Facility D&D, (2012:ID-INEEL-0050B) | ID-INEEL | $ 293,467 |
| Nuclear Facility D&D, (2035:ID-INEEL-0040C) | ID-INEEL | $ 11,213 |
| Soil and Water Remediation-Moab, (2035:ID-GJ-003) | ID-GJ | $ 186,034 |
| SNF Stabilization and Disposition-New /Upgrade Facilities Awaiting Geologic Repository, (2035:HQ-SNF-0012Y) | HQ | $ 163,560 |
| Soil and Water Remediation, (2006:CH-BRNL-0030) | CH-BRNL | $ 258,957 |
| Nuclear Facility D&D-High Flux Beam Reactor, (2006:CH-BRNL-0041) | CH-BRNL | $ 120,294 |
| Nuclear Facility D&D Brookhaven Graphite Research Reactor, (2006:CH-BRNL-0040) | CH-BRNL | $ 68,276 |
| Operate Waste Disposal Facility-WIPP, (2035:CB-0080) | Carlsbad | $ 5,084,685 |
| Transportation-WIPP, (2035:CB-0090) | Carlsbad | $ 753,317 |

| Science | Past CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| Center for Nanoscale Materials | Argonne East | $ 36,000 |
| BNL Center for Functional Nanomaterials | Brookhaven | $ 81,000 |
| Neutrinos at the Main Injector (NuMI) | Fermi NAL | $ 171,442 |
| U. S. CMS | Fermi NAL/CERN | $ 167,250 |
| U. S. ATLAS | Fermi NAL/CERN | $ 163,750 |
| U.S. LHC Accelerator | Fermi NAL/CERN | $ 110,000 |
| The Molecular Foundry | Lawrence Berkeley | $ 85,000 |
| Spallation Neutron Source | Oak Ridge | $ 1,411,700 |
| Center for Nanophase Materials Sciences | Oak Ridge NL | $ 65,000 |
| National Compact Stellarator Experiment | Princeton PPL | $ 86,300 |
| Center for Integrated Nanotechnologies | Sandia - NM | $ 75,800 |
| Large Area Telescope | SLAC | $ 133,400 |

| Science | Prior to CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| B Physics at the TeVatron (BTeV) | Fermi NAL | $ 225,000 |
| SNS Instruments | ORNL | $ 75,000 |
| Quasi-Poloidal Stellarator Experiment | ORNL | $ 23,110 |
| Linac Coherent Light Source | SLAC | $ 240,000 |
| Rare Isotope Accelerator | TBD | $ 1,100,000 |
| Facility for the Characterization and Imaging of Molecular Machines | TBD | $ 250,000 |
| Facility for Production & Characterization of Proteins and Molecular Tags | TBD | $ 230,000 |

| Energy Efficiency and Renewable Energy | Past CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| Science and Technology Facility | NREL | $ 29,886 |

| Energy Efficiency and Renewable Energy | Prior to CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| Research Support Facility | NREL | $ 70,000 |
| Large Wind Turbine Test Facility | NREL | $ 25,000 |

| Civilian Radioactive Waste Management | Prior to CD-2 | |
|---|---|---|
| Project Name | Site | TPC($K) |
| Yucca Mountain | | |
| Yucca Mountain Repository Project - Initial Operating Capability | Yucca Mountain, NV | $ 7,600,000 |
| National Transportation System | Yucca Mountain, NV | $ 1,500,000 |
| Nevada Transportation System | Yucca Mountain, NV | $ 1,000,000 |

# PART III
# EARNED VALUE MANAGEMENT SYSTEM GUIDELINES

The guidelines are grouped into five areas. Some could easily fit under more than a single area. However, each criterion is listed only in the group where it is primarily applicable. This organization is merely a vehicle used to facilitate understanding. Organization focuses on the performing organization and integration of the Work Breakdown Structure and the Organization Breakdown Structure of the project or program. Planning and Budgeting is concerned about the definition, resources and scheduling of the work. Accounting Considerations concentrates on budget and funds management as well the actual costs. Analysis and Management Reports establishes the processes for performance and status information, analysis and actions to be taken. Revisions and Data Maintenance organizes the guidelines, which pertain to controlling change in the baseline and budgets.

## ORGANIZATION

- Define the authorized work elements for the program. A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process.

- Identify the program organizational structure including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled.

- Provide for the integration of the company's planning, scheduling, budgeting, work authorization and cost accumulation processes with each other, and as appropriate, the program work breakdown structure and the program organizational structure.

- Identify the company organization or function responsible for controlling overhead (indirect costs).

- Provide for integration of the program work breakdown structure and the program organizational structure in a manner that permits cost and schedule performance measurement by elements of either or both structures as needed.

## PLANNING AND BUDGETING

- Schedule the authorized work in a manner, which describes the sequence of work and identifies significant task interdependencies required to meet the requirements of the program.

- Identify physical products, milestones, technical performance goals, or other indicators that will be used to measure progress.

- Establish and maintain a time-phased budget baseline, at the control account level, against which program performance can be measured. Budget for far-term efforts may be held in higher level accounts until an appropriate time for allocation at the

control account level. Initial budgets established for performance measurement will be based on either internal management goals or the external customer negotiated target cost including estimates for authorized but undefinitized work. On government contracts, if an over target baseline is used for performance measurement reporting purposes, prior notification must be provided to the customer.

- Establish budgets for authorized work with identification of significant cost elements (labor, material, etc.) as needed for internal management and for control of subcontractors.

- To the extent it is practical to identify the authorized work in discrete work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far term effort in larger planning packages for budget and scheduling purposes.

- Provide that the sum of all work package budgets plus planning package budgets within a control account equals the control account budget.

- Identify and control level of effort activity by time-phased budgets established for this purpose. Only that effort which is unmeasurable or for which measurement is impractical may be classified as level of effort.

- Establish overhead budgets for each significant organizational component of the company for expenses that will become indirect costs. Reflect in the program budgets, at the appropriate level, the amounts in overhead pools that are planned to be allocated to the program as indirect costs.

- Identify management reserves and undistributed budget.

- Provide that the program target cost goal is reconciled with the sum of all internal program budgets and management reserves.

## ACCOUNTING CONSIDERATIONS

- Record direct costs in a manner consistent with the budgets in a formal system controlled by the general books of account.

- When a work breakdown structure is used, summarize direct costs from control accounts into the work breakdown structure without allocation of a single control account to two or more work breakdown structure elements.

- Summarize direct costs from the control accounts into the contractor's organizational elements without allocation of a single control account to two or more organizational elements.

- Record all indirect costs that will be allocated to the contract.

- Identify unit costs, equivalent units costs, or lot costs when needed.

- For EVMS, the material accounting system will provide for:
    - Accurate cost accumulation and assignment of costs to control accounts in a manner consistent with the budgets using recognized, acceptable, costing techniques.
    - Cost performance measurement at the point in time most suitable for the category of material involved, but no earlier than the time of progress payments or actual receipt of material.
    - Full accountability of all material purchased for the program including the residual inventory

## ANALYSIS AND MANAGEMENT REPORTS

- At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:
    - Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.
    - Comparison of the amount of the budget earned the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.
- Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management.
- Identify budgeted and applied (or actual) indirect costs at the level and frequency needed by management for effective control, along with the reasons for any significant variances.
- Summarize the data elements and associated variances through the program organization and/or work breakdown structure to support management needs and any customer reporting specified in the contract.
- Implement managerial actions taken as the result of earned value information.
- Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements.

## REVISIONS AND DATA MAINTENANCE

- Incorporate authorized changes in a timely manner, recording the effects of such changes in budgets and schedules. In the directed effort prior to negotiation of a

change, base such revisions on the amount estimated and budgeted to the program organizations.

- Reconcile current budgets to prior budgets in terms of changes to the authorized work and internal replanning in the detail needed by management for effective control.

- Control retroactive changes to records pertaining to work performed that would change previously reported amounts for actual costs, earned value, or budgets. Adjustments should be made only for correction of errors, routine accounting adjustments, effects of customer or management directed changes, or to improve the baseline integrity and accuracy of performance measurement data.

- Prevent revisions to the program budget except for authorized changes.

- Document changes to the performance measurement baseline.