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**Civilian Radioactive Waste Management System  
Management & Operating Contractor**

**Monthly Summary Report**

**March 1996**

Prepared for:

U.S. Department of Energy  
Office of Civilian Radioactive Waste Management  
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Under Contract Number  
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PDR WASTE  
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Enclosure 1

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## **1. PROGRAM-LEVEL REPORT**

### **HIGHLIGHTS**

- Kiewit negotiations were concluded on March 7, 1996, for the 39+40 baseline proposal. Kiewit/PB proposed a Cost Plus Award Fee (CPAF) subcontract pricing arrangement with a fully-loaded cost of \$45,566, 980. An overall subcontract cost was negotiated at \$39,977,672 including fee. This resulted in \$5.6M being freed from budgetary funds for use elsewhere in the project.
- As a result of the tractor trailer testing being terminated, \$326K was deobligated from the contractor (Allied Signal) and made available to the project.

### **TOTAL CONTRACT PERFORMANCE DATA**

- Figures 1 through 4 represent key financial information for the total contract. All Financial Status and Cumulative Financial Status figures in this report now include Fiscal Year 1995 (FY95) Carryover. The April 1996 Contract Funds Status Reports (CFSRs) are being expanded to include fee and subcontracts. They will be delivered under separate cover as soon as they are completed. Future monthly reports will include CFSRs at both the Total Contract and Work Authorization Directive (WAD) levels.
- The projected \$6.2M overrun at complete is caused by a projected \$6.4M overrun in the Yucca Mountain Project (YMP). The \$6.4M overrun projected for YMP is overstated by \$3.2M, so the actual projected overrun is \$3.2M. Mitigation of the projected overrun is in process.

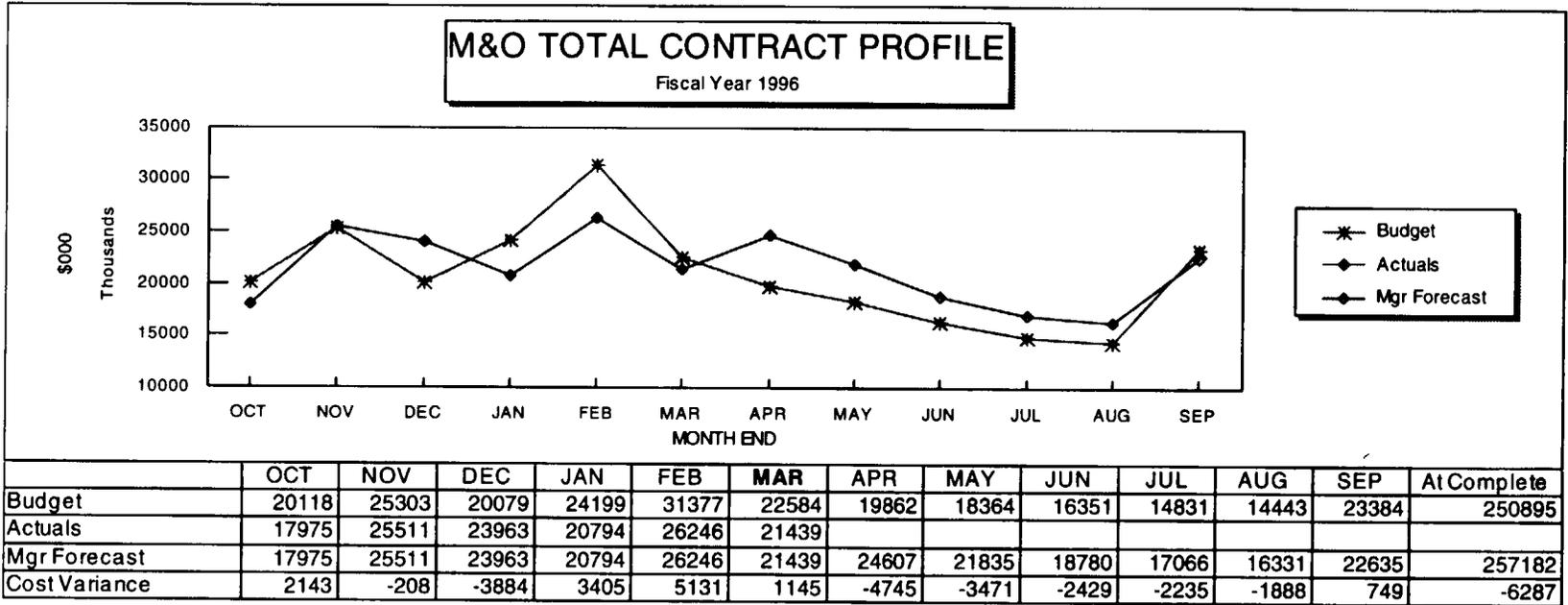


Figure 1. M&O Total Financial Status

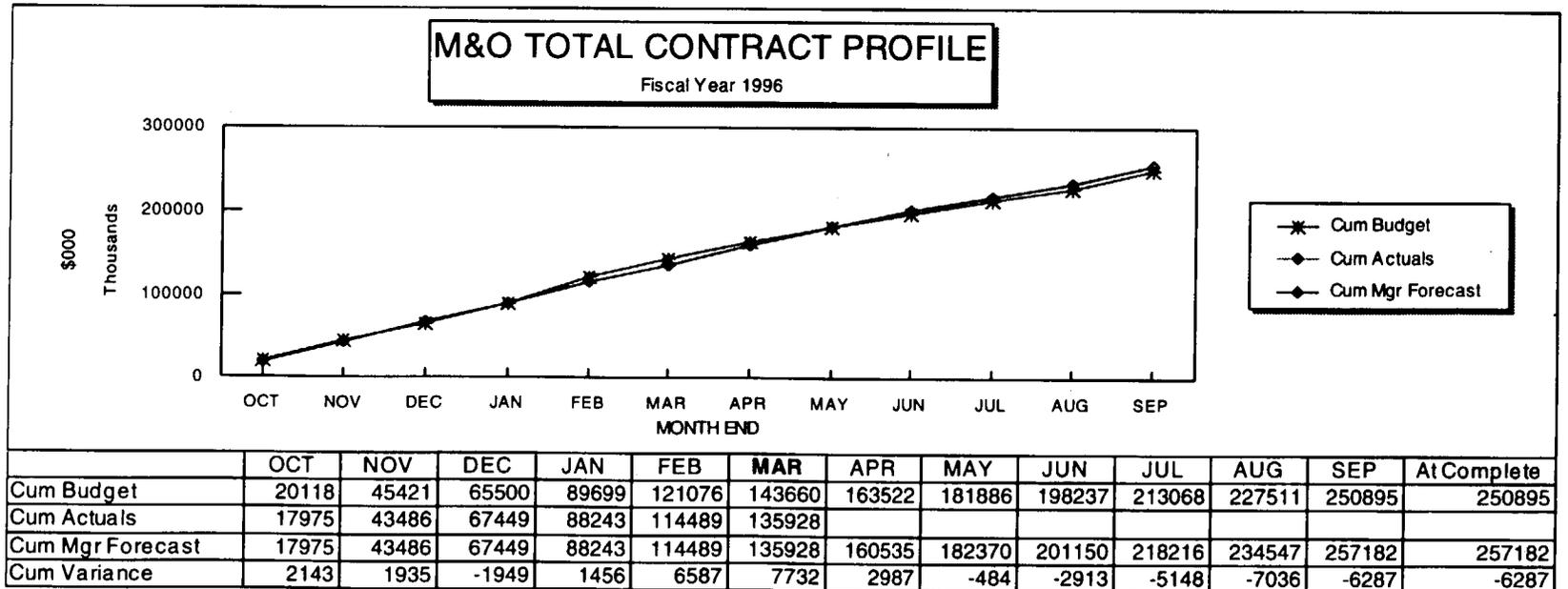


Figure 2. M&O Cumulative Total Financial Status

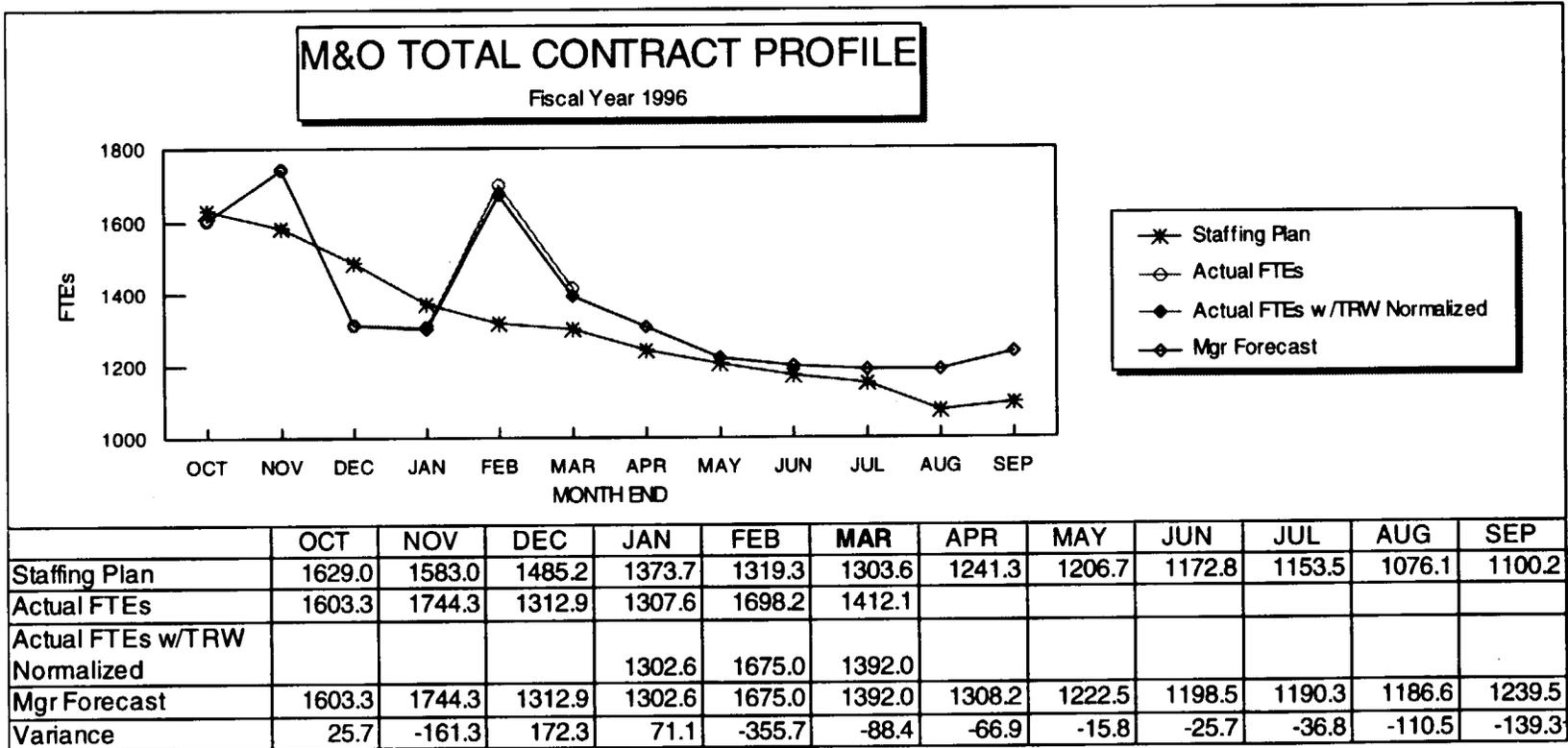


Figure 3. M&O Total Staffing

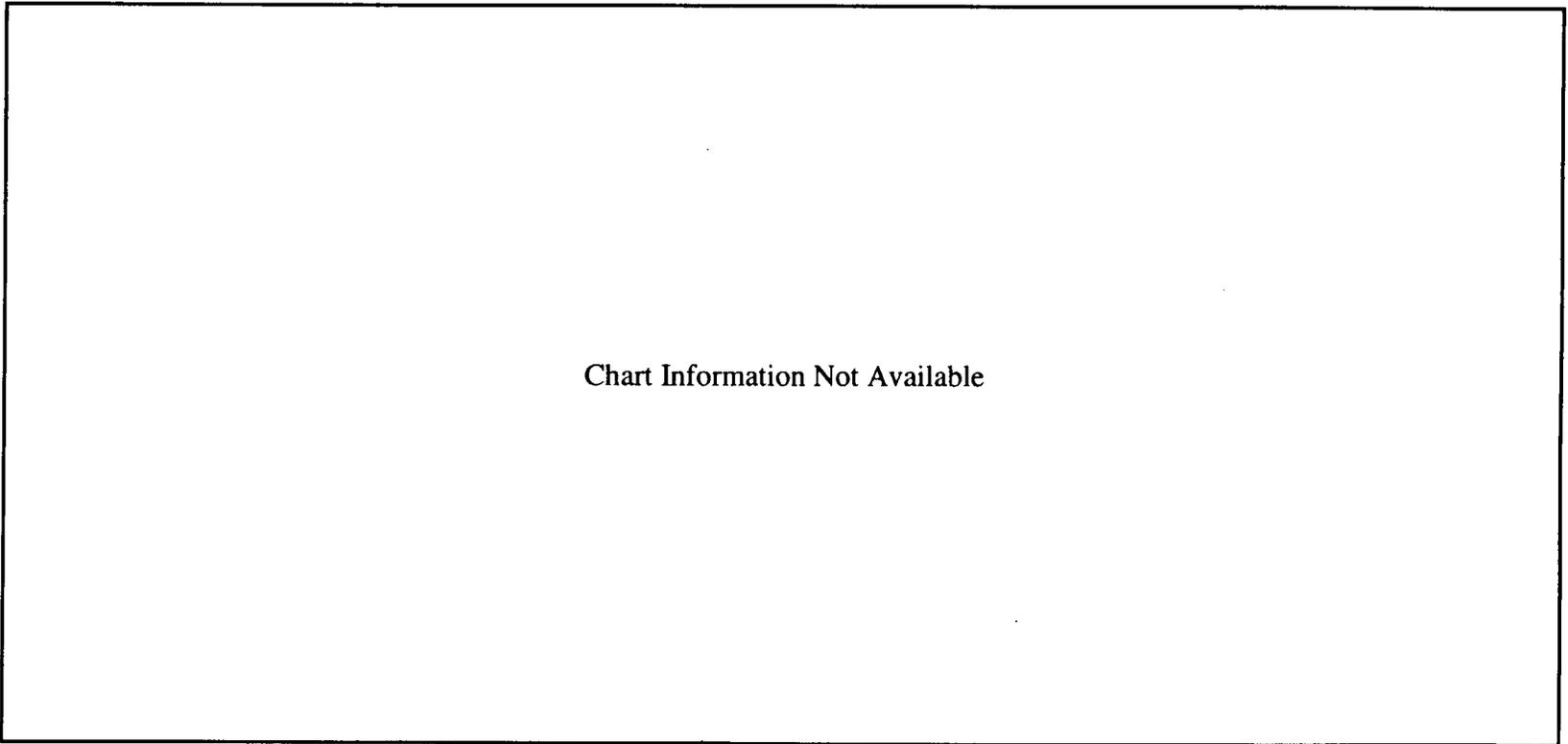


Figure 4. M&O Total Contract Funds Status Report (CFSR)

## 2. YUCCA MOUNTAIN PROJECT REPORT

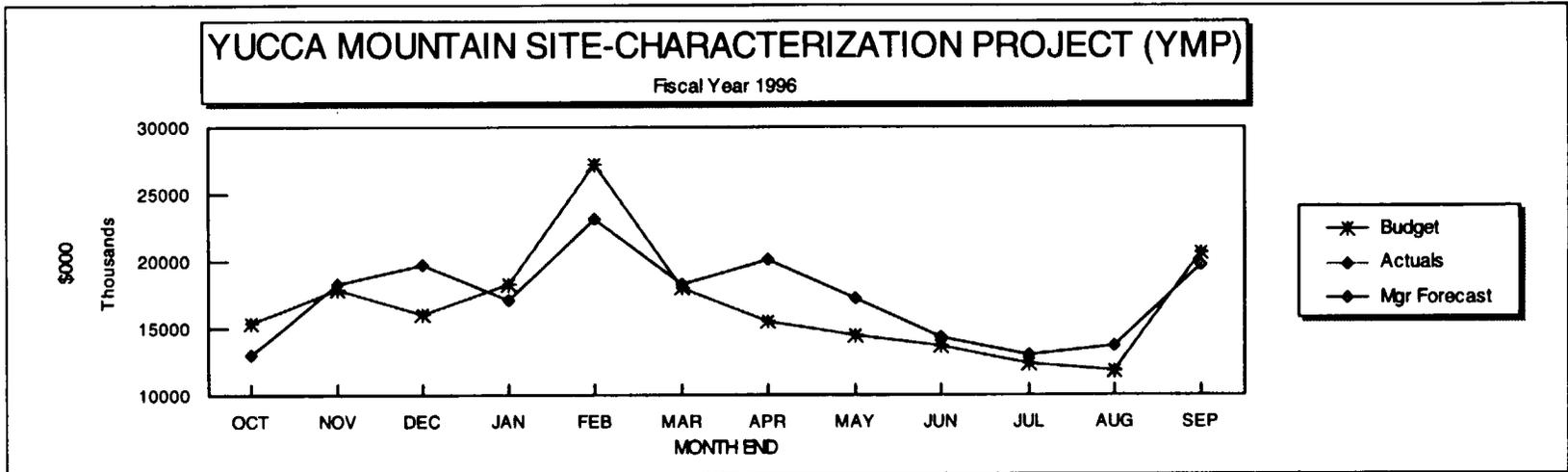
### HIGHLIGHTS

- Developing the thermal analytical models supporting the Mined Geologic Disposal System (MGDS) system engineering study of emplacement drift backfill. Completed the initial computer evaluations; review of the calculations indicates that the thermal performance of the Engineered Barrier System (EBS) meets the thermal goals if the backfill is emplaced at 100 years. Performing additional calculations on thermal conductivities of the backfill and different emplacement times.
- Delivered the MGDS Advanced Conceptual Design (ACD) Report to the Department of Energy (DOE) three days ahead of schedule. Delivered the associated Director's Summary one day ahead of schedule and subsequently incorporated the Director's comments. These products provide comprehensive documentation for the completion of the ACD and represent the most significant design deliverables this year.
- The expert elicitation used to develop the cathodic protection model for the Total System Performance Analysis (TSPA)-1995 is being reevaluated. The Lawrence Livermore National Laboratory is conducting the reevaluation because of a new approach in how best to achieve continuous contact between the waste package inner and outer barriers. If this approach proves viable, it may be possible to conservatively assume some level of cathodic protection rather than none as is currently assumed.
- Hydrologic experiments at the C-well complex provided the first quantitative information on large-scale dilution and dispersion processes in the water table underlying the repository horizon. Results are consistent with the interpretation that this strata would be a very effective dose-limiting barrier.
- Issued the Probabilistic Volcanic Hazards Analysis (PVHA) final report. The analysis shows there is only a small probability ( $1.5 \times 10^{-8}$  per year) that volcanic activity would disrupt a repository, consistent with project estimates developed over the past decade.
- Completed the Ambient Gamma Exposures at Yucca Mountain Site Report summarizing the results of ambient gamma monitoring activities performed from 1991 to 1995 at the site in support of site characterization activities.
- Received formal approval of the Computer Security Awareness Briefing module from DOE. Successfully converted the briefing from a classroom format to a computer-based format.
- The TBM has advanced to construction station 46+68.6 meters (15,316.9 ft), excavating 297.2 meters (905.3 ft) for the month. The TBM set another project record during the reporting period by advancing 24.9 meters (81.7 ft) in one day while in ground requiring category 4 support (steel sets). The TBM is approximately 113 calendar days ahead of schedule.

- Fourteen 20-foot sections of ventilation ducting in the ESF collapsed when the TBM was restarted after being shut down to seal ducting joints. The joints were sealed after dust sampling detected levels of cristobalite (a silica compound) above applicable standards requiring tunnel workers to wear disposable respirators. A tiger team is investigating the cause of the ducting failure, but an initial assessment indicates that the constructor used some non-spec ducting that could not withstand the negative pressures produced when the leaks in the system were sealed. Limited samples taken after the system was sealed indicate lower levels of respirable silica dust in the tunnel. Additional field tests and analyses are being conducted to support full resolution of the issues, long-term planning, and extension of the ventilation system as the tunnel is advanced.
- The Alpine Miner reached Station 0+53.3 meters (174.8 ft) of the Thermal Test Alcove (TTA) for a total of 13.3 meters (43.6 ft) advancement during the month. The Alpine Miner moved to the Thermal Mechanical Alcove (TMA) on March 13, 1996. Since then, the alpine miner advanced approximately 16.3 meters (53.5 ft) from the right rib of the TTA. This operation is approximately 54.3 percent complete. The ground control in the alcove continues to be rock bolts and wire mesh.
- Repaired the transformer and electrical service entrance to the Field Operations Center (FOC), Area 25 of the Nevada Test Site. The FOC had been running on a temporary power hookup after an electrical storm damaged the bus bar six months ago. The repairs bring the FOC back into compliance with the electrical code.
- Finalized the change request, associated attachments, and supporting documentation to continue TBM operations on a 3-shift-per-day, 5-day-per-week schedule for the remainder of FY96.
- Conducted a successful Safety Stand-Down on March 19, 1996.

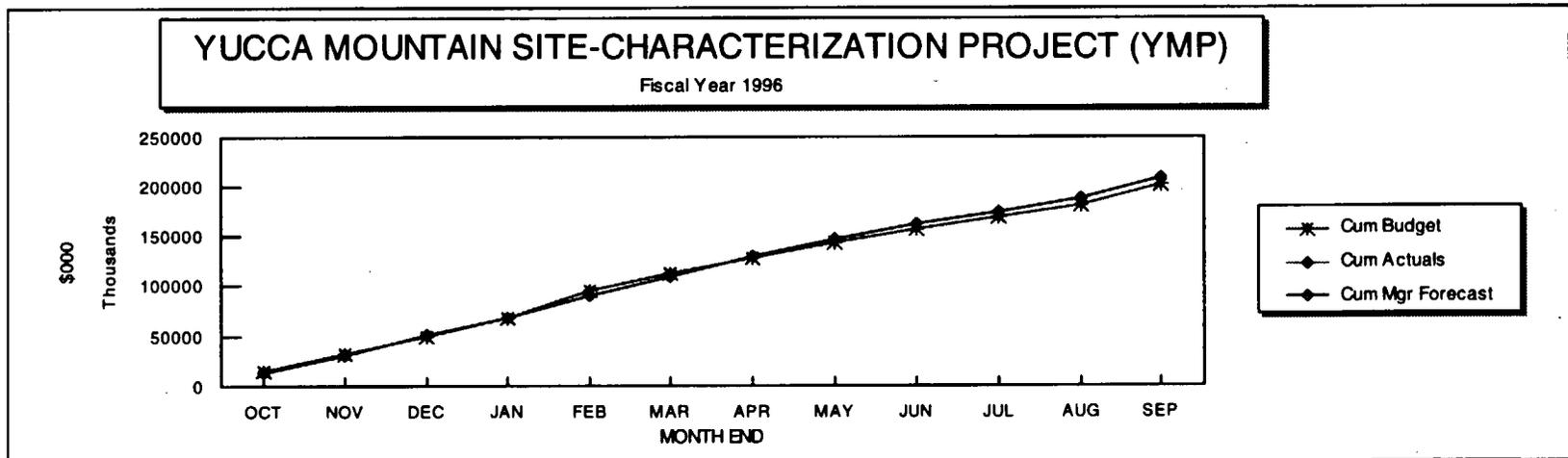
## **PERFORMANCE DATA**

- Figures 5 through 7 represent key financial information for the Yucca Mountain Project. Figure 8 will be a CFSR for the Yucca Mountain Project in future monthly reports.
- The YMP project baseline now includes the Science and Carryover commitments change requests.
- The forecast at complete is overstated by \$3.2M. The actual projected overrun is \$3.2M. Mitigation of the overrun is in process.



|               | OCT   | NOV   | DEC   | JAN   | FEB   | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   | At Complete |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|
| Budget        | 15444 | 17841 | 16065 | 18331 | 27319 | 18043 | 15495 | 14481 | 13650 | 12322 | 11833 | 20616 | 201440      |
| Actuals       | 12959 | 18292 | 19794 | 17134 | 23142 | 18273 |       |       |       |       |       |       |             |
| Mgr Forecast  | 12959 | 18292 | 19794 | 17134 | 23142 | 18273 | 20202 | 17207 | 14406 | 13041 | 13628 | 19769 | 207847      |
| Cost Variance | 2485  | -451  | -3729 | 1197  | 4177  | -230  | -4707 | -2726 | -756  | -719  | -1795 | 847   | -6407       |

Figure 5. Yucca Mountain Project Financial Status (for M&O only)



|                  | OCT   | NOV   | DEC   | JAN   | FEB   | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    | At Complete |
|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------------|
| Cum Budget       | 15444 | 33285 | 49350 | 67681 | 95000 | 113043 | 128538 | 143019 | 156669 | 168991 | 180824 | 201440 | 201440      |
| Cum Actuals      | 12959 | 31251 | 51045 | 68179 | 91321 | 109594 |        |        |        |        |        |        |             |
| Cum Mgr Forecast | 12959 | 31251 | 51045 | 68179 | 91321 | 109594 | 129796 | 147003 | 161409 | 174450 | 188078 | 207847 | 207847      |
| Cum Variance     | 2485  | 2034  | -1695 | -498  | 3679  | 3449   | -1258  | -3984  | -4740  | -5459  | -7254  | -6407  | -6407       |

Figure 6. Yucca Mountain Project Cumulative Financial Status (for M&O only)

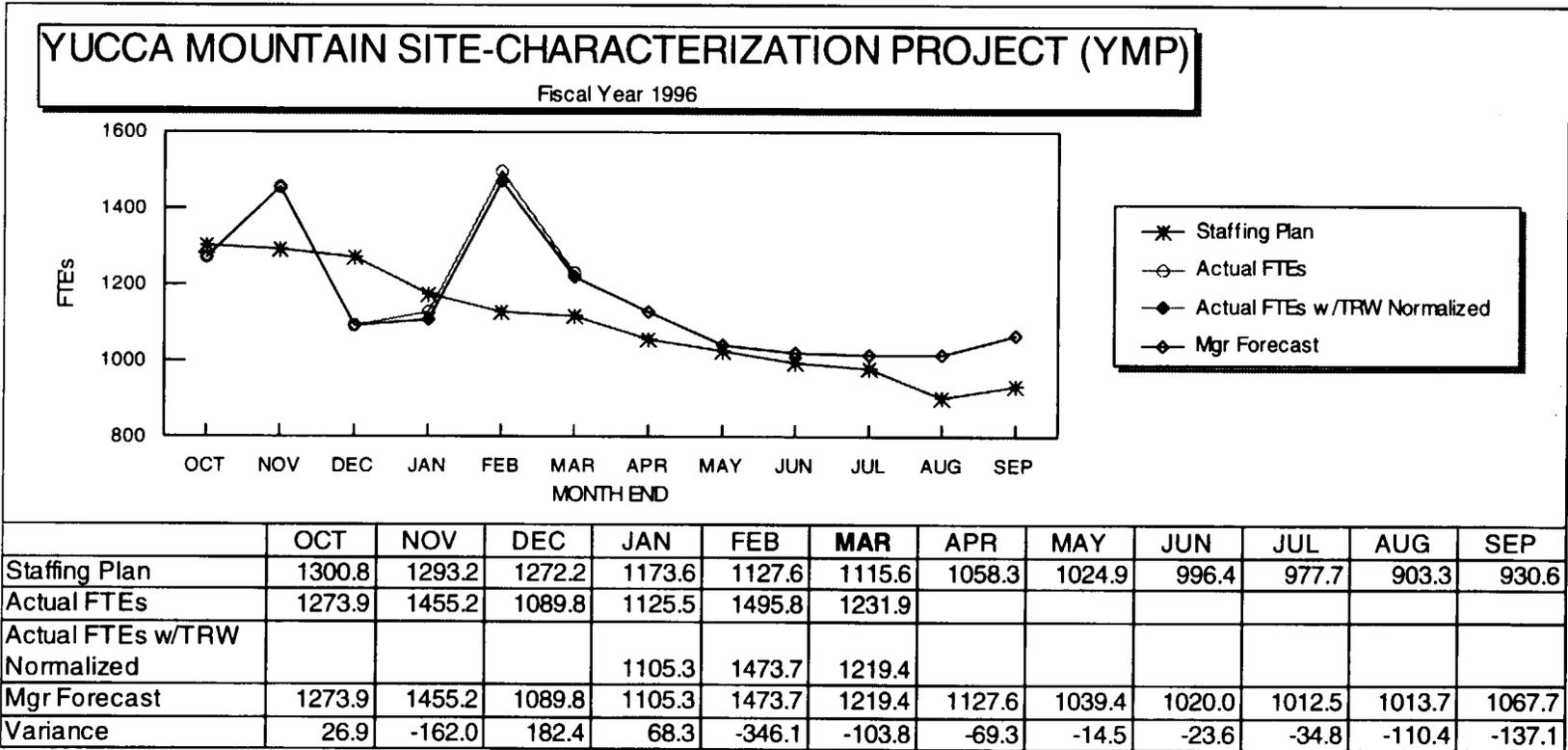


Figure 7. Yucca Mountain Project Staffing (for M&O only)

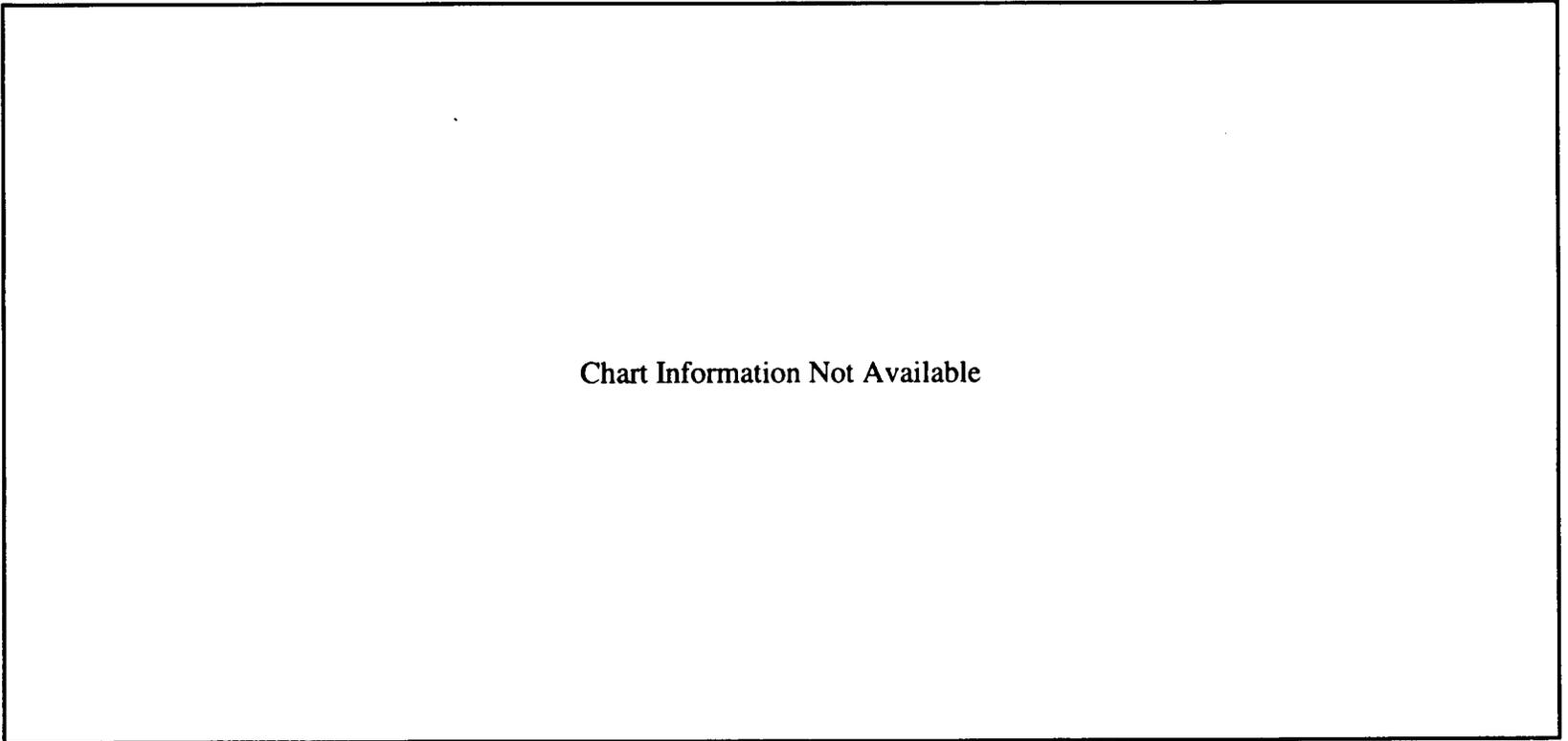


Figure 8. Yucca Mountain Project CFSR

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### **3. WASTE ACCEPTANCE, STORAGE, AND TRANSPORTATION PROJECT REPORT**

#### **HIGHLIGHTS**

- Delivered the Integrated Safeguards and Security Requirements Analysis (ISSRA) document to DOE. The document identifies and compiles all Federally imposed requirements applicable to control, accounting, and physical protection of special nuclear material into one reference document.
- Delivered the Burnup Credit Technical Implementation Plan to DOE. The plan provides scheduling, cost estimate, activity justification, and experiment information.
- Delivered the Phase I and Phase II Licensing schedules, which compare various licensing strategies for the Interim Storage Facility, to DOE. Phase I is for canistered fuel, and Phase II is for the full facility including provisions for bare fuel.
- Delivered the Draft Communications Plan to DOE. The plan describes how to communicate and involve stakeholders in Storage and Transportation operations.
- Delivered the WAST Operations Plan Preliminary Draft to DOE. The plan provides an operational vision for acceptance, transportation, and storage of high-level waste and spent nuclear fuel. It further documents the integration and provides a basis for future operational planning.
- Delivered the Analysis of Additional Isotopic Concentration Experiments in Support of the Actinide-Only Burnup Topical Report to DOE. These experiments respond to questions raised by the NRC that need additional analysis in the burnup credit request process.
- Delivered the Spent Nuclear Fuel Verification Plan, Revision 1, to DOE. This plan identifies where the requirements of the Standard Contract must be modified to implement the verification process and allow various types of sealed multi-element canisters.
- Received the On-Site Transfer/On-Site Storage (OSS/OST) Preliminary Design Report (PDR)-2 from Westinghouse-GESCO in support of the MPC contract. Also received the Critical Operating Times (COT) and Reliability, Availability, Maintainability (RAM) reports and the Interface Report and Q-List. The Interface Report was rejected for not meeting contract requirements. No immediate impact on the current schedule is anticipated.
- Received preliminary copies of the Stainless Steel Clad SNF MPC Safety Analysis Report (SAR) Alternate Study and the Enhanced Fuel Acceptance Alternate Study.
- Prepared a WAST Cost Estimate summary for the Substitute S.1271 bill and cost comparison sheet for the Substitute S.1271 versus Program Plan (Option 8A, Revision 1) supporting a rapid response request.

- Developed a cost comparison of the Program Plan-Reference Case with the Mescalero Private Storage Facility supporting a rapid response request.

#### **PERFORMANCE DATA**

- Figures 9 through 11 represent key financial information for the WAST Project. Figure 12 will be a CFSR for the WAST Project in future monthly reports.

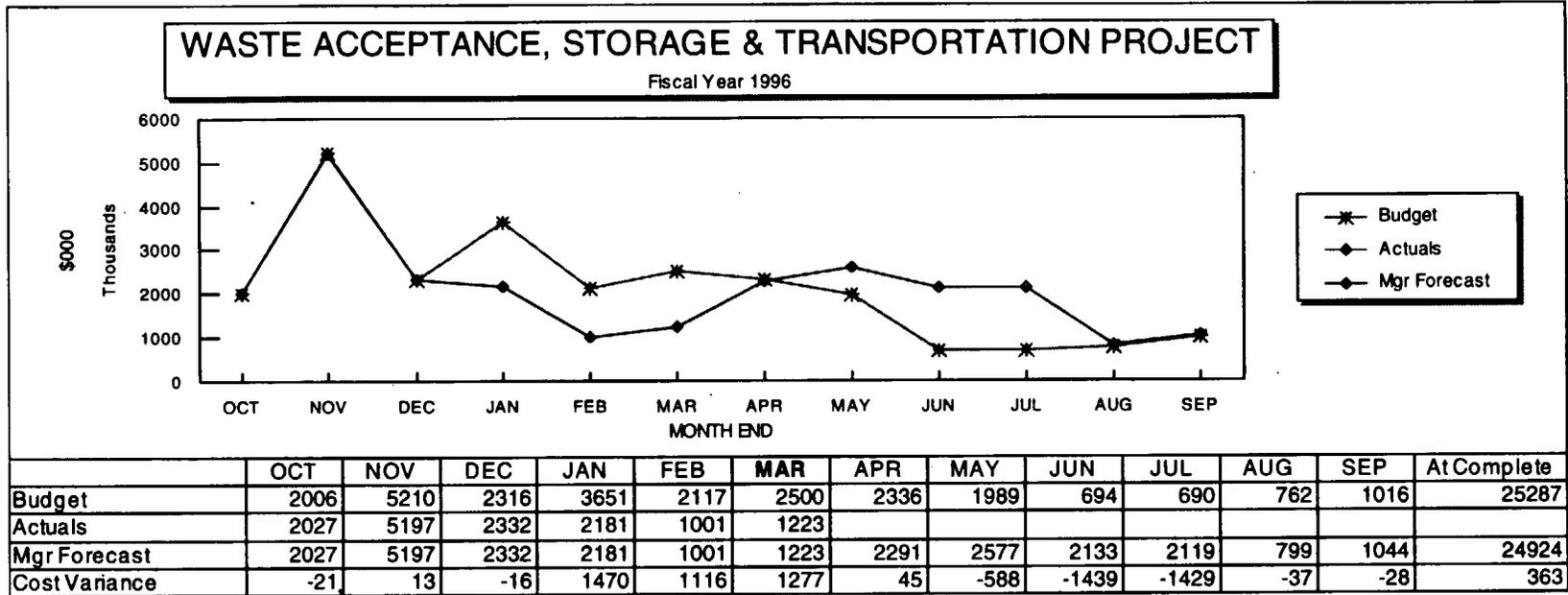


Figure 9. WAST Project Financial Status (for M&O only)

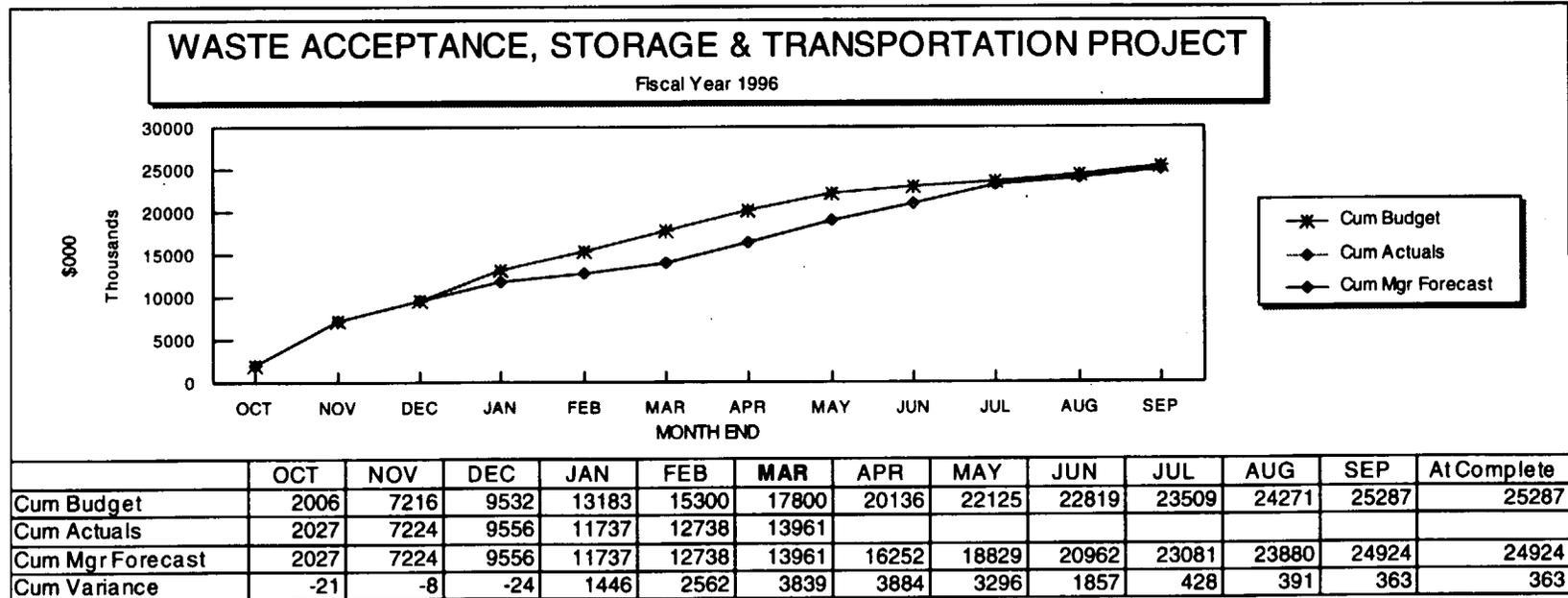


Figure 10. WAST Project Cumulative Financial Status (for M&O only)

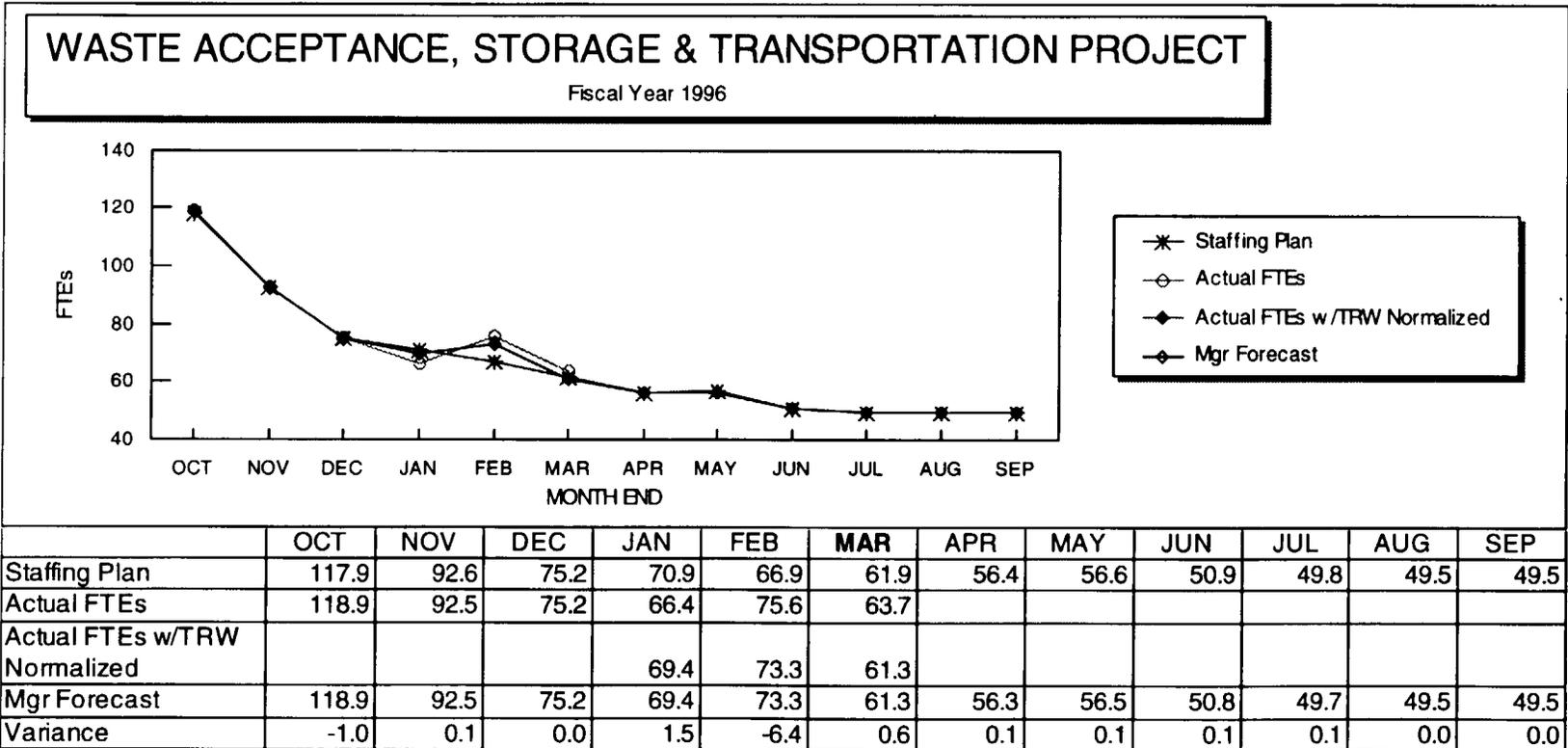


Figure 11. WAST Project Staffing (for M&O only)

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Figure 12. WAST Project CFSR

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## **4. PROGRAM QUALITY ASSURANCE REPORT**

### **HIGHLIGHTS**

- Received preliminary concurrence from DOE to discontinue Requirements Traceability Network database inputs. The database, used by auditors for QA program acceptance, is outdated and time consuming.
- Received DOE agreement to have the M&O sponsor the One QA Program approach. The One QA Program approach will decrease the number of QA-related procedures, reduce the complexity of the QA Program, and provide savings by lowering maintenance cost on procedures and training.

### **PERFORMANCE DATA**

- Figures 13 through 15 represent key financial information for Program Quality Assurance. Figure 16 will be a CFSR for Program Quality Assurance in future monthly reports.

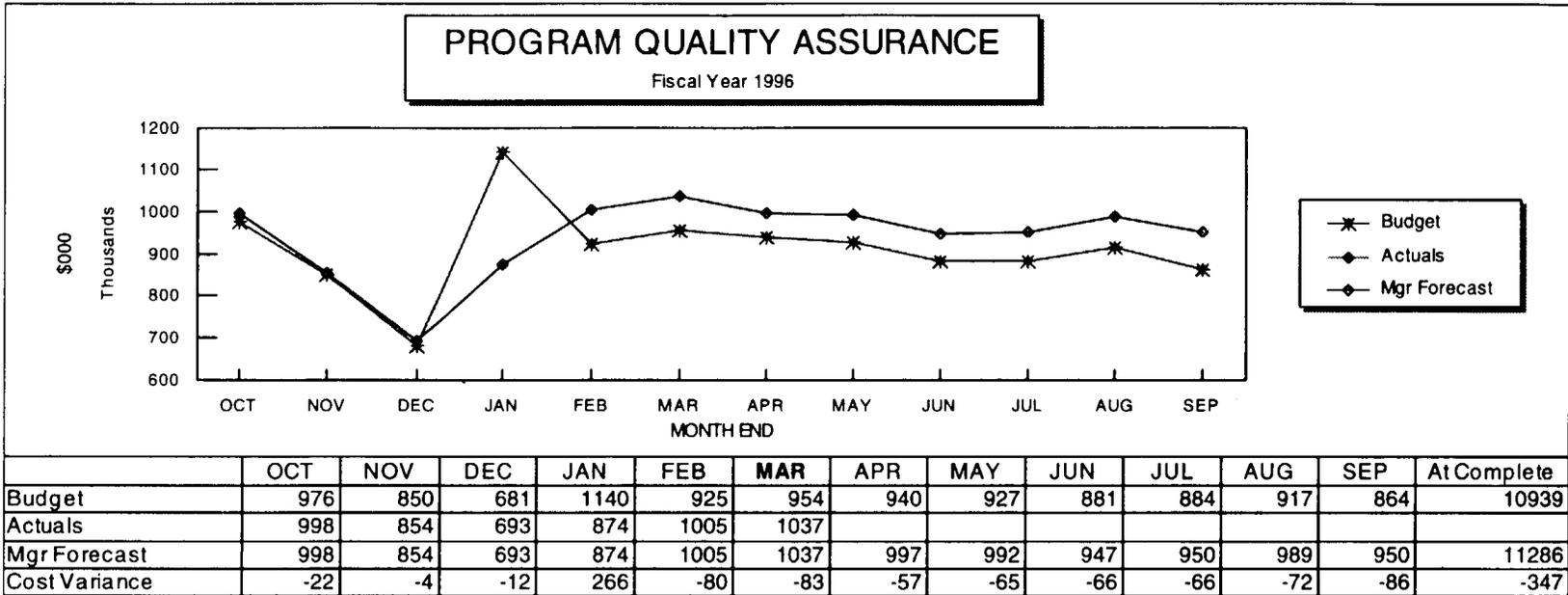


Figure 13. Program Quality Assurance Financial Status (for M&O only)

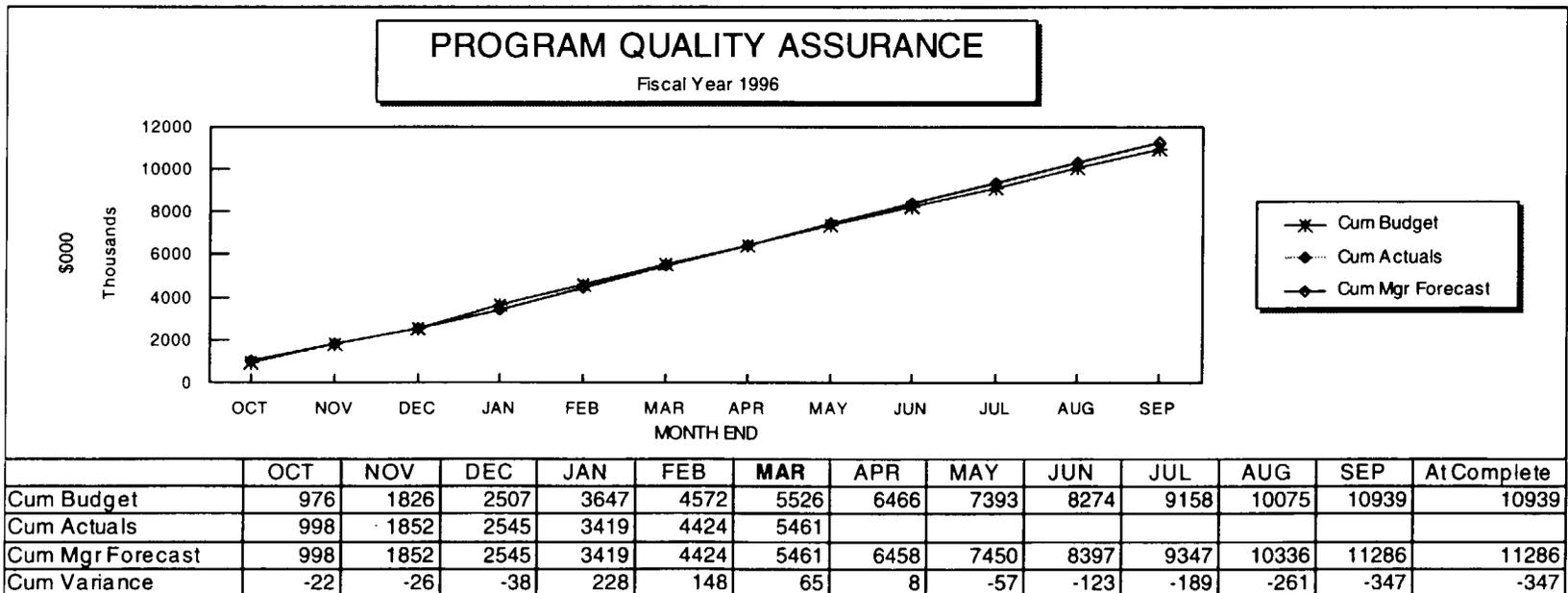


Figure 14. Program Quality Assurance Cumulative Financial Status (for M&O only)

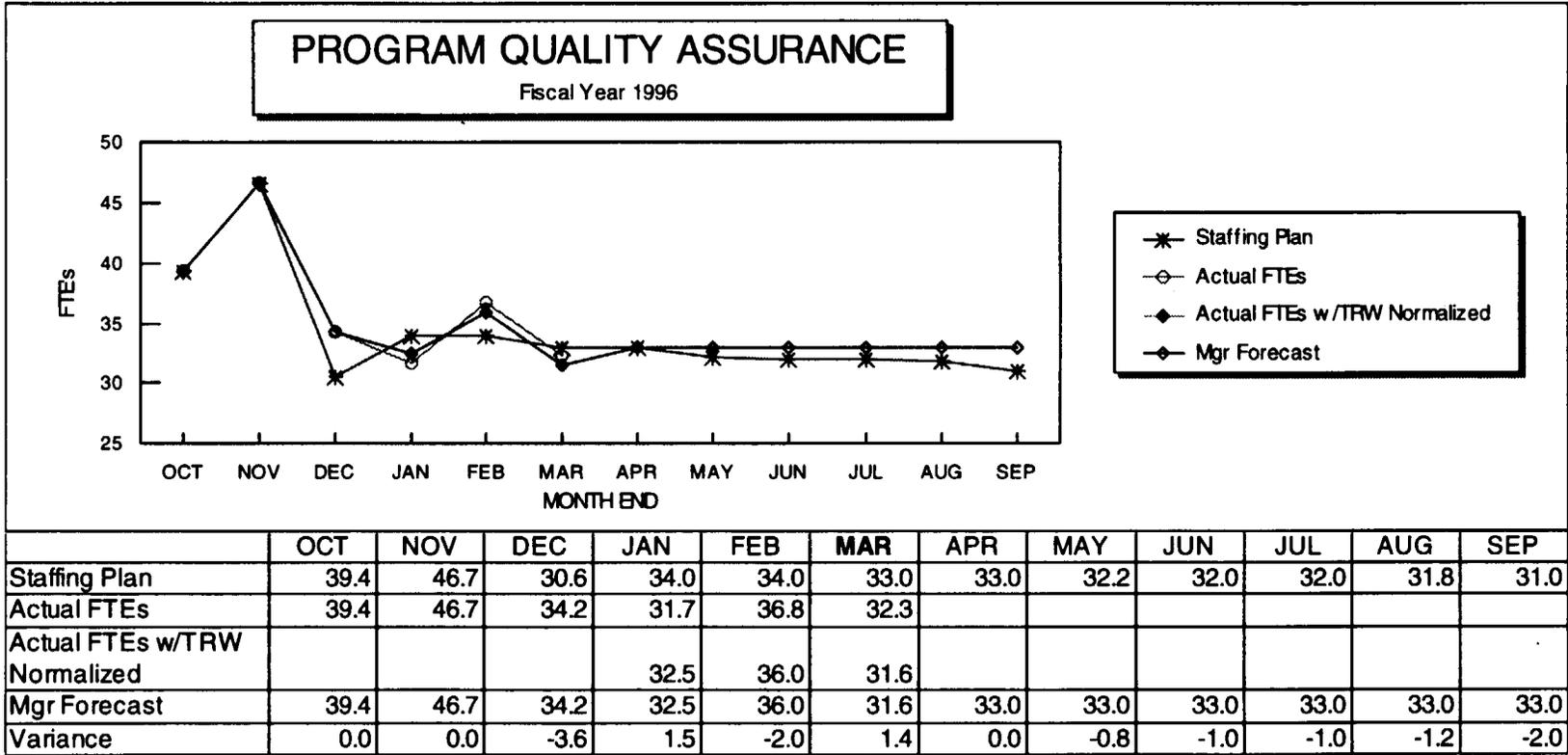


Figure 15. Program Quality Assurance Staffing (for M&O only)

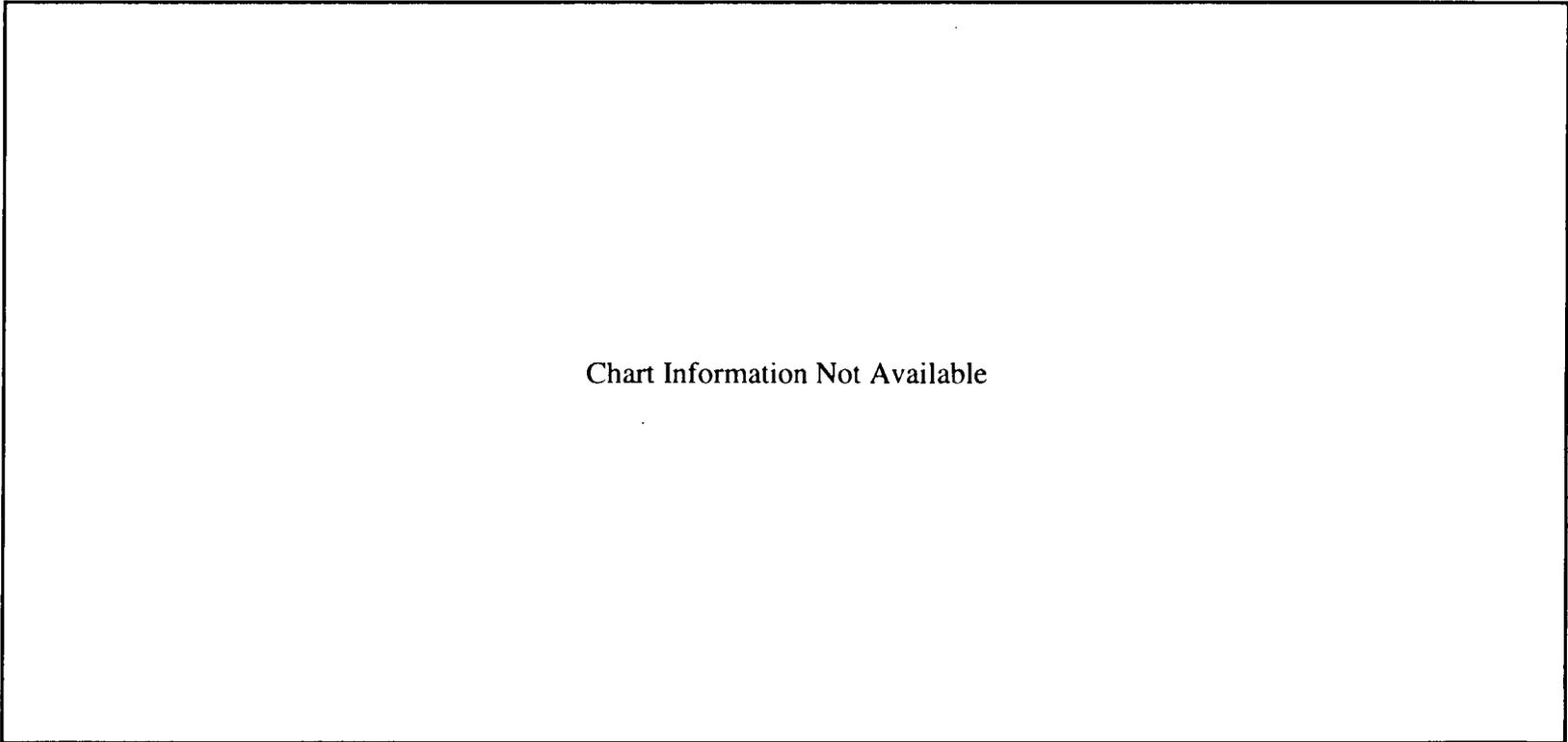


Figure 16. Program Quality Assurance CFSR

## 5. PROGRAM MANAGEMENT AND INTEGRATION REPORT

### HIGHLIGHTS

- Defined a plan and schedule to revise the OCRWM Program Approach baseline by mid-May. The plan and schedule were agreed to by OCRWM senior management. This revision will permit performance measurement of the Program/Project Office FY96 cost and schedule baselines and the FY96 Annual Work Plans.
- Prepared and delivered the draft baseline change proposal to incorporate DOE SNF into the OCRWM Program baseline.
- Prepared and delivered the "Acceptance Criteria for Commercial Spent Nuclear Fuel Canisters" preliminary draft. This draft satisfies RW-1 Action Item AT96-1-00018 and will be used to support the transportation initiative.
- Delivered M&O fully coordinated OCRWM Planning and Control System Description and revised OCRWM Baseline Management Plan that, together with the already delivered Program Management Plan, complete three of the four overarching Strategic System management process documents. The Integrated Technical Management Plan, scheduled to be completed by the DOE this summer, will complete the set. These documents provide the basis for the OCRWM developed policy that, when complete, will provide vertically and horizontally consistent management processes.
- Prepared and delivered the Technical Document Preparation Plan for the CRWMS Requirements Document. This plan provides the necessary direction to initiate streamlining the CRWMS technical baseline.
- Reached M&O-wide agreement to implement Phase 3 of the Configuration Information System beginning in June 1996.
- Reached agreement with DOE on the content and schedule for the first Strategic System Summary Status Report based on March data.
- Delivered a request for NRC determination to exempt vitrified high-level waste canisters from the double containment requirements of 10 CFR 71.63(b) for OCRWM action.
- Provided input to RW-36 for the Part 960 "Preamble" to describe the rationale for changes to the rule at this point in the program. Provided the draft "Background" and "Description of Proposed Action" sections for the Notice of Proposed Rulemaking.
- Provided detailed CRWMS Total System Life-Cycle Cost estimates for transportation of HLW and SNF from Savannah River.
- Relocated the offices of the Assistant General Manager and some key staff from Vienna to 600 Maryland Avenue

## **PERFORMANCE DATA**

- Figures 17 through 19 represent key financial information for Program Management and Integration. Figure 20 will be a CFSR for Program Management and Integration in future monthly reports.

## **ISSUES AND CONCERNS**

- Evaluating a potential additional liability against the Program Integration budget due to teammate termination costs. Negotiations with the teammates will determine whether a liability to cover these costs might lead to an overrun.
- Challenges for coming months will be the transition to an organization consolidating our resources to focus on specifically defined work products required by separate OCRWM divisions, completing the destaffing required by the reprogramming to make funds available for the interim storage facility Topical Safety Analysis Report (TSAR), and continuing to meet the schedule for deliverables.

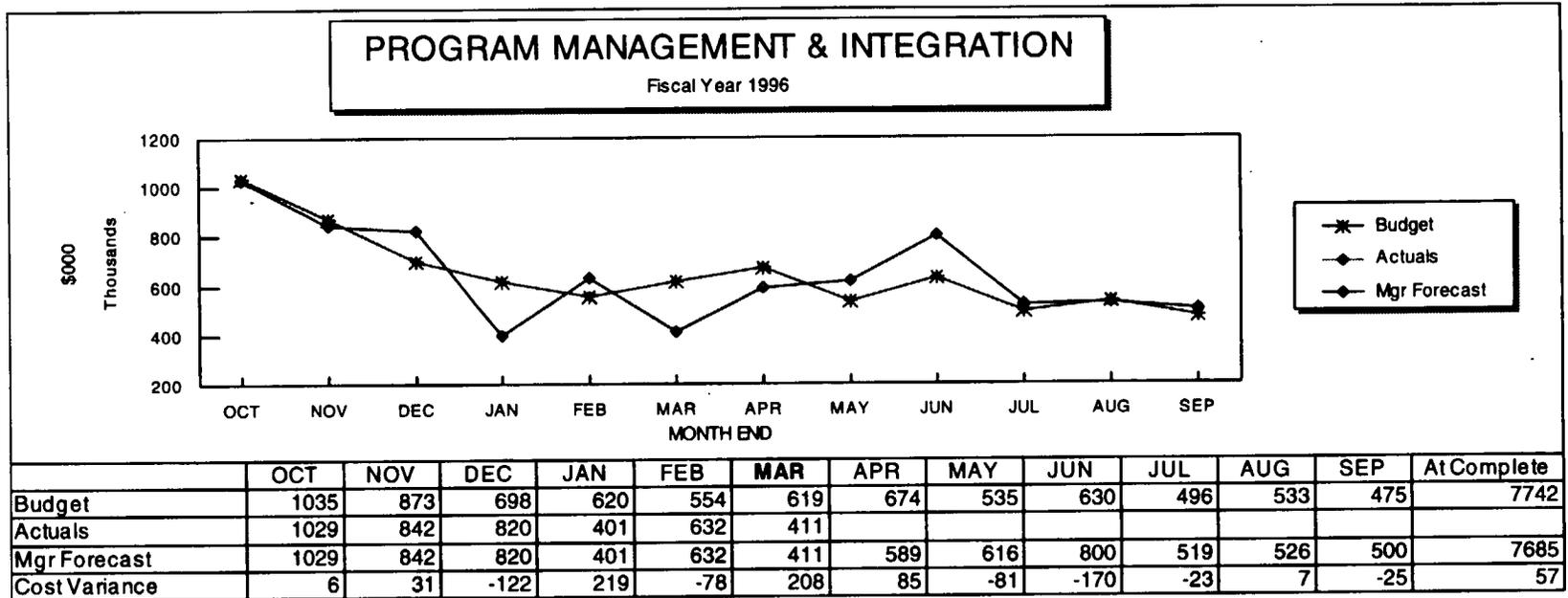


Figure 17. Program Management and Integration Financial Status (for M&O only)

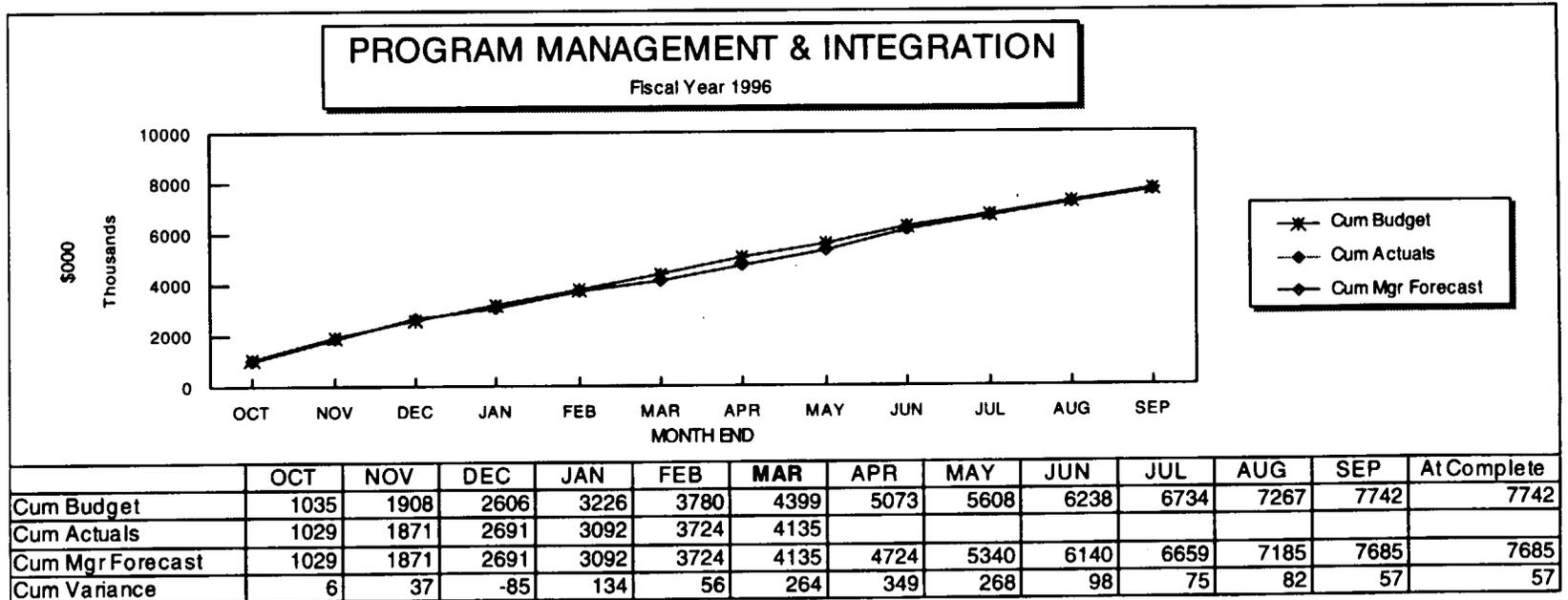


Figure 18. Program Management and Integration Cumulative Financial Status (for M&O only)

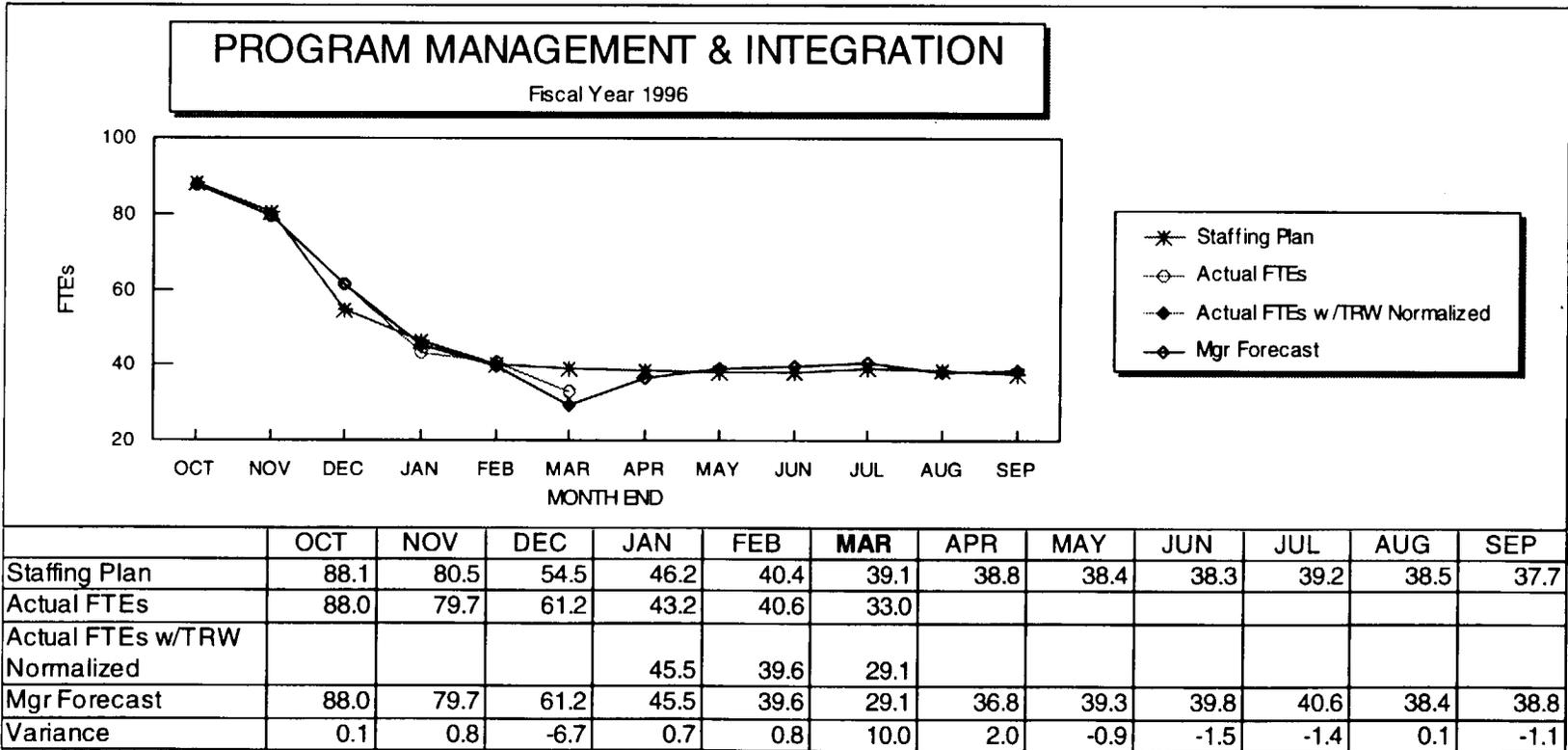


Figure 19. Program Management and Integration Staffing (for M&O only)

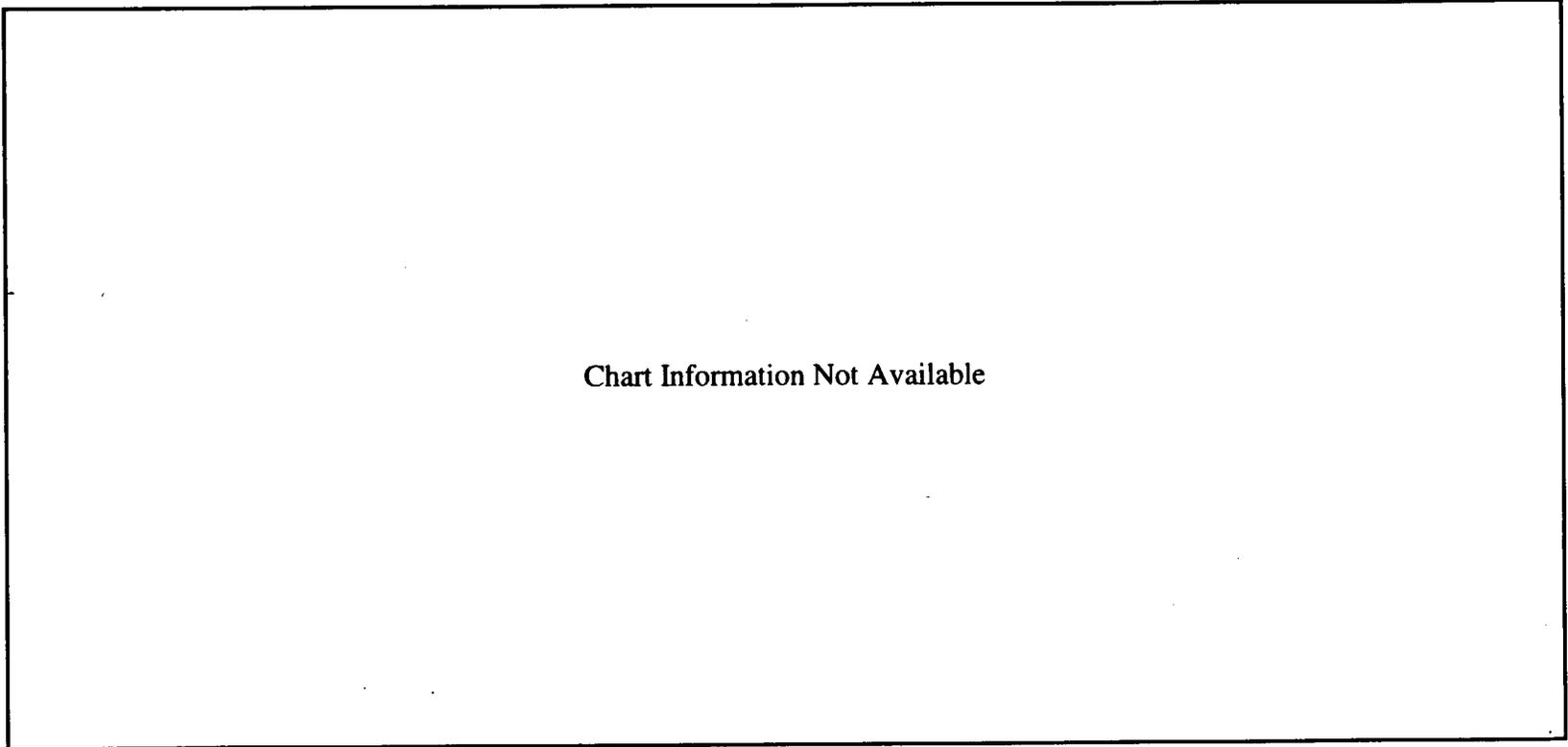


Figure 20. Program Management and Integration CFSR

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## **6. HUMAN RELATIONS AND ADMINISTRATION REPORT**

### **HIGHLIGHTS**

- Developed an electronic version of the OCRWM Program Records Retention Schedules (OPRRS) and distributed it to M&O employees and OCRWM representatives. This read-only Lotus Notes database allows all users to easily determine the disposition schedule of any record.
- Delivered the DOE Unicall Crosscut Long-Range Plan in electronic format ahead of schedule on March 29, 1996.

### **PERFORMANCE DATA**

- Figures 21 through 23 represent key financial information for Human Relations and Administration. Figure 24 will be a CFSR for Human Relations and Administration in future monthly reports.

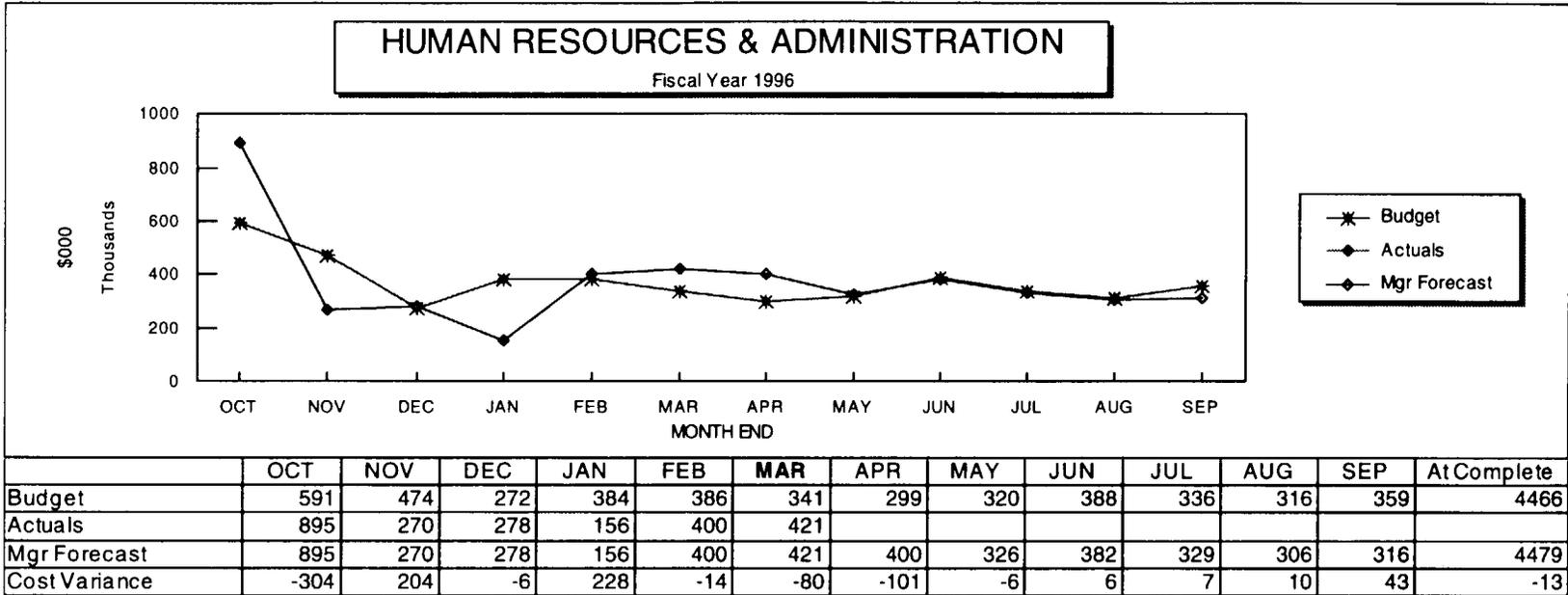


Figure 21. Human Resources and Administration Financial Status (for M&O only)

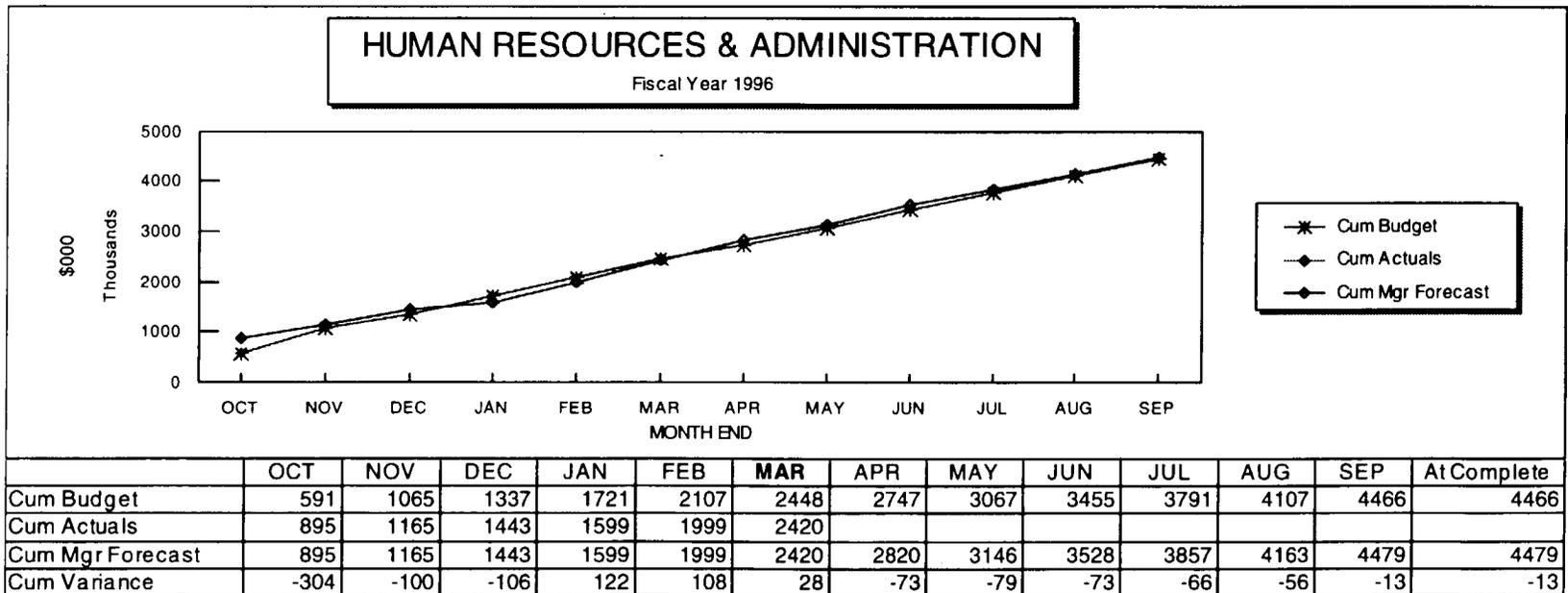


Figure 22. Human Resources and Administration Cumulative Financial Status (for M&O only)

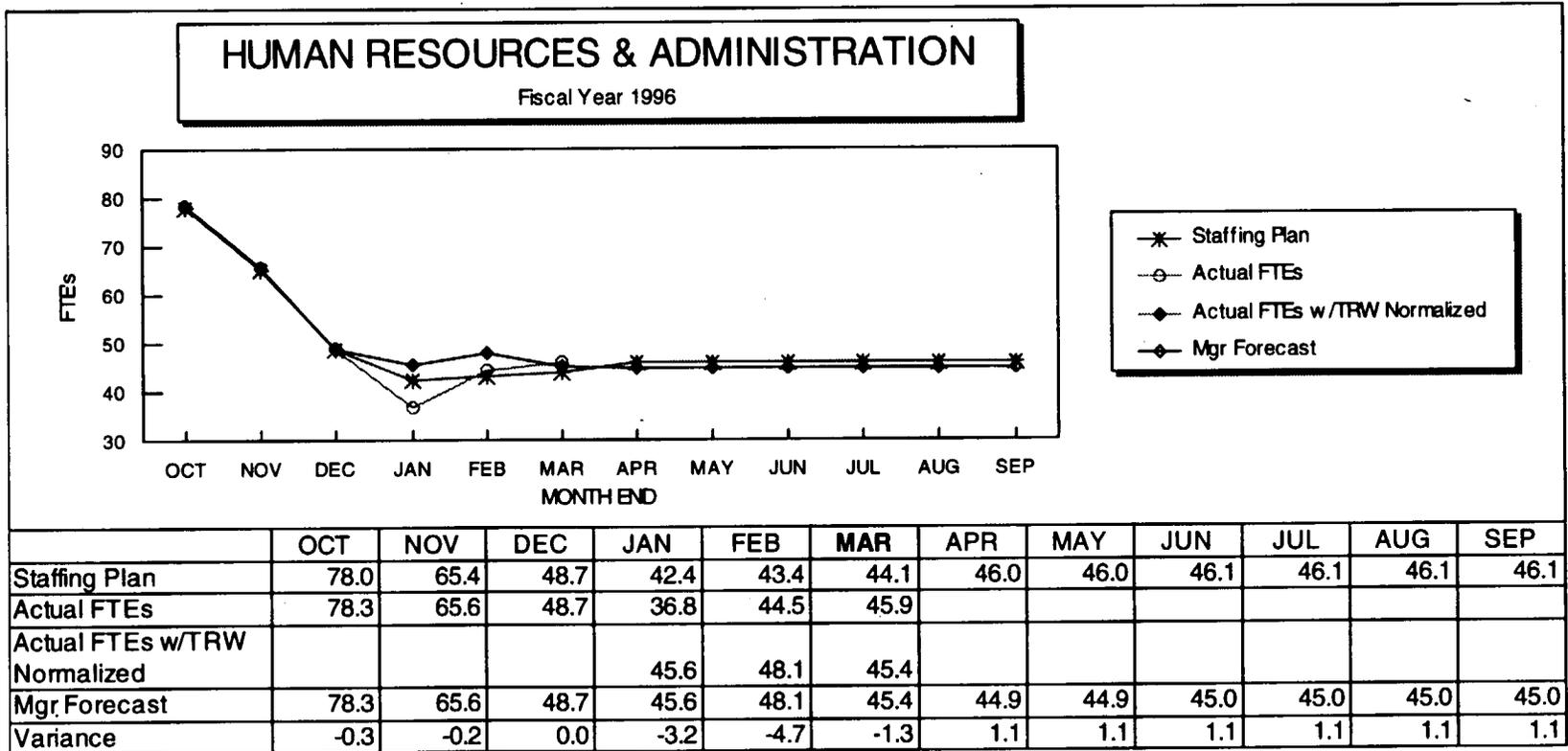


Figure 23. Human Resources and Administration Staffing (for M&O only)

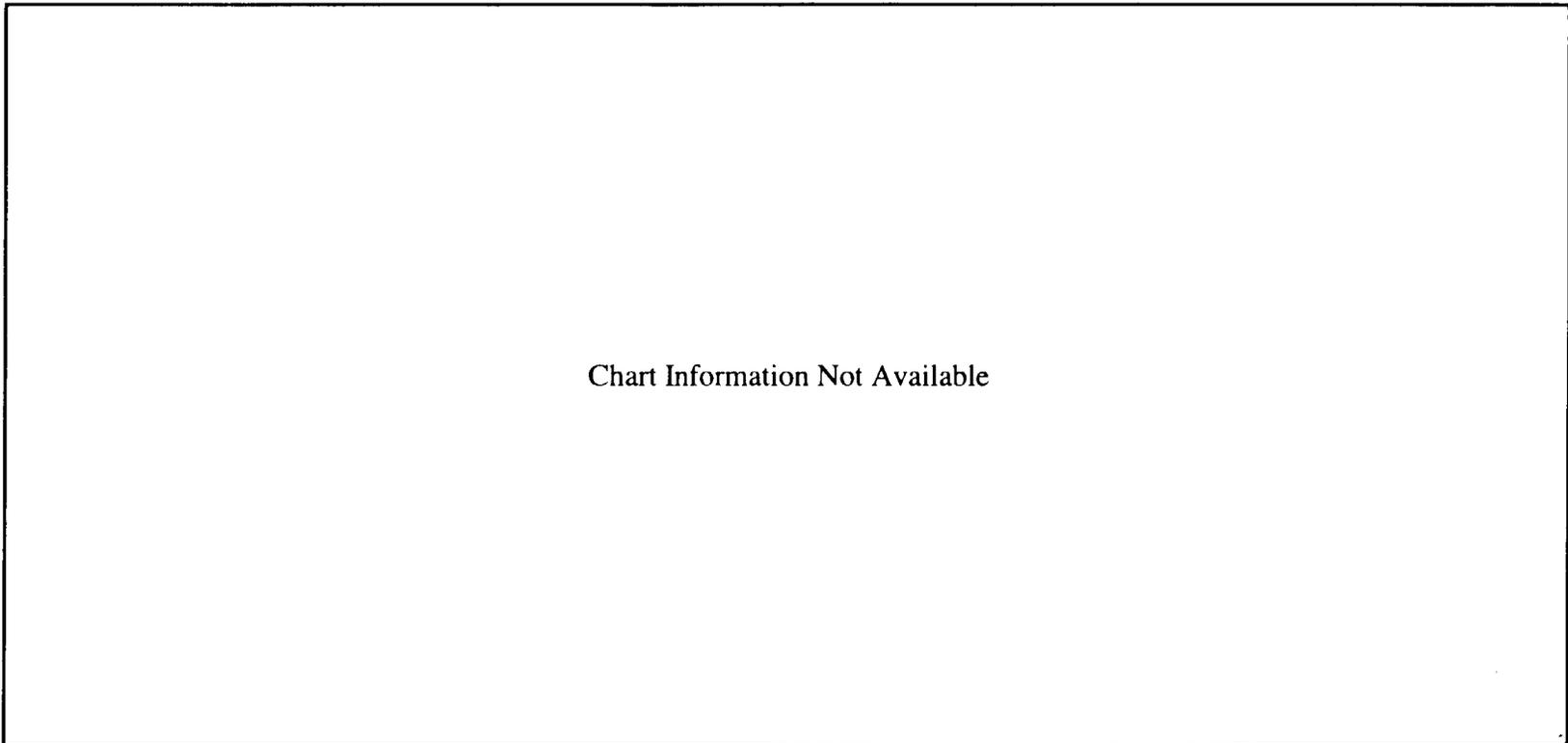


Figure 24. Human Resources and Administration CFSR

## **7. REPOSITORY ANALYSIS FOR PLUTONIUM DISPOSITION REPORT**

### **HIGHLIGHTS**

- DOE Procurement released funding for the FY96 effort on plutonium disposition. Submitted a work authorization directive for incremental scope and funding (\$325K) to RW.
- Delivered the "Report on Evaluation of Plutonium Waste Forms for Repository Disposal" ahead of schedule.

### **PERFORMANCE DATA**

- Figures 25 through 27 represent key financial information for Repository and Analysis for Plutonium Disposition. Figure 28 will be a CFSR for Repository and Analysis for Plutonium Disposition in future monthly reports

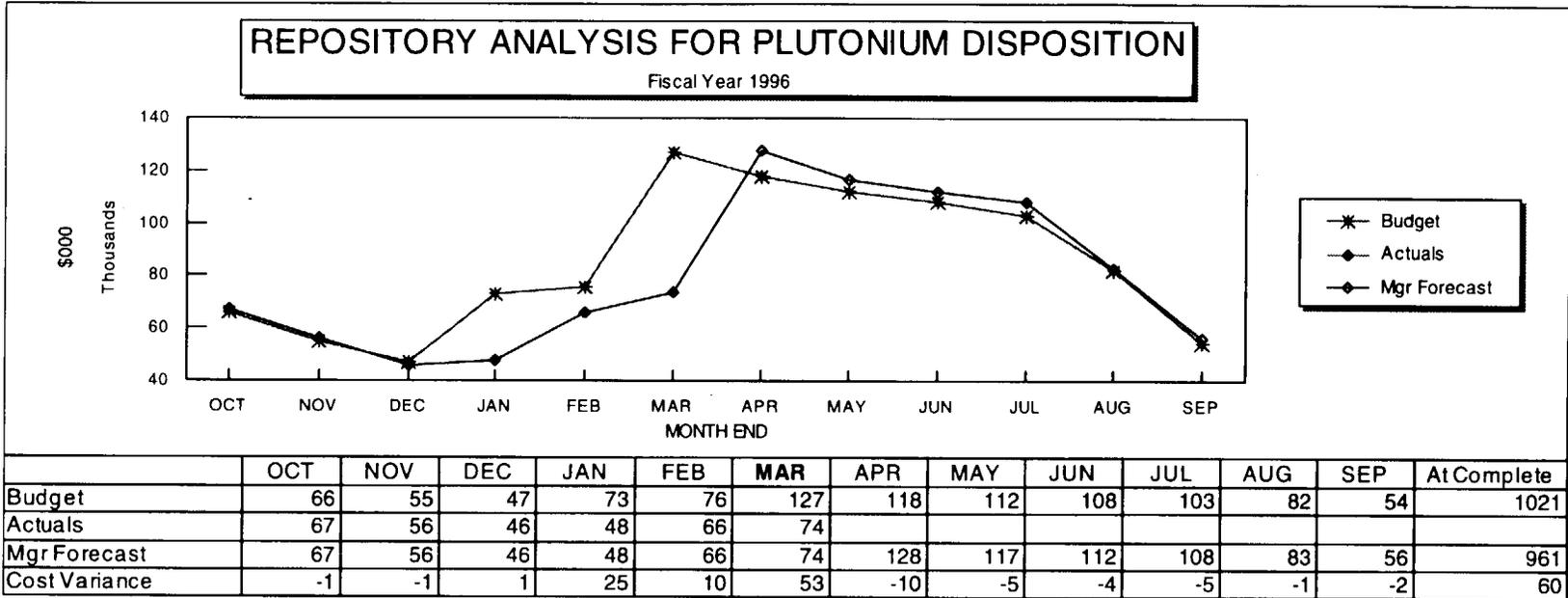


Figure 25. Repository Analysis for Plutonium Disposition Financial Status (for M&O only)

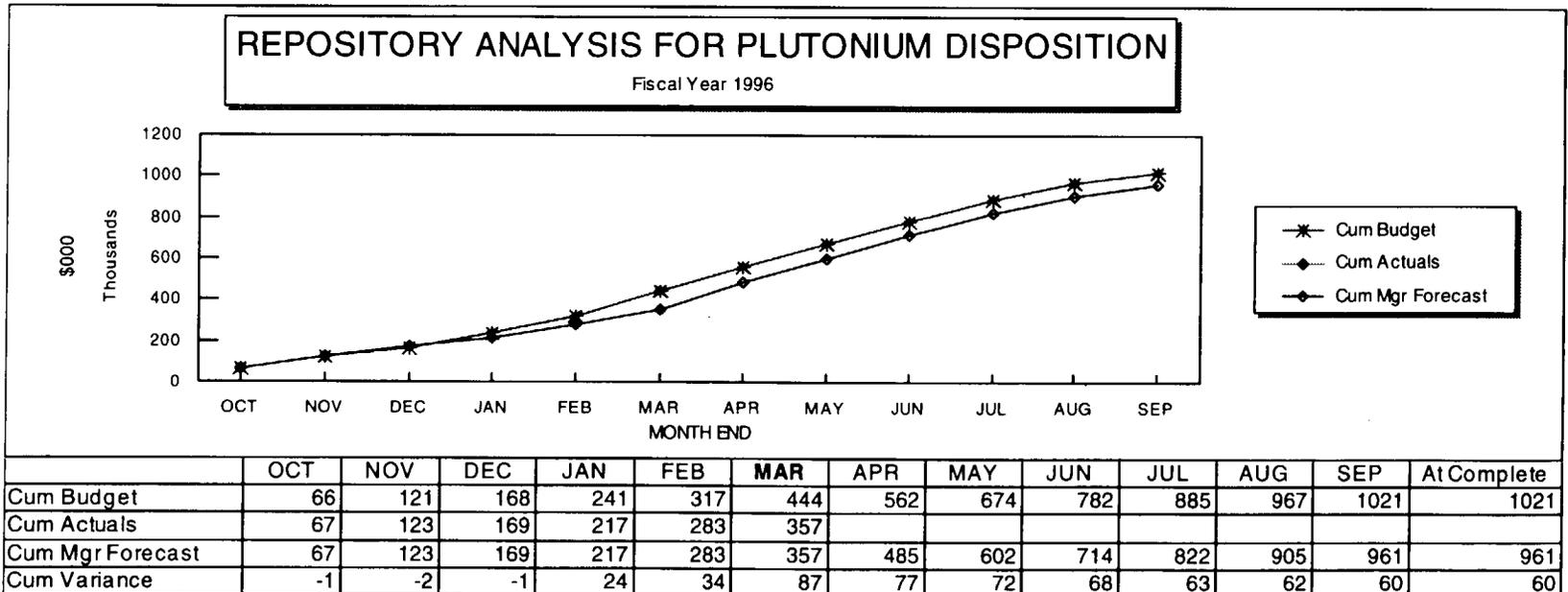


Figure 26. Repository Analysis for Plutonium Disposition Cumulative Financial Status (for M&O only)

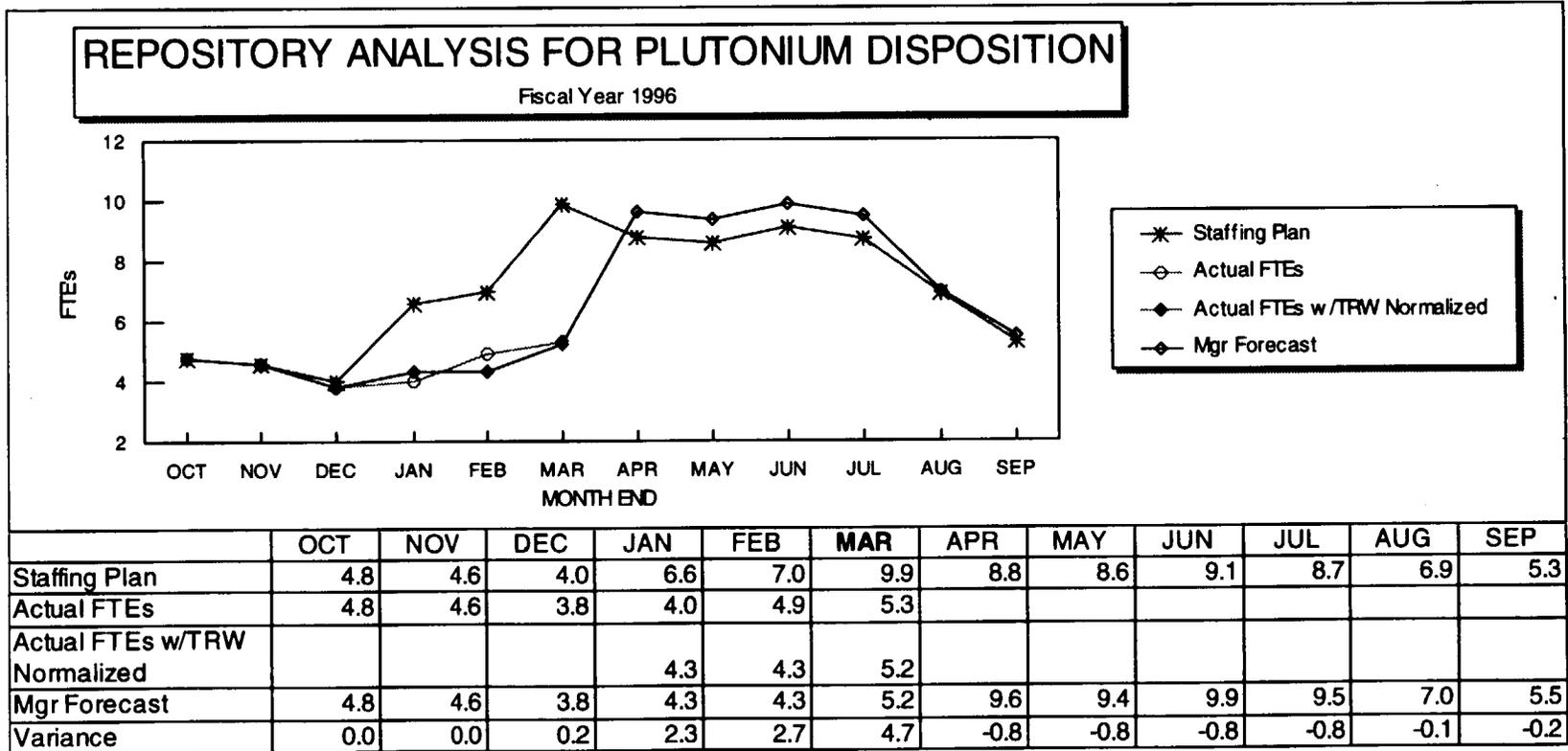


Figure 27. Repository Analysis for Plutonium Disposition Staffing (for M&O only)

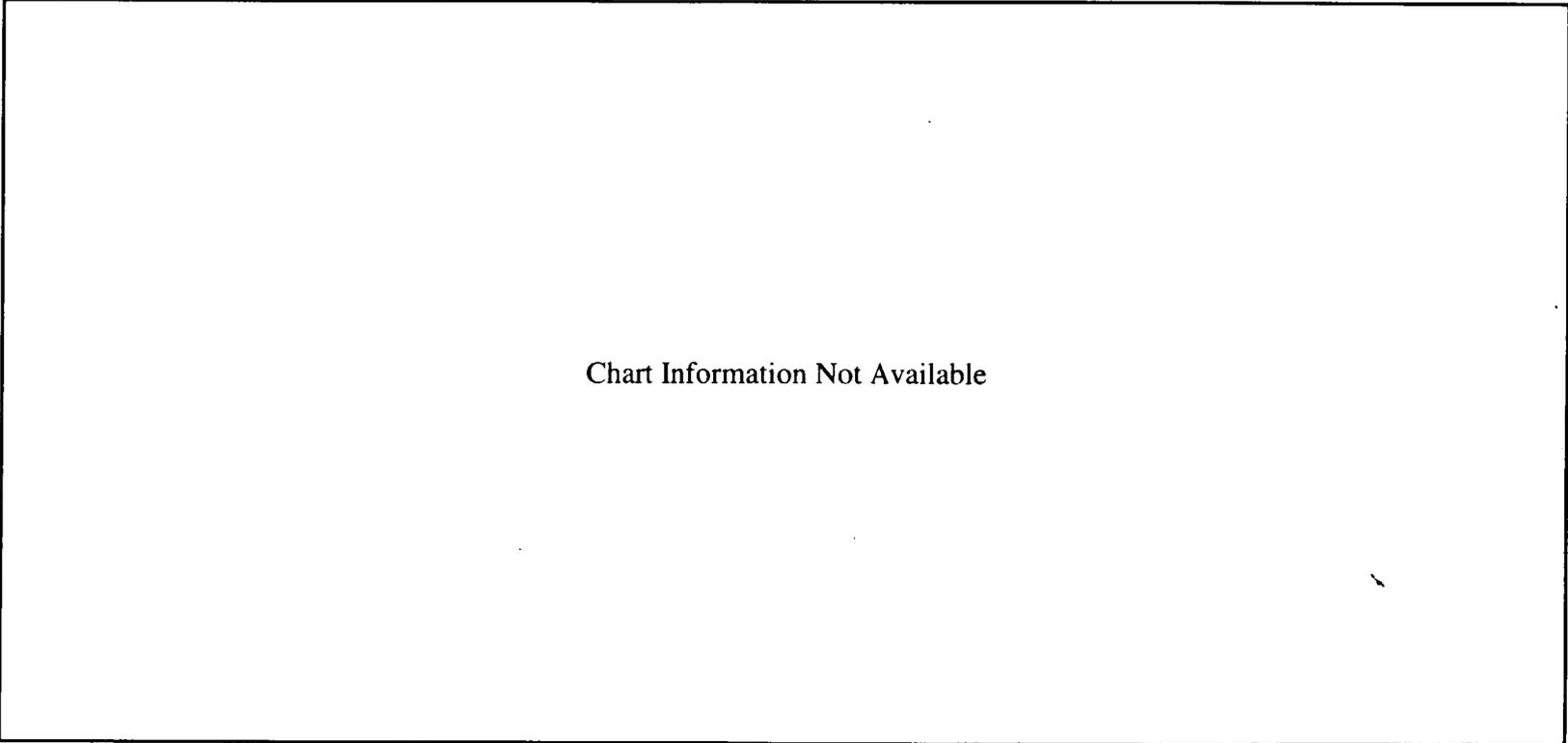


Chart Information Not Available

Figure 28. Repository Analysis for Plutonium Disposition CFSR