



OFFICE OF INSPECTOR GENERAL

MEMORANDUM

DATE: September 12, 2003

TO: Chairman

FROM: Inspector General

SUBJECT: Report on Audit of Auctions IT Capital Investment Practices

The Office of Inspector General (OIG) has completed an audit of Auctions information technology (IT) capital investment practices. A copy of our Audit Report, entitled "Audit of Auctions Information Technology Capital Investment Practices" (Audit Report No. 02-AUD-03-12), is attached. The objectives of this audit were to identify factors contributing to the rise in Auctions fiscal year (FY) program costs and to assess the Federal Communications Commission's (FCC or Commission) information technology (IT) capital investment practices for managing the Auctions program.

To accomplish these objectives, we contracted with the public accounting firm of KPMG, LLP (KPMG). Under our supervision, KPMG developed an audit plan that was designed to measure these objectives. They included the identification of IT costs attributable to Auctions and the factors contributing to the increase in these costs during the period reviewed. Finally, KPMG evaluated the effectiveness of the Commission's IT capital investment practices.

Our audit indicates that Auctions program expenditures for the period of FY1997 to FY2003; indicate that expenditures have increased at an average rate of 28.61% per year over that period.

Spending related to IT, primarily contractor services, has driven the increases. Other significant drivers have been non-IT related costs for direct and indirect FCC facility and personnel costs.

The audit identified several areas for FCC management to consider that may result in the increased effectiveness of the management of Auctions program costs and FCC IT spending.

- Reevaluate Auctions Funding Justifications for Major FCC Systems: A number of FCC computer applications have not their Auctions budget funding percentages reviewed, despite changing conditions. They include the Universal Licensing System (ULS) and

the Revenue Accounting & Management Information System (RAMIS).

- Establish an Effective Capital Investment Program: The FCC does not have an effective capital investment program. This violates federal laws and regulations such as the Clinger-Cohen Act and OMB Circular A-130. Also, an ineffective capital investment program creates an environment where purchases of duplicate IT hardware can occur.

In particular, the Wireless Telecommunications Bureau (WTB) and the Information Technology Center (ITC) both independently budgeted for and purchased four (4) storage area networks (SANs) at a cost of \$5,210,000. By purchasing one SAN to support FCC headquarters operations, the Commission could possibly have reduced these expenditures by approximately \$1,760,000. Also, before ITC spends an additional \$500,000 on a SAN in Gettysburg, both ITC and WTB should study and formally report upon the feasibility and cost effectiveness of using WTB's existing Gettysburg SAN for contingency planning. This would increase the potential unrealized cost savings to \$2,260,000.

- Use Consistent Auctions Cost Accounting Methods: FCC management needs to determine the most appropriate cost accounting method for calculating Auctions program rental/leasing costs across FCC facilities. Once determined, the most appropriate method should be consistently used on rental/leasing costs.

This audit had one finding, that the Commission did not consistently implement a formal, documented IT capital planning process. Management agreed in part with the finding and concurred with the recommendation. Appendix 6 reproduces management's comments in their entirety. Appendix 7 contains the OIG response to those comments.

If you have any questions, please contact Thomas Cline, Assistant Inspector General for Audits, at (202) 418-7890.



H. Walker Feaster III
Inspector General

Attachment

cc: Managing Director
Chief, Wireless Telecommunications Bureau
Auction and Industry Analysis Division, WTB
Chief Information Officer
AMD-PERM

Federal Communications Commission Office of Inspector General



Report on Audit of Auctions Information Technology Capital Investment Practices

**Report No. 02-AUD-03-12
September 12, 2003**

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EXECUTIVE SUMMARY

Summary of Audit

Upon receiving the FY2002 Auctions program budget request, the Office of Management and Budget (OMB) noted, “...we have concerns about the growth in auctions costs, which have increased about 30 percent a year over the past several years¹.” As a result, the Office of Inspector General (OIG) was requested to review Auctions program expenditures.

The primary objectives of this audit were to identify factors contributing to the continual rise in Auctions fiscal year program costs and to assess the Federal Communications Commission’s (FCC or Commission) information technology (IT) capital investment practices for managing the Auctions program.

The scope of the audit included a review of the Auctions program expenditures from fiscal year (FY) 1994 through FY2002 and Auctions budget requests from FY1994 through FY2003. The audit was inclusive of all Auctions program costs, regardless of the Auctions funding source (i.e., Credit Reform funds, Carryover funds, and Auctions fund 54). Our review of factors affecting the costs of the Auctions program was limited to factors that were considered to be material in nature. Because IT investment practices affected the amount of expenditures, the scope was expanded to include the Commission’s IT capital investment program. The scope of work did not include an assessment of the cost accounting methodologies utilized to allocate overhead and did not include an assessment of the expenditures for accuracy. Audit fieldwork was conducted at the FCC’s Portals facility in Washington, D.C. from October 11, 2002 through April 4, 2003.

Review of Auctions Program Expenditures

To identify the factors contributing to the rising Auctions program costs, the audit team reviewed and analyzed Auctions fiscal year expenditure data, budget requests, and source purchasing documentation. Additionally, an audit survey was distributed to FCC Bureaus and Offices outside of the Wireless Telecommunications Bureau (WTB) to gain an understanding of their use and management of Auctions funds. The survey responses provided a high-level determination of the management of Auctions funds at the Bureau and Office level.

The amount of fiscal year Auctions receipts resulting from spectrum auctions has greatly fluctuated since the program’s inception in FY1994. The highest amount of fiscal year receipts occurred in FY1995 near the inception of the Auctions program. Approximately 80% of total receipts occurred between FY1995 and FY1997 and there were no receipts in FY2002. However, program expenditures for the period of FY1997 to FY2001, as reported in the Annual Expenditure Reports submitted to Congress, indicate that expenditures have increased at an average rate of 31.91% per year over the period.

¹ Office of Management and Budget Memorandum, dated November 8, 2001: [FCC Apportionment](#)

Inclusion of FY2002 obligations and FY2003 budgeted costs indicate that on average program costs will continue to increase at a rate of 28.61% per year since FY1997.

Our audit indicates that spending related to IT, primarily contractor services, have driven the increases in Auctions program costs between FY1999 through FY2002. Other significant drivers have been non-IT related costs for direct and indirect FCC facility and personnel costs. During the period of FY1997 through FY2002, the largest increases in Auctions program costs, in order of contribution, were found to be related to expenditure classes for contracted services, personnel compensation and benefits, equipment, and rent, communications, and utilities.

The audit observed several areas where the management effectiveness for Auctions program costs could be improved. These are:

- **Reevaluate Auctions Funding Justifications for Major FCC Systems:** A number of FCC computer applications have not had their Auctions budget funding percentages reviewed, despite changing conditions. For example, the Universal Licensing System (ULS) is funded with 90% auctions funds. This guidance does not consider the percentage of auctionable vs. non-auctionable applications/transactions processed by ULS. Nor does the percentage reflect current FCC spectrum usage policy, as stated in the Spectrum Policy Task Force report dated November 15, 2002. Similarly, the Revenue Accounting & Management Information System (RAMIS) was initially funded with 100% auctions funds. Its auction funding percentage has not been reevaluated, even though the loan module, used to justify 100% funding, is not being utilized to manage the spectrum auction loan portfolio.
- **Use Consistent Auctions Cost Accounting Methods:** FCC management needs to determine the most appropriate cost accounting method for calculating Auctions program rental/leasing costs across FCC facilities. Once determined, the most appropriate method should be consistently used on rental/costs. This is not occurring. For example, shared security upgrades to the FCC's Gettysburg building were charged 100% to Auctions. The FCC auctions overhead rate of 14% for shared services was not used. This increased rent expenditures for Gettysburg that were charged to Auctions rose from \$38,596 in FY 2001 to \$1,787,713 in FY 2002.
- **Establish an Effective Capital Investment Program:** The FCC does not have an effective capital investment program. This violates federal laws and regulations such as the Clinger-Cohen Act and OMB Circular A-130. Also, an ineffective capital investment program creates an environment where purchases of duplicate IT hardware can occur.

For example, WTB and ITC both independently budgeted for and purchased storage area networks (SANs) for the FCC. The two groups budgeted and/or spent \$5,210,000 on four SAN computer systems. By purchasing one SAN to support FCC headquarters operations, the Commission could possibly have

reduced these expenditures by approximately \$1,760,000. Also, before ITC spends an additional \$500,000 on a SAN in Gettysburg, both ITC and WTB should jointly study and formally report upon the feasibility and cost effectiveness of using WTB's existing Gettysburg SAN for contingency planning. This may be practical since the Commission is eliminating the Novell operating system, a major stumbling block to sharing the SANs. The potential unrealized cost savings could total \$2,260,000.

Outside of the original ITC requirement for compatibility with Novell NetWare, the requirements cited by WTB and ITC do not appear to have differed enough to preclude a shared technology. ITC noted in preliminary comments to the Draft Report that it considers the ITC SAN to have the potential capability to support the entire Commission infrastructure. An effective capital investment program could have identified potential duplications. This could have resulted in the use of a shared technology with a corresponding significant reduction in expenditures.

This audit had one finding, that the Commission did not consistently implement a formal, documented IT capital planning process. Management agreed in part with the finding and concurred with the recommendation. Appendix 6 reproduces management's comments in their entirety. Appendix 7 contains the OIG response to those comments.

***Review of IT
Capital
Investment
Practices***

The audit's scope also included the Commission's IT capital investment practices, specifically as they relate to management of the Auctions program. Processes and procedures were assessed against federal guidelines developed by entities such as OMB, the Government Accounting Office (GAO), and other Federal IT capital planning best practices. Additionally, information gathered from key FCC personnel was used to assess the Commission's past, present, and future IT capital investment practices.

The FCC has taken positive steps towards improving its management of IT capital investments. However, the Commission as a whole has not consistently implemented formal, documented IT capital planning processes and procedures with defined criteria for the selection, control, and evaluation of investments. Also current IT capital planning processes and procedures, do not fully comply with applicable laws and regulations, including the Clinger-Cohen Act and OMB Circular A-130. The \$2,260,000 potential unrealized cost savings for the SANs can be directly attributed to the FCC's ineffective capital investment process.

Therefore, to better manage Commission IT investments, we recommend that the FCC develop an effective IT capital investment program. The Commission's capital investment program would manage all of the Commission's IT investments, including Auctions expenditures. It would comply with all relevant laws and regulations and include an executive oversight board that would approve all IT capital expenditures of \$1,000,000 or more. Finally, the CPIC guide should be reviewed and commented upon by all applicable stakeholders, including the Chief of Staff and the Commission's other Bureaus and Offices. This will help insure agency-wide support and adoption of the guidance once implemented.

Implementation of the above recommendations should result in uniform, centralized procedures for the selection, control, and evaluation of its IT investments. An effective capital investment program can also help identify duplicate IT capital expenditures, such as the \$5,210,000 investment of the four (4) SANs.

AUDIT BACKGROUND

Audit Objective, Scope, and Methodology

Audit Objective

The primary objectives of this audit were to identify factors contributing to the continual rise in Auctions fiscal year (FY) program costs and to assess the Federal Communications Commission's (FCC or Commission) information technology (IT) capital investment practices for managing the Auctions program. Upon receiving the FY2002 Auctions program budget request, the Office of Management and Budget (OMB) noted, "...we have concerns about the growth in auctions costs, which have increased about 30 percent a year over the past several years¹." OMB also expressed concern that non-Auctions groups were obtaining benefits from initiatives fully funded with Auctions funds, including the financial statement audit and the Universal Licensing System (ULS). As a result, OMB requested the Office of Inspector General (OIG) to review Auctions program expenditures. The OIG then engaged KPMG, LLP to perform the audit and issue a report of its determinations, observations, and findings, if any.

The specific objectives of the audit, as outlined in the task order, were to:

1. Obtain an understanding of the FCC's Auctions program and the Auctions IT infrastructure;
2. Examine IT spending in support of the Commission's Auctions program;
3. Evaluate the IT spending of the Auctions program;
 - a. Determine if costs of IT during the period can be directly linked to program accomplishments and mission requirements.
 - b. Identify other factors contributing to the increase in IT costs during the period. Determine the extent to which costs increases can be attributed to external factors (e.g. general increase in IT spending) or non-recurring factors (e.g. Year 2000).
4. Obtain an understanding of the Commission's IT capital investment program and practices, including the program for managing Auctions' IT investments; and
5. Evaluate the effectiveness of the Commission's IT capital investment program, particularly as it relates to Auctions investments, against best practices of IT capital investment in the Federal government.

Audit Scope

The scope of the audit included a review of the Auctions program expenditures from FY1994 through FY2002 and Auctions budget requests from FY1994 through FY2003. The original scope of the engagement called for the review of Auctions expenditures to cover the time period from FY1997 – FY2001. During the engagement entrance conference the Wireless Telecommunications Bureau (WTB) requested that the scope of the audit be extended back to FY1994 to provide a historical perspective of the Auctions program since inception. This recommendation was concurred to by the OIG and the

¹ Office of Management and Budget Memorandum, dated November 8, 2001: [FCC Apportionment](#)

original scope was revised to cover the time period of FY1994 – FY2001. FY2002 and FY2003 were also included in the scope of the audit because expenditure and budget data, respectively, for those years became available prior to the start of fieldwork. The audit scope included all Auctions program costs, regardless of the Auctions funding source (i.e., Credit Reform funds, Carryover funds, and Auctions fund 54).

The review of factors affecting the costs of the Auctions program was limited to factors that were considered to be material in nature. The scope of work did not include an assessment of the cost accounting methodologies utilized to allocate overhead and did not include an assessment of the expenditures for accuracy. For example, during the audit the scope of work for contracted services was reviewed, but a determination was not made as to what extent whether work being performed was in support of the Auctions program. Financial data prior to FY1999 was reviewed for the purpose of obtaining a historical perspective of the program. The audit focused on data from more recent fiscal years (FY1999 – FY2003), to identify those factors that have contributed to rising program costs. The FY1999 – FY2003 period was relative to the period in which OMB noted the approximate 30% growth in actual and projected Auctions program costs. Additionally, financial data regarding program costs was more consistently available in uniform formats that allowed comparison of fiscal year data and trend analysis during this period.

The audit's scope also included the Commission's IT capital investment practices, specifically as they relate to management of the Auctions program. Processes and procedures were assessed against federal guidelines developed by governing bodies such as OMB, the Government Accounting Office (GAO), and other Federal IT capital planning best practices. Additionally, information gathered from key FCC personnel was used to assess the Commission's past, present, and future IT capital investment practices.

Audit fieldwork was conducted at the FCC's Portals facility in Washington, D.C. from October 11, 2002 through April 4, 2003.

Audit Methodology

To identify the factors contributing to the rising Auctions program costs, the audit team reviewed and analyzed Auctions fiscal year expenditure data, budget requests, and source purchasing documentation.

Additionally, an audit survey was distributed to Bureaus and Offices outside of WTB to gain an understanding of their use and management of Auctions funds. The responses to the survey provided a high-level determination of the management of Auctions funds at the Bureau and Office level. While the survey results were used to identify areas of additional focus during the conduct of the audit, the data was not directly used to identify factors contributing to increased program costs.

KPMG reviewed the Commission's IT capital investment practices for compliance with established guidelines developed by OMB, GAO, and other Federal IT capital planning

best practices. Audit fieldwork consisted of interviewing key personnel and performing an analysis of policy and procedure documentation. An understanding of the procedures used to request and manage Auctions funds, both past and present, was obtained.

The Commission's IT capital investment practices were assessed against federal laws and directives, industry best practices, and policies and procedures of the agency that were relevant for the periods under review. Specific audit criteria included the following:

- OMB Circular A-94: Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs (October 29, 1992)
- OMB Evaluating Information Technology Investments (November 1995)
- OMB Circular A-130, Revised Transmittal 3: Management of Federal Information Resources (February 8, 1996)
- Clinger-Cohen Act of 1996 (August 8, 1996)
- GAO – Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Decision-making (February 1997)
- OMB Memo 97-02: Funding Information Systems Investments (October 25, 1996)
- CIO Council – First Practices (February 28, 1997)
- GAO – Information Technology Investment Management: An Overview of GAO's Assessment Framework (May 2000)
- GAO – Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity (May 2000)
- OMB Circular A-130, Revised Transmittal 4: Management of Federal Information Resources (November 28, 2000)
- OMB Memo 00-07: Incorporating and Funding Security in Information Systems Investments (February 28, 2000)
- OMB Circular A-11: Preparing and Submitting Budget Estimates (July 12, 1999 and subsequent fiscal year revisions)

AUCTIONS PROGRAM MANAGEMENT

Auctions Program Management, Funding, Receipts, and Costs

Management of Auctions Program

The Auctions & Industry Analysis Division (A&IAD) of the WTB is responsible for implementing the competitive bidding authority provided to the FCC and managing the spectrum auctions. The division, which is composed of the Auctions & Industry Analysis Division, Auctions Operations Branch, Auctions Automation Branch, and Auctions Expenditure

Management Branch, is responsible for all facets of the Auctions program.

Section 309(j)(8)(b) of Title 7, Chapter 5 of the United States Code, grants the FCC the authority to retain Auctions revenue to offset the cost of implementing the Auctions program. Since their issuance, there have not been any further legislative rulings that further clarify and define the costs that can be offset. In FY1996, the FCC published the *Auctions Cost Recovery Guidelines* which outline the Commission's understanding of retention authority language. The guidelines, which were updated in FY1999, identify and classify the types of costs that can be offset by Auctions proceeds.

Since FY1997, the FCC has been required to submit Annual Expenditure Reports to Congress to report Auctions program costs. The reports are a requirement for approval of the Agency's appropriated budget by Congress. Historically, the FCC has submitted the Annual Expenditure Reports in the fourth quarter of the fiscal year following the year for which costs are being reported. This in effect, creates a significant lapse in time between the end of fiscal year in which expenditures have been incurred and the availability of the data to Congress for review.

A more detailed description of management of the Auctions program can be found in Appendix 1 of this report (*Overview of the Auctions Program*).

Program Funding

Auctions budget requests submitted to OMB for FY1997 through FY2003 were obtained during the audit. The FY1997 and FY2003 Auctions program budget requests categorize estimated costs by budget object class codes (BOCC), which is consistent with the method used for collecting and reporting costs in the Annual Expenditure Reports submitted to Congress. However, budget estimates submitted in the FY1998 – FY2002 budget requests were segmented into agency-defined 'Auctions Reporting Categories', rather than BOCCs.

The following table and line graphs denote the funding amounts requested by the Commission to support the Auctions program for the period of FY1997 through FY2003. The data and graphs depict that the amount of funds requested each year has increased every year of the program since FY1998. In FY1998, the Commission identified that \$31.75M was required to support the Auctions program. In FY2003, the Commission

estimated that the funding required to support the program had risen to \$112.45M. The increase from FY1997 to FY2003 represents a seven-year increase of 247.03%. The greatest percentage of growth occurred between FY2000 and FY2001 at a rate of 47.12%. Figure 1 contains fiscal year budget request estimates and the percentage of increase over the previous year's budget request. The data is graphically illustrated in Figure 2.

	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003
Budget Request Amount	\$32,402,655	\$31,753,385	\$38,694,161	\$47,790,093	\$70,306,781	\$100,470,713	\$112,446,958
% Change from Previous Year	--	-2.00%	21.86%	23.51%	47.12%	42.90%	11.92%

Figure 1 – FY Auctions Program Budget Requests and Percentage Change

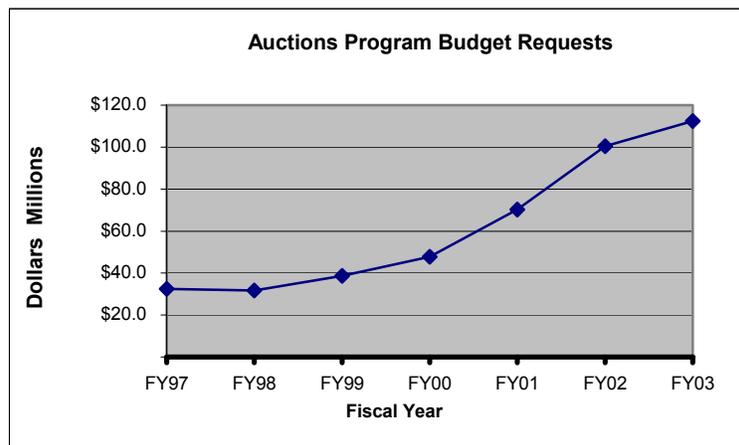


Figure 2 – FY Auctions Program Budget Request

Program Receipts

Subparagraph A of Section 309(j)(8) of the Omnibus Budget Reconciliation Act of 1993 states that all proceeds from the use of a competitive bidding system shall be deposited in the Treasury in accordance with Chapter 33 of Title 31, United States Code.

Auctions program receipts are those proceeds that are collected from completed auctions and transferred to the Treasury's general receipt fund. The first year in which receipts were transferred to Treasury was in FY1995 as a result of the initial spectrum auction conducted in July of 1994. According to FCC financial records, as of September 30, 2002, a total of \$14.41B had been transferred to Treasury's general receipt fund. The total amount of Treasury receipts for each fiscal year is indicated in Figure 3 and is graphically depicted in Figure 4. Figure 5 illustrates that total Auctions program expenditures have amounted to 2.6% of total receipts transferred to Treasury.

	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	Total
Auctions Receipts (Billions)	\$7.64	\$.23	\$3.53	\$.78	\$1.05	\$.15	\$1.02	\$0	\$14.41

Figure 3 – Auctions Program Fiscal Year Receipts

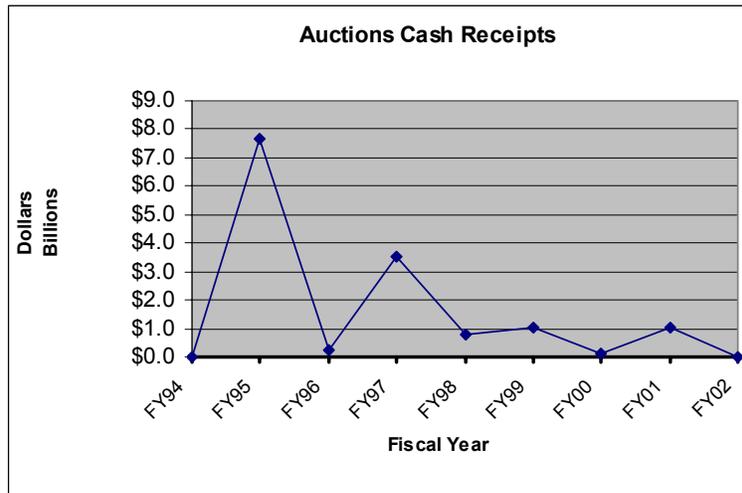


Figure 4 – FY Auctions Program Cash Receipts

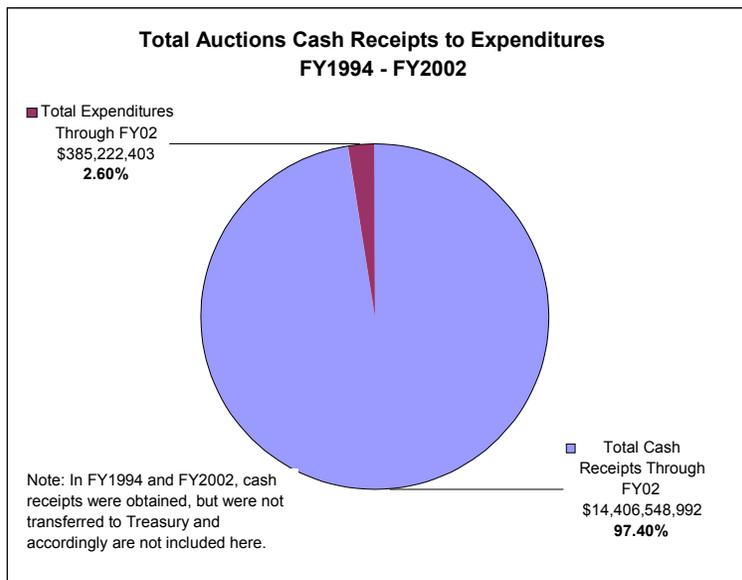


Figure 5 – Total Auctions Cash Receipts to Expenditures

The data demonstrates that fiscal year receipts have fluctuated greatly since the program's inception. Year to date, the transfer of the highest amount of receipts occurred in FY1995 at the inception of the Auctions program. Approximately 80% of total receipts occurred between FY1995 and FY1997. In FY2002, there were proceeds from spectrum auctions. However, none of these funds were transferred to the Treasury. The decision not to transfer funds was due to concerns that there could be a lack of sufficient

income to cover Auctions expenditures in the foreseeable future and the uncertainty of when future auctions would be conducted.

Program Costs

In accordance with Section 309(j)(8) of the Omnibus Budget Reconciliation Act of 1993, which amended the Communications Act of 1934, the Commission was given the authority to use auction proceeds to fund the cost of developing and implementing the auction program.

The Commission’s records of actual Auctions expenditures for the period of FY1997 to FY2001, as reported in the Annual Expenditure Reports submitted to Congress indicate that expenditures have increased at an average rate of 31.91% per year over the period. Inclusion of FY2002 obligations and FY2003 budgeted costs indicate that on average program costs will have increased at a rate of 28.61% per year since FY1997. Figures 6 and 7 provide illustrations of trends in Auctions program expenditures by fiscal year.

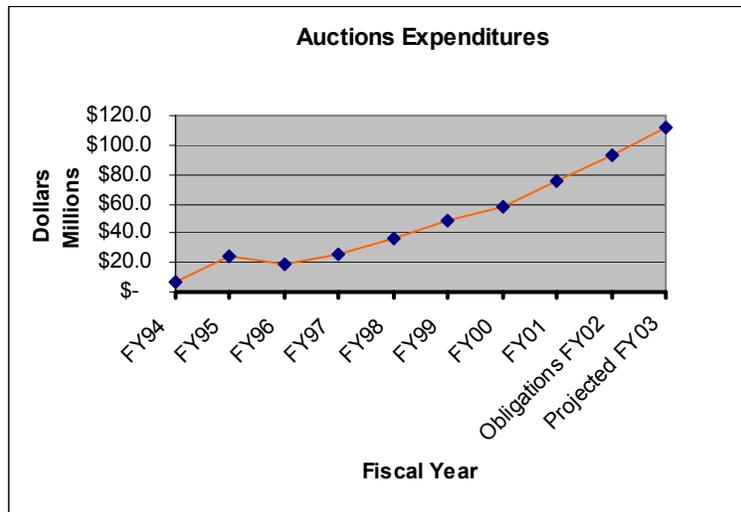


Figure 6 – FY Auctions Program Expenditures

	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002 (Obligations)	FY2003 (Projected)
% Change from Previous FY	240.56%	-23.16%	37.04%	43.84%	32.33%	20.46%	30.99%	23.86%	20.19%

Figure 7 – FY Percentage Change in Auctions Program Expenditures

Our audit identified that categorically, by BOCC, the greatest dollar amount increases have occurred in the following areas:

- ‘Contracts – Other Services’ (BOCC 2500)
- ‘Personnel Compensation’ (BOCC 1100) and ‘Personnel Benefits’ (BOCC 1200)

- 'Equipment' (BOCC 3100)
- 'Rent, Communications and Utilities' (BOCC 2300)

Figures 8 – 11 are pie charts that portray FY1999 – FY2002 expenditures by BOCC code.

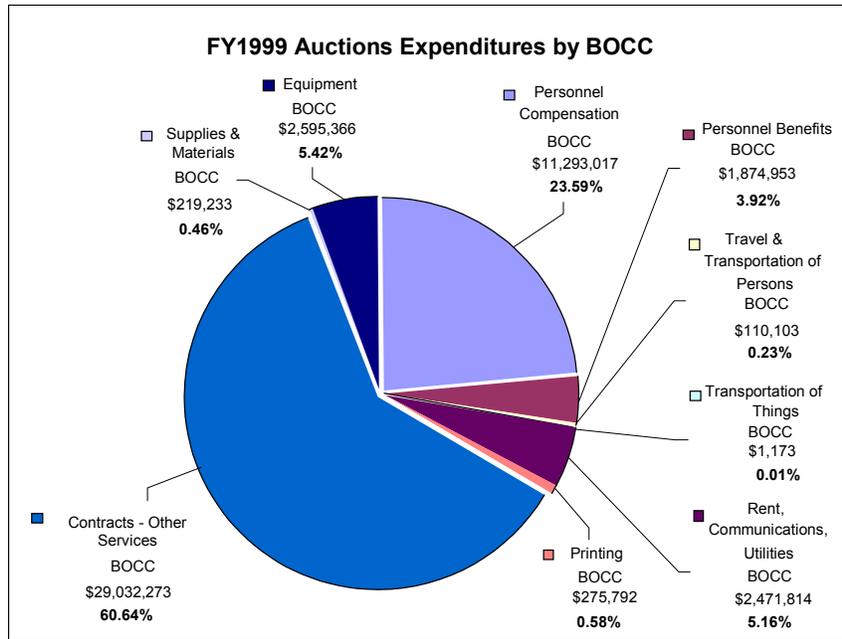


Figure 8 –FY1999 Auctions Program Expenditures by BOCC

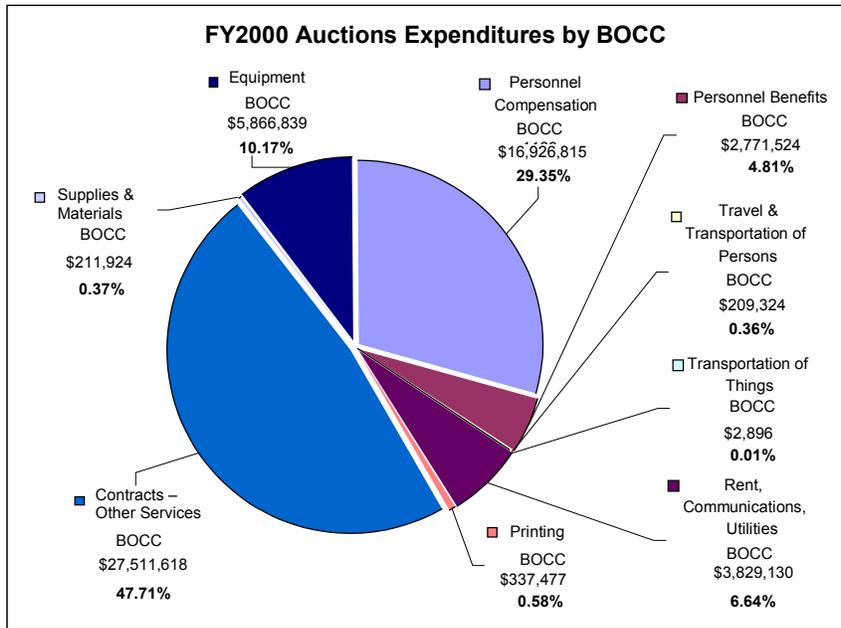


Figure 9 –FY2000 Auctions Program Expenditures by BOCC

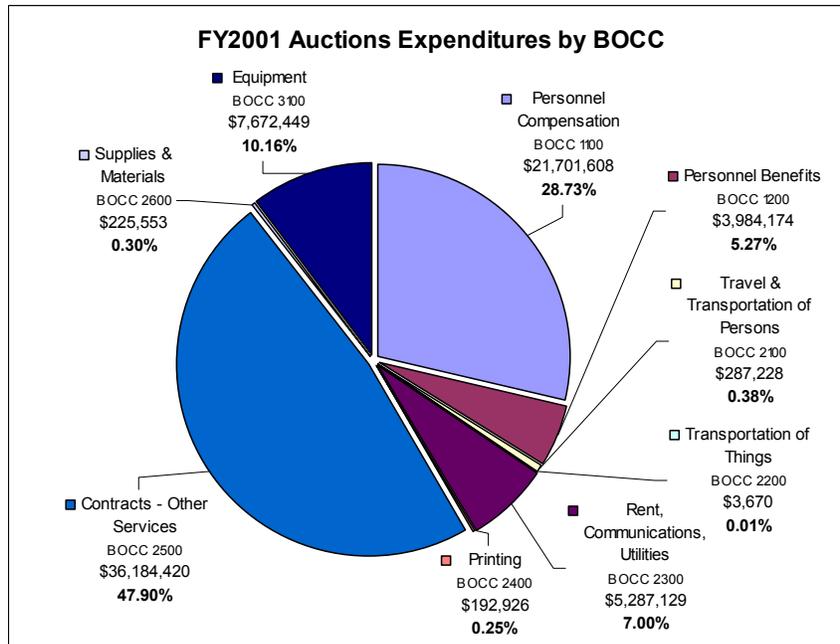


Figure 10 – FY2001 Auctions Program Expenditures by BOCC

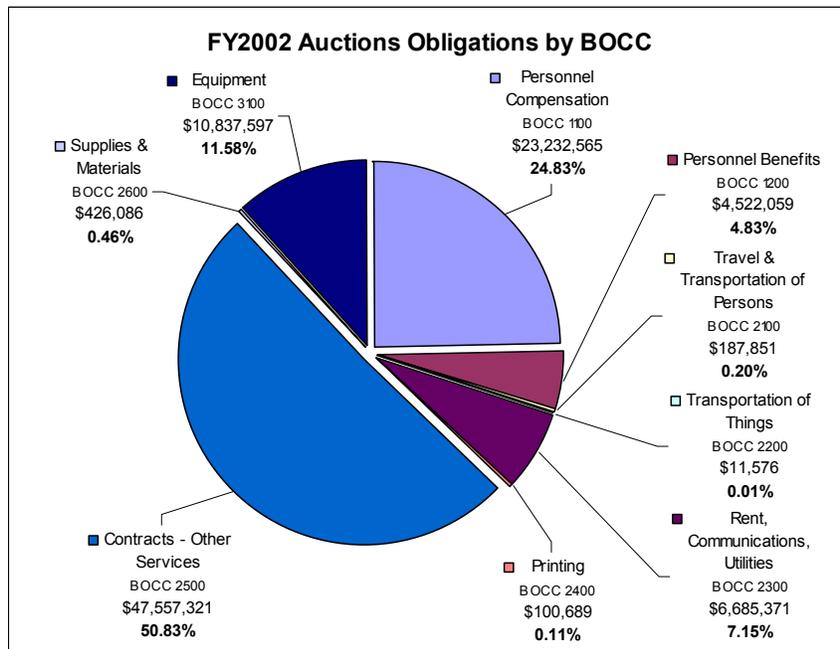


Figure 11 – FY2002 Auctions Program Obligations by BOCC

Allocation of Centralized Costs to the Auctions Program

Expenditures by BOCC include both direct costs and indirect costs for centralized services. During the examination of Auctions expenditures, it was determined that costs for centralized services, initially not charged to the Auctions program, are currently being allocated as overhead expenses to the program. In FY1999, the only centralized cost charged to the Auctions budget was rent. In recent fiscal years, an increasing number of services have been identified as centralized services that benefit all members of the Commission. Additionally in FY2002, a large number of services previously charged and tracked by individual bureaus were reorganized for centralized management under the fiscal responsibility of Administrative Operations and included as overhead costs. As a result, centralized serviced increased to \$13.43 million in FY2002, from \$3.98 million in FY2001. As of FY2003, centralized services costs added to the Auctions budget included:

- IT expenditures
- Metered mail
- Utilities
- Copiers
- Physical security contracts
- Security enhancements as a result of the September 11, 2001 terrorist attacks
- Facilities fees
- Security investigations
- Space repair
- Repair of office equipment and furniture
- Purchase of office furniture and other equipment.

Figure 12 summarizes the fiscal year overhead allocation rate, overhead costs, and percentage of increase in costs between FY1999 and FY2002, as well as the projected cost for FY2003:

Fiscal Year	Auctions Overhead Rate	Auctions Overhead Cost (\$M)	Percentage Increase from prior Fiscal Year
FY1999	8%	\$1.51M	--
FY2000	8.5%	\$2.53M	67.55%
FY2001	11%	\$3.98M	57.31%
FY2002	12%	\$13.43M	237.44%
FY2003	14%	\$13.95M	3.87%

Figure 12– FY1999-FY2003 Auctions Program Overhead Rates, Costs, and Percentage Change

The overhead rate used to allocate the costs for centralized services is calculated as the percentage of Auctions full-time equivalents (FTE) to the total number of FTEs Commission-wide, including the overhead distribution for leave. The rate is then applied to the full cost of the service to determine the portion to be funded by Auctions funds. Since FY1999, the number of Auctions FTEs has continued to comprise a growing percentage of the total number of Commission-wide FTEs. As a result, the overhead allocation rate has increased and a larger portion of the Commission’s centralized services being funded the Auctions program has increased.

RESULTS OF EXAMINATION OF AUCTIONS PROGRAM COSTS

This section of the report identifies the factors that have contributed to the increase in Auctions program costs since FY1999. Also provided in this section are recommendations for increased effective management of Auctions program costs.

Factors Contributing to the Increase in Auctions Program Costs

Spending related to IT, primarily expenditures for contractor services, has driven the rise in Auctions program costs between FY1999 through FY2002. Other significant drivers have been non-IT related costs for direct and in-direct FCC facility and personnel costs.

As discussed earlier in the report, fiscal year Auctions program costs are collected and reported by BOCC. For consistency and comparison purposes, this report discusses our analysis of costs by BOCC.

By BOCC, the largest increases in Auctions program costs, in order of contribution, occurred in the areas of Contracted Services (BOCC 2500), Personnel Compensation and Benefits (BOCC 1100 and BOCC 1200), Equipment (BOCC 3100), and Rent, Communications, and Utilities (BOCC 2300).

- Contracted Services (BOCC 2500)
The growth of costs in this expenditure class have resulted from an increased reliance on contractor services to implement, customize, enhance, and administer systems fully or partially funded by the Auctions program. Additionally, costs for non IT-related contractor services such as those used to manage the Spectrum Auction Loan Portfolio and conduct the financial statement audit have continued to rise.
- Personnel Compensation (BOCC 1100) and Benefits (BOCC 1200)
An increase in the number of FTEs reported as supporting the Auctions program has resulted in the growth of expenditures in this class. Reporting of time spent on Auctions-related work is believed to be more accurate, and as more services have become auctionable, more employees are performing Auctions-related work. The growth in FTEs has also resulted in higher overhead rates for costs allocated to the Auctions program for personnel benefits.
- Equipment (BOCC 3100)
Since its inception, the Auctions network environment has developed in complexity and size. Growth in this expenditure class, which captures expenditures for hardware, software, office furniture, and telecommunications equipment, has resulted from hardware and software purchases and enhancements for the upgrade of the Auctions IT environment. As with Contracted Services, growth has also resulted from purchases required to implement, customize, enhance, and administer systems fully or partially funded by the Auctions program.

- Rent, Communications, and Utilities (BOCC 2300)

The types and amount of indirect facilities costs have increased as the FCC has determined that the Auctions program should bear more of the costs for shared centralized services. The overhead rate used to allocate indirect costs has increased as the ratio of Auctions FTEs to total FTEs has increased. Costs in this class of expenses have also grown as a result of an increase in direct rental/leasing costs for additional space secured outside of the Washington, DC headquarters in the Portals I building. Renovation costs for the Portals I location and Gettysburg facility have also led to an increase in direct rental/leasing costs.

Contracts – Other Services (BOCC 2500)

Over the period of FY1999 to FY2002, the largest increase in Auctions program costs is attributable to contractor services. As indicated by Figure 13, between FY2000 and FY2002, contractor services for the Auctions program increased by an average of 31.48%. In FY2000, contractor services amounted to \$27.51M. In FY2002, the yearly cost had risen by \$20.05M to \$47.56M. Projected expenditures for contractor services in FY2003 were \$61.14M. Annual contractor services costs for FY1999 through FY2002, and the projection of FY2003 are illustrated by Figures 14 and 15.

FY1999 Auctions Total Contractor Services Costs (\$M)	FY2000 Auctions Total Contractor Services Costs (\$M)	FY2001 Auctions Total Contractor Services Costs (\$M)	FY2002 Auctions Total Contractor Services Costs (\$M)	Average Annual Percentage Increase from FY2000 to FY2002
\$29.0	\$27.51M	\$36.18M	\$47.56M	31.48%

Figure 13 – FY2000 - FY2002 Auctions Program Total Contractor Services Costs

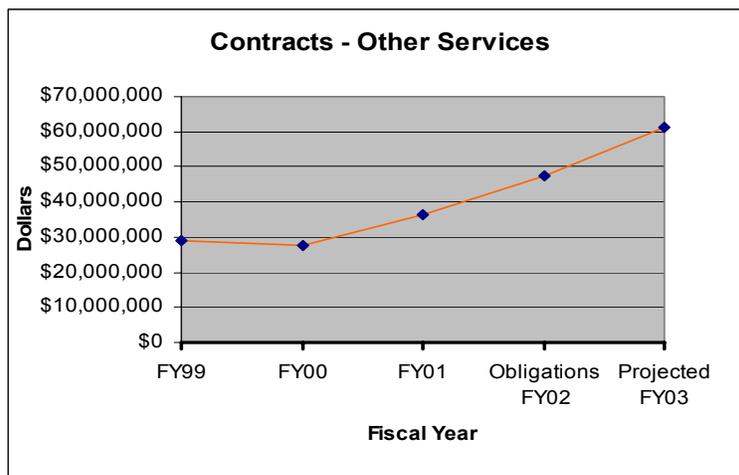


Figure 14 – FY1999 - FY2003 Contractor-Other Services Costs

	FY1999	FY2000	FY2001	FY2002 (Obligations)	FY2003 (Projected)
% Change from Previous FY	56.35%	-5.24%	31.52%	31.43%	28.57%

Figure 15 – FY Percentage Change in Auction Program Contracts – Other Services Costs

Factors Contributing to the Increased Costs

1. The Commission has become increasingly reliant upon higher levels of contractor staff for IT support of systems funded fully or partially by the Auctions program. The systems fully funded by Auctions include the following:
 - ✓ Automated Auction System (AAS);
 - ✓ Revenue Accounting & Management Information System (RAMIS); and
 - ✓ Commission’s Registration System (CORES).

ULS is funded 90% by the Auctions program. Additional systems receive partial funding, at various levels, from the Auctions program are the Electronic Document Management System (EDOCS), Consolidated Database System (CDBS), Collections, Canadian Co-Channel Serial Coordination Systems (COSER), Federal Financial System (FFS), and the Leave Distribution Reporting System (LDRS).

During the audit, the audit team examined a report of the Commission’s vendor expenditures. The report broke out each vendor’s costs by the amount attributed to the appropriated budget and the Auctions program budget. Of the ten (10) vendors that experienced the largest increase in Auction’s vendor expenditures from FY2001 to FY2002, seven (7) were IT-related vendors/service providers. Of these seven (7), one (1) was an equipment vendor. Expenses were incurred for five (5) of the six (6) IT service providers in both FY2001 and FY2002. Appendix 2 to this report provides a summary of the vendor data used during this analysis. A comparison of the total expenditures for the five (5) repeat IT service providers for FY2001 and FY2002 is summarized in Figure 16. *(Note: This data reflects the fiscal year in which expenditures were incurred, rather than the year that services were rendered.)*

FY2001 Auctions Expenditures to Five (5) Recurring IT Vendors/Service Providers Experiencing Largest Increase (\$M)	FY2002 Auctions Expenditures to Five (5) Recurring IT Vendors/Service Providers Experiencing Largest Increase (\$M)	\$ Increase from FY2001 to FY2002 (\$M)	Percentage Increase from FY2001 to FY2002
\$11.36M	\$23.89M	\$12.53M	110.30%

Figure 16 – FY2001-FY2002 Costs for Top 5 Recurring IT Vendors/Service Providers

2. Fiscal year costs for managing the Spectrum Auction Loan Portfolio continue to rise. The loan portfolio program was established to address Section 309(j)(4) of the Communications Act of 1934, as amended. This section gave the Commission certain instructions for implementing regulations for the competitive bidding system, including a directive to ensure that small businesses, rural telephone companies, and women and minority-owned businesses were provided with an opportunity to participate in the provision of spectrum based services. To address the mandate, the Commission provided installment financing for winners of spectrum auctions.

Costs of managing the loan portfolio (not including personnel costs) have risen, with the majority of costs attributable to contracted services. The following table provides an analysis of loan portfolio management costs since FY2001:

Fiscal Year	Cost of Loan Portfolio Management (\$M)	Percentage Increase from Prior FY	Percentage of Total Auctions Program FY Expenditures
FY2001	\$7.60M	---	10.06%
FY2002	\$10.90M	43.42%	11.65%
FY2003 (projected)	\$11.72M	7.52%	10.42%

Figure 17 – FY2001-FY2003 Loan Portfolio Costs

Since FY2001, the Commission has maintained multiple contracts with a public accounting firm and a financial institution for parallel servicing of the loan program to provide FCC management with the assurance that loans are being accurately managed. The parallel use of services originally resulted from delays in implementing the loan module of RAMIS, which was expected to be deployed by the end of FY2000. The services of the public accounting firm to develop loan models were expected to end once the loan module was implemented. However, subsequent to implementation, the system’s loan module was found to be ineffective for management of the various types of auctions program loans and its use for management of the loan program is expected to cease at the end of FY2003. Thus, the public accounting firm’s work with the loan models was extended to ensure the accuracy of loan data until the financial institution assumes full servicing of the loan portfolio.

3. Fiscal year systems costs for the AAS have increased since FY2000. AAS is in a mixed life cycle stage of full acquisition (inclusive of development, testing, implementation, and modernization) and maintenance. AAS has continued to evolve over its life as a result of changing business requirements and mandated auction requirements, changing technology, implementation of new functionality, and system security requirements. For instance, the initial auctions were conducted as simultaneous multiple-round bidding sessions. However, the FCC is moving towards packaged bidding auctions. The result has been customization of the current AAS and its eventual replacement by the Integrated Spectrum Auctions System (ISAS). Related AAS maintenance and enhancement and ISAS

planning and acquisition activities have been performed by contracted personnel and charged as such.

A summary of total system costs for AAS since FY2000, as reported by the FCC in Exhibit 300s (*Capital Asset Plan and Business Case*), are summarized in Figure 18 (Note: System costs, as reported in the Exhibit 300, represent an aggregate of expenditures from various BOCCs):

Fiscal Year	Total AAS FY Costs (\$M)	Percentage Increase from prior Fiscal Year
FY2000	\$4.87M	----
FY2001	\$9.10M	86.86%
FY2002	\$11.30M	24.18%
FY2003 (projected)	\$16.00M (projected)	41.59% (projected)

Figure 18 – Automated Auctions System Costs by Fiscal Year

An analysis of life cycle costs indicate that life-to-date maintenance costs through FY2002 of \$31.40M for AAS exceed the life-to-date planning and full acquisition costs of \$22.10M. FY2003 projections include planning and acquisition costs for new generation ISAS system. The total projected cost for the planning, acquisition, and maintenance of ISAS over the period of FY2003 through FY2007 is \$71.4M.

The fiscal year growth in AAS costs are, in part, attributable to expenditures incurred for technology expenditures for the system and the Auctions network which hosts the application. AAS was implemented in FY1994 as a client server on-site application that now has web-based components. The application, since its inception, has utilized Sybase, Sun Enterprise, Solaris, and Netscape technologies.

The increases in fiscal year AAS costs are also attributable to the increased use of contractor staff for technical support of the AAS and its technical environment. The program was initially supported by one (1) FTE and twenty (20) contractors. The Auctions network now hosts twenty (20) FTE and one hundred and twenty (120) contractor accounts. WTB described that as new functionality is implemented (e.g., tighter integration with FCC systems, new auction methods, new software interfaces) to comply with changing business requirements, increased contractor *“staffing is necessary to support the growing software and hardware platforms”* and *“to ensure the accomplishment of the system’s missions.”*

4. ULS was implemented as a single integrated licensing system and database used by all WTB services to process applications and licenses. New paradigms for spectrum policy, as outlined by the FCC’s Spectrum Policy Task Force, have resulted in WTB’s definition of ULS and AAS as constituting one program. Presently, the Auctions Program as defined by WTB, is primarily supported by two types of activities:
 - Those necessary to auction appropriate spectrum; and
 - Those necessary to license and manage the inventory of auctionable spectrum.

Budget justifications for ULS indicate that the Auctions program funds 90% of the application and appropriated monies fund 10% of the application. Life-to-date costs through FY2003, as listed in the FY2003 Exhibit 300 which include an aggregate of BOCCs, is \$47.30M, consisting of \$27.10M in full acquisition costs and \$20.20M in maintenance costs. ULS fiscal year actual and projected costs and fiscal year percentage changes are noted in Figure 19:

Fiscal Year	Total ULS FY Costs (\$M)	Percentage Increase from prior Fiscal Year
FY2000	\$5.63M	----
FY2001	\$8.20M	45.65%
FY2002 (projected)	\$9.40M (projected)	14.63% (projected)
FY2003 (projected)	\$10.90M (projected)	15.96% (projected)

Figure 19 – FY2000-FY2003 Total ULS Costs and Percentage Change

On September 1, 1999, WTB’s Bureau Chief issued a memorandum regarding Auctions funding criteria to provide guidance as to which licensing costs are auctions-related and which are not. The guidance recognizes that there are auctions and non-auctions-related licensing activities processed by ULS. Non-auctions-related licensing activities were noted as the following:

- Modification, transfer, assignment, and renewal of auctioned licenses (unless payment issues are involved)
- Licensing activity on exclusively non-auctioned spectrum

Auctions-related licensing activities were described as follows:

- Initial licensing of auctioned licenses
- Collection of auctions payments
- Clearing licensing case backlogs as it affects the rights of further auction winners

Information provided by the Commission during the audit, indicated that there are 92 types of license applications processed by ULS, also known as Radio Service Codes. Transactions in ULS, which may or may not be for services defined as auctionable, consist of filing new applications and modifications to existing licenses.

In FY2001, ULS application activity and transactions were processed for fourteen (14) types of auctionable Radio Service Codes, while in FY2002 sixteen (16) types of auctionable codes were processed. An evaluation of all new applications and transactions processed by ULS in FY2001 and FY2002 indicated that the vast majority processed by ULS during the timeframe was for non-auctionable licenses. Total ULS transactions, including filings for new licenses, for FY2001 and FY2002 are summarized in Figure 20:

	FY2001	FY2002
Total Applications/Transactions Processed	544,592	594,961
Auctionable Applications/Transactions Processed	22,253	30,630
Percentage of Auctionable Applications/Transactions Processed	4.09%	5.15%
Non-Auctionable Applications/Transactions Processed	522,339	564,331
Percentage of Non-Auctionable Applications/Transactions Processed	95.91%	94.85%

Figure 20– FY2001-FY2002 ULS Licensing Transactions

A further analysis indicated that the majority of new applications processed by ULS in FY2001 and FY2002 were for non-auctionable licenses. New applications processed by ULS for FY2001 and FY2002 are summarized in Figure 21:

	FY2001	FY2002
Total New Licenses	86,534	101,982
New Auctionable Licenses	3,570	7,122
Percentage of New Auctionable Applications	4.13%	6.98%
New Non-Auctionable Applications	82,964	94,860
Percentage of New Non-Auctionable Applications	95.87%	93.02%

Figure 21 – FY2001-FY2002 ULS New Applications Transactions

The analysis of data provided indicates that 4.13% and 6.98% of the new licenses processed in FY2001 and FY2002, respectively, were for auctionable licenses. However, the Auctions program funds 90% of ULS costs. This suggests that the majority of licensing costs attributed to the Auctions program for ULS are for non-auctions related licensing activities as defined by WTB’s guidance issued on September 1, 1999.

As noted above, WTB guidance recognizes the use of the system for non-auctions related licensing activities. Existing WTB guidance further addresses the benefits of using Auctions money to fund activities unrelated to the Auctions program during the development of ULS. A memorandum issued on September 1, 1999 states that: *“Because ULS integrates licensing of both auctioned and non-auctioned services into a single platform, the electronic filing capability of the system and many other features as well apply uniformly to both groups of services. As a result, it can be argued that the system should be fully auctions funded, because while they have been developed to support auctioned services, there is no added cost associated with extending these features to non-auctioned services².”*

The FCC’s Spectrum Policy Task Force findings must also be considered. In its November 20, 2002 report, the Task Force recommended that spectrum management

² Federal Communications Commission Memorandum, dated September 1, 1999: Auctions Funding Criteria

evolve from its ninety (90) year old "command-and-control" model to one rooted in modern day technologies and markets. Increasing demand for spectrum-based services and devices is straining longstanding, and outmoded, spectrum policies. The Task Force said that while the FCC recently has made some major strides in spectrum allocation and assignment in some bands, spectrum policy is not keeping pace with the relentless spectrum demands of the market. It found that new technological developments now permit the FCC to increasingly consider the use of time--in addition to frequency, power and space--as an added dimension permitting more dynamic allocation and assignment of spectrum usage rights. This would provide access to unused or underused spectrum through time-sharing of spectrum between multiple users and lead to more efficient use of the spectrum resource.

The Task Force recommended that the FCC base its spectrum policy on a balance of three spectrum rights models--an exclusive-use approach, a commons approach and, to a more limited degree, a command-and-control approach. The Task Force advised altering the balance away from the predominant command-and-control model to permit access to unused or underused spectrum through time-sharing of spectrum between multiple users.

The FCC's Spectrum Policy Task Force findings have implications on the future funding policy for ULS. ULS was developed and funded under the command-and-control approach to spectrum management. The complexities of using three different spectrum rights models affect how licensing systems like ULS are funded. For example, the Task Force's recommendations may permit auctions for electromagnetic spectrum of frequencies that cannot be auctioned under the command and control approach. These recent developments must be considered in the funding of a licensing system like ULS.

5. In FY1998, the Commission awarded a contract for the customization and implementation of RAMIS, which will serve as the next generation collection and revenue accounting platform for Auctions and the Federal Communications Commission. Prior to awarding the contract, the Managing Director determined that the Auctions program and its unique requirements drove the acquisition of the new revenue accounting system. The legacy Collections system was not able to handle the volume of receipts generated by the Auctions program, nor could it adequately feed into the financial system. The Commission required a system that was "auditable", and one that could be used to interface with Mellon Bank to monitor the movement of funds. As a result of these factors, it was determined by the Commission that the project to develop and implement RAMIS would be 100% funded by Auctions as the need for a new system was directly related to the increase in revenue and collection of fees being processed by the Commission. RAMIS costs are shown in Figure 22 (Note: These figures represent costs from an aggregate of BOCCs):

Fiscal Year	Total RAMIS FY Costs (\$M)	Percentage Increase from prior Fiscal Year
FY2000	\$1.05M	----

FY2001	\$1.73M	64.76%
FY2002	\$1.24M	-28.32%
FY2003 (projected)	\$2.00M (projected)	61.29% (projected)

Figure 22 – FY2000-FY2003 Total RAMIS Costs and Percentage Change

The initial purchase order was for \$2.98M, and by the end of FY2003 total outlays are expected to be between \$7.5M and \$8.0M. The original contract called for RAMIS to be fully implemented within two years of the contract award date, which occurred in late FY1998. Delays in project completion have been attributed to additional requirements for the Auctions module and requirements for the system’s interaction with ULS, as well as various customizations, enhancements and other project requirements encountered throughout the implementation process. The revised implementation date for RAMIS is projected for October 2003. Once deployed, Auctions program funds will be used to fund 100% of RAMIS’ operational and maintenance costs.

Since implementation of the RAMIS loan module, the Commission has discovered that managing loans through the module is not effective, as the module was designed for the management of loans with similar terms. However, the majority of loans managed for the Auctions program require customization. When the contracted financial institution assumes full servicing of loans at the end of FY2003, the Commission plans to stop using the RAMIS loan module for servicing loans.

6. During FY2000 and FY2001, the funding of the financial statement audit was a 93% Auctions, 7% appropriated funds split. In FY2002 the funding split was revised to 73% Auctions and 27% appropriated funds. Figure 23 displays the costs of the financial statement audit by fiscal year:

Fiscal Year	Total Cost	Split Funding % Auctions/Appropriated	Auctions Cost	Appropriated Cost
FY2000	\$494,653	93/7	\$460,027	\$34,626
FY2001	\$703,881	93/7	\$654,609	\$49,272
FY2002	\$873,858	73/27	\$637,916	\$235,942

Figure 23– FY2000-FY2002 Financial Statement Audit Costs and Funding

The Office of Inspector General, considering the focus of the most recent financial statement audit effort for FY2002, estimated the breakdown of financial statement audit work as follows:

- 40% of audit work focused on Auctions-related financial activity of the Commission;
- 20% of audit work focused on non-Auctions related financial activity of the Commission;

- 39% of audit work focused on financial activities of the Universal Service Fund (USF) which is administered by the Universal Services Administration Corporation (USAC); and
- 1% of audit work focused on North American Numbering Plan (NANP) financial activity.

The estimate provides that during the FY2002 financial statement audit, 60% of the work was believed to be for non-Auctions related work. Additional costs incurred for the financial statement audit is for the preparation of financial data and statements. A summary of the expenditures identified from Auctions expenditure reports as paid to a public accounting firm between FY1999 and FY2001 for the preparation of financial data are listed in Figure 24:

Fiscal Year	Total Auctions Expenditure (\$M)
FY1999	\$.61M
FY2000	\$1.40M
FY2001	\$1.00M

Figure 24 – FY1999-FY2001 Public Accounting Firm Costs Funded by Auctions Program

7. The cost for centralized non-IT service contracts charged to the Auctions program has significantly increased since FY1999. In FY1999, \$68K was charged to BOCC 2500 for non-IT shared services. In FY2002 the amount incurred was \$7.5M and for FY2003 is projected to be \$5.4M. Figure 25 is a table that identifies the overhead rate, amount of non-IT centralized services charged to Auctions, the percentage of growth from the prior fiscal year, the types of services included in each fiscal year, and a brief explanation of the rise in costs.

Fiscal Year	Auctions Overhead Rate	Auctions Cost for 2500 Centralized Services	Percentage Increase from Prior Fiscal Year	Includes:	Increase due to:
1999	8%	\$68,459	-----	Guard Services	-----
2000	8.5%	\$115,000	67.98%	Guard Services	Increase in Contract Price
2001	11%	\$480,002	317.39%	Guard Services, Copier Maintenance	Increase in Contract Price

2002	12%	\$7,456,683	1453.47%	Guard Services, Copier Maintenance, Inventory Support Contract, Leads Contract, Security Enhancements, Gettysburg Renovation, Security Investigations, Portals I Renovation	Addition of Inventory Support Contract, Security Enhancements, Renovation Projects
2003 (projected)	14% (projected)	\$5,418,494	-27.33%	Guard Services, Shared Services Contracts, Space Renovation, Security Investigations, Copier Maintenance	----

Figure 25 – FY1999 – FY2003 Auctions Program Centralized Contractor – Other Services Costs

Personnel Compensation and Personnel Benefits (BOCC 1100 & 1200)

Another area of significant growth in Auctions program costs has incurred in the budget object class code of *Personnel Compensation & Benefits*. From FY1999 through FY2002, personnel compensation costs and benefits costs have increased on average by 28.38% and 35.02%, respectively. In FY1999 annual personnel compensation costs were \$11.29M. In FY2002, Auctions program personnel compensation costs were \$23.23M, an increase of \$11.94M. Similarly, annual personnel benefits in FY1999 were \$1.87M and \$4.52M in FY2002, an increase of \$2.65M. Figures 26 through 29 depict the growth in the budget object class codes for *Personnel Compensation* and *Personnel Benefits* by dollar amount and percentage of fiscal year growth.

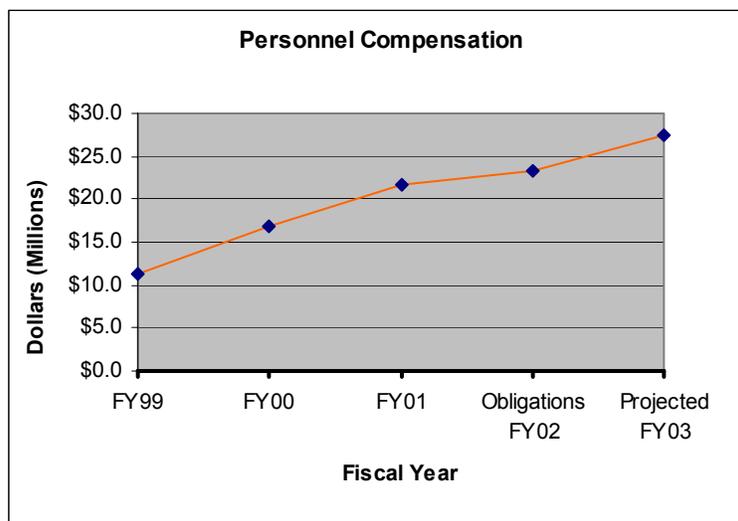


Figure 26 – FY1999-FY2003 Auctions Program Personnel Compensation Costs

	FY1999	FY2000	FY2001	FY2002 (Obligations)	FY2003 (Projected)
% Change from Previous FY	36.31%	49.89%	28.21%	7.05%	18.30%

Figure 27 - Fiscal Year Change in *Personnel Compensation Cost*

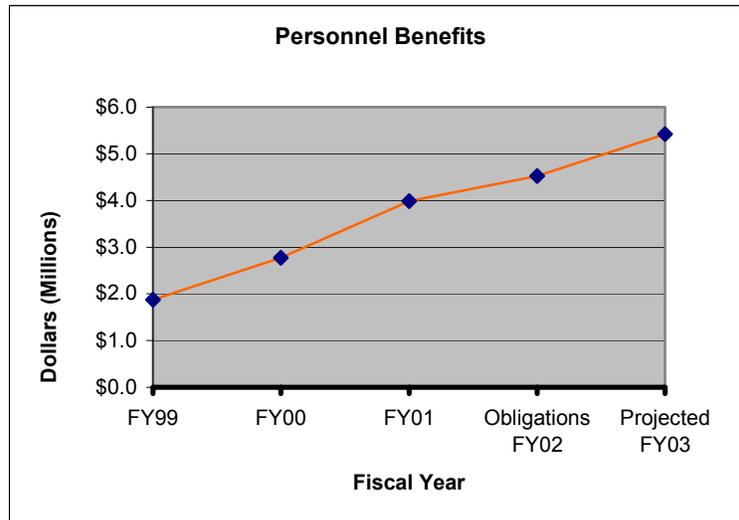


Figure 28 – FY1999-FY2003 Auctions Program *Personnel Benefits Costs*

	FY1999	FY2000	FY2001	FY2002 (Obligations)	FY2003 (Projected)
% Change from Previous FY	58.59%	47.82%	43.75%	13.50%	19.83%

Figure 29 – FY Percentage Change in Auctions Program *Personnel Benefits Costs*

Factors Contributing to Increased Personnel Compensation and Benefits Costs

1. The number of FTEs reported as supporting the Auctions program has risen. The Commission has attributed this increase to more accurate reporting of time by personnel conducting Auctions-related activities. Additionally, as more services become auctionable, an increasing number of employees are required to dedicate time in support of the Auctions program. Appendix 3 provides a history of the services that have become auctionable since the program’s inception.

The number of Auctions FTEs (including overhead distribution for leave) rose 26.76% between FY2000 and FY2002, from 213 to 270 FTEs. Over this same time period, the Commission FTEs were relatively stable and only increased 0.98%, from 1,933 to 1,952 FTEs. The resultant effect of the increase in Auctions FTEs is a rise in personnel compensation and benefits expenditures. The average percentage increase

of personnel costs from FY1999 to FY2003 (projected) is 26.64% as summarized in Figure 30.

Fiscal Year	Auctions Personnel Compensation and Benefits (\$M)	Percentage Increase
FY1999	\$13.17M	--
FY2000	\$19.70M	49.58%
FY2001	\$25.69M	30.41%
FY2002	\$27.75M	8.02%
FY2003 (projected)	\$32.90M (projected)	18.56% (projected)

Figure 30 – FY199-FY2003 Personnel Compensation & Benefits Costs and Percentage Increase

2. Additionally, the rise in compensation and benefits costs have resulted form inflationary increases and salary increases for personnel.

Equipment (BOCC 3100)

In FY1999, *Equipment* costs accounted for \$2.60M of the Auctions program expenditure, a small decrease from the previous fiscal year. The *Equipment* BOCC captures costs for hardware, software, office furniture, and telecommunications equipment. This amount has increased each fiscal year through FY2002 to \$10.84M, and was projected to decrease to \$8.24M in FY2003. Figures 31 and 32 illustrate Auctions program equipment costs.

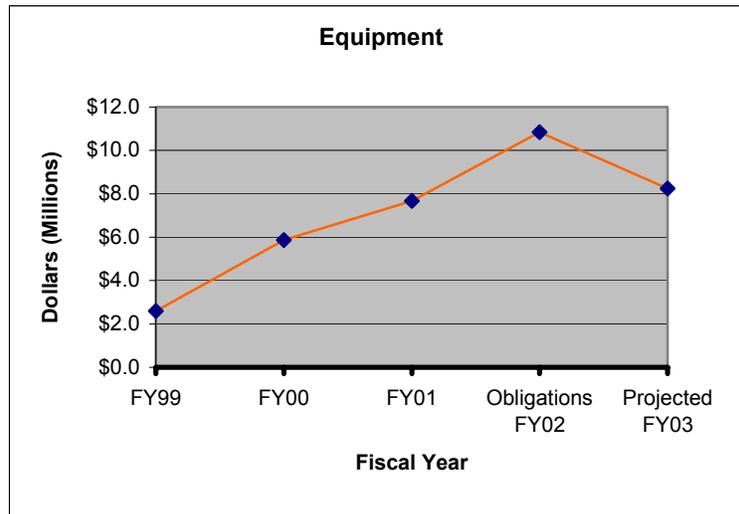


Figure 31 – FY1999 – FY2003 Auction Program Equipment Costs

	FY1999	FY2000	FY2001	FY2002 (Obligations)	FY2003 (Projected)
% Change from Previous FY	-43.21%	126.05%	30.78%	41.25%	-23.93%

Figure 32 - FY Percentage Change in Auctions Program *Equipment* Costs

Factors Contributing to Increased Equipment Costs

1. During the period under review, hardware was acquired to upgrade and replace existing servers, purchase new servers, and enhance the Auctions network. The Auctions network environment has undergone significant modification since the original implementation of the Auctions program, growing in both size and complexity. At its implementation in FY1994, the entire processing environment for the Auctions program consisted of two (2) file and print servers, four (4) database servers, forty (40) personal computers, and various printers. Today the environment consists of seventy-three (73) network devices (including routers, switches, dial-in boxes, and load balancers), 241 servers, and multiple network and Internet connections. Appendix 1 provides a more detailed description of the Auctions technical environment.

As Auctions funds are being used wholly or partially fund implementation, enhancement, and upgrading, and maintenance of information systems, associated hardware and software costs are also being incurred. These systems include the following:

- ✓ AAS,
- ✓ RAMIS,
- ✓ CORES,
- ✓ ULS,
- ✓ EDOCS,
- ✓ CDBS,
- ✓ Collections,
- ✓ COSER,
- ✓ FFS, and
- ✓ LDRS.

Hardware expenditures were also incurred in support of the Enforcement Bureau's technical analysis and measurements in auctionable spectrum bands.

WTB has purchased hardware to implement two (2) Sun Storage Area Networks (SAN) for the primary Auctions environment (DC SAN) and the Gettysburg facility (Gettysburg SAN), which is the fail-over site. In FY2002 WTB spent \$.76M on the DC SAN. The final projected cost for the Gettysburg SAN is \$.63M. In FY2003, WTB reported in the Auctions budget request that it expects to spend an additional \$1.00M on its SANs, for a total of 2.39M.

During the audit it was identified that ITC is also implementing a XIOTech SAN. Between late FY2001 through the second quarter of FY2003, ITC has spent \$2.32M, including \$.35M in software-related purchases, on their SAN. As noted by ITC, costs for the ITC SAN would be higher given the need for more disk farms and automated backup capabilities to handle the more than 2000 member FCC staff. Auctions program funds were used to fund \$.14M of the ITC SAN, regulatory fees paid for \$1.26M, and appropriated funds were used for the remaining costs of \$.93M. For the remainder of FY2003 and in FY2004, \$.50M of additional outlays is projected. The additional outlay is for a SAN in Gettysburg as part of the agency's Continuity of Operations Plan (COOP) solution. The total amount budgeted and/or spent on SANs by WTB and ITC was \$5.21M.

The individual SAN projects initiated by WTB and ITC have been described as separate and unrelated projects, which were driven by differing goals and requirements. WTB noted that separate purchases by ITC and Auctions for IT-related items have been historically linked to appropriated budget constraints faced by the FCC, which do not affect the differing program goals of the Auctions program. ITC reported that it was driven to enter into agreement for the ITC SAN in late FY2001 partially out of concerns that FY2002 funds may not be available to purchase "big ticket" items the first half of the year due to anticipated continuing resolutions. ITC SAN costs were first incurred in late FY2001, while WTB SAN costs were first incurred in FY2002.

While both ITC and WTB use a mixed Sun/Windows environment, ITC alone utilizes Novell technology as well. Mandatory in ITC's requirements analysis for its SAN, issued in late FY2001, was operational compatibility with the Novell NetWare operating system and the data stored in NetWare environments. At the time of implementation, approximately half of the ITC SAN was targeted for Netware volume data. Based on this requirement, ITC selected a XIOTech SAN solution. ITC reported that the XIOTech SAN was selected because it was the only product that supported all of the technical requirements of the Commission's IT architecture and because it provided the greatest potential cost savings by taking advantage of enterprise architecture economies-of-scale. WTB cited its primary requirements for a SAN solution as one that could support Internet auctions, an upgrade to Sybase 12.5, parallel databases for auctions, and new architecture and backend databases for ULS. WTB selected a Sun SAN solution.

During fieldwork, we noted that the original mandatory requirements of the ITC SAN's compatibility with Novell NetWare have been minimized by a decision to change the operating system used by ITC. In FY2002, ITC initiated a migration project from Novell to a Microsoft Windows NT/2000 operating system. According to ITC, the FY2002 decision to migrate to Microsoft Windows had not been made at the time that the SAN purchase was determined in late FY2001. It should also be noted that ITC and Auctions require a SAN solution that can support their individual initiatives to upgrade to Sybase version 12.5.

Outside of the original ITC requirement for compatibility with Novell NetWare, the requirements cited by both groups do not appear to have differed to the extent that it would have precluded a shared technology. In comments on the preliminary Draft Report, ITC noted, *“The ITC SAN has the potential capability to support the entire Commission infrastructure for data storage and backup up capabilities, while the Auctions SAN supports a very unique program/mission but does not need to provide support for an enterprise.”* In comments regarding the change from Novell to Microsoft, ITC also stated, *“We could not have foreseen the rapid decision to switch to the Windows environment even though it occurred fairly soon after the SAN decision. Also, this had a fairly minimal overall cost impact and the same technology could support Auctions requirements.”*

The two groups budgeted and/or spent \$5.21M on four SAN computer systems. By purchasing one SAN to support FCC headquarters operations, the Commission could possibly have reduced these expenditures by approximately \$1.76M. Also, before ITC spends an additional \$.50M for a SAN in Gettysburg, both ITC and Auctions should formally study and report upon the feasibility and cost effectiveness of using the present Gettysburg SAN for contingency planning. Outside of the original ITC requirement for compatibility with Novell NetWare, the requirements cited by both groups do not appear to have differed to the extent that it would have precluded a shared technology. This may be practical since the Commission is eliminating the Novell operating system, the major stumbling block to sharing the SANs. The potential reductions could total \$2,260,000.

2. In addition to hardware purchases, the purchase of software packages, software upgrades, and software licenses has contributed to the increase in equipment costs. Examples of such procurements include the purchase of Oracle licenses, the Remedy software package, ColdFusion software, Sybase upgrades, and upgrades to the Geographic Information System software.

Rent, Communications, and Utilities (BOCC 2300)

Since FY1999, the Auctions program costs related to *Rent, Communications, and Utilities* have significantly increased. In FY1999 rent, communications, and utilities costs were \$2.47M. By FY2003, the projected annual cost had risen to \$8.99M, an increase of \$6.52M. Figures 33 and 34 illustrate the growth in Rent, Communications, and Utilities.

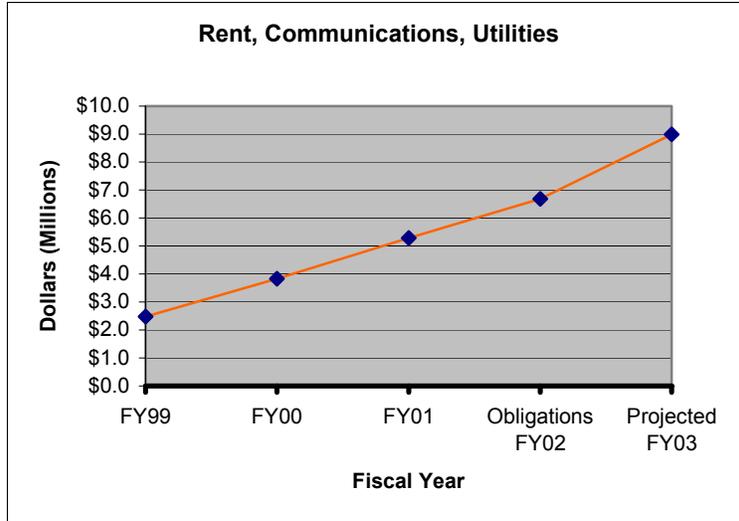


Figure 33 – FY1999 – FY2003 Auctions Program *Rent, Communications, & Utilities* Costs

	FY1999	FY2000	FY2001	FY2002 (Obligations)	FY2003 (Projected)
% Change from Previous FY	-20.23%	54.91%	38.08%	26.45%	34.53%

Figure 34 - FY Percentage Change in Auctions Program *Rent, Communications, & Utilities* Costs

Factors Contributing to the Increase in Rent, Communications, and Utilities

1. Auctions program costs for centralized services related to rent, communications, and utilities have significantly increased since FY1999. In FY1999, \$1.3M in shared services costs was charged to BOCC 2300. By FY2002 the amount had risen to \$5.8M and is projected to be \$7.7M in FY2003. Figure 35 is a table that identifies the overhead rate, amount of centralized services classified as BOCC 2300, the percentage of growth from the prior fiscal year, the types of services included in each fiscal year, and a brief explanation of the rise in costs.

Fiscal Year	Auctions Overhead Rate	Auctions Cost for 2300 Centralized Services	Percentage Increase from Prior Fiscal Year	Includes:	Increase due to:
1999	8%	\$1,346,935	----	Portals II Rent, Non-GSA Rent, Metered Mail, Utilities	-----
2000	8.5%	\$2,314,968	71.87%	Portals II Rent, Non-GSA Rent, Metered Mail, Utilities	Increase in Rent
2001	11%	\$3,433,973	48.34%	Portals II Rent, Non-GSA Rent, Metered Mail, Utilities, Copier Rental	Increase in Rent, Addition of Copier Rental Expense

2002	12%	\$5,779,730	68.31%	Portals II Rent, Portals I Rent, Non-GSA Rent, Metered Mail, Utilities, Copier Rental, Direct Support of Bureau/Office	Increase in Rent, Addition of Portals I Rent, Addition of Direct Support of Bureau/Office
2003 (projected)	14% (projected)	\$7,698,723	33.20%	Portals II Rent, Portals I Rent, Non-GSA Rent, Metered Mail, Utilities, Copier Rental, Direct Support of Bureau/Office	Increase in Rent, Utilities, Copier Rental

Figure 35 - FY1999 – FY2003 Auctions Program Centralized Rent, Communications, and Utilities Costs

Data gathered during the audit indicates that there are inconsistencies in the cost accounting methods used to calculate rental/leasing costs being charged against the Auctions program. The methods of calculation vary by facility and are outlined below:

- Portals II Headquarters and National Field Offices: Costs are allocated to the Auctions program through the use of the Auctions program overhead rate indicated in Figure 35.
- Portals I Facility: Rental/leasing costs for the Portals I facility are charged to Auctions as a direct cost.
- Gettysburg, PA Consumer Center: The Auctions program share of rental/leasing costs for the Gettysburg, PA facility is calculated as the percentage of shared and non-shared space occupied by Auctions personnel.

In addition to the inclusion of additional centralized services in Auctions program costs, direct costs for the Portals I and Gettysburg facilities have increased over the period. For instance, vendor expenditure data indicates that Gettysburg rental costs rose from \$.38M in FY2001 to \$1.79M in FY2002 (see Appendix 2). Overall, increases in direct costs for the Portals I and Gettysburg sites have resulted from annual rent increases by property management, as well as the cost of space renovations. In FY2002, the Commission entered into a leasing agreement for a floor of the Portals I building (located next to the FCC headquarters at the Portals II building), which after renovation, is to be occupied by FCC personnel/contractors performing 100% Auctions-related work. Lastly, as a result of physical security weaknesses identified at the Gettysburg facility, the security of the facility is being upgraded and charged to the Auctions program.

Other Non-Material BOCCs

Costs in the following BOCC categories were considered to be immaterial and not attributable to the significant rise in Auctions program costs:

- Travel & Transportation of Persons (BOCC 2100)
- Transportation of Things (BOCC 2200)
- Printing (BOCC 2400)

- Supplies & Materials (BOCC 2600)

The following figure summarizes the costs for each BOCC by fiscal year:

	FY1999	FY2000	FY2001	FY2002 (Obligations)	FY2003 (Projected)
Travel and Transportation of Persons (BOCC 2100)	\$110,103	\$209,324	\$287,228	\$187,851	\$375,150
Transportation of Things (BOCC 2200)	\$1,173	\$2,896	\$3,670	\$11,576	\$138,700
Printing (BOCC 2400)	\$275,792	\$337,477	\$192,926	\$100,689	\$180,326
Supplies & Materials (BOCC 2600)	\$219,233	\$211,924	\$225,553	\$426,086	\$460,590

Figure 36 – FY1999-FY2003 Costs for Non-material BOCCs

OBSERVATIONS FOR INCREASED EFFECTIVENESS

The audit observed several areas where the management effectiveness for Auctions program costs could be improved. These are:

- **Reevaluate Auctions Funding Justifications for Major FCC Systems:** A number of FCC computer applications have not had their initial Auctions budget funding percentages reviewed, despite changing conditions. For example, the Universal Licensing System (ULS) is funded with 90% auctions funds. This guidance does not consider the percentage of auctionable vs. non-auctionable applications/transactions processed by ULS. Nor does the percentage reflect current FCC spectrum usage policy, as stated in the Spectrum Policy Task Force report dated November 15, 2002. Similarly, the Revenue Accounting & Management Information System (RAMIS) was initially funded with 100% auctions funds. Its auction funding percentage has not been reevaluated, even though the loan module, used to justify 100% funding, is not being utilized to manage the spectrum auction loan portfolio.
- **Use Consistent Auctions Cost Accounting Methods:** FCC management needs to determine the most appropriate cost accounting method for calculating Auctions program rental/leasing costs across FCC facilities. Once determined, the most appropriate method should be consistently used on rental/costs. This is not occurring. For example, shared security upgrades to the FCC's Gettysburg building were charged 100% to Auctions. The FCC auctions overhead rate of 14% for shared services was not used. This increased rent expenditures for Gettysburg that were charged to Auctions from \$38,596 in FY 2001 to \$1,787,713 in FY 2002.
- **Establish an Effective Capital Investment Program:** The FCC does not have an effective capital investment program. This violates federal laws and regulations such as the Clinger-Cohen Act and OMB Circular A-130. Also, an ineffective capital investment program creates an environment where duplicate

For example, WTB and ITC both independently budgeted for and purchased storage area networks (SANs) for the FCC. The two groups budgeted and/or spent \$4,710,000 on four SAN computer systems. By purchasing one SAN to support FCC headquarters operations, the Commission could possibly have reduced these expenditures by approximately \$1,760,000. Also, before ITC spends an additional \$500,000 on a SAN in Gettysburg, both ITC and WTB should jointly study and formally report upon the feasibility and cost effectiveness of using WTB's existing Gettysburg SAN for contingency planning. This may be practical since the Commission is eliminating the Novell operating system, a major stumbling block to sharing the SANs. The potential unrealized cost savings could total \$2,360,000.

Outside of the original ITC requirement for compatibility with Novell NetWare, the requirements cited by WTB and ITC do not appear to have differed enough to

preclude a shared technology. ITC noted in preliminary comments to the Draft Report that it considers the ITC SAN to have the potential capability to support the entire Commission infrastructure. An effective capital investment program could have identified potential duplications. This could have resulted in the use of a shared technology with a corresponding significant reduction in expenditures.

Therefore, to better manage Commission funds, we recommend that the FCC develop an effective capital investment program. This finding is discussed in detail on page 46.

Overview of IT Capital Planning

The Role of IT Capital Planning in the Federal Government

Federal government IT requests in the FY2004 budget request totaled nearly \$60 billion. With significant portions of agencies' budgets being spent on IT-related purchases, federal agencies are being required to demonstrate effective management of IT resources.

Recent legislative reforms, including revisions to the Paperwork Reduction Act (PRA), the Clinger-Cohen Act of 1996, the Government Performance and Results Act (GPRA), and the Chief Financial Officers (CFO) Act, have introduced requirements highlighting the need for federal agencies to improve their management processes, including how they select and manage IT resources. According to the legislation, agency decision-making processes should be documented formally, institutionalized throughout the organization, and applied uniformly to all IT-decisions. Specifically, the Clinger-Cohen Act of 1996 requires federal agencies to place more emphasis on the results obtained through investing in IT, while concurrently streamlining the IT acquisition process.

Additionally, OMB Circular A-130 (*Management of Federal Information Resources*) and Circular A-11 (*Fixed Assets*) requires that agencies establish and maintain IT capital planning and investment control processes that link mission needs, information, and IT projects efficiently and effectively. The processes should address all stages of IT capital programming—including planning, budgeting, procurement, management, and assessment—and contain three distinct components:

- Selecting investments for the IT portfolio;
- Controlling and managing the investments; and
- Evaluating the investments based on planned performance versus actual accomplishments.

GAO published draft guidance in May 2000 for assessing the maturity of an entity's IT investment management process. The guidance suggests a framework that can help an agency improve its IT capital planning and investment control. Specifically, GAO identified five stages of process maturity, each of which builds upon lower stages and enhances an organization's ability to manage IT investments.

With the release of the FY 2004 request, there has been an increased emphasis on eliminating overlap among systems and ensuring that agencies have a clear-cut method of measuring program performance. Additionally, emphasis is being placed on agencies' justification of IT investments through standardized processes for developing business cases. According to OMB, more than 700 major projects, representing nearly \$21 billion, were on OMB's at-risk list for 2003, because they have not adequately addressed information security or have not provided a thorough business case to indicate "*sufficient*

potential for success.³” At the Enterprise Architecture in Government Conference held in 2003, OMB noted that many agencies are still struggling to ensure IT investments are considered as a component of their overall capital planning and investment control process; and as a result, OMB will likely emphasize the importance of capital planning in the next update to OMB Circular A-11.

Investments in IT are critical to providing better services and improving the effectiveness and cost-efficiency of business processes. The use of IT in federal agencies has a direct affect on the agencies’ abilities to increase mission performance, improve management decision-making and oversight, and obtain operational efficiencies. Due to the key role of IT, it is important to develop and utilize formalized decision-making processes to ensure that funds are invested and managed properly.

IT Capital Investment Practices of the FCC

In May of 2000, GAO published the *Information Technology Investment: A Framework for Assessing and Improving Process Maturity* (GAO AIMD 10.1.23) exposure draft. Based largely on the Clinger-Cohen Act of 1996, the publication provides guidance for assessing an entity’s maturity in the IT investment management (ITIM) process. Specifically, GAO identified five stages of process maturity, each of which builds upon lower stages and enhances an organization’s ability to manage IT investments. The ITIM maturity model is outlined in Figure 37.

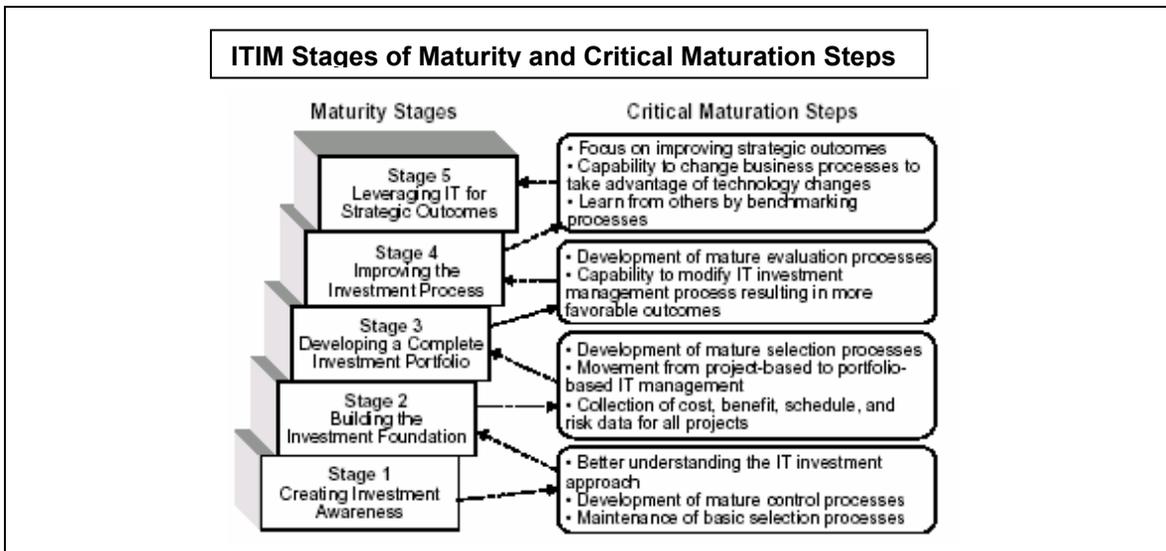


Figure 37 – ITIM Stages of Maturity and Critical Maturation Steps

Our audit of the Commission’s current IT capital investment practices indicates that the Commission is transitioning from Stage 1 to Stage 2 of the ITIM, with components of

³ Government Executive Magazine, “White House Demands Results from IT Spending”, February 3, 2003

Stage 2 in place and additional Stage 2 components planned for implementation. A Stage 1 entity is characterized by little awareness of investment management techniques and IT management processes that are ad hoc, project-centric, and have widely variable outcomes. Stage 2 entities are those that are building the foundations to investment management. Entities at this stage demonstrate increased knowledge of IT investment practice, work to develop mature control processes and maintain basic selection processes. Delays and project overruns experienced by the current RAMIS implementation and FY2000 implementation of the Universal Licensing System can be attributed to the maturity of the Commission's investment management techniques at the time that these projects were planned for and initiated.

As indicated in Figure 1, Stage 2 is where an entity has demonstrated that it is building a foundation to managing its investments. It is characterized by development of mature selection processes and a movement from project-based to portfolio management of IT investments. During this stage, an entity begins to put into place repeatable investment control techniques and key foundational investment management capabilities.

Through interviews of staff OMD and the Auctions Operations Branch, we were able to develop a profile of the Commission's current process for managing its IT investments, inclusive of those for the Auctions program. Information gathered during the audit indicates that the Auctions program is to be managed in accordance with the overall IT practices of the FCC. As such, the audit team reviewed the current and planned processes and policies of the FCC as a whole. The combination of the following was defined as the Commission's current IT capital planning documentation:

- The *IT Strategic Plan* (published and implemented in July of 2002) – as it pertains to IT capital planning, contains the FCC's Enterprise Architecture Technical Reference Model (TRM). The IT Strategic Plan also provides a high-level framework for the Commission's IT capital investment process which is under development.
- *Exhibit 300: Capital Asset Plan and Business Case* - representative of capital asset plans and business cases for IT capital investments. The Commission began submitting Exhibit 300s in FY2000. For the FY2004 appropriated budget, plans for the following systems were submitted:
 - AAS
 - RAMIS
 - Consumer Information Management System (CIMS) (*proposed system*)
 - Core Accounting System (*proposed changes to the Federal Financial System*)
 - Integrated Licensing System (*proposed system to consolidate ULS, CORES, and other FCC licensing systems*)

The major information systems funded partially or wholly through the Auctions budget that were documented on the FY2003 Exhibit 300 were AAS, RAMIS, ULS, and CORES.

- Exhibit 53: Information Technology Investment Portfolio - representative of the Commission's investment portfolio where project costs are compiled and reported.
- Systems Development Life Cycle (SDLC) Methodology - representative of requirement for evaluations of major projects through cost/benefit analysis, project status reports, acceptance test reports, and the post-implementation review reports. The threshold for projects/systems subject to the Commission's SDLC is those that incur expenses of greater than \$100,000 per year, or greater than \$300,000 over the life of the system.

Additionally, the Commission has a documented Draft of the *FCC Information Technology Capital Planning and Investment Control Process*. This document, once implemented will provide additional structure and guidance to the IT capital investment practices described in the *IT Strategic Plan*. The draft document provides for the implementation of two committees for oversight of IT capital planning – an Executive Review Committee and a Steering Committee. The planned members of the Executive Review Committee are the Chief Information Officer (CIO), the Chief Financial Officer, the Chief Procurement Executive, and other executive officials as designated by the Managing Director. The Managing Director, or his designee, will chair and administer the committee. The Steering Committee is to provide technical support and guidance to the Executive Review Committee. The planned members of the Steering Committee are the Chief of the ITC Network Development Group, Chief of the ITC Planning and Support Group, Bureau/Office representatives, and other officials designated by the CIO. The CIO will chair and administer this committee.

Current Procedures for Procurement of IT

ITC and Auctions initiate separate purchase orders for similar IT services, hardware, and maintenance contracts. However, one central procurement/contracting group has been tasked with managing the execution of contracts. The initiation of separate purchase orders has been attributed to the difference in the timing of budget receipt of the Auctions program and the Commission appropriated funds. Auctions funds are received and made available at the beginning of the fiscal year. However, appropriated funds may not be obtained immediately due to Continuing Resolutions (CRs). During CRs, Commission funds may not be available to procure services/hardware at the same time that Auctions places its orders. Additionally, Auctions purchases may be time sensitive and may not have the flexibility to wait for ITC to obtain their funding.

In interviews of FCC personnel, it was noted that the placement of separate purchase orders (POs) by Auctions and ITC should not preclude the FCC from obtaining volume discounts on similar services, hardware and maintenance contracts. The extent to which this is followed was not tested during the audit. From the information gathered it appears that procurement personnel are expected to obtain economies of scale by either (1) negotiating volume discounts with vendors in anticipation of the issuance of separate POs for similar items or by (2) directly negotiating with vendors already used by one group to procure similar needs for the other group.

Under past practices, the ITC Customer Service Representative (CSR) was responsible for reviewing all Auctions IT purchases with ITC personnel. In May 2002, the Managing

Director formally established several Overhead Central Account Managers (CAMs) to oversee and coordinate Auctions-related initiatives. The ITC's Chief, Planning and Support Group serves in this capacity and is charged with managing the procurement of major hardware, software, and information services for the FCC. Also, in May 2002, an informal group, consisting of personnel from OMD, ITC, CAMs, and the CSR was formed to review IT purchases of the FCC. This group commonly referred to as the "Gang of Ten", meets informally to facilitate the identification of services, hardware, and maintenance needs of Auctions and ITC that could benefit from economies of scale. When Auctions presents a technology purchase request, the "Gang of Ten" discusses the request to determine if any other parties (i.e., ITC) plan to procure similar services or hardware. If so, an attempt is to be made to combine the purchases, or at a minimum notify the vendor of the future purchase so that both groups obtain economies of scale. The extent to which the "Gang of Ten" has facilitated any economies of scale was not tested during the audit.

RESULTS OF AUDIT OF THE COMMISSION'S INFORMATION TECHNOLOGY (IT) CAPITAL INVESTMENT PRACTICES

This section of the report identifies positive observations and weaknesses in the Commission's IT capital investment practices identified during audit fieldwork.

Positive Observations of the FCC's IT Capital Investment Practices

Our audit of the Commission's IT capital investment practices, yielded several positive observations, as well as weaknesses in the agency's current practices used to manage IT investments. Positive observations identified during the course of the audit are noted below:

- Beginning with the FY2003 Auctions budget request, the FCC began managing the Auctions cost budget development process in similar fashion to the overall appropriated budget process for the agency. Additionally, the Commission has demonstrated increased fiscal responsibility through centralized management of shared services by Administrative Operations (AO) of OMD and regular tracking of Auctions expenditures by each Bureau and Office.
- The Commission is in the process of implementing a formalized capital investment process as documented in the Draft *FCC Information Technology Capital Planning and Investment Control Process* document. A finalized plan is expected to be available in FY2003.
- The FCC finalized its *Information Technology Strategic Plan* in July of 2002. The plan provides a high-level framework for the Commission's IT capital investment process and meets the requirements of OMB A-130 for an IT strategic plan. Additionally, using technical aspects of the Federal Enterprise Architecture (EA) Framework developed by the Chief Information Officer's (CIO) Council, components of the *IT Strategic Plan* were developed to represent the Commission's EA. The EA sections of the *IT Strategic Plan* present a Technical Reference Model where the FCC's current and target IT architecture is described.
- In May of 2002, the FCC implemented an informal working group comprised of personnel from OMD and WTB, including Central Account Managers of the FCC. The group, often referred to as the "Gang of Ten", is to meet on a regular basis to discuss Auctions expenditures and proposed IT investments. The group was implemented with the purpose of achieving greater fiscal responsibility for the Auctions program fund by actively monitoring expenditures.

Findings Resulting from the Audit of IT Capital Investment Practices

The Commission has taken positive steps towards improving its management of IT capital investments. However, the Commission as a whole has not

consistently implemented a formal, documented IT capital planning process and procedures with defined criteria for the selection, control, and evaluation of investments. Specific weaknesses in the FCC's IT capital investment practices are noted below:

- The *FCC Information Technology Capital Planning and Investment Control Process* is in draft format and does not meet the requirements of the Clinger Cohen Act of 1996. Specifically, the document does not:
 - include minimum criteria to be applied in considering whether to undertake a particular investment in information systems;
 - provide for identifying information systems investments that would result in shared benefits or costs for other Federal agencies or State or local governments; or
 - provide for identifying for a proposed investment quantifiable measurements for determining the net benefits and risks of the investment.

Additionally, the document does not meet all of the requirements of OMB Circular A-130 (see *Appendix 4 of this report which outlines the areas of non-compliance with OMB Circular A-130*). The draft document is expected to be through its final approval by the end of the fourth quarter of FY2003.

- A formal Executive/Investment Review Committee has not been established for the review and selection of IT capital investments. Establishment of a formal Executive/Investment Review Committee is planned for the fourth quarter of FY2003.
- The *IT Strategic Plan*, representative of the Commission's EA, does not document the relationship of business processes and technology. Also, the inventory of information resources in the *IT Strategic Plan* does not accurately reflect the current EA.
- Costs for development, modernization, and enhancement, as well steady state costs for each major project of the FCC are not attributed to the funding source in the Exhibit 53s. While the text of OMB A-11 may not specifically ask for this breakout, as noted by OMD, the Exhibit 53 form provides input fields for this information to be included.
- Post-implementation reviews (PIR) are not consistently documented in a timely manner. The Commission's SDLC methodology requires that PIRs be developed and published within six (6) months after system implementation. However, the PIR for CORES, which was deployed in June of 2000, was not published until November of 2002.

As discussed in OMB Circular A-130, an agency's capital planning and investment control process must have three (3) components: selection, control, and evaluation. The process must be iterative, with inputs coming from all of the agency plans and the outputs feeding into the budget and investment control processes with a goal of linking resources to results. An agency's capital planning and investment control process should build

from the agency's current EA and its transition from current architecture to target architecture. Additionally, capital planning and investment control processes of an agency must be documented, and provided to OMB consistent with the budget process.

Proper planning for investments in IT can provide for opportunities of shared technology within and across agencies. Additionally planning for investments takes into account the impact of planned initiatives on the computing environment. ITC reported that when it selected its SAN solution at the end of FY2001, it had not yet made a decision to migrate from the Novell NetWare operating environment to Microsoft Windows NT/2000 in FY2002. ITC decided upon these two major initiatives within a relatively short period of time. Compatibility with Novell was a primary requirement for its SAN technology. The impact of the decision to migrate to the operating system altered the requirement for Novell NetWare that was identified as a primary differentiating factor between the ITC and WTB SAN solution. OMD in informal comments stated, *“We could not have foreseen the rapid decision to switch to the Windows environment even though it occurred fairly soon after the SAN decision. Also, this had a fairly minimal overall cost impact and the same technology could support Auctions requirements.”*

Proper management of IT projects throughout the stages of the system life cycle results in an entity's ability to benefit from lessons learned. Lessons learned may be derived from system implementations that experience overruns or schedule slippages, such as those experienced with RAMIS and ULS. For example, the initial purchase order for RAMIS was for \$2.98M with system implementation scheduled for completion within two years of the contract award date. By the end of FY2003, total outlays are expected to be between \$7.5M and \$8.0M. At the time of this audit, not all modules of RAMIS had been fully implemented.

The SAN selection process by ITC can also provide lessons that can enhance FCC's IT capital investment practices and selection of technology solutions. Specifically, the FCC can benefit in its future selection of IT capital investments by giving more careful consideration to future technology initiatives. ITC's decision to migrate from Novell to Microsoft essentially eliminated a primary differentiating factor between its SAN requirements and that of WTB. This may have resulted in the realization of the opportunity for a more integrated approach for selection of a shared SAN technology by ITC and WTB and an increased synergy could have been achieved.

As agencies' management of IT investments comes under the increased scrutiny of government oversight agencies such as OMB and GAO, those which fail to utilize adequate IT investment capital practice may experience difficulty in obtaining requested budget amounts for IT-related needs.

RECOMMENDATION: ESTABLISH AN EFFECTIVE IT CAPITAL INVESTMENT PROGRAM

***Recommendation:
Establish an Effective IT
Capital Investment
Program***

We recommend that the Federal Communications Commission implement an effective IT capital investment program. The FCC's IT capital investment practices do not comply with either the Clinger-Cohen Act or OMB Circular A-130. The procedures must address the management of all major Commission investments in IT, including those for the Auctions program.

The FCC's IT capital investment program should include the following steps. First, all IT high value expenditures, such as the SANs, must be approved by a formal capital investment executive board. This oversight board should be composed of an appropriate group of high level management personnel. The oversight board should also approve the percentage of the investment charged to Auctions.

Secondly, the next iteration of the *FCC Information Technology Capital Planning and Investment Control (CPIC)* guide should comply with both Circular A-130 and the Clinger-Cohen Act. The CPIC guide should include the elements of OMB Circular A-130 that were not referenced in the draft version reviewed by the audit team (*see Appendix 4 of this report*). The CPIC guide must incorporate by reference relevant documentation, including the SDLC methodology and the *IT Strategic Plan*. This guidance should also include guidelines on determining the Auctions percentage for an IT capital investment. We recommend that the CPIC guide be developed in this manner to specifically identify all guidance that defines and provides guidance for the FCC's IT capital investment practices.

Finally, the CPIC guide and the IT capital investment program must be reviewed and commented upon by the appropriate Bureau and Office stakeholders. This will help insure agency-wide support and adoption of the guidance once it is implemented.

Implementation of the above recommendations should result in uniform, centralized procedures for the selection, control, and evaluation of its IT investments. An effective capital investment program can also help identify duplicate IT capital expenditures, such as the \$5,210,000 investment of four (4) SANs.

ACRONYMS

AAS – Automated Auction System
A&IAD – Auctions & Industry Analysis Division
AO- Administrative Operations
BOCC – Budget Object Class Code
CAM – Central Account Managers
CDBS – Consolidated Database System
CFO – Chief Financial Officer
CIMS – Consumer Information Management System
CIO – Chief Information Officer
COOP – Continuity of Operation Plan
CORES – Commission’s Registration System
COSER - Canadian Co-Channel Serial Coordination Systems
CPIC - Capital Planning and Investment Control
CR – Continuing Resolution
CSR – Customer Service Representative
EA – Enterprise Architecture
EDOCS - Electronic Document Management System
GAO – Government Accounting Office
GPRA - Government Performance and Results Act
FCC – Federal Communications Commission
FFS – Federal Financial System
FTE – Full-time Equivalent
FY - Fiscal Year
ISAS – Integrated Spectrum Auction System
IT – Information Technology
ITC – Information Technology Center
ITIM – Information Technology Investment Management
LDRS – Leave Distribution Reporting System
LLP - Limited Liability Partnership
NANP – North American Numbering Plan
OIG – Office of Inspector General
OMB – Office of Management and Budget
OMD – Office Managing Director

PIR – Post-implementation Review
PO – Purchase Order
PRA – Paperwork Reduction Act
RAMIS – Revenue Accounting & Management Information System
SAN – Storage Area Network
SDLC – Systems Development Life Cycle
TRM - Technical Reference Model
USAC – Universal Services Administrative Corporation
ULS – Universal Licensing System
USF – Universal Services Fund
WTB – Wireless Telecommunications Bureau

APPENDICES

Appendix 1 - Overview of Auctions Program

Appendix 2 – FY2001 – FY2002 Auctions Program IT Vendor Expenditures

Appendix 3 – Auctionable Services History

**Appendix 4 – Elements of Non-Compliance of DRAFT FCC IT Capital Planning
and Investment Control Process with OMB A-130 Requirements**

Appendix 5 – Index of Report Figures

Appendix 6 – Management Response

Appendix 7 – OIG Comments

Appendix 1

**Overview of the
Auctions Program**

Appendix 1 - Overview of the Auctions Program

Overview of the Auctions Program

History of Auctions Program

The Omnibus Budget Reconciliation Act of 1993 added Section 309(j) to the Communications Act of 1934.

As amended, this information is contained in section 309(j) of Title 47, Chapter 5 of the United States Code. This section of the code establishes an auction program that gives the Commission express authority to employ competitive bidding procedures to choose among mutually exclusive applications for awarding initial licenses. Provisions of the legislation require the Commission to establish a system of competitive bidding that permits combinatorial bidding (Section 309(j)(3)). As a component of the auctions program, the Commission was required to institute a loan program to promote economic opportunity for a wide variety of applicants including small businesses, rural telephone companies, and business owned by minority groups (Section 309(j)(4)). Additional provisions state that proceeds obtained from the competitive bidding are to be deposited in the Treasury, and in order to use carryover funds, the Commission must submit an annual report detailing the expenditures incurred for operating the Auctions program (Section 309(j)(8)). Section (B) of 309(j)(8) provides the types of expenditures that the FCC is permitted to offset with proceeds retained from auctions. The auction authority granted under the legislation expires on September 30, 2007 (Section 309(j)(11)).

Telecommunications services become “auctionable” after Congress enacts a law regarding the service. The Commission then implements rulings in support of the services through publishing “Notices of Proposed Rulemaking” (NPRM), and issuances of “Reports and Orders” (R&O). A service is considered to be “auctionable” after the publication of the R&O.

The first spectrum auction was conducted in FY1994, the year of the program’s inception. To date there have been forty-three (43) auctions conducted.

Auctions are not necessarily conducted in the same fiscal year that the R&O for the service was published. Additionally, auctions for services may be conducted on more than one occasion, often spanning several fiscal years. The addition of auctionable services through publishing R&Os since the inception of the Auctions program has increased the variety and scope of work performed in support of the Auctions program. Figure 38 is a summary of the number of additional services that became auctionable (date of the R&O) by fiscal year. Appendix 3 provides a listing of the services that became auctionable in each fiscal year.

	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02
Number of Additional Auctionable Services by Fiscal Year	3	4	3	6	3	0	5	0	4

Figure 38 – Number of Additional Auctionable Services by Fiscal Year

Appendix 1 - Overview of the Auctions Program

Prior Audits of the Auctions Program

Since the inception of the Auctions program, the Commission's Office of Inspector General (IG) has conducted several audits of the Auctions program costs and management practices. These audits have resulted in recommendations for improvement, which were agreed to by FCC management. Each of the previous audits and their results are summarized in this section.

Audit of Fiscal Year 1994 Spectrum Auction Implementation Costs (FY 1995)

The IG examined the system implemented by the Commission in FY 1994 to record and report auction cost information and to determine whether the system was providing timely, accurate and meaningful financial information to FCC management. During the audit, the IG determined that there was insufficient documentation to support all reported costs. As a result, the IG made the following recommendations to FCC management in its report issued on March 16, 1996:

- Formally document the policies and procedures for creating, approving, processing, recording, and reporting auctions costs
- Review all audit questioned labor costs and determine the appropriate treatment for those costs;
- Review all audit questioned automation costs and determine the appropriate treatment for those costs; and,
- Review auction automation contracts to determine whether cost reports provided by contractors separately report auction costs.

Follow-up Audit of the Auctions Cost Recovery System (FY1997)

The Office of Inspector General (IG) performed an audit to follow-up on the status of the four (4) recommendations to FCC management that resulted from the Audit of FY1994 Spectrum Auction Implementation Cost. The IG concluded that FCC management had adopted the correct measures recommended as a result of the previous audit. The report also concluded that (1) FCC management had not updated its FCC Auction Cost Recovery Guidelines and Procedures manual to reflect the Commission's 1996 change from the National Finance Center (NFC) system to the Denver Administrative Service Center's FFS application and (2) FCC Bureaus and Offices were not consistently charging Auctions for auctions related work performed by their employees.

In addition, the IG is in the process of conducting two (2) additional audits of the Auctions program:

The Audit of the Auction Budget and Financial Management Process is being performed to identify duplicative program activities, evaluate the effect of any identified duplicative activities, and recommend program changes.

The Audit of the Auction Loan Portfolio and Related Activities is being conducted with the purpose of documenting the loan service provider's role, assessing the Commission's transition to a new service provider, and reviewing

Appendix 1 - Overview of the Auctions Program

the modules of the Revenue Accounting & Management Information System (RAMIS) being implemented in support of the loan program.

Management of the Auctions Program

The Auctions & Industry Analysis Division (A&IAD) of the Wireless Telecommunications Bureau (WTB) is responsible for implementing the competitive bidding authority provided to the Commission and managing the spectrum auctions. Additionally, this division is responsible for all facets of the auctions including technical, contracting, budgeting, legal marketing, payment, applications processing and administrative functions.

The Auctions Operations Branch of A&IAD is responsible for designing, programming, and planning auction events. The responsibilities of the branch include developing, recommending and implementing methods and procedures for the conduct of the auctions, and working in concert with the Legal Branch, and Finance and Market Analysis Branch to implement effective and efficient methods for auctioning spectrum.

The A&IAD's Auctions Automation Branch is responsible for the development, analysis, and implementation of all facets of the automated programs associated with auctions. This responsibility includes the development, testing, operation, and maintenance of AAS, and the oversight of support services provided by contractor personnel and FCC employees.

The Auctions Expenditure Management Branch, also a part of A&IAD, is responsible for processing requested Auctions expenditures and assisting in the development of the funding requirements for the Auction program. Since 1997, the Auctions Expenditure Management Branch has prepared the annual Auctions Expenditure Report, which is submitted to Congress. Additional responsibilities include the monitoring and reconciliation of financial transactions incurred and maintenance of the tracking system for all auctions-related expenditures.

In FY1996, the FCC published the Auctions Cost Recovery Guidelines in response to an OIG special review. These guidelines provide the FCC's interpretations of Section 309(j)(8)(b) of Title 7, Chapter 5 of the United States Code, which grants the FCC authority to retain auction revenue to offset the cost of implementing the auction program. The procedures identify and classify the types of costs that can be offset by Auctions proceeds. The FCC in FY1999 made an update to the Auctions Cost Recovery Guidelines. However, further legislative rulings have not been issued clarifying and further defining the auctions costs that can be appropriately offset.

The Auctions budget is formulated through a budget "call" process. In past years, Auctions put out a "call" for fund use to the various FCC Bureaus and Offices to determine which groups anticipated having costs attributable to the Auctions program. These requests, if appropriately justified were then incorporated into the Auctions budget request. The Financial Operations group also sent out "calls" for Commission budget

Appendix 1 - Overview of the Auctions Program

requests, but did not process Auctions requests. In 2002, the ownership of the Auctions budget call process was transferred to the Financial Operations department in the Office of the Managing Director (OMD) in order to centralize the process, and manage the funds in the same manner as the Commission's appropriated funds.

Auctions Technical Environment

Upon obtaining authority to conduct spectrum auctions, the FCC performed an analysis of the business and technical requirements necessary to implement and operate the auctions program. The results of this analysis indicated that the Commission's primary data network could not appropriately support the requirements of the auctions program, specifically because of security and reliability needs. As a result, a separate physical environment, an independent network and telephone system, and a separate group of personnel were established.

In 1994, the Commission converted a United States Postal Service warehouse into an onsite Auction Center. Auctions program support personnel was comprised of one (1) federal employee and approximately twenty (20) contractors, who were responsible for the development, testing, and implementation of the first generation of the Automated Auctions System. Today Auctions hosts twenty (20) FTEs and 120 contracted personnel. The initial processing environment consisted entirely of two (2) file and print servers, four (4) database servers, forty (40) personal computers, and various printers in a stand-alone environment. In comparison, the current Auctions architecture consists of seventy-three (73) network devices (including routers, switches, dial-in boxes, firewalls, and load balancers), 241 servers, and multiple network and Internet connections.

Since 1994, several changes have led to substantial modifications in the Auctions processing environment. The Commission's licensing systems were enhanced and modified to support the increased volume of licenses and the geographical nature of auctionable radio services, as opposed to the site based licensing activities previously conducted by the Commission. Revolutions in the technology environment, including the Internet and web-based applications, brought about changes to the way auctions were conducted. In addition, increased needs for security, backup, redundancy and disaster recovery increased the size and complexity of the network. Another driver in the expansion of the Auction program and processing environment was the changes in auction theory. In 1994, simultaneous multiple round auction was revolutionary, whereas today's environment requires more complex and efficient models, such as package bidding, optimal versus sub-optimal solutions, two sided exchanges, and clock driven auction activity. The combined effect of these factors was a transition from the original Auctions processing environment described above, to the environment described in the following paragraphs.

The system used to facilitate auctioning of spectrum is the Automated Auction System (AAS). Phase out of AAS, which has been operational since 1994, is scheduled to begin by the end of the third quarter of FY2004. The Integrated Spectrum Auction System (ISAS) is in the planning and acquisition stage and will replace the current AAS system. The total projected costs for ISAS for the planning, full acquisition, and maintenance of

Appendix 1 - Overview of the Auctions Program

the system over the period of FY2003 – FY2007 is \$71.4M. ISAS is expected to provide Auctions with more flexibility and efficiency in auction set up, pre-auction review, bidding, round results, and post auction processing. The ISAS design will allow for redevelopment of databases and processing systems to integrate all Auction components as well as simultaneous multiple round and package bidding into a single system. The new system will consolidate multiple auction systems into a single auction platform and is expected to result in reduced ongoing maintenance costs.

The Auctions network is used to support AAS for conducting spectrum Auctions. Additionally, the network supports the development, testing, and operation of the Universal Licensing System (ULS). The network spans three physical locations – the Portals I and Portals II facilities in Washington, DC and the Consumer Center located in Gettysburg Pennsylvania. The Gettysburg facility is connected to Portals II via an Ethernet clear channel 45 Mb T3 circuit. This data channel is also used to support non-Auctions communications between the Gettysburg facility and the Washington DC headquarters. The Gettysburg and Portals locations can operate independently, with data being replicated between the sites for continuous operations in the event of a catastrophic system failure at one site. Each of the three physical locations has an independent Internet connection through independent Internet Service Providers (ISPs), with each connection protected by two pairs of firewalls to create a demilitarized zone (DMZ).

In addition to the development of ISAS, several other Auctions network architectural initiatives underway. These initiatives are intended to further develop the Auctions technical environment to provide for improved network security, hardware/software upgrades, data/network assurance, and storage management. Some of the architectural initiatives are:

- ✓ A Solaris version upgrade.
- ✓ Purchase and installation of a SUN database server at the Gettysburg site and Sun servers in Washington, DC to house AAS and ULS production databases.
- ✓ Addition of another test environment for AAS.
- ✓ Separation of the ULS and AAS onto separate, dedicated networks.
- ✓ Addition of a firewall between the Auctions and ITC Networks, and a tertiary firewall pair at each Internet connection.
- ✓ Implementation of Storage Area Network (SAN) technology.
- ✓ Addition of dual core switches and routers in Portal II and Gettysburg facilities to provide redundant network connectivity for servers.
- ✓ Enhanced backup technology, including implementation of enterprise-level tape backup with site-to-site replication.

Appendix 2

FY2001 – FY2002 Auctions Program IT Vendor Expenditures

Appendix 2 – FY2001- FY2002 Auctions Program IT Vendor Expenditures

The following is a summary of the top ten vendors experiencing the largest increase in Auctions program expenditures from FY2001 to FY2002. The total amount of expenditures and fiscal year change for the five (5) recurring vendors in both fiscal years is provided. *(Note: This data reflects the fiscal year in which the expenditure was made, not necessarily the year in which the service was performed):*

Vendor (Rank in FY02)	IT Related	IT Service Provider	Service Provided	FY01 Expenditures	FY02 Expenditures	Increase from FY01- FY02
1*	✓	✓	RAMIS, ULS, AAS, Collections maintenance, programming, development, production, and technical support	\$6,791,778	\$12,351,375	\$5,559,597
2*	✓	✓	Auctions network integration/support, and ULS telephone support	\$1,910,663	\$5,181,322	\$3,270,659
3*	✓	✓	Auctions & licensing Sybase technical support; ULS Sybase & Powerbuilder technical support; Collections technical assistance; Auctions Internet/Intranet assistance; EDOCS development, COSER support	\$2,086,164	\$3,873,841	\$1,787,677
4			Gettysburg rent	\$38,596	\$1,787,713	\$1,749,117
5			Licensing technical & data entry support; RAMIS/CORES administrative support; Auctions help desk support; FO file maintenance; agency inventory maintenance; other	\$2,500,083	\$4,132,434	\$1,632,351
6	✓		Servers for ULS and AAS production environment	\$1,696,591	\$3,083,159	\$1,386,568
7*	✓	✓	Auctions network support; Gettysburg telecommunications support	\$521,039	\$1,849,659	\$1,328,620
8**	✓	✓	Systems development support	\$0	\$701,710	\$701,710
9*	✓	✓	Performance of Certification & Accreditations and Security, Testing & Evaluations	\$46,880	\$638,129	\$591,249
10			COTR Administrative support	\$38,189	\$574,131	\$535,942
Total Auctions Program Expenditure Increase for Five (5) Recurring IT Service Providers				\$11,356,524	\$23,894,326	\$12,537,802

* Recurring IT Service Providers

**New vendor in FY02; not included in 'Total' figures above

Appendix 3
Auctionable Services
History

Appendix 3 – Auctionable Services History

The following is a summary of auctionable services by the date of publication of the Report and Order by fiscal year:

1994

- Narrowband Personal Communication Services (PCS)
- Interactive Video and Data Service
- A-F Block PCS

1995

- Location and Monitoring Services
- Multipoint Distribution Service
- General Wireless Communications Service
- 900 MHz Specialized Mobile Radio (SMR)

1996

- Direct Broadcast Satellite Service
- 800 MHz SMR
- 220 Megahertz (MHz)

1997

- Cellular Unserved
- Wireless Communication Services
- Paging
- Digital Audio Radio Service
- Local Multipoint Distribution Service
- Very High Frequency (VHF) Public Coast

1998

- 39 Gigahertz (GHz)
- Broadcast, FM Broadcast, New AM Broadcast Station, New Analog Television, Low Power Television
- C-F Block Broadband PCS

1999

No new Report and Orders

2000

- Upper 700MHz Band
- Upper 700 MHz Guard Band
- Multiple Address System Spectrum
- 24 GHz, Digital Electronic Message Service
- C&F Block PCS

2001

No new Report and Orders

2002

- Lower 700 MHz band
- Cellular Rural Service Area
- Multi-channel Video Distribution and Data Service
- 1670-1675 MHz Band Nationwide License

Appendix 4

Elements of Non-Compliance of the DRAFT FCC Information Technology Capital Planning and Investment Control Process with OMB A-130 Requirements

Appendix 4 – Elements of Non-Compliance of DRAFT FCC IT Capital Planning and Investment Control Process with OMB A-130 Requirements

OMB A-130 Requirement	Compliance Status of DRAFT IT Capital Planning & Investment Control Process
8.b.(1).(b): What must an agency do as part of the selection component of the capital planning process? It must:	Information contained in the Draft Information Technology Capital Planning and Investment Control Process
(ii) Ensure that decisions to improve existing information systems or develop new information systems are initiated only when no alternative private sector or governmental source can efficiently meet the need;	An analysis of this nature is not referenced in the draft procedures. However, for those projects subject to the SDLC, the Proposal phase includes this activity. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
(iii) Support work processes that it has simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology;	For projects not subject to the SDLC, this is not explicitly stated. However, for projects subject to the SDLC an analysis of COTS packages is required. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
(iv) Reduce risk by avoiding or isolating custom designed components, using components that can be fully tested or prototyped prior to production, and ensuring involvement and support of users;	An analysis of this nature is not referenced in the draft procedures.
(v) Demonstrate a projected return on the investment that is clearly equal to or better than alternative uses of available public resources. The return may include improved mission performance in accordance with GPRA measures, reduced cost, increased quality, speed, or flexibility; as well as increased customer and employee satisfaction. The return should reflect such risk factors as the project's technical complexity, the agency's management capacity, the likelihood of cost overruns, and the consequences of under- or non-performance. Return on investment should, where appropriate, reflect actual returns observed through pilot projects and prototypes;	An analysis of this nature is not referenced in the draft procedures.
(vi) Prepare and update a benefit-cost analysis (BCA) for each information system throughout its life cycle. A BCA will provide a level of detail proportionate to the size of the investment, rely on systematic measures of mission performance, and be consistent with the methodology described in OMB Circular No. A-94, "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs";	An analysis of this nature is not referenced in the draft procedures, however for those systems required to follow the SDLC, a BCA is required during the Project Proposal phase. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.

Appendix 4 – Elements of Non-Compliance of DRAFT FCC IT Capital Planning and Investment Control Process with OMB A-130 Requirements

OMB A-130 Requirement	Compliance Status of DRAFT IT Capital Planning & Investment Control Process
(ix) Ensure that improvements to existing information systems and the development of planned information systems do not unnecessarily duplicate IT capabilities within the same agency, from other agencies, or from the private sector;	An analysis of this nature is not referenced in the draft procedures.
(x) Ensure that the selected system or process maximizes the usefulness of information, minimizes the burden on the public, and preserves the appropriate integrity, usability, availability, and confidentiality of information throughout the life cycle of the information, as determined in accordance with the PRA and the Federal Records Act. This portion must specifically address the planning and budgeting for the information collection burden imposed on the public as defined by 5 CFR 1320;	An analysis of this nature is not referenced in the draft procedures.
(xi) Establish oversight mechanisms, consistent with Appendix III of this Circular, to evaluate systematically and ensure the continuing security, interoperability, and availability of systems and their data;	An analysis of this nature is not referenced in the draft procedures. However, for those projects subject to the SDLC, the Design and Development phases include these activities. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
(xii) Ensure that Federal information system requirements do not unnecessarily restrict the prerogatives of state, local and tribal governments; and	An analysis of this nature is not referenced in the draft procedures. However a review of regulations and statutes is included in the Initiation phase of the SDLC phase. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
(xiii) Ensure that the selected system or process facilitates accessibility under the Rehabilitation Act of 1973, as amended.	An analysis of this nature is not referenced in the draft procedures. However, for those projects subject to the SDLC, design specifications are to address applicable laws included accessibility regulations. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
8.b.(1).(c) What must an agency do as part of the control component of the capital planning process?	Information contained in the Draft Information Technology Capital Planning and Investment Control Process
(iv) Prepare and update a strategy that identifies and mitigates risks associated with each information system;	An analysis of this nature is not referenced in the draft procedures. However, in the Requirements phase of the SDLC, reference is made to identifying risks that will require specific risk management. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
(iv) Ensure that financial management systems conform to the requirements of OMB Circular No. A-127, "Financial Management Systems;"	An analysis of this nature is not referenced in the draft procedures.

Appendix 4 – Elements of Non-Compliance of DRAFT FCC IT Capital Planning and Investment Control Process with OMB A-130 Requirements

OMB A-130 Requirement	Compliance Status of DRAFT IT Capital Planning & Investment Control Process
(v) Provide for the appropriate management and disposition of records in accordance with the Federal Records Act.	An analysis of this nature is not referenced in the draft procedures. However, for major applications the requirement is to be addressed in system security plans, as outlined by the plan template. The SDLC methodology requires completion of the plan during the design and development phase. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
(vi) Ensure that agency EA procedures are being followed. This includes ensuring that EA milestones are reached and documentation is updated as needed.	An analysis of this nature is not referenced in the draft procedures. However, the element is required by the <i>Information Technology Strategic Plan</i> as a responsibility of the <i>Architectural Review Committee</i> . Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
8.b.(1).(d) What must an agency do as part of the evaluation component of the capital planning process?	Information contained in the Draft Information Technology Capital Planning and Investment Control Process
(i) Conduct post-implementation reviews of information systems and information resource management processes to validate estimated benefits and costs, and document effective management practices for broader use;	For projects not subject to the SDLC, this type of review is not stated. However, for projects subject to the SDLC a Post Implementation Review is to be conducted. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
(ii) Evaluate systems to ensure positive return on investment and decide whether continuation, modification, or termination of the systems is necessary to meet agency mission requirements.	A review of this nature is referenced in the draft procedures; however, a template has not yet been developed for conducting the analysis.
(iii) Document lessons learned from the post-implementation reviews. Redesign oversight mechanisms and performance levels to incorporate acquired knowledge.	For projects not subject to the SDLC, this type of review is not stated. However, for projects subject to the SDLC a Post Implementation Review is to be conducted. Specific reference to this element, which is defined in the SDLC, should be made in the finalized CPIC guide.
(iv) Re-assess an investment's business case, technical compliance, and compliance against the EA.	A review of this nature is referenced in the draft procedures; however, a template has not yet been developed for conducting the analysis.

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Appendix 6

Management Response

**RESPONSE OF OFFICE OF MANAGING DIRECTOR AND WIRELESS
TELECOMMUNICATIONS BUREAU TO
DRAFT REPORT ON AUDIT OF AUCTIONS INFORMATION TECHNOLOGY
CAPITAL INVESTMENT PRACTICES
(REPORT NO. 02-AUD-03-12, AUGUST 7, 2003)**

Finding: The analysis of data provided indicates that 4.13% and 6.98% of the new licenses processed in FY2001 and FY2002, respectively, were for auctionable licenses. However, the Auctions program funds 90% of ULS costs. (page 23)

Response: The funding splits are not based just on supporting new licensing activity. For instance, the number of transactions or new licenses is not a good basis for allocating the cost of ULS, because types of licenses may differ greatly in unit cost, e.g., granting a broadcast license (which is auctionable) may involve a great deal more work and expense than granting an Amateur Radio license (which is not auctionable). And, most of the maintenance expense is associated with program code and facilities that support access to auction-related license data. We do agree that the auctions/appropriated funding splits should be reviewed periodically to ensure that it remains valid. Even so, we believe that a figure as high as (or higher than) the current auctions split can continue to be justified.

Finding: [T]he majority of licensing costs attributed to the Auctions program for ULS are for non-auctions related licensing activities as defined by FCC's guidance issued on September 1, 1999. (page 23)

Response: The report suggests that the ULS is too heavily funded by auction program monies, and that an appropriate method for assigning monies would entail the use of an auction/appropriated funding scheme that mirrors the percentage of auctionable/non-auctionable licenses in the ULS inventory. We strongly disagree with this conclusion. Within the Auction's Program, licensing and direct auction activities are inexorably intertwined. Without the data provided by licensing, the auction program would be greatly impaired; similarly, without the requirement of auctioning spectrum, there would be little need for the sophistication and robustness of the ULS. The ULS, therefore, supports the core of the auction program and improves its efforts to effectively and efficiently manage our national spectrum resources. Specifically, the data provided in the ULS assists the industry in performing due diligence on the license available at auction. ULS provides auction participants with information on available markets that allows them to prepare business plans that fully exploit the spectrum's potential to deliver the greatest benefits to the public. Auction bidders employ this information to mitigate the risk of participating in the auction, allowing them to more confidently bid upon the spectrum at auction. Without the data supplied by ULS, bidders would be less inclined to robustly compete in the Commission's auctions. In this way, the ULS differs from other Commission licensing

databases, which were designed primarily to grant construction permits, licenses, and to track regulatory fee collections. The Commission has a statutory obligation to rapidly deploy spectrum and services for the benefit of the public. Our auction program, together with the ULS, allows the Commission to fulfill its Congressional mandates.

As the Commission's Spectrum Policy Task Force's (SPTF) Report recognized, "the government has an almost impossible task in trying to keep pace with the ever-increasing demand for spectrum and the continuing advances in wireless technology and applications." To that end, the Commission strives to achieve flexible spectrum allocation and assignment, largely through the use of auctions, to meet the growing needs of industry's demand for spectrum. The SPTF has noted that the Commission's policies and processes must evolve with the "consumer-driven evolution of new wireless technologies, devices and services." The ULS allows for the Commission to advance its spectrum policies, especially those that involve the use of spectrum auctions as the transitional mechanism. In this respect, the development of new spectrum services subject to auction hinges upon potential service providers and auction participants knowing the incumbents utilizing the spectrum both within the bands (e.g. 700 MHz) and in adjacent bands (e.g. AWS) in which they seek to provide service.

Essentially, the ULS provides the industry with the data necessary to mitigate marketplace risk, to determine their business judgments for the value and acquisition of spectrum, and to expedite delivery of service to the public. Without the ULS, the auction program's ability to assign licenses to those who value them the most would be significantly diminished. Moreover, the fundamental intertwining of the ULS and the auction's program is so critical to the Commission's ability to achieve its statutory obligations that WTB intends to modify its allocation method to charge all or nearly all (from the current 10%) costs of ULS to auction's funds from this point forward. Unfortunately, this draft report does not fully consider the underlying statutory obligations of the Auction Program and asserts findings that reflect a very narrow approach to the business of conducting competitive bidding. For these reasons, we believe that the draft report does not adequately reflect the importance of maintaining a highly reliable and accurate licensing system as a way of developing new services subject to auction.

Finding: By purchasing one SAN to support FCC headquarters operations, the Commission could possibly have reduced these expenditures by approximately \$1.76M. Also, before ITC spends an additional \$.50M for a SAN in Gettysburg, both ITC and Auctions should formally study and report upon the feasibility and cost effectiveness of using the present Gettysburg SAN for contingency planning. (page 32)

Response: During the summer of 2001, the ITC initiated a very detailed systems analysis of large capacity centralized storage products by the firm of Integrated Mass Storage Systems (IMSS). This analysis was initiated due to the input gathered by the ITC in the winter of 2001 during the compilation of the Information Technology Strategic Plan. The strategic plan input and subsequent IMSS analysis report clearly illustrated the need for a centralized mass storage device that could accommodate the data storage and data archive requirements of the Commission. The documentation provided a very detailed plan for how this technology should be implemented inside the Commission. If the ITC and WTB computer rooms had been originally placed in close

proximity to each other, it is possible that the WTB storage requirements could have been met through an expanded ITC investment. However, with the separation and physical distance between the two computer rooms, the use of a shared single mass storage device was not advised.

The cost saving figures that are cited in the Auctions Audit do not reflect the fact that a single SAN solution approach would still need the same total amount of disk storage as is found in the two individual solutions. Much of the total expenditure would still have had to have been incurred because the separate WTB and ITC SAN solutions are not large enough individually to meet the data storage needs of both organizations. The meshed fiber channel architecture for a combined SAN solution would represent the same size investment as the two separate solutions due to the large number of host devices that are being connected. The current tape jukebox solutions for the two separate SANs also represent a similar cost outlay when compared to a single SAN solution device. Due to the greater complexities of tape jukebox devices that contain very large numbers of tape drives the economics-of-scale advantages of purchasing a single tape jukebox solution begin to break down. Overall, due to the large number of host servers that are being attached to the two SAN solutions it is unrealistic to assume that the large \$2,260,000 cost advantage of the single SAN solution cited in the Auctions Audit report could ever be realized.

Due to the requirements to provide a strong COOP solution for the Commission at the Gettysburg facility, it is imperative that the same architecture be implemented for the COOP as is found in the Washington DC facility. One of the goals that the IMSS design plan called for was to provide consistency in facility architectures to accommodate the Commission's COOP requirements. To ensure the success of the COOP it is critical that the same tape media, tape formats, backup software, and backup procedures reside at both the Washington DC and Gettysburg facilities. If the WTB SAN at Gettysburg were to be used for the Commission's COOP solution, system-wide architectural incompatibilities would be introduced that would result in significant delays and complications preventing a COOP event from being implemented within the timeframes that have been prescribed by the Commission's Bureaus and Offices. It is not reasonable to suggest that an architecture as important as the Commission's COOP solution be relegated to simply using whatever system architecture happens to be found in Gettysburg at the time.

Finding: Once determined, the most appropriate method should be consistently used on rental/costs. This is not occurring. For example, shared security upgrades to the FCC's Gettysburg building were charged 100% to Auctions. (page 36)

Response: The OIG conducted an audit of the security over the Auction program locations at headquarters and at Gettysburg. In some cases the audit recommendations were more extensive and expensive than the planned agency security upgrades. As security improvements were implemented the costs were generally distributed between Auctions and S & E except when the audit recommendations exceeded the agency's planned upgrades. When the audit recommendations exceeded the agency's plans, the additional costs to accomplish the audit recommendations were deemed strictly related to the Auctions program and charged 100% to the that program.

Finding: The FCC Information Technology Capital Planning and Investment Control Process is in draft format and does not meet the requirements of the Clinger Cohen Act of 1996.

Specifically, the document does not:

- *include minimum criteria to be applied in considering whether to undertake a particular investment in information systems;*
- *provide for identifying information systems investments that would result in shared benefits or costs for other Federal agencies or State or local governments; or*
- *provide for identifying for a proposed investment quantifiable measurements for determining the net benefits and risks of the investment. (page 44)*

Response: The FCC's IT Capital Planning and Investment Control Process (CPIC) includes each of the features in the bullet-points above, through our System Development Life Cycle (SDLC) methodology, which is incorporated by reference in the CPIC. The SDLC applies to all information systems development or systems maintenance activities costs exceeding \$100,000 in any fiscal year or \$300,000 over the life of the project. In many cases, a project falling below these dollar thresholds may not go through the same review process as a high value IT capital investment, because the costs of doing so may exceed the potential savings.

Finding: First, all IT high value expenditures, such as the SANs, must be approved by a formal capital investment executive board. (page 46)

Response: We concur with this finding.

Finding: The oversight board should also approve the percentage of the investment charged to Auctions. (page 46)

Response: Neither the Clinger-Cohen Act nor OMB Circular A-130 require the board to approve the division of an investment's cost between funding sources. Moreover, the legally permitted uses of auction revenue are determined under legislation unrelated to the Act, that is, by 47 USC 309 and we believe the appropriate responsibility for these determinations rests with the **Agency itself, i.e.**, the Managing Director and/or the Chief Financial Officer (as delegated). Approving the auctions split for an investment has nothing to do with capital planning and investment determinations – these are simply funding source determinations.

Recommendation: We recommend that the Federal Communications Commission implement an effective IT capital investment program. (page 46)

Response: Concur. The FCC is currently engaged in providing for a structured, integrated approach to managing our IT expenditures in alignment with the Clinger-Cohen Act and OMB guidance. This process, to be completed in fiscal year 2004, will ensure that all high value IT capital investments align with the mission and support business needs while minimizing risks and maximizing returns throughout the investment's lifecycle.

Appendix 7
OIG Comments

Appendix 7
Response of the Office of Inspector General (OIG) to Management's Comments on the Auctions IT Capital Investment Report

Listed below are the OIG responses to management's comments on the Auctions IT Capital Investment Report. The report observation to which Federal Communication Commission (FCC) management responded is first. The comments of management are in italics. These comments have been repeated in their entirety. The OIG response is immediately below. Appendix 6 contains the verbatim text of management's comments.

OBSERVATION

The analysis of data provided indicates that 4.13% and 6.98% of the new licenses processed in FY2001 and FY2002, respectively, were for auctionable licenses. However, the Auctions program funds 90% of ULS costs. (Page 23)

MANAGEMENT COMMENTS

The funding splits are not based just on supporting new licensing activity. For instance, the number of transactions or new licenses is not a good basis for allocating the cost of ULS, because types of licenses may differ greatly in unit cost, e.g., granting a broadcast license (which is auctionable) may involve a great deal more work and expense than granting an Amateur Radio license (which is not auctionable). And, most of the maintenance expense is associated with program code and facilities that support access to auction-related license data. We do agree that the auctions/appropriated funding splits should be reviewed periodically to ensure that it remains valid. Even so, we believe that a figure as high as (or higher than) the current auctions split can continue to be justified.

OIG RESPONSE

This management observation does not consider the information in Figure 20 which is also on page 23. Figure 20 analyzes the percentage of total ULS transactions that were auctionable. This analysis indicates that 4.09% and 5.15% of ULS transactions processed in FY2001 and FY2002, respectively, were for auctionable licenses. These percentages are lower than those quoted for new licenses in the management response.

The purpose of this analysis is to point out that the 90/10 Auctions funding percentage is obsolete and needs to be recalculated. We are not suggesting a specific Auctions funding percentage. However, we are suggesting that the data on page 23 of this report be considered, as well as the information contained in the Commission's Spectrum Policy Task Force report, when determining a new percentage.

OBSERVATION

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The majority of licensing costs attributed to the Auctions program for ULS are for non-Auctions related activities as defined by FCC's guidance issued on September 1, 1999. (Page 23)

MANAGEMENT COMMENTS

The report suggests that the ULS is too heavily funded by auction program monies, and that an appropriate method for assigning monies would entail the use of an auction/appropriated funding scheme that mirrors the percentage of auctionable/non-auctionable licenses in the ULS inventory. We strongly disagree with this conclusion. Within the Auction's Program, licensing and direct auction activities are inexorably intertwined. Without the data provided by licensing, the auction program would be greatly impaired; similarly, without the requirement of auctioning spectrum, there would be little need for the sophistication and robustness of the ULS. The ULS, therefore, supports the core of the auction program and improves its efforts to effectively and efficiently manage our national spectrum resources. Specifically, the data provided in the ULS assists the industry in performing due diligence on the license available at auction. ULS provides auction participants with information on available markets that allows them to prepare business plans that fully exploit the spectrum's potential to deliver the greatest benefits to the public. Auction bidders employ this information to mitigate the risk of participating in the auction, allowing them to more confidently bid upon the spectrum at auction. Without the data supplied by ULS, bidders would be less inclined to robustly compete in the Commission's auctions. In this way, the ULS differs from other Commission licensing databases, which were designed primarily to grant construction permits, licenses, and to track regulatory fee collections. The Commission has a statutory obligation to rapidly deploy spectrum and services for the benefit of the public. Our auction program, together with the ULS, allows the Commission to fulfill its Congressional mandates.

As the Commission's Spectrum Policy Task Force's (SPTF) Report recognized, "the government has an almost impossible task in trying to keep pace with the ever-increasing demand for spectrum and the continuing advances in wireless technology and applications." To that end, the Commission strives to achieve flexible spectrum allocation and assignment, largely through the use of auctions, to meet the growing needs of industry's demand for spectrum. The SPTF has noted that the Commission's policies and processes must evolve with the "consumer-driven evolution of new wireless technologies, devices and services." The ULS allows for the Commission to advance its spectrum policies, especially those that involve the use of spectrum auctions as the transitional mechanism. In this respect, the development of new spectrum services subject to auction hinges upon potential service providers and auction participants knowing the incumbents utilizing the spectrum both within the bands (e.g. 700 MHz) and in adjacent bands (e.g. AWS) in which they seek to provide service. Essentially, the ULS provides the industry with the data necessary to mitigate marketplace risk, to determine their business judgments for the value and acquisition of

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spectrum, and to expedite delivery of service to the public. Without the ULS, the auction program's ability to assign licenses to those who value them the most would be significantly diminished. Moreover, the fundamental intertwining of the ULS and the auction's program is so critical to the Commission's ability to achieve its statutory obligations that WTB intends to modify its allocation method to charge all or nearly all (from the current 10%) costs of ULS to auction's funds from this point forward. Unfortunately, this draft report does not fully consider the underlying statutory obligations of the Auction Program and asserts findings that reflect a very narrow approach to the business of conducting competitive bidding. For these reasons, we believe that the draft report does not adequately reflect the importance of maintaining a highly reliable and accurate licensing system as a way of developing new services subject to auction.

OIG RESPONSE

The statement that the majority of licensing costs attributed to the Auctions program for ULS are for non-Auctions related activities is supported by the Figures 20 and 21 on page 23 of this report. This conclusion is based on the FCC guidance issued on September 1, 1999. This guidance is still in effect.

In its response, management appears to believe that the findings of the Spectrum Policy Task Force have made the 1999 guidance obsolete. We recognize that the requirements of flexible spectrum allocation may alter the definition of Auctions related activity in ULS. If this is true, the Commission should revise its 1999 guidance and issue new guidelines that appropriately incorporate the results of the Spectrum Policy Task Force.

OBSERVATION

By purchasing one SAN to support FCC headquarters operations, the Commission could possibly have reduced these expenditures by approximately 1.76M. Also before ITC spends an additional \$0.50M for a SAN in Gettysburg, both ITC and Auctions should formally study and report upon the feasibility and cost effectiveness of using the present Gettysburg SAN for contingency planning. (Page 32)

MANAGEMENT COMMENTS

During the summer of 2001, the ITC initiated a very detailed systems analysis of large capacity centralized storage products by the firm of Integrated Mass Storage Systems (IMSS). This analysis was initiated due to the input gathered by the ITC in the winter of 2001 during the compilation of the Information Technology Strategic Plan. The strategic plan input and subsequent IMSS analysis report clearly illustrated the need for a centralized mass storage device that could accommodate the data storage and data archive requirements of the Commission. The documentation provided a very detailed

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plan for how this technology should be implemented inside the Commission. If the ITC and WTB computer rooms had been originally placed in close proximity to each other, it is possible that the WTB storage requirements could have been met through an expanded ITC investment. However, with the separation and physical distance between the two computer rooms, the use of a shared single mass storage device was not advised.

The cost saving figures that are cited in the Auctions Audit do not reflect the fact that a single SAN solution approach would still need the same total amount of disk storage as is found in the two individual solutions. Much of the total expenditure would still have had to have been incurred because the separate WTB and ITC SAN solutions are not large enough individually to meet the data storage needs of both organizations. The meshed fiber channel architecture for a combined SAN solution would represent the same size investment as the two separate solutions due to the large number of host devices that are being connected. The current tape jukebox solutions for the two separate SANs also represent a similar cost outlay when compared to a single SAN solution device. Due to the greater complexities of tape jukebox devices that contain very large numbers of tape drives the economics-of-scale advantages of purchasing a single tape jukebox solution begin to break down. Overall, due to the large number of host servers that are being attached to the two SAN solutions it is unrealistic to assume that the large \$2,260,000 cost advantage of the single SAN solution cited in the Auctions Audit report could ever be realized.

Due to the requirements to provide a strong COOP solution for the Commission at the Gettysburg facility, it is imperative that the same architecture be implemented for the COOP as is found in the Washington DC facility. One of the goals that the IMSS design plan called for was to provide consistency in facility architectures to accommodate the Commission's COOP requirements. To ensure the success of the COOP it is critical that the same tape media, tape formats, backup software, and backup procedures reside at both the Washington DC and Gettysburg facilities. If the WTB SAN at Gettysburg were to be used for the Commission's COOP solution, system-wide architectural incompatibilities would be introduced that would result in significant delays and complications preventing a COOP event from being implemented within the timeframes that have been prescribed by the Commission's Bureaus and Offices. It is not reasonable to suggest that an architecture as important as the Commission's COOP solution be relegated to simply using whatever system architecture happens to be found in Gettysburg at the time.

OIG RESPONSE

In his May 27, 2003 written comments on the preliminary draft report, the Chief Information Officer (CIO) stated that "the ITC SAN has the potential to support the entire Commission infrastructure for data storage and backup capabilities." If the CIO's statements are accurate, then the entire Auctions SAN was an unnecessary purchase.

Before spending another \$500,000 of Commission funds, the OIG suggested that ITC and WTB study the feasibility using the Auctions SAN. Because the Commission has a

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\$600,000 SAN sitting in Gettysburg at this time, we still think that the FCC should formally analyze and report on the feasibility of using the Auctions SAN for the COOP.

The Commission's view of the SANs is at odds with published Office of Management and Budget (OMB) standards. OMB Memorandum M-03-14, Reducing Cost and Improving Quality in Federal Purchases of Commercial Software, issued June 2, 2003, outlines steps Federal agencies should take to reform the uncoordinated approach wasteful and ineffective to acquiring common software (and other information technology) purchases. OMB Memorandum M-03-18, Implementation Guidance for the E-Government Act of 2002, issued August 1, 2003, requires agency CIOs to insure the interoperability of systems and to reuse technology where applicable. Having two expensive "stovepipe" SANs in Gettysburg is at variance with these OMB authorities.

OBSERVATION

Once determined, the most appropriate method should be consistently used on rental/costs. This is not occurring. For example, shared security upgrades to the FCC's Gettysburg building were changed 100% to Auctions. (Page 36)

MANAGEMENT COMMENTS

The OIG conducted an audit of the security over the Auction program locations at headquarters and at Gettysburg. In some cases the audit recommendations were more extensive and expensive than the planned agency security upgrades. As security improvements were implemented the costs were generally distributed between Auctions and S & E except when the audit recommendations exceeded the agency's planned upgrades. When the audit recommendations exceeded the agency's plans, the additional costs to accomplish the audit recommendations were deemed strictly related to the Auctions program and charged 100% to the that program.

OIG RESPONSE

Using an OIG audit to justify Auctions funding is a specious rationale. The OIG justifies its audit funding based on the percentage of Auctions activity of the program being reviewed. Justifying funding on an OIG audit ignores the underlying program, whose relationship to Auctions may have changed after the completion of the review.

OBSERVATION

The FCC Information Technology Capital Planning and Investment Control Process is in draft format and does not meet the requirements of the Clinger-Cohen Act of 1996. Specifically, the document does not:

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- include minimum criteria to be applied in considering whether to undertake a particular investment in information systems;
- provide for identifying information systems investments that would result in shared benefits or costs for other Federal agencies or State or local governments; or
- provide for identifying for a proposed investment quantifiable measurements for determining the net benefits and risks of the investment. (page 23)

MANAGEMENT COMMENTS

The FCC's IT Capital Planning and Investment Control Process (CPIC) includes each of the features in the bullet-points above, through our System Development Life Cycle (SDLC) methodology, which is incorporated by reference in the CPIC. The SDLC applies to all information systems development or systems maintenance activities costs exceeding \$100,000 in any fiscal year or \$300,000 over the life of the project. In many cases, a project falling below these dollar thresholds may not go through the same review process as a high value IT capital investment, because the costs of doing so may exceed the potential savings.

OIG RESPONSE

These items should be incorporated explicitly into the FCC's Information Technology Capital Planning and Investment Control Process. Leaving out such important information systems standards makes the document incomplete. Referring by reference to the SDLC makes the document difficult to effectively use.

Also, we noted the Information Technology Capital Planning and Investment Control Process did not comply with eighteen (18) provisions of OMB Circular A-130. Please refer to Appendix 4, Elements of Non-Compliance of the DRAFT FCC Information Technology Capital Planning and Investment Control Process with OMB A-130 Requirements, of the report for details. These A-130 observations should be explicitly incorporated into this document. The provisions included many that are already in the SDLC, such as accessibility. No formal objections to these A-130 related observations have been raised.

OBSERVATION

The oversight board should also approve the percentage of the investment charged to Auctions. (page 46)

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*Neither the Clinger-Cohen Act nor OMB Circular A-130 require the board to approve the division of an investment's cost between funding sources. Moreover, the legally permitted uses of auction revenue are determined under legislation unrelated to the Act, that is, by 47 USC 309 and we believe the appropriate responsibility for these determinations rests with the *Agency itself, i.e., the Managing Director and/or the Chief Financial Officer (as delegated)*. Approving the auctions split for an investment has nothing to do with capital planning and investment determinations – these are simply funding source determinations.*

OIG RESPONSE

We agree that neither Clinger-Cohen Act nor Circular A-130 explicitly requires the oversight board to approve the percentage of the investment charged to Auctions. However, Auctions funding is an integral part of any investment decision at the FCC. The decision to fund a Commission project sometimes turns upon the availability of Auctions funds. Projects that do not receive Auctions funding often are not initiated.

At the FCC, the approval of the percentage of the investment charged to Auctions is such an important factor in project funding that we think that the oversight board must also approve the percentage of Auctions funding. The authority of the oversight board should be at a high enough level to provide and enforce this type of decision making.