

GAO

Report to the Chairman, Subcommittee
on Interior, Environment, and Related
Agencies, Committee on Appropriations,
House of Representatives

April 2005

KENNEDY CENTER

Stronger Oversight of Fire Safety Issues, Construction Projects, and Financial Management Needed





Highlights of [GAO-05-334](#), a report to the Chairman, Subcommittee on Interior, Environment, and Related Agencies, Committee on Appropriations, House of Representatives

Why GAO Did This Study

Since fiscal year 1995, the John F. Kennedy Center for the Performing Arts (Kennedy Center) has received nearly \$203 million in federal funds to complete capital projects and intends to request an additional \$43 million in appropriations through fiscal year 2008. The Kennedy Center's Comprehensive Building Plan identifies these capital projects as necessary to renovate the center and meet or exceed relevant life safety and disabled access regulations. GAO was asked to examine (1) the progress the center has made in completing key capital projects within estimated costs, and how it communicated this progress; (2) the current status of the center regarding fire and life safety and disabled access requirements; and (3) what best practices could help the center improve planning and management of capital projects.

What We Recommend

GAO recommends here and in April 6, 2005, testimony that the Kennedy Center increase oversight, better comply with fire code, and conform to project management best practices. The Kennedy Center believes that it is in compliance with fire code, but agrees to seek third-party review. It agreed with our recommendation to improve oversight and management practices, but contended its financial controls were adequate.

www.gao.gov/cgi-bin/getrpt?GAO-05-334

To view the full product, including the scope and methodology, click on the link above. For more information, contact Mark L. Goldstein at (202) 512-2834 or goldsteinm@gao.gov.

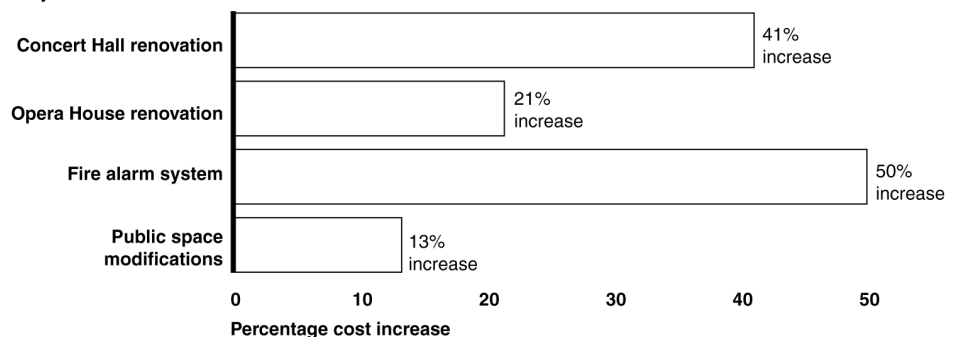
KENNEDY CENTER

Stronger Oversight of Fire Safety Issues, Construction Projects, and Financial Management Needed

What GAO Found

Although the Kennedy Center has achieved its goal of renovating the Opera House, Concert Hall, and plaza-level public spaces, each of these projects exceeded budget estimates, some by substantial amounts. Project cost growth resulted from modifications made during the renovation process, due, in part, to the Kennedy Center's lack of knowledge of the building's site conditions. Modifications led to overtime charges paid to meet tight construction schedules. Also, the center may have paid higher costs than necessary by negotiating contract modification values after work was completed. A lack of comprehensive policies and procedures limited the Kennedy Center's ability to adequately safeguard federal funds. Furthermore, our review of communication documents showed that Kennedy Center management did not always timely or accurately convey project cost growth and delays to its Board of Trustees or Congress.

Cost over Initial Budgets for Selected Kennedy Center Projects



Source: GAO analysis of Kennedy Center data.

The Kennedy Center has complied with disabled access requirements in renovated areas. However, GAO identified three areas where the center does not appear to meet fire safety code requirements: (1) the center has not taken steps to ensure that exit paths through the Grand Foyer, Hall of Nations, and Hall of States provide adequate protection from fire; (2) doors in critical areas do not provide adequate protection from fire; and (3) the Millennium Stages have exit deficiencies and lack sprinkler and smoke evacuation systems required by code. In addition, it does not appear that the center clearly informed the board or Congress of its decision not to install sprinklers or other fire suppression systems in the plaza-level public spaces.

Given the ongoing project management issues GAO has identified, the Kennedy Center could benefit from considering best practices for project management. In February 2004, GAO identified components of a best practices framework that include (1) conducting comprehensive planning, (2) assessing risks, (3) comprehensively managing project finances, (4) establishing accountability for and oversight of federal resources, and (5) incorporating stakeholders' interests.

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Abbreviations

ADA	Americans with Disabilities Act
CBP	Comprehensive Building Plan
GSA	General Services Administration
JFMIP	Joint Financial Management Improvement Program
NFPA 101	National Fire Prevention Association Life Safety Code
OIG	Office of the Inspector General
OMB	Office of Management and Budget

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United States Government Accountability Office
Washington, D.C. 20548

April 22, 2005

The Honorable Charles Taylor
Chairman, Subcommittee on Interior, Environment,
and Related Agencies
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

The John F. Kennedy Center for the Performing Arts (Kennedy Center) opened in 1971 as a national cultural arts center and presidential memorial. Every year, millions of people visit the Kennedy Center to view the center and memorial or attend one of the center's performances. Since at least 1990, the Kennedy Center facility has needed substantial capital repairs. Officials from both the Kennedy Center and the National Park Service, which at that time shared responsibility for managing the Kennedy Center, acknowledged that the center had reached a seriously deteriorated state.

In 1994, Congress gave the Kennedy Center sole responsibility for managing the facility. As part of those responsibilities, Congress also required the Kennedy Center to develop, and annually update, a comprehensive building needs plan. In response, the Kennedy Center developed a Comprehensive Building Plan (CBP) in 1995 that included an assessment of the facility and identified the capital projects it believed were necessary to repair the center and bring it into compliance with current fire life safety and disabled access codes.¹ The plan consisted of a long-term capital repair and upgrade project that, among other things, envisioned the center's meeting or exceeding relevant fire life safety regulations by 2008 and that addressed disabled access needs. To implement its CBP, the Kennedy Center has received almost \$203 million² in federal funds from fiscal years 1995 through 2005 for capital repairs and

¹The National Fire Prevention Association Life Safety Code deals with life safety from fire and like emergencies. The code covers construction, protection, and occupancy features to minimize danger to life from fires, smoke, fumes, or panic before buildings are vacated. The Americans with Disabilities Act prohibits discrimination on the basis of disability in employment, services rendered by state and local governments, places of public accommodation, transportation, and telecommunications services.

²This amount is comprised of a \$35.3 million beginning balance, which is the value of transfers from the National Park Service and the Smithsonian Institution, and approximately \$167.6 million in federal appropriations.

alterations, and Kennedy Center officials said that additional appropriations totaling \$43 million through fiscal year 2008 are needed to complete the planned projects.

For more than a decade, we have identified shortcomings in, and made recommendations to improve, the Kennedy Center's construction, planning, and management processes. In the 1990s, we reported that the Kennedy Center did not have sufficient staff capability to effectively manage its capital improvement plans.³ In 2003, we reported that the Kennedy Center needed to strengthen the management and oversight of large construction projects, such as the garage expansion and renovation project.⁴ In 2004, we reported that the Kennedy Center had implemented most of the projects in its CBP but would likely not complete its plan by 2008, given the number and size of the renovation projects that remained to be done, anticipated future appropriations, and the likelihood that project budgets may increase as designs are completed (see app. I).⁵

To assist the subcommittee in its oversight role and in making future funding decisions, you asked that we discuss in this report (1) the progress the Kennedy Center has made in completing key capital projects within estimated costs, and how it communicated information about this progress to its Board of Trustees and Congress; (2) the center's current status regarding fire life safety and disabled access requirements; and (3) what best practices, if any, could help the center improve its capital projects planning and management process. We also included information on the Kennedy Center's federal appropriations for capital repairs and alterations in appendix II and the status of the center's implementation of previous GAO recommendations in appendix III.

To determine the Kennedy Center's progress in completing key projects, we reviewed the center's audited financial statements and a selection of the invoices found in project, contracting, and finance files for five of the

³GAO, *Kennedy Center: Information on the Capital Improvement Program*, [GAO/GGD-93-46](#) (Washington, D.C.: Feb. 9, 1993) and *Kennedy Center: Information on Facility Management Capability*, [GAO/GGD-98-56](#) (Washington, D.C.: Mar. 25, 1998).

⁴GAO, *Kennedy Center: Improvements Needed to Strengthen the Management and Oversight of the Construction Process*, [GAO-03-823](#) (Washington, D.C.: Sept. 5, 2003).

⁵GAO, *Kennedy Center: More Information on Project Status and Budgets Needed to Understand the Impact of Future Funding Decisions*, [GAO-04-933](#) (Washington, D.C.: Sept. 15, 2004).

largest projects—the renovation of the Concert Hall, Opera House, Eisenhower Theater, and plaza-level public spaces and the installation of a new fire alarm system—to the extent that they existed. These projects represent the three largest theaters at the Kennedy Center, the largest public spaces, and the most expensive fire life safety improvements completed to date. We also reviewed federal authorization and appropriation laws; the Public Buildings Act, as amended, and implementing regulations; the John F. Kennedy Center Act, as amended; the Americans with Disabilities Act, as amended; and the Economy Act. To determine how the Kennedy Center communicates with stakeholders, we reviewed minutes from the Board of Trustees’ meetings, minutes and agendas of the board’s Operations Subcommittee meetings, the CBPs published since 1995, annual center budget justifications to Congress since 1995, and testimonies before Congress over this same time period. To assess the center’s compliance with fire life safety and disabled access requirements, our staff of licensed professional engineers toured the site, and we contracted with an independent expert to assess the Kennedy Center’s compliance with applicable fire life safety code and disabled access requirements.⁶ For the purposes of our analysis of the Kennedy Center’s fire life safety code compliance, we took the center’s ongoing and planned fire life safety upgrades into consideration when identifying deficiencies, and we did not identify deficiencies for cases where upgrades or improvements were planned. To identify best practices for project management, we synthesized information from our previous work on best practices in capital project management⁷ with other independent sources. During our review, we interviewed numerous Kennedy Center senior managers and officials in the Project Management, Contracts, Finance, and President’s Offices and officials from the Smithsonian Institution’s (Smithsonian) Office of the Inspector General (OIG), the General Services Administration’s (GSA) National Capital Region, and the office of the District of Columbia (D.C.) Fire Marshal. We also determined that the data used in this report were sufficiently reliable for the purpose of our review. We conducted our review from August 2004 to March 2005 in accordance with generally accepted government auditing standards.

⁶UNICCO Government Services, Inc., *Life Safety, Fire Alarm System and ADA Assessment of the John F. Kennedy Center For The Performing Arts* (Centreville, VA: 2005).

⁷GAO, *Intercity Passenger Rail: Amtrak’s Management of Northeast Corridor Improvements Demonstrates Need for Applying Best Practices*, [GAO-04-94](#) (Washington, D.C.: Feb. 27, 2004).

Results in Brief

Although the Kennedy Center has achieved its goal of renovating the Opera House, Concert Hall, and its plaza-level public spaces, and installed a buildingwide fire alarm system, each of these projects exceeded its budget estimates by amounts ranging from 13 to 50 percent, and it does not appear that center officials always timely or accurately communicated the cost growth and delays to its Board of Trustees or Congress. Cost growth in these projects resulted from unanticipated modifications made during the renovation process and condensed schedules. Such modifications were necessary, in part, because the Kennedy Center lacked knowledge of the building's site conditions. The project modifications, in turn, led to overtime charges paid to meet tight construction schedules. For example, the Kennedy Center paid \$560,000 in overtime charges during the Opera House renovation to complete the work on schedule. The center also may have paid higher-than-necessary costs to contractors by routinely negotiating the value of project modifications after contractors had already completed the work. In addition, the absence of comprehensive policies and procedures across the project management, contracting, and finance departments has impeded effective project management and diminished the oversight of federal funds. Finally, our review of the communications documentation showed that the Kennedy Center management did not always timely or accurately communicate cost overruns and schedule changes to its Board of Trustees or Congress. For example, the Concert Hall renovation resulted in cost growth of \$6.2 million, or 41 percent, over the original budget; however, Kennedy Center officials repeatedly testified before Congress, several years after renovations were complete, that the project was completed within budget estimates.

The Kennedy Center does not appear to meet some fire safety code requirements, but the center has complied with, and exceeded in some instances, disabled access requirements in renovated areas of the center. After requesting and obtaining funds from Congress to address fire code deficiencies, such as the need for fire suppression systems, the Kennedy Center decided against its plan to meet fire safety code requirements by installing sprinklers and smoke evacuation systems in the Grand Foyer, the Hall of States, and the Hall of Nations. The Kennedy Center reversed its decision to install these systems without having its decision independently reviewed or clearly informing its Board or Congress that it was not

spending the funds as planned.⁸ To identify and mitigate fire protection issues concerning exit paths through the Grand Foyer, the Hall of States, and the Hall of Nations, the Kennedy Center commissioned and used the results of a fire-modeling study. The center has not implemented some of the study's recommendations, nor did it seek peer review of the study even though the fire code provides for third-party validation and support for a study's assumptions and conditions. Third-party validation is particularly important in this instance because the Kennedy Center's fire safety decisions are not subject to external review. In addition, we identified two deficiencies, based on fire code, that are of immediate concern. First, the doors in critical areas, such as the fire pump room and the Fire Command Center, do not provide adequate separation from fire as outlined in the fire safety code. Second, fire-safety-related problems exist with the Millennium Stages. The stages located at the ends of the Grand Foyer could pose exit problems in the event of fire.⁹ Furthermore, the Millennium Stages do not have sprinkler and smoke control systems as required by fire code. Officials from the Kennedy Center said that they believe that all fire safety code requirements are being met but agreed to add fire protective doors and document their key decisions. Due to the critical nature of fire safety issues, on February 4, 2005, we sent the Kennedy Center President a letter outlining the apparent code deficiencies (see app. IV). Regarding disabled access projects, we concluded that the Kennedy Center meets or exceeds the requirements outlined in the Americans with Disabilities Act¹⁰ (ADA) on the basis of our independent expert's review. For example, disabled patrons can now access all tiers of the Concert Hall and Opera House, and ushers receive special training for assisting disabled patrons.

Given the ongoing management problems we have identified, the Kennedy Center could benefit from considering best practices for project management. In February 2004, we identified components of a best

⁸In accordance with fire code, the Kennedy Center conducted an egress and fire-modeling study to determine if occupants could safely exit the building in the event of a fire. The modeling study predicted that patrons would be able to escape the Kennedy Center safely in the event of a fire before conditions became untenable provided that the center took steps to minimize evacuation delays and limit storage of combustible materials. The study also recommended that the Kennedy Center install sprinklers in the Millennium Stages for added protection.

⁹Fire code defines means of egress as a continuous and unobstructed way of travel from any point in a building to a public way consisting of three separate and distinct parts: (1) the exit access, (2) the exit, and (3) the exit discharge.

¹⁰42 U.S.C. § 12101 et. seq.

practices framework. These components include (1) conducting comprehensive project planning, (2) assessing risks and identifying mitigation measures, (3) comprehensively managing project finances, (4) establishing accountability for and oversight of projects, and (5) incorporating stakeholders' interests in planning and implementing projects. Comprehensive planning helps manage and control project implementation. Assessing risks and identifying mitigation measures assist in meeting project goals by recognizing and responding to problems early. Comprehensively managing project finances is important for estimating and controlling project costs. Establishing accountability for and oversight of projects better ensures the prudent use of resources, including federal resources. Incorporating diverse stakeholders' interests helps facilitate projects' successful implementation by ensuring a clear understanding of roles, responsibilities, and potential concerns. Related to these best practices, the Kennedy Center has begun to take steps to improve its project management approach, but additional improvements are needed.

GAO recommends here and in testimony on April 6, 2005, that the Chairman of the Kennedy Center Board of Trustees (1) strengthen oversight of center management through the Board of Trustees and external entities, such as an Inspector General; (2) take steps to better comply with fire safety code and seek peer review of its use of modeling studies; and (3) better conform to best practices regarding stakeholder communications, financial management, and document retention.

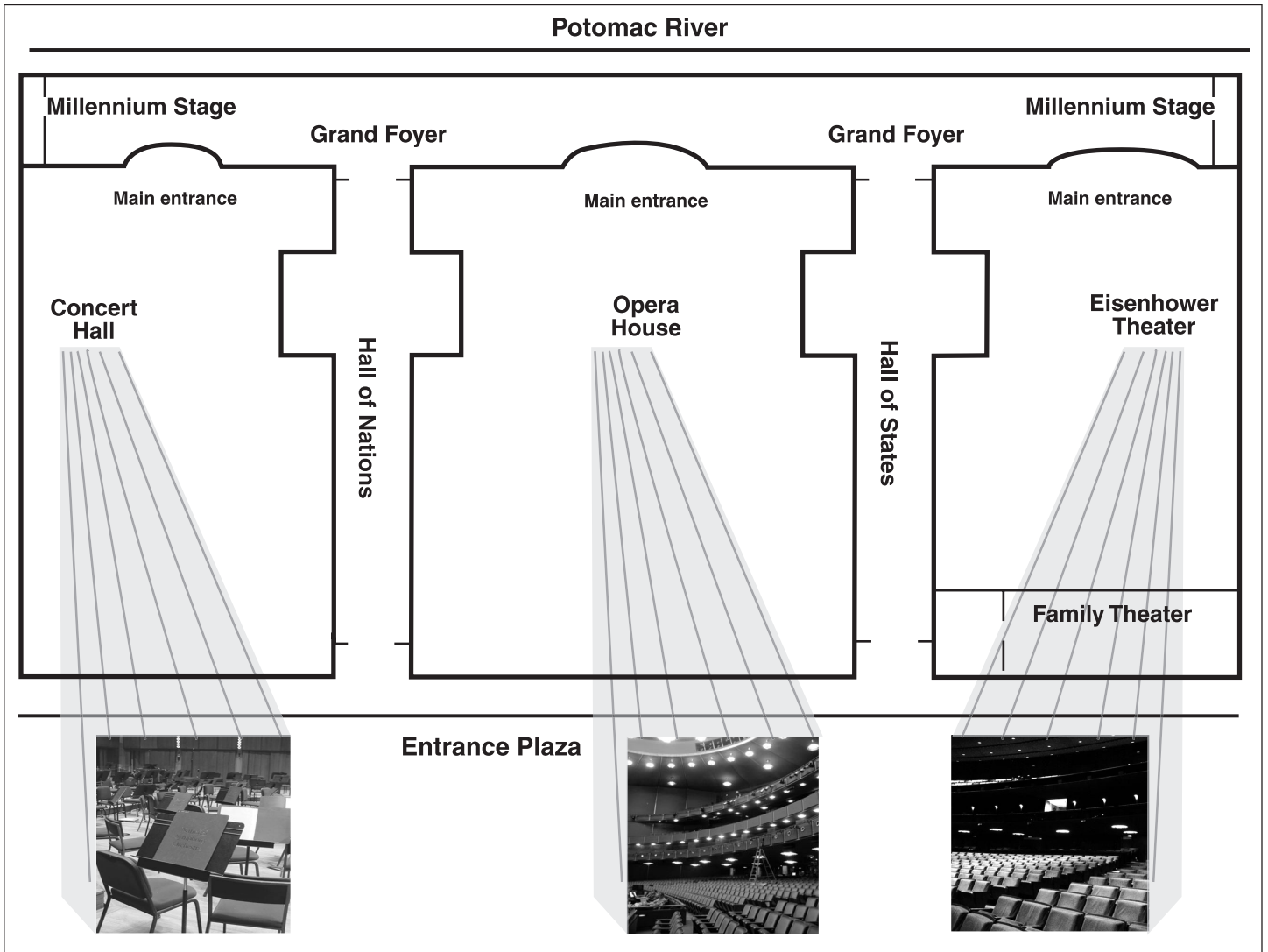
We provided a draft of this report to the Kennedy Center for its review and comment. The Kennedy Center stated that it had made a number of significant management improvements in recent years and will continue to do so. The Kennedy Center further noted that the scope of our current work may not have reflected these changes. In conducting our work, we reviewed the details of recent management changes that the Kennedy Center has made, but we were unable to gauge the impact of some of these changes since they are relatively recent in nature or still in development. The Kennedy Center agreed with several of our recommendations, but disagreed with others. The Kennedy Center believes that it is in compliance with fire code, but agreed to seek third-party review of its approach to certain fire code deficiencies. The Kennedy Center agreed that it could improve its information about capital projects, its document retention practices, and its knowledge of site conditions at the center. However, the Kennedy Center disagreed that it needed to strengthen its financial controls in the way that we recommended. For example, the center believes that its information is up to date, and it plans to fully comply with the Economy

Act. We continue to believe the Kennedy Center needs to strengthen its financial management controls in order to improve the quality of its financial records and better safeguard federal funds. The Kennedy Center also provided technical comments that we incorporated in this report as appropriate.

Background

The Kennedy Center opened in 1971 and is located on 17 acres along the Potomac River in Washington, D.C. The center houses four major theaters and several smaller theaters, five public halls or galleries, educational facilities, rehearsal spaces, offices, and meeting rooms in about 1.1 million square feet of space. The plaza level is the primary focus for patrons and tourists, including three main theaters, the Grand Foyer, the Hall of States, and the Hall of Nations. Access to other areas, such as the roof terrace level, is provided through the Grand Foyer, Hall of States, and Hall of Nations. Figure 1 provides a diagram of the Kennedy Center's plaza level.

Figure 1: Diagram of the Kennedy Center's Plaza-Level Public Spaces and Theaters



Sources: Kennedy Center (data) and GAO (photos).

In a 1972 agreement with the Department of the Interior, the Kennedy Center Board of Trustees¹¹ retained responsibility for all performing arts activities at the Kennedy Center, but services not related to the performing arts were assumed by the National Park Service. Under this arrangement, the Kennedy Center facility incurred a backlog of capital repairs, in part, because responsibility for identifying and completing capital repairs and improvements at the center was unclear. Legislation was enacted in 1990 that directed the National Park Service and the Board of Trustees to enter into a cooperative agreement clarifying responsibilities related to maintenance, repair, and alteration of the center, but the parties were unable to reach an agreement. In 1994, legislation was enacted that gave the Board of Trustees sole responsibility for carrying out capital improvements at the Kennedy Center. A purpose of the legislation was to provide autonomy for the overall management of the Kennedy Center, including better control over its capital projects, and to renovate the center. The legislation further required the Board of Trustees to develop and annually update a comprehensive building needs plan.¹²

In response to the 1994 legislation, the center published its first CBP in 1995 describing the goals of the renovation, including addressing fire life safety and disabled access code deficiencies—such as installing sprinklers throughout the center, replacing inefficient building systems, and improving visitor services. The law the Kennedy Center follows regarding facility construction or alteration requires that it be in compliance with nationally recognized model building codes and other applicable nationally recognized fire safety codes to the maximum extent feasible.¹³ As in the case of federal agencies, the Kennedy Center is the authority having jurisdiction for making a final determination on whether the center is complying with fire safety code.¹⁴ The Kennedy Center policy on building codes states that, where feasible, it will comply with the International Building Code (2003), International Fire Code (2003), as well as selected provisions of the National Fire Prevention Association Life Safety Code (NFPA 101) (2003). In 1995, the Kennedy Center anticipated undertaking

¹¹The Kennedy Center Board of Trustees currently consists of 23 government positions, including congressional members, as well as 36 general trustees appointed by the President of the United States. Each general trustee serves a term of 6 years.

¹²20 U.S.C. § 76j(a)(1)(F).

¹³40 U.S.C. § 3312.

¹⁴For purposes of certain laws, the Kennedy Center is treated as a federal agency.

critical fire life safety projects by the end of fiscal year 1999. However, to minimize disruption to performances, the Kennedy Center changed its approach to making capital improvements. Rather than undertaking broadscale projects that could disrupt the entire center, the Kennedy Center chose to renovate the center incrementally while keeping the rest of the center open and operating. For example, rather than installing a new sprinkler system for fire suppression throughout the entire center, which would have closed multiple theaters simultaneously, the center is installing sprinklers in each theater as it is renovated. Thus, only one theater is closed at a time. According to center officials, this approach minimizes the disruptions to ongoing operations in other areas of the Kennedy Center that could result in lost revenue. When the Opera House was renovated, for example, it was closed for almost a year, but performances continued in all of the other theaters.

The Kennedy Center is a bureau of the Smithsonian Institution. The John F. Kennedy Center Act Amendments of 1994, amended the Kennedy Center Act to designate the center as a “federal entity” for purposes of the Inspector General Act of 1978 (IG Act), as amended.¹⁵ The Kennedy Center Act states that only federally appropriated funds are subject to the requirements of a federal entity under the IG Act. The Kennedy Center Act authorizes the Smithsonian OIG to audit and investigate activities of the Kennedy Center involving federal appropriated funds, on a reimbursable basis, if requested by the Board of Trustees. To date, the Kennedy Center has not requested that the Smithsonian OIG conduct an audit or investigation of its activities.

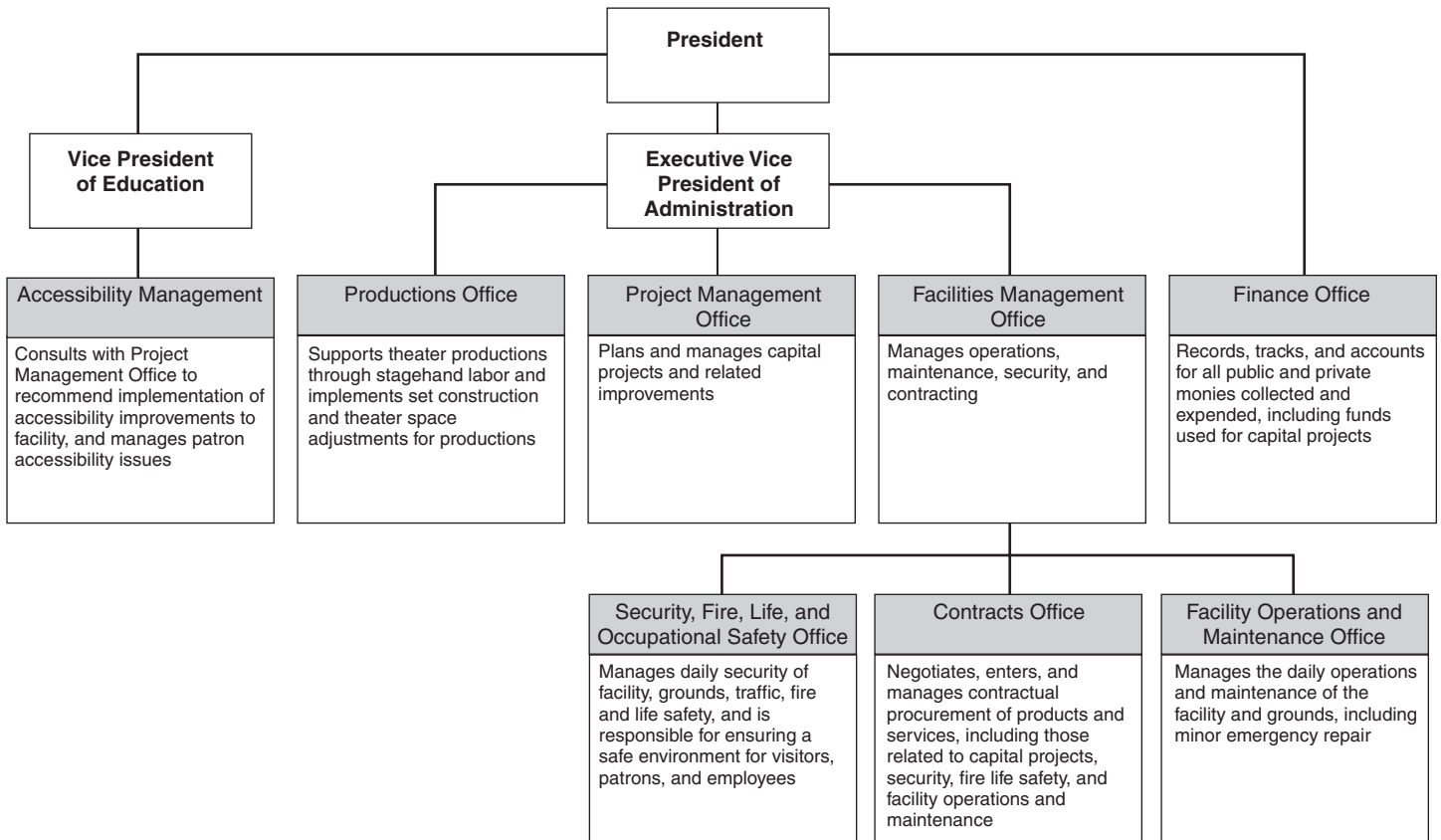
The Kennedy Center conducts capital projects primarily through three offices—Project Management, Contracts, and Finance. Figure 2 provides an organizational chart for these three offices within the Kennedy Center. The center receives federal appropriations annually for capital repair and restoration to implement its CBP and for the operations, maintenance, and security of the facility. In fiscal year 2005, the Kennedy Center received approximately \$16.1 million in federal funds for capital improvement projects and \$16.9 million for operations, maintenance, and security of the

¹⁵20 U.S.C. § 761 (d).

facility.¹⁶ The Kennedy Center receives appropriated funds to support its CBP as a lump sum and not on an individual project-by-project basis. In addition, the Kennedy Center's appropriated funds for capital projects remain available until expended. Federal appropriations represent less than one-half of the center's total revenue. The Kennedy Center generates the majority of its revenues from performances at the center, contributions, and investments. Federal funds, not the Kennedy Center's private funds, are used for capital improvements in the CBP. Federal appropriations are not used for performance-related expenses. The Kennedy Center's total operating expenses in fiscal year 2003 were about \$118 million.

¹⁶The Kennedy Center's appropriation for fiscal year 2005 is contained in the Consolidated Appropriations Act of 2005, Public Law 108-447, 118 Stat. 2809 (2004). Public Law 108-447 appropriated to the Kennedy Center \$16,334,000 for capital improvements and \$17,152,000 for operations and maintenance. There are two rescissions in the 2005 appropriations act that reduced the final amount provided to the Kennedy Center for capital improvements and operations and maintenance. The first is an across-the-board rescission of 0.594 percent for Interior and Other Related Agencies, which applied to the Kennedy Center. The second is an additional across-the-board rescission of 0.8 percent for most agencies, which also applied to the Kennedy Center.

Figure 2: Kennedy Center Organizational Chart for Selected Positions and Offices




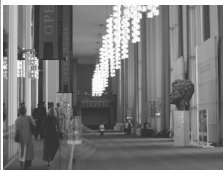
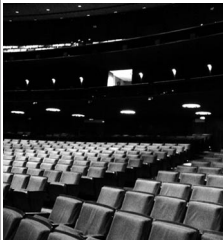


Source: GAO analysis of Kennedy Center data.

Key Capital Projects Completed, but Costs Exceeded Budget Estimates and Were Not Timely or Accurately Reported

The Kennedy Center has completed many renovation projects (see fig. 3), but each of the projects we reviewed exceeded its budget due to contract modifications that added work to projects. Many changes were necessary because the Kennedy Center did not have good knowledge of the building's site conditions. Additionally, the absence of comprehensive policies and procedures has impeded effective management of federal funds. Finally, the information on cost growth and delays has not always been timely or accurately communicated to the Kennedy Center Board of Trustees or Congress.

Figure 3: Scope of Key Kennedy Center Capital Projects

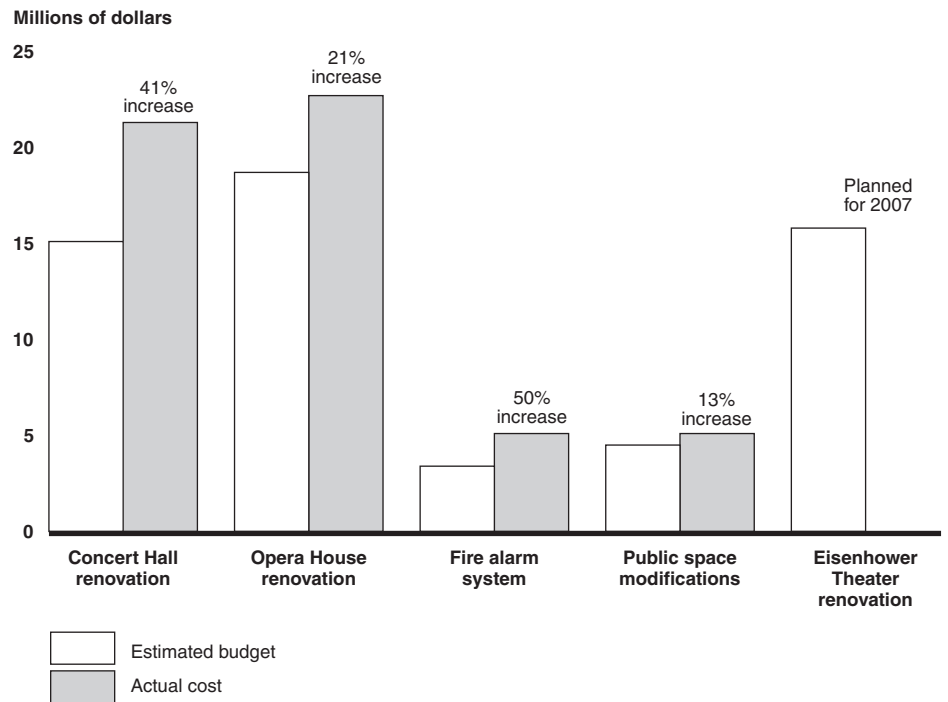
Project	
	<p>Concert Hall Renovation - completed 1997</p> <p>Work encompassed comprehensive renovation with the goal of improving access for disabled persons. The auditorium aisles were widened and ramps were installed to provide access for the disabled. Renovation also included installation of a sprinkler system; architectural refurbishment of wall, floor, and ceiling finishes; and acoustical enhancements.</p>
	<p>Opera House Renovation - completed 2003</p> <p>Work involved complete rehabilitation with the goal of improving access for disabled persons. The seating and interior finishes were replaced and fire life safety and disabled access issues were addressed. Dressing room areas were renovated in accordance with Americans with Disabilities Act Guidelines. The renovation also included installation of a sprinkler and fire alarm system; architectural refurbishment of wall, floor, and ceiling finishes; and repairs to plumbing, heating/cooling, power, and lighting systems.</p>
	<p>Fire Alarm System Replacement - completed 2004</p> <p>Work involved installation of a new fire alarm system throughout the facility. Components of the system include manual pull stations, smoke detectors, water flow switches, strobe notification devices, and speakers. The system connects to a central monitoring station where emergency personnel can determine the exact location of an alarm.</p>
	<p>Public Space Modifications - completed 2004</p> <p>Work in Grand Foyer, Hall of States, and Hall of Nations consisted of four phases: (1) installation of new wall finishes; (2) installation of new carpet; (3) installation of disabled access ramps to theater lobbies and public space seating; and (4) installation of assisted listening device desk, information desk, and information screens.</p>
	<p>Eisenhower Theater Renovation - planned for 2007</p> <p>A comprehensive renovation is being considered, including improvements to disabled access and fire life safety.</p>

Sources: Kennedy Center (data) and GAO (photos).

The Kennedy Center Has Completed Many Renovations, but Contract Modifications Increased Project Costs

The Kennedy Center has completed renovations to the Opera House, Concert Hall, and its plaza-level public spaces and installed a buildingwide fire alarm system, but the actual costs of the projects we reviewed exceeded the original budgeted costs. Specifically, costs exceeded budget estimates by about 41 percent for the Concert Hall renovation, 21 percent for the Opera House renovation, 50 percent for the fire alarm system renovation, and 13 percent for the plaza-level public space renovations (see fig. 4). These findings are consistent with our finding, reported in 2003, that the costs of the Kennedy Center’s garage expansion and site improvements projects greatly exceeded the estimates.¹⁷

Figure 4: Budgets and Actual Costs for Selected Kennedy Center Capital Projects



Source: GAO analysis of Kennedy Center data.

¹⁷GAO-03-823.

Renovation projects like those undertaken by the Kennedy Center are difficult to complete due to associated challenges with refurbishing as opposed to new construction. For example, according to the Kennedy Center, renovation projects are susceptible to cost increases stemming from unexpected site conditions. This is consistent with our finding that a primary cause of cost growth in the projects we evaluated were contract modifications resulting from the Kennedy Center's lack of knowledge of the building's existing conditions. The Kennedy Center lacked knowledge of site conditions because (1) it does not have as-built drawings¹⁸ that show how building components were originally constructed and (2) schedule and building conditions at times limited the center's ability to conduct detailed investigations during project design stages. According to a Kennedy Center official, given the nature of construction, installed work often differs from what is indicated on the original architectural plans, sometimes in significant ways. Without accurate drawings, designers could not ascertain certain current building conditions, and inaccuracies were inadvertently built into project plans and designs.

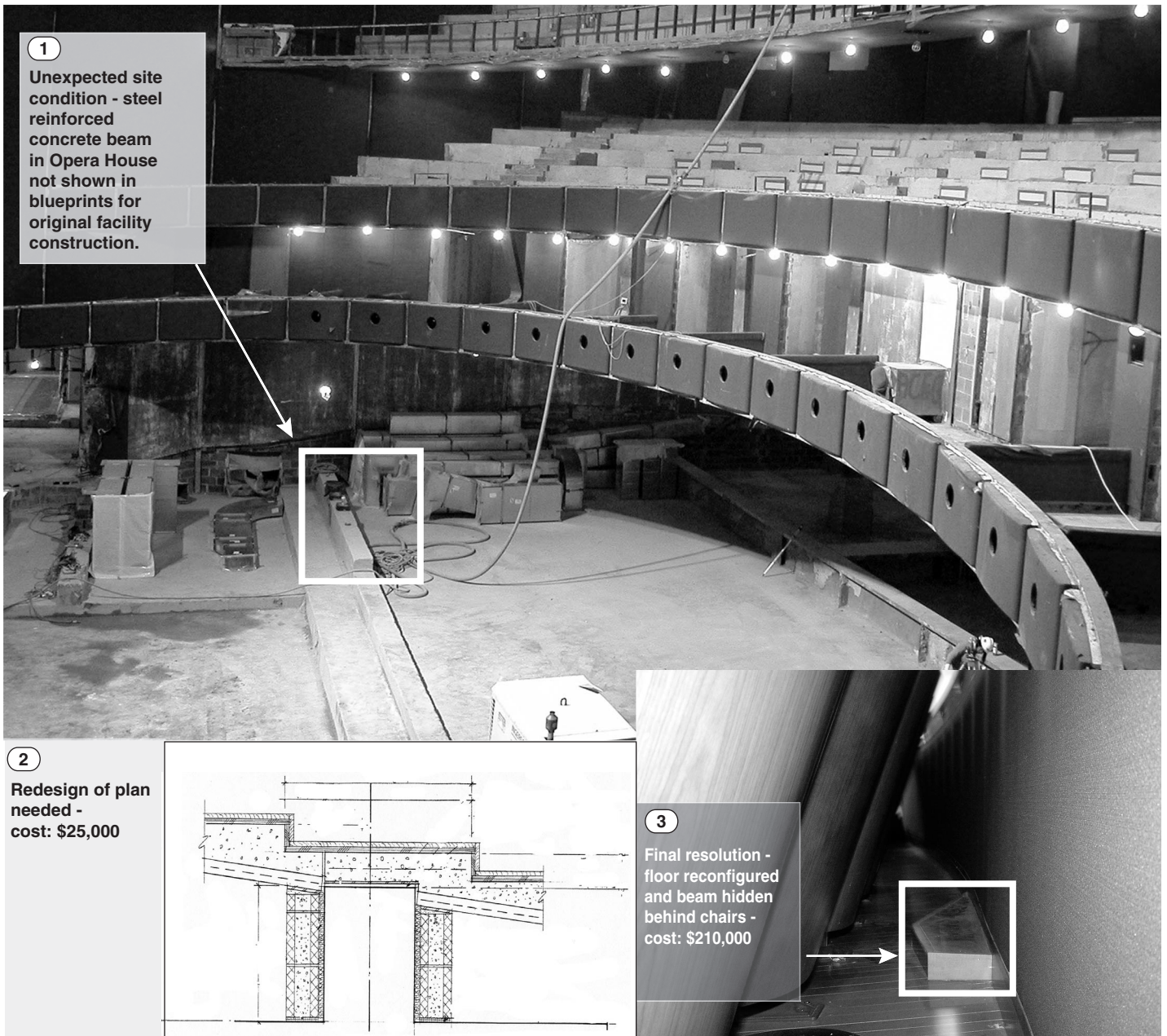
Architects and engineers additionally lacked sufficient access to the project sites during the design phase. According to Kennedy Center officials, because the Kennedy Center focused on maximizing its theaters' operating time, designers were at times limited in their ability to survey the project site and document its condition. This type of exploration often requires the removal of some portion of the existing finishes to see what is behind them. Because invasive surveys were not completed, designers did not identify utilities and structural components shielded behind walls, floors, and ceilings. In cases where the unforeseen conditions affected construction, contract modifications were needed. Kennedy Center officials said that they did not allow exploratory design work in order to preserve the building's aesthetics. Kennedy Center officials indicated that they are working to improve the design of future projects by using noninvasive exploratory methods, such as X-ray technology, to better ascertain site conditions.

According to the Kennedy Center, about \$1 million of the Concert Hall's contract modifications and \$1.5 million of the Opera House's contract modifications were the result of actual conditions that differed from those shown on design drawings. In the Opera House renovation, the Kennedy

¹⁸As-built or record drawings show the work as it was actually installed, which is often different from how it was designed to be installed or built.

Center attributed the following unexpected site conditions to absent as-built drawings and resulting in contract modifications: (1) the ceiling crawl space was not as large as the drawings indicated, (2) steel reinforcement that was not shown on the drawings existed in the balconies, and (3) a large steel-reinforced concrete beam in the orchestra floor was not depicted on existing drawings. Figure 5 provides a description of the concrete beam and shows how it contributed to cost growth on the Opera House renovation project.

Figure 5: Opera House Unforeseen Site Condition



Source: GAO analysis of Kennedy Center data.

In attempting to maintain its construction schedule while minimizing the impact on its performance schedules, the Kennedy Center incurred a considerable amount of overtime charges. Since the Kennedy Center relies on proceeds from ticket sales, programs, and contributions, center managers sought to limit the disruption to major performance venues, such as the Opera House and Concert Hall. In planning the Opera House renovation, for example, the Kennedy Center set a firm goal of completing work by December 2003 to ensure that the work would be completed in time to host the annual Kennedy Center Honors.¹⁹ Over \$560,000 of the \$4 million cost growth for the Opera House renovation resulted from overtime pay to contractors completing the renovations.

The Kennedy Center also may have paid contractors more than necessary because it routinely negotiated the value of project modifications after contractors had already completed the work. For example, contractors performed about \$2.2 million worth of work in the Concert Hall renovation and about \$2.1 million worth of work in the Opera House rehabilitation without negotiating the value of the modifications with the Kennedy Center beforehand. Center officials said that this was necessary to maintain tight schedules. The practice of establishing cost after work has been completed is discouraged in federal contracting regulations. Our previous work has shown that contractors have limited incentive to control costs until firm prices are negotiated for contract changes, and the government does not have an opportunity to consider more efficient construction methods or management controls if work is completed before the price is established.²⁰

Lack of Clearly Designed, Comprehensive Policies and Procedures Undermined Effective Project Management

While it was beyond the scope of this engagement to conduct a comprehensive financial review of the Kennedy Center's procurement process, we found some deficiencies in procurement operations for capital improvement projects. During a review of a limited selection of the Kennedy Center's capital expenditures, we found that the center did not maintain complete and accurate financial records, which could impact the safeguarding of federal funds. These deficiencies can be attributed, in part, to the center's lack of a comprehensive set of documented policies and

¹⁹Begun in 1978, the Kennedy Center Honors is an annual ceremony that recognizes artists with lifetime achievement awards. The ceremony also serves as a major fund-raising event.

²⁰GAO, *NASA Procurement: Challenges Remain in Implementing Improvement Reforms*, GAO/NSIAD-94-179 (Washington, D.C.: Aug. 18, 1994).

procedures to guide the various activities related to the acquisition of goods and services for its capital improvements program. As a result, the Kennedy Center may not be able to properly account for or report financial transactions to Congress and other interested parties.

According to the guidance for federal agencies²¹ contained in the Joint Financial Management Improvement Program's (JFMIP) *Framework for Federal Financial Management Systems* and Office of Management and Budget (OMB) Circular No. A-127, *Financial Management Systems*, effective financial management depends on appropriate control of financial transactions and timely recording of financial information in a manner that satisfies multiple users. Requirements for internal controls over financial operations can be found in both OMB Circular No. A-123, *Management Accountability and Control*, and GAO's *Standards for Internal Controls in the Federal Government*.²² Federal agencies are required to establish financial controls; ensure that reliable and timely information is obtained and maintained; and produce accurate, consistent, and complete financial data to enable cost-effective mission achievement and risk mitigation. The Kennedy Center's policy is to rely on contractor invoices to establish the dates the services were performed and make specific reference to the invoices in its receipt certifications. Because the center does not record the date or period that services were performed at the time of occurrence, it is unable to establish and maintain reliable up-to-date accounting records. This lack of real-time data hampers the center's ability to prepare reliable quarterly financial reports regarding the status of funds and budget execution and to manage project costs. When status reports are required, construction costs could be recognized before invoices are received by recording an estimate of costs incurred on the basis of a percentage of completion of the projects that are in progress, or some other systematic process that approximates actual up-to-date costs.

OMB guidance and GAO standards for internal controls state that agencies need to properly document their transactions. The documentation should be clear and complete and show sufficient information to adequately account for the disbursement. During our review of a selection of 224

²¹The Kennedy Center is an independent establishment of the executive branch of government as defined in OMB Circular A-127 and, as such, is subject to OMB guidance regarding financial management and internal controls.

²²GAO, *Standards for Internal Controls in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

Kennedy Center capital expenditures—dating from September 2000 to September 2004—we found that 63 of the contractor invoices (28 percent) paid by the center did not contain enough detailed information to support their accuracy and validity. Furthermore, without current and accurate information to substantiate payments, the Kennedy Center may be hampered in its ability to detect erroneous or improper payments. For example, we found a duplicate payment that may have been prevented if the center had better information available.

Of the invoices that lacked sufficient detail, nearly all were related to services the Kennedy Center received from the U.S. Army Corps of Engineers (Corps). The center's transactions with the Corps are governed by the Economy Act (31 U.S.C. §§ 1535 and 1536), which authorizes an agency acquiring goods or services from another agency to reimburse the performing agency only for its actual costs of providing the goods or services. The Kennedy Center did not have sufficient procedures in place to ensure that it was being charged for costs consistent with its Economy Act agreement. We found, for example, that invoices from the Corps generally identified separate total amounts for the agreed-upon services (as billed by the Corps' contractors) and overhead and labor costs incurred by the Corps, but that the invoices did not provide any details regarding the basis for the claimed costs, such as overhead rates. We were unable to determine, from either the Corps invoices submitted to the Kennedy Center for reimbursement or the information accompanying them, whether the costs being claimed for work performed were for actual costs consistent with the Economy Act agreement. This lack of detail on invoices subjects the Kennedy Center to risk of paying the Corps amounts inconsistent with the Corps' actual costs, as agreed to.

In response to a GAO recommendation,²³ the Kennedy Center's Project Management Office initiated the development of a policy and procedure manual that is currently in draft form. The manual begins the process of outlining roles and responsibilities for the project management staff and defining standard operating procedures for managing projects. However, the Kennedy Center has not completed this manual, nor has it formalized its contractual and financial management policies and procedures. This makes it difficult for people in the different Kennedy Center departments to understand their roles and requirements in the oversight of federal funds. In working to improve its management capabilities, the Kennedy Center

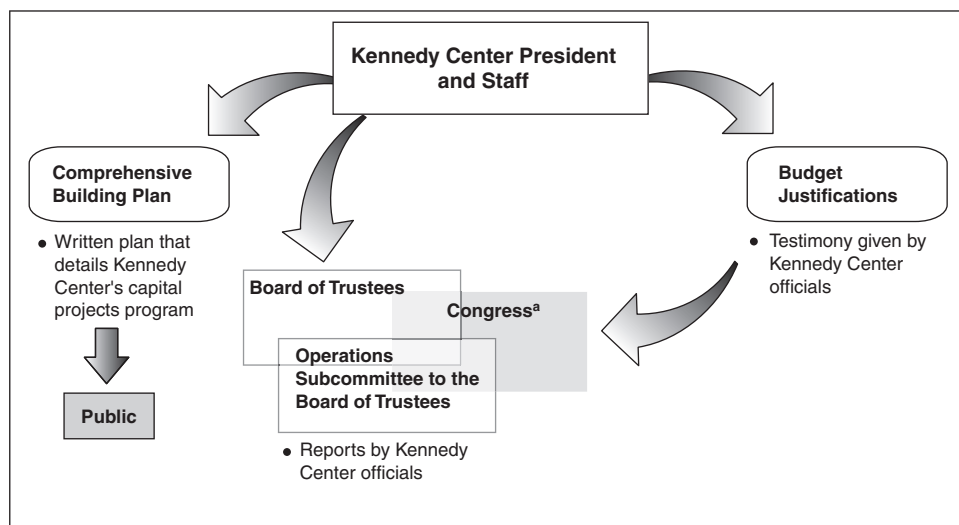
²³GAO-03-823.

hired a Contracts Chief in March 2003 and is seeking an additional contracting officer. Also, in March 2004, the Kennedy Center hired a Director of Capital Projects to lead the Project Management Office.

The Kennedy Center Did Not Always Timely or Accurately Communicate Cost Growth and Schedule Delays to Its Board or Congress

The Kennedy Center uses several communication methods, both internal and external to the organization, to convey information about its capital projects; however, we found that the center sometimes provided untimely or inaccurate information on projects. Figure 6 illustrates the main mechanisms the Kennedy Center uses to communicate information about project schedules, costs, and status to Congress, its Board of Trustees, and the public. The legislation that authorized the Board of Trustees to carry out capital improvement projects required the board to develop and annually update a CBP. However, the Kennedy Center has not consistently updated the CBP on an annual basis. The center provides budget justifications and receives federal funding annually for capital improvement projects based on its CBP, and testifies before various congressional committees when requested. According to the Kennedy Center, the center's board oversees the President of the Kennedy Center on the overall management and direction of the center. Within the board, the Operations Subcommittee is responsible for ensuring the appropriate use of federal funds for capital projects and efficient management of the operations and maintenance of the center. In doing that, it reviews plans for capital expenditures identified in the CBP and receives status reports on projects as they are planned and implemented.

Figure 6: Kennedy Center Communication Methods



Source: GAO analysis of Kennedy Center data.

^aMembers of Congress serve on both the Kennedy Center Board of Trustees and the Operations Subcommittee.

Our analysis of officially documented communication using these mechanisms showed certain inconsistencies in the information the Kennedy Center presented. For example, in its fiscal year 2001 budget request, which according to a Kennedy Center official was prepared in 1999, the center management reported that it planned to obligate \$23.3 million for capital repairs. Operations Subcommittee meetings held over the course of fiscal year 2001 reported revised obligation amounts ranging between \$41.6 and \$44.4 million. The amount actually obligated was \$36.4 million. While planned obligations can change over time, the reasons for these differences are not clear because the Kennedy Center did not include sufficient project-level budget information in its budget justifications to Congress. Rather, as we reported in September 2004, projects are grouped into broad budget categories, which do not include budget information for specific projects.²⁴ As a result, it is difficult to understand or have stakeholders hold the Kennedy Center accountable for true project costs and schedules, compare the data presented through the various communications mechanisms, or determine if funds were used as intended.

²⁴[GAO-04-933](#).

The following examples illustrate untimely and inaccurate communication on the projects we reviewed:

- *Concert Hall.* Kennedy Center officials testified to Congress in 1999, 2000, and 2001 that the Concert Hall rehabilitation—completed in 1997—was “on time and on budget.” However, this was inconsistent with a September 1997 Operations Subcommittee Meeting status report, which states that the project experienced extraordinary interior design changes, all of which were unbudgeted and contributed to a cost increase of almost \$1.2 million. Also, our analysis of Kennedy Center project documents shows that the project cost \$6.2 million more than its initial budget of \$15.1 million.
- *Fire suppression sprinklers.* The Fiscal Year 2005 Budget Justification and the 2004 CBP continue to emphasize that the Kennedy Center intends to install sprinkler systems throughout the entire facility. However, we determined as part of our review, and verified through interviews with Kennedy Center officials, that the center does not intend to install sprinklers in the large parts of the Kennedy Center—specifically, the Grand Foyer, the Hall of States, and the Hall of Nations.
- *Fire alarm system.* References to improving the building fire alarm system are included in Kennedy Center Budget Justifications for fiscal years 1995 through 2005. Language in these budget justifications refers to project phases, but start and completion dates change from year to year without explanation. For example, the completion date for the project was reported as being scheduled in fiscal year 2002 in the Kennedy Center’s Fiscal Year 2003 Budget Justification, but the center’s 2005 Budget Justification listed the project as being scheduled for completion in fiscal year 2004.²⁵ Reasons for the project’s delay were not evident in the records that we reviewed.

²⁵Fire alarm system installation was substantially completed in February 2004.

Due to Poor Record Retention, It is Impossible to Determine How Much the Building Plan Has Changed since 1995

According to a Kennedy Center official, the center does not have a formal records retention policy and did not retain complete project budget information previous to the 2002 CBP. CBP updates also do not provide historical data, such as budget information for past projects or how changes to those budgets affected the overall plan. Because the Kennedy Center lacks records, we could not determine how any cost and schedule changes affected the overall implementation of the 1995 CBP or if federal funds were used as originally anticipated. However, our finding that several of the major projects from that period went over their budget estimates suggests that funds must have been reallocated. Information on reallocations, reconciliation of estimates to actual spending, and other project-level accounting of federal funds is not routinely reported to the board or Congress. In addition, project records for the Concert Hall renovation were incomplete and the as-built drawings for the Kennedy Center were missing.

The Kennedy Center Does Not Appear to Meet Some Fire Safety Code Requirements but Exceeds Disabled Access Requirements

On the basis of an independent expert's assessment, we determined that the Kennedy Center does not appear to meet some fire safety code requirements. After requesting and obtaining funds from Congress to meet fire code deficiencies, such as a lack of fire suppression sprinklers, as well as other needs, the Kennedy Center decided against its plan to meet fire safety code requirements and chose not to install sprinklers and smoke evacuation systems in the Grand Foyer, the Hall of States, and the Hall of Nations. The Kennedy Center reversed its decision to install these systems without having its decisions independently reviewed or clearly informing its board or Congress that it was not spending the funds as planned. According to our independent expert, the Kennedy Center has met or exceeded disabled access requirements as part of its renovation.

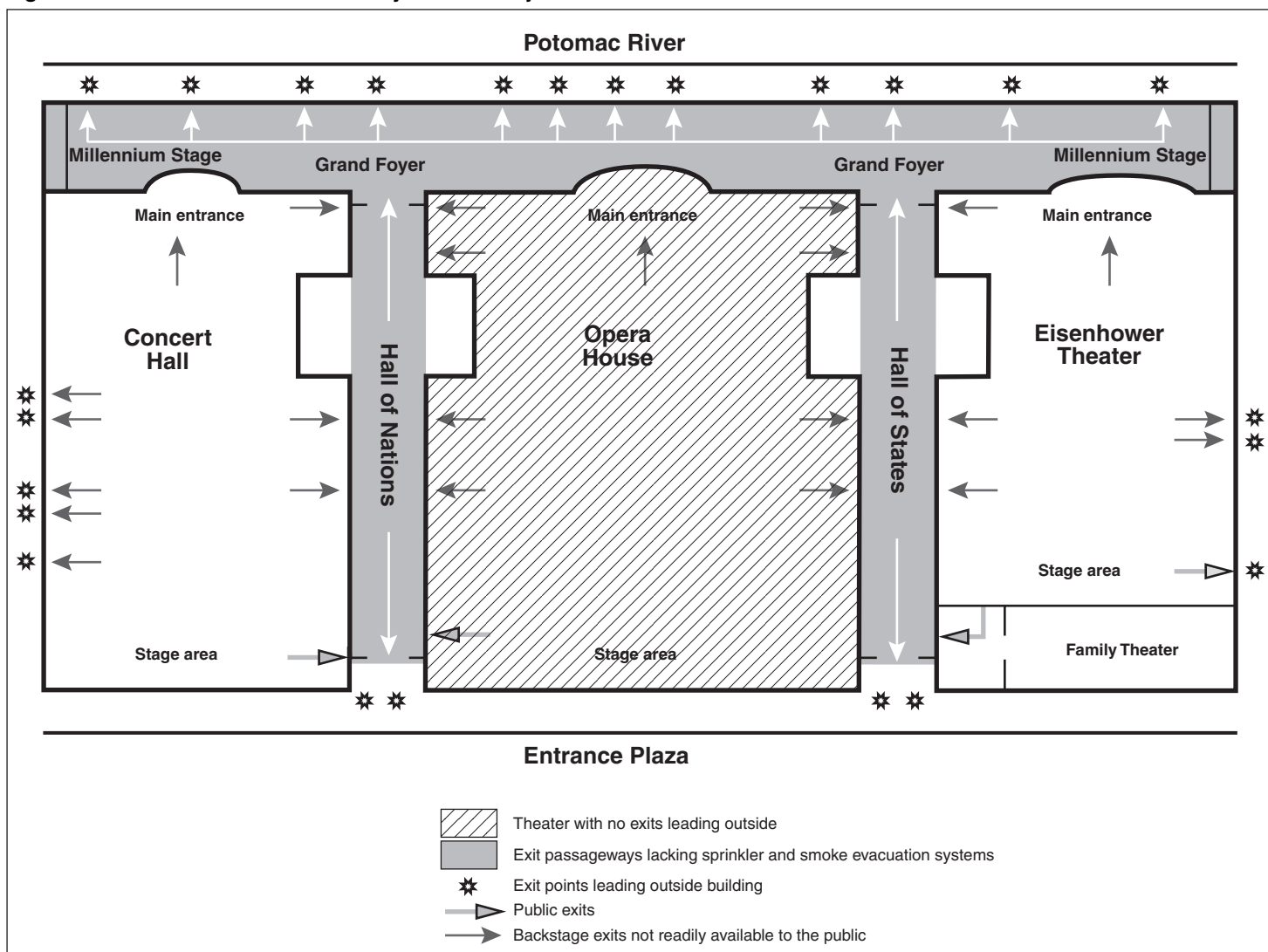
The Kennedy Center Does Not Appear to Comply with Fire Safety Code

While the Kennedy Center has worked to address fire life safety deficiencies, and improvements are ongoing, on the basis of an assessment performed by an independent expert that we hired, we found that the Kennedy Center does not appear to meet some fire life safety requirements.²⁶ Over the past decade, several internal Kennedy Center reports have also identified other fire life safety deficiencies—such as exit

²⁶UNICCO Government Services, Inc., *Life Safety, Fire Alarm System and ADA Assessment*.

paths that might not protect occupants from fire—in the Grand Foyer, the Hall of States, and the Hall of Nations (see fig. 7).

Figure 7: Exit Routes from the Kennedy Center’s Major Theaters



Source: Kennedy Center.

NFPA 101 allows two approaches for dealing with fire safety issues: an entity can (1) adhere directly to the fire safety code (also called a prescriptive approach), such as installing sprinklers or smoke evacuation

systems, or (2) provide an alternative that allows people to exit the building safely in case of fire (also called a performance-based approach). The Kennedy Center chose the second approach and commissioned an egress and fire-modeling study in 2003 to address the exit issue, specifically as it pertained to the discharge of occupants from the facility.²⁷ Due to the results of this study, the Kennedy Center did not implement its earlier plan of installing a fire suppression system and smoke evacuation system in the Grand Foyer, the Hall of States, and the Hall of Nations.

The modeling study indicates that, in the event of a fire, the time needed for evacuation would be less than the time it would take for these exit pathways to become untenable, provided certain steps are taken. These steps include (1) installing sprinklers at the Millennium Stages and (2) developing and implementing a program to manage the storage of scenery, props, and other combustible materials. With input from our independent expert, we concluded that the above steps have not been taken and thereby invalidate the study's assumptions. Since the Kennedy Center does not meet the conditions upon which the study was based, it appears to fall short of providing the level of protection intended by the code. Furthermore, center stakeholders, such as the Board of Trustees, have not accepted and adopted the terms of the study as described in NFPA 101. The Kennedy Center has not documented these determinations, but center officials said that the key decisions would be documented at the end of the fire life safety improvements at the center.

We also identified two additional deficiencies, based on NFPA 101, that are of immediate concern. First, there are no fire-rated doors in some areas, such as the fire pump room and the Fire Command Center. These locations contain key emergency systems that would need protection in the event of a fire. Second, several fire-safety-related problems were evident with the Millennium Stages. The stages are located at the ends of the Grand Foyer, a configuration that poses an exit deficiency because it does not provide two different, marked exit routes for occupants (see fig. 8). Additionally, NFPA 101 indicates that the stages must have a smoke control system that is integrated with a sprinkler system and smoke detectors over the stage area. These systems have not been installed.

²⁷Ehrenkrantz Eckstut & Kuhn Architects, PC, *Egress and Fire Modeling Study of the Grand Foyer, Hall of States, and Hall of Nations* (Washington, D.C.: 2003).

Officials from the Kennedy Center said that they believe that all fire safety code requirements are being met, but they agreed to make some changes. For example, the Kennedy Center said that it would install fire protective doors on the fire pump room and the Fire Command Center, and that it would document its key decisions once its Life Safety Improvement Program was completed.

Figure 8: Millennium Stage Located at the End of the Grand Foyer outside the Eisenhower Theater



Source: GAO photo.

The curtains along the side of the Millennium Stage obscure emergency exits when closed.

The Kennedy Center Chose Not to Install Sprinklers throughout the Center, but It Did Not Consult with Independent Experts or Clearly Inform Key Stakeholders

After requesting the necessary funds from Congress to meet fire code deficiencies, the Kennedy Center decided not to install sprinklers and smoke evacuation systems in the plaza-level public spaces as initially planned on the basis of the findings of the modeling study. In an October 2002 meeting with its trustees, the Kennedy Center reported that design and first stages of construction of the sprinkler and smoke evacuation systems would be completed in 2003. The Kennedy Center no longer plans to install sprinklers in the Grand Foyer, the Hall of Nations, and the Hall of States or at the Millennium Stages. Recent Kennedy Center documents continue to state that the funds will be spent to install sprinkler systems throughout the center.

Furthermore, in deciding not to install sprinklers and smoke evacuation systems in the plaza-level public spaces, the Kennedy Center did not consult any independent experts, such as the GSA's Fire Protection Engineer for the National Capital Region, or any other recognized expert, about whether this was an appropriate choice. In contrast, NFPA 101 provides for peer review of modeling studies of this nature. In addition, our independent expert and GSA officials also stated that prevailing professional practice is to seek external peer review of a modeling study of this nature. GSA officials said that other federal entities occasionally consult with them regarding how to approach difficult code issues, but that the Kennedy Center has not done so about this exit deficiency.

Peer review may be particularly important for the Kennedy Center for two reasons. First, the center lacks sufficient on-staff expertise to adequately interpret and evaluate this type of modeling study. The Kennedy Center official who is principally responsible for making fire life safety code compliance decisions said that he does not have formal training or certification in engineering or fire protection planning, and that he is not qualified to evaluate modeling studies. Second, the Kennedy Center's fire safety decisions are not subject to external review. In contrast, GSA requires a registered fire protection engineer to be heavily involved in fire safety code compliance decisions for its federal properties, and its OIG has the authority to review GSA's approach to fire safety issues and policies. A GSA Fire Protection Engineer said that its OIG has provided useful guidance on these issues. Specifically, a 1999 GSA OIG report concluded that the National Capital Region Safety, Environment, and Fire Protection Branch, generally has taken adequate measures to meet the mission and goals of its fire safety program, but the report made a recommendation for

improving building fire safety assessments.²⁸ As previously mentioned, the Smithsonian OIG has authority to conduct reviews at the Kennedy Center relating to the expenditure of federal funds, but the Kennedy Center has not requested assistance from the Smithsonian OIG or any other federal accountability office in gaining assurance that the center is taking prudent steps relating to fire safety decisions. Private sector entities are accountable to the local fire marshal's assessment of their compliance with fire safety code. In addition, the Kennedy Center Act authorizes the Board of Trustees to utilize or employ the services of any agency or instrumentality of the federal government or the District of Columbia on a reimbursable basis. The Kennedy Center has not sought assistance, as authorized by law, from relevant federal or District of Columbia officials on fire safety code compliance.

The Kennedy Center Has Improved Disabled Access to Fully Renovated Theaters and Public Spaces

Our independent expert concluded that the Kennedy Center's compliance with regulations outlined in ADA has generally met or exceeded the requirements of the act in the theaters and public spaces that have been renovated. The Kennedy Center has added numerous ramps, improved signage, and renovated several bathrooms and elevators to meet ADA requirements (see fig. 9). In an attempt to make the center as accessible as possible to disabled patrons, visitors, and employees, the Kennedy Center has made all levels of the renovated Concert Hall and Opera House accessible to wheelchairs.

Additionally, the Kennedy Center has hired and trained specialized personnel to assist patrons and visitors with disabilities. An Accessibility Manager position is staffed and the Kennedy Center provides special training to numerous "access" ushers, who help patrons navigate their way to their seats. In addition, the Kennedy Center's Office of Accessibility provides details of its special access services over the telephone, and the center's Web site provides access information and maps showing entrances, restrooms, and other services for the disabled.

²⁸General Services Administration, National Capital Region Office of the Inspector General, *Audit of National Capitol Region Fire Safety Program*, Report Number: A995174/P/W/R99530 (Washington, D.C.: Sept. 10, 1999).

Figure 9: Selected Disabled Access Improvements to the Kennedy Center Made as Part of the Comprehensive Building Plan



Source: GAO photos.

ADA improvements at the Kennedy Center include the following (clockwise from top): disabled access ramp in the Grand Foyer leading to the Opera House, disabled access ramp in passageway, ADA-compliant signage, and wheelchair lift.

The areas that the Kennedy Center has not yet renovated have fewer ADA improvements. For example, the Eisenhower and Terrace Theaters have limited wheelchair access. The Kennedy Center plans to make additional ADA improvements centerwide as part of its CBP, but the Terrace Theater upgrades have been deferred until after fiscal year 2008.

Several Best Practices Could Assist the Kennedy Center in Addressing Project Management Problems

Given the ongoing problems we have identified at the Kennedy Center, successfully completing current and future projects within scope, cost, and schedule will be challenging. In February 2004, we identified components of a best practices framework to offer guidance for managing large-scale infrastructure projects.²⁹ This framework includes comprehensive planning, risk assessment, comprehensive financial management, accountability and oversight, and stakeholder involvement. These best practices are shown in figure 10 and described after the figure. In addition to our framework, we reviewed past GAO recommendations to the Kennedy Center and project management best practices reported by the Construction Industry Institute for additional project management guidance.³⁰ In recent years, the Kennedy Center has begun to take steps to implement some of these best practices and improve its project management.

²⁹GAO-04-94. This best practices framework is applicable to the management of various types of projects and was largely based on GAO's *Executive Guide: Leading Practices for Capital Decision-Making*, GAO/AIMD-99-32 (Washington, D.C.: December 1998).

³⁰The Construction Industry Institute is a research institute for engineering and construction that is comprised of more than 90 member organizations, representing owners, contractors, and suppliers in both the public and private sectors. Construction Industry Institute, *Implementation of CII Best Practices: Summaries and a Self-Assessment Guide* (Austin: University of Texas, 2002).

Figure 10: Best Practices for Managing Capital Projects



Sources: GAO; Nova Development, PhotoDisc, and Corel (photos).

Conduct Comprehensive Project Planning—Comprehensive planning serves as a foundation for effectively managing capital projects. Such planning helps manage and control project implementation, cost, schedule, scope of work, and achievement of goals. As part of comprehensive project planning, a long-range capital plan documents the specific projects an organization intends to pursue, documents the resources it expects to use over the long term to implement those projects, and establishes priorities for implementation. The time spent on planning can help organizations and agencies avoid costs and delays. A project management plan is an important tool for comprehensive planning. It typically uses performance baselines for goals, costs, schedules, major milestones, and risks to manage and control a project’s implementation. Developing a project management plan focuses organizations on implementation issues early in the life of a

project. These plans are intended to be flexible and dynamic; during implementation, the plans are updated and otherwise revised to reflect changes in the project, such as changes in its cost, schedule, or scope of work. After a project has been implemented, its success can be measured by comparing its actual cost, schedule, and other outcomes with those that were planned. When project management plans are not developed or used, projects can encounter problems, such as cost overruns and schedule delays. In addition, the Construction Industry Institute has reported that preproject planning is a best practice that is essential to develop sufficient strategic information, decide how to commit resources, and maximize potential project success.

The Kennedy Center's CBP has served as the central plan to manage its capital projects and has included project descriptions and background on the improvements. Unlike the planning best practices, the Kennedy Center has not used its CBP as a tool to measure project success and progress by comparing actual costs and schedules with those planned. In commenting on our September 2004 report, Kennedy Center officials wrote that while the CBP serves as the primary management tool for capital project planning, it has not been the primary vehicle for communicating the center's progress in implementing its renovation work. According to Kennedy Center officials, other internal planning documents serve to communicate progress, although we have previously reported that these other planning documents are limited in not including prioritization of projects or planned future projects.

The Kennedy Center has taken steps to improve the information included in its CBP. In September 2004, we recommended that the Kennedy Center annually update its CBP as required by law, and in November 2004 the center published an update. According to Kennedy Center officials, the center now plans to annually update its CBP. Furthermore, as we recommended, the 2004 CBP includes some prioritization of ongoing projects and updated project budget information.

- *Assess Risks and Identify Mitigation Measures*—Risk assessments allow project managers to identify and manage risks related to a project's costs, schedules, and other aspects and to develop mitigation measures that can increase the likelihood of projects meeting established goals. Early recognition of problems allows for prompt intervention, which increases the likelihood that corrective action will get the project back on track before there is significant deviation from

its goals.³¹ Assessing and mitigating risks reduces the probability of later encountering problems that can cause cost increases and schedule delays. Potential risks to projects include cost increases; funding reductions; schedule delays; and environmental, political, and legal issues. The Construction Industry Institute has noted that collecting information on project risks is a part of the preproject planning process.

As previously discussed, the lack of as-built drawings has posed risks to Kennedy Center project costs and schedules, leading to the discovery of unexpected site conditions in the Opera House renovation that increased project costs. According to one Kennedy Center official, future projects will also face the risk of unexpected site conditions due to the absence of as-built drawings and a system to track all changes to the facility.

In an attempt to reduce risk to the Kennedy Center, it has entered into a contract for theater renovation work that shifts much of the project's risk to the contractor. Under this "construction manager at-risk" arrangement, a construction management contractor will be hired to participate in the design process and will then be responsible for hiring contractors to do the construction. The construction management contractor will be at risk from the standpoint of being responsible to the Kennedy Center for managing the construction according to the established cost, schedule, and scope. However, this method may not reduce costs because contractors will increase their price to cover the risk shifted to them.

- *Comprehensively Manage Project Finances*—Accurately estimating and controlling costs through comprehensive financial management helps to ensure efficient uses of funds. Estimating and controlling costs is important because the costs of capital projects can increase significantly. Best practices suggest that, to improve the accuracy of cost estimates, managing organizations should review and refine cost estimates as projects move closer to implementation. One tool for estimating and controlling costs is a project financial plan, which shows a project's estimated funding needs, funding sources, and funding responsibilities. These plans enable project managers to compare actual costs with planned expenditures, identify deviations, and take actions to

³¹GAO/AIMD-99-32.

address potential problems. A financial plan can also help control a project's costs after construction has begun by estimating the amount of funding needed to complete the project and the availability of that funding. This information helps an organization assess the impact of changes that can cause a project's schedule to slip and costs to rise. Because a financial plan can demonstrate the need for funding at particular times and the impact of funding delays on the project's costs and schedule, it can help an organization stay within cost estimates and keep their project on schedule as well as determine full funding needs.

As previously discussed, we found instances where the Kennedy Center did not have sufficient information to support the accuracy and validity of invoice payments, which may hamper the center's ability to detect erroneous or improper payments. Although challenges remain, the Kennedy Center has begun to take steps to improve its financial management of projects. As previously discussed, the Kennedy Center has developed a draft policies and procedures manual to guide the planning and execution of the construction process, but the manual is not comprehensive. It does not establish the minimum documentation requirements to support costs incurred. Also, as we recommended in September 2004, the 2004 update to the CBP includes updated budget information for current and future projects.

- *Establish Accountability and Oversight for Prudent Use of Federal Resources*—Best practices suggest that organizations be held accountable for adhering to planned budgets and schedules, achieving goals, and other project outcomes in order to ensure the prudent use of federal resources. By monitoring a project's performance against cost, schedule, and technical performance goals, as well as establishing incentives to meet those goals, organizations can increase the likelihood of the project's successful completion. Organizations can also hold project managers and other personnel accountable for the project's results. Capital projects can also face external factors during implementation, such as reductions in funding from federal, state, or local jurisdictions or changes in economic conditions that might affect accountability decisions. In such circumstances, external factors can be recognized and isolated, so project managers are only held accountable for actions and events within their control. In addition, the Construction Industry Institute has reported on accountability best practices that include having a defined, effective, and accountable project leadership; developing lessons learned; and facilitating a shared sense of accountability among project team members. Related to accountability,

independent oversight of a project is a best practice designed to promote the prudent use of federal resources. Independent assessments help protect the federal investment in a project by reviewing the implementation of its plans, monitoring its construction, and reporting problems.

While past staff vacancies and turnover have limited holding staff responsible for planning and managing projects accountable for project results, the Kennedy Center has begun to make improvements. In September 2003, we recommended the Kennedy Center work to address human capital deficiencies, and since that time the center has hired new staff, including a director of capital projects. In addition, the Kennedy Center's draft policies and procedures delineates various project management office staff members' responsibilities and duties, including those related to project development, communication, and adhering to planned costs and schedules. This includes describing the responsibilities of the Kennedy Center's director of capital projects and project managers.

Regarding oversight, the Kennedy Center has had limited external reviews for how it manages capital projects and maintains assurance for federal funds. Besides our reports on the Kennedy Center, the Department of the Interior's OIG completed an audit related to parking garage improvements.³² As previously discussed, the Kennedy Center has been authorized to request the Smithsonian OIG to conduct audits related to the expenditure of federal funds on a reimbursable basis, which could include project management activities, but to date the center has made no such request. The Smithsonian Inspector General said that his office would respond to an audit request by the Kennedy Center and has conducted similar audit work for other external organizations. Although the IG Act does not require the Kennedy Center to establish an OIG, the center is required to report annually to Congress and OMB on its audit and investigative activities.³³ We found

³²Department of the Interior, Office of the Inspector General, *Costs Claimed for Equitable Adjustment By Rampart Waterblast, Inc., Under National Park Service Contract No. 1443CX-3000-93-904*, Report Number 98-E-217 (Washington, D.C.: January 1998). This audit resulted from a contract initiated by the National Park Service before responsibility for the Kennedy Center was transferred to the center.

³³See Inspector General Act of 1978, as amended, 5 U.S.C. § app. 3, section 8G, and 2004 List of Federal Entities, 70 Fed. Reg. 4157 (Jan. 28, 2005).

that the Kennedy Center has not complied with this requirement. Kennedy Center officials said that they were unaware of this requirement but plan to start complying with it this year.

The Kennedy Center has hired a public accounting firm to conduct yearly audits of the center's finances, and these reviews include all areas of Kennedy Center finances, the majority of which are not federal appropriations. However, the financial statement audit does not include a review and assessment of internal controls or other oversight typically performed by an Inspector General. The Kennedy Center Board of Trustees relies on information from its audit committee, which is part of its board. Audit committees can play a very important role in enhancing audit activities for their boards and organizations. Such a committee is a required element of the governance structure of publicly owned companies and a best practice for other types of organizations. In the federal government, audit committees and advisory committees are intended to protect the public interest by promoting and facilitating effective accountability and financial management.³⁴ This is accomplished by providing management with independent, objective, and experienced advice and counsel, including oversight of audit and internal control issues. In the case of the Kennedy Center, the audit committee could facilitate the process of formalizing financial management policies and procedures, including related internal controls, and preparing for the ongoing oversight of the center.

In addition, the Kennedy Center Act authorizes the Board of Trustees to utilize or employ the services of any agency or instrumentality of the federal government or the District of Columbia on a reimbursable basis. To date, the Kennedy Center has not contracted with GSA or the D.C. Fire Marshal to review the center's fire policies.

- *Incorporate the Interests of Diverse Stakeholders*—Incorporating the interests of diverse stakeholders into a project can increase its chances of success. This is especially important during the planning stages, when considering stakeholders' interests can help project managers identify

³⁴The audit committee of a publicly owned company plays a particularly important role in ensuring fair presentation and appropriate accountability in connection with financial reporting and related external audits and general oversight of an organization's internal control.

needs and problems and develop action plans to address them. Best practices suggest frequent communication and involvement through means such as meetings and correspondence. These approaches allow stakeholders like local governments and others to convey their concerns and problems and work with project managers to address them. Related to stakeholder best practices, the Construction Industry Institute has suggested aligning staff within an organization to share the same set of objectives throughout a project's life; partnering with other organizations; and team building to develop shared goals, interdependence, trust, and commitment and open communication, among other factors.

Currently, the Kennedy Center has not established comprehensive policies and procedures to include all center stakeholders in project management. According to Kennedy Center officials, the role of stakeholders in completing projects has been uncoordinated and responsibilities are unclear. While challenges remain, the Kennedy Center's drafting of a policy and procedures manual represents a positive step toward involving center stakeholders in project management. For example, the draft manual outlines and describes several center offices' involvement in various phases of project planning and construction.

Conclusions

The Kennedy Center has made major capital improvements to the center since taking over management control in 1995, but inadequate management and oversight have at times undermined assurance over processes and programs for fire safety, construction, and financial management. Of immediate concern are questions about the Kennedy Center's compliance with some fire safety codes. Taking steps to better address fire life safety issues can only heighten confidence of the Kennedy Center and Congress that visitors are enjoying world-class performances in a safe facility. Questions also remain about the management of construction costs and accounting procedures associated with recording and paying for the renovations. Overtime charges resulting, in part, from aggressive schedules, a lack of comprehensive information about the construction sites, and a practice of negotiating the value of contract changes after the completion of contract work, helped drive the cost of each project we reviewed over budget.

Although the Kennedy Center has taken steps to improve project management, key mechanisms to ensure accountability and sound

financial management practices in spending federal funds remain absent or only partially implemented. Specifically, without more detailed, transparent, and timely information on how funds have been budgeted and spent, the Kennedy Center Board of Trustees and Congress will lack timely and accurate information on projects and thus will lack reasonable assurance that the center is deploying its resources as intended. In addition, the Kennedy Center has never made use of any other federal accountability office—the Smithsonian OIG or another qualified entity—to review the management of programs employing federal funds. Establishing a continuing relationship with an OIG and a federal fire safety expert could help the center to minimize risks that future capital projects will encounter planning problems, budget overruns, or fire safety code deficiencies.

Recommendations

In testimony on April 6, 2005, and in this report, GAO recommends the following:

1. The Chairman of the Kennedy Center Board of Trustees should exercise greater oversight of the center’s management through the board. The Kennedy Center should work with the Smithsonian OIG, or another independent federal government oversight organization, to provide strategic and annual audit plans for ongoing oversight of the center’s use of federal funds based on an analysis of risk, safety, and vulnerability to internal control weaknesses. These plans should also specify the audits to be provided on a reimbursable basis by the Smithsonian OIG or another independent federal government oversight organization.
2. To ensure the safety of the Kennedy Center, the Chairman of the Board of Trustees should direct the President of the Kennedy Center to do the following:
 - a. The president should take steps to better comply with the fire safety code. At a minimum, these steps should include fully implementing the conditions of the modeling study, ensuring that doors in key areas provide adequate separation from fire, and addressing the code deficiencies at the Millennium Stages.
 - b. The president should promptly seek peer review by a knowledgeable third-party of the egress and fire-modeling study used as a substitute for prescriptive code solutions and implement any recommendations. Additionally, the president should consult with

recognized experts, such as GSA, to determine whether the Kennedy Center is fully adhering to prevailing professional practices regarding fire life issues.

3. To better align the Kennedy Center's management of capital projects with best practices, the Chairman of the Board of Trustees should direct the President of the Kennedy Center to implement the following five recommendations:
 - a. provide more timely and accurate information about capital projects by detailing their budget, scope, cost, and schedule and providing to stakeholders an annual reconciliation of the status of all planned, delayed, eliminated, and actual projects;
 - b. take steps to control cost growth and schedule changes in future capital projects by setting more flexible schedules and improving its management of contract modifications;
 - c. strengthen the Kennedy Center's financial management controls by designing and implementing comprehensive contract, financial, and project management policies and procedures in accordance with prescribed federal guidance—these policies and procedures should ensure that
 - the Project Management Office prepares inspection reports, or similar documents, when services are performed that include a description of the services performed and the date(s) or period of performance and use this information to verify the validity of contractors' invoices;
 - complete, up-to-date costs for construction and other services are recognized and used to prepare quarterly financial reports and manage project costs;
 - reasonable efforts are made to match invoices with inspection reports and previously paid invoices to prevent or detect duplicate payments;
 - contractors' invoices meet minimum requirements and contain sufficient detailed information to clearly support the accuracy and validity of invoices; and

-
- for Economy Act transactions, payments to other federal agencies are for actual costs consistent with the Economy Act agreement;
 - d. establish and enforce a documents retention policy that allows for accountability of the Kennedy Center's federal funds; and
 - e. have relevant Kennedy Center offices develop as-built drawings and better track future changes to the center.

Agency Comments and Our Evaluation

We provided a draft of this report to the Kennedy Center for its review and comment. The Kennedy Center stated that it had made a number of significant management improvements in recent years and will continue to do so. The Kennedy Center further noted that the scope of our current work may not have reflected these changes. In conducting our work, we reviewed the details of recent management changes that the Kennedy Center has made, but we were unable to gauge the impact of some of these changes since they are relatively recent in nature or still in development. The Kennedy Center agreed with several of our recommendations, but it disagreed with others. The Kennedy Center agrees that more oversight would be useful, but it is unsure what the best mechanism would be for providing such oversight. The Kennedy Center also believes that it is in compliance with fire code, but agreed to seek a third-party review of its approach to addressing certain fire code deficiencies. We continue to believe that the Kennedy Center needs to better comply with fire code by fully implementing the conditions of its fire-modeling study and addressing its fire door and Millennium Stage issues. The Kennedy Center agreed that it should improve its information about capital projects, its document retention practices, and its knowledge of site conditions at the center. However, it disagreed that it needed to strengthen its financial controls in some of the ways that we have recommended. For example, it believes that its information is up to date and plans to fully comply with the Economy Act. We carefully reviewed the Kennedy Center's concerns, and we continue to believe the Kennedy Center needs to strengthen its financial management controls in order to improve the quality of its financial records and better safeguard federal funds. The Kennedy Center also provided technical comments that we incorporated in this report as appropriate. The Kennedy Center's comment letter and our responses appear in appendix V.

We will send copies to the appropriate congressional committees, the Chairman of the Kennedy Center Board of Trustees, and the President of the Kennedy Center. We will also make copies available to others on request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff has any questions, please contact me at (202) 512-2834 or goldsteinm@gao.gov. See appendix VI for a list of the major contributors to this report.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'M. Goldstein', with a long horizontal flourish extending to the right.

Mark L. Goldstein
Director, Physical Infrastructure Issues

Scope and Methodology

To track the John F. Kennedy Center for the Performing Arts' (Kennedy Center) progress in completing key projects, we analyzed the center's audited financial statements and the invoices, contracting, finance, and additional project files for five major projects—the renovation of the Concert Hall, Opera House, and Eisenhower Theater; improvements to plaza-level public spaces; and the installation of a new fire alarm system—to the extent that records existed.¹ We chose these projects because they were among the most costly or important projects related to fire safety and disabled access improvements included in the Kennedy Center's Comprehensive Building Plan (CBP).² Complete files were not available for the Concert Hall or Eisenhower Theater due to these projects' construction taking place several years ago or being designated for future construction. In cases where we had incomplete data, we conducted follow-up meetings and requested additional information from Kennedy Center officials. On the basis of these exchanges, we obtained financial data that allowed us to establish budget estimates for each of the projects, and against which we could compare actual costs.

To further verify status of the five major projects, we toured the Kennedy Center to visually examine the theaters, public spaces, and other fire safety and disabled access improvements. In the case of the Opera House and Concert Hall construction contracts, we obtained the original contract award documents and copied the records for each of the contract modifications (43 modifications were made during the Opera House renovation, and 58 modifications were made during the Concert Hall renovation). With this information, we were able to determine specific reasons for cost growth relative to these two projects. Thus, we determined that project status and cost data were sufficiently reliable for the purpose of our review.

We also reviewed federal authorization and appropriation laws; the Public Buildings Act, as amended, and implementing regulations; the John F. Kennedy Center Act, as amended; the Americans with Disabilities Act, as amended; the Economy Act; Kennedy Center budget justifications; the CBP and its various updates; our past work; and Kennedy Center depreciation

¹The Concert Hall renovation was completed more than 7 years ago, and project records were not complete. Furthermore, the Eisenhower Theater has limited documentation since it is not planned for construction until 2007.

²All Kennedy Center capital projects were to incorporate life safety and disabled access improvements.

schedules. Sources of these data included the Kennedy Center's CBP (including updates), the Kennedy Center Finance Office, Kennedy Center's audited financial statements, Kennedy Center Budget Justifications to Congress, Kennedy Center Operations Committee Meeting Agendas, and our past reports on the center. In developing our findings, we corroborated the capital program's financial data through (1) a comparative analyses of the data resources, (2) resolving differences and conflicts in the data sets, and (3) discussing data interpretations with GAO and Kennedy Center officials. We also met with Kennedy Center officials from the Project Management, Contract, and Finance Offices to verify our findings related to the center's financial management and contracts system. Thus, we determined that the Kennedy Center's financial data were sufficiently reliable for the purpose of our review.

To evaluate the timeliness and accuracy of the Kennedy Center's communications, we conducted a comprehensive review of records, including minutes from the Kennedy Center Board of Trustees' meetings, minutes and agendas of the board's Operations Subcommittee meetings, all editions of the CBP published since 1995, annual budget justifications to Congress since 1995, and center officials' testimony before Congress since 1995. In addition, we interviewed the Smithsonian Institution's Office of the Inspector General (OIG) officials to verify what OIG oversight mechanisms currently exist for the Kennedy Center.

To assess the Kennedy Center's compliance with fire life safety and disabled access requirements, our licensed engineering staff conducted site visits, and we contracted an independent expert assessment of the center's compliance with applicable fire safety code and disabled access requirements. We followed GAO internal controls for reviewing the expert's qualifications to conduct the work, reviewing and finalizing the resulting contract, and verifying the expert's independence. We accompanied the experts on tours of the Kennedy Center to examine fire safety and disabled access issues. Our independent experts and we reviewed the Kennedy Center's *Egress and Fire Modeling Study of the Grand Foyer, Hall of States, and Hall of Nations*, but we did not conduct an analysis of the quality or accuracy of the study and its assumptions. For purposes of our analysis of the Kennedy Center's fire life safety code compliance, we took the center's ongoing and planned fire life safety upgrades into consideration when identifying deficiencies, and we did not identify deficiencies for cases where upgrades or improvements were planned. In addition to our expert's work, we reviewed fire safety codes and

interviewed officials from the General Services Administration (GSA) and the D.C. Fire Marshal on fire safety issues.

To identify best practices for managing capital projects, we reviewed our previous work on best practices for project management.³ We supplemented our best practices work with past GAO recommendations to the Kennedy Center—as well as best practices from the Construction Industry Institute. We determined that these best practices sources were pertinent based on our previous work on best practices and our past citations of the Construction Industry Institute related to effective project management.

We conducted our review from August 2004 to March 2005 in accordance with generally accepted government auditing standards.

³GAO, *Intercity Passenger Rail: Amtrak's Management of Northeast Corridor Improvements Demonstrates Need for Applying Best Practices*, [GAO-04-94](#) (Washington, D.C.: Feb. 27, 2004).

Appropriations to the Kennedy Center for Capital Repairs and Alterations

Table 1 lists the appropriations to the Kennedy Center for capital repairs and alterations under the CBPs.

Table 1: Appropriations to the Kennedy Center for Capital Repairs and Alterations under the CBPs

Fiscal Year	Amount appropriated
1995	\$8,982,810 ^a
1996	8,983,000
1997	12,400,000 ^b
1998	9,000,000
1999	20,000,000
2000	19,924,000 ^a
2001	19,956,000 ^a
2002	19,000,000
2003	17,485,600 ^a
2004	15,802,848 ^a
2005	16,107,082 ^a

Source: GAO analysis of federal appropriations for capital projects.

^aIn these years, the Kennedy Center's appropriations for capital projects were reduced by rescissions to the budget authority for most government agencies and entities receiving appropriated funds.

^bIn fiscal year 1997, the Kennedy Center received an additional \$3.4 million for capital projects to address antiterrorism requirements.

Status of Previous GAO Recommendations to the Kennedy Center

Recommendations from [GAO-04-933](#) (September 2004)

- *GAO recommendation:* To help congressional decision makers oversee the capital projects at the Kennedy Center and make funding decisions, the President of the Kennedy Center, in conjunction with the Chairman of the Board of Trustees, should annually update the CBP, as required, and include (1) the prioritization of projects, (2) project status, and (3) updated budget information for planned and ongoing projects.

Response: The Kennedy Center agreed with the recommendation. The center indicated that annually updating and implementing the CBP could help guard against a recurrence of severe deterioration of the facility and should ultimately reduce public costs of operations and maintenance. While the CBP serves as the primary management tool for capital project planning, the Kennedy Center does not view it as the primary vehicle for understanding progress in implementing its renovation work.

The Kennedy Center published a CBP update in November 2004. According to Kennedy Center officials, the center now plans to annually update the plan as required. Furthermore, the 2004 update of the plan includes prioritization of ongoing projects, project status, and updated project budget information. While it also lists projects completed since 2002, the 2004 CBP does not include budgets or expenditures for these or other past projects completed since 1995.

Recommendations from [GAO-03-823](#) (September 2003)

- *GAO recommendation:* To help improve the Kennedy Center's ability to manage and oversee its construction program, the President of the Kennedy Center, in conjunction with the Chairman of the Board of Trustees, should develop comprehensive project management policies and procedures to guide the planning and execution of the construction process.

Response: The Kennedy Center generally agreed with the recommendation and indicated that it intended to update and strengthen its construction management policies. The Project Management Office has drafted a policy and procedure manual, which we received in December 2004. The manual outlines roles and responsibilities for project management staff and defines standard operating procedures for managing projects, such as estimating design

and construction costs. However, the policies and procedures remain in draft form, other groups involved in capital project management, such as the Contracts Office, have not published policies and procedures, and the Kennedy Center does not have key overarching policies, such as a document retention directive.

- *GAO recommendation:* To help improve the Kennedy Center's ability to manage and oversee its construction program, the President of the Kennedy Center, in conjunction with the Chairman of the Board of Trustees, should ensure development and use of timely data to oversee construction projects and measure results.

Response: The Kennedy Center agreed to start pursuing monthly project management reports and detailed information at weekly progress meetings.

- *GAO recommendation:* To help improve the Kennedy Center's ability to manage and oversee its construction program, the President of the Kennedy Center, in conjunction with the Chairman of the Board of Trustees, should ensure that the needs for human capital expertise are met.

Response: The Kennedy Center generally agreed with the recommendation. Since the report was issued, the center has hired a Contracts Chief and a Director of Capital Projects to lead the Project Management Office.

February GAO Management Letter Sent to the Kennedy Center



G A O

Accountability • Integrity • Reliability

United States Government Accountability Office
Washington, DC 20548

February 4, 2005

Mr. Michael M. Kaiser
President
John F. Kennedy Center
for the Performing Arts

Dear Mr. Kaiser:

As you know, we are currently reviewing the John F. Kennedy Center for the Performing Arts' (Kennedy Center) Comprehensive Building Plans for the House Committee on Appropriations, Subcommittee on Interior and Related Agencies. We are writing this letter to confirm and elaborate on our January 28, 2005, telephone conversation, in which we raised several issues related to fire safety at the Kennedy Center. This letter represents an interim discussion of our concerns, which will be finalized and provided to you once we have completed our review.

We have determined, based on our expert consultant's assessment, that the Kennedy Center may not be meeting certain fire safety requirements. The law the Kennedy Center follows with regard to facility construction or alteration requires that the Kennedy Center be in compliance with nationally recognized model building codes and other applicable nationally recognized fire and life safety codes to the maximum extent feasible. (40 U.S.C. § 3312) The Kennedy Center policy on building codes states that, where feasible, it will comply with International Building Code, as well as selected provisions of the National Fire Protection Association Life Safety Code (NFPA 101). While conducting our review of the Kennedy Center's Comprehensive Building Plans, we found that the Kennedy Center appears not to be complying with certain aspects of NFPA 101, including those portions of the code relating to exiting the building during a fire.

Over the last decade, several Kennedy Center reports identified fire safety deficiencies in the Grand Foyer, Hall of States, and Hall of Nations, including that exit paths through these spaces may not protect occupants from fire. To address this exit deficiency, NFPA 101 allows two approaches – to adhere directly to the fire safety code (such as the installation of a sprinkler or smoke evacuation system) or to provide an alternative that offers equal or superior protection. The Kennedy Center

Appendix IV
February GAO Management Letter Sent to
the Kennedy Center

has chosen the second approach and used its 2003 egress and fire modeling study¹ as the basis for addressing the exit deficiency, specifically as it relates to the discharge of occupants from the facility. The study indicates that, in the event of a fire, the time needed for evacuation is less than the time it would take for these spaces to become untenable if certain steps, described below, are taken. Based on the results of this study, the Kennedy Center has reversed its earlier plan of installing a fire suppression system and smoke evacuation system in the Grand Foyer, Hall of States, and Hall of Nations.

To ensure that the actual conditions in the Kennedy Center meet the assumptions used in the model, the Kennedy Center's study recommends specific actions, some of which have not been taken. Specifically, we found no evidence of a policy or program to manage the storage of combustible materials, nor did we find sprinklers at the Millennium Stages as recommended in the study. As a result, the Kennedy Center does not meet the conditions upon which the study was based and, therefore, falls short of providing the level of protection intended by the code.

Because the Kennedy Center is the authority having jurisdiction for life safety decisions at the facility, pursuant to NFPA 101, Chapter 5, management is responsible for determining and documenting that (1) the modeling study establishes equal or superior protection to the use of a fire suppression system and smoke evacuation system to address the exit discharge deficiency; and (2) the Kennedy Center stakeholders, such as the Board of Trustees, accept and adopt the terms of the study. The Kennedy Center has not documented that either of these determinations have been made.

Moreover, our review found that the Kennedy Center has not specifically addressed the need for additional outside exits² or the installation of fire-protected exit passageways, as required by NFPA 101, Chapter 7. We also identified two additional deficiencies, based on NFPA 101, that are of immediate concern. First, there are no fire rated doors in critical areas, such as the exits from the upper assembly areas of the Concert Hall, the fire pump room, and the Fire Command Center. Second, several fire-safety related problems were evident with the Millennium Stages. The stages are located in dead ends of the Grand Foyer, a configuration that poses an egress deficiency.³ Additionally, NFPA 101, Chapter 13, indicates that the stages must have a smoke control system that is integrated with a sprinkler system and smoke detectors over the stage area. These systems have not been installed.

Although we recognize that the Kennedy Center has discretion in complying with fire safety codes in that it is required to comply to the maximum extent feasible, it is our opinion that the seriousness of our findings and the life safety issues they raise require your immediate attention. Upon your receipt of this letter, we would be willing to answer any questions or provide further information to you and your staff.

¹Ehrenkrantz Eckstut & Kuhn Architects, PC, *Egress and Fire Modeling Study of the Grand Foyer, Hall of States, and Hall of Nations* (Washington, D.C., 2003).

²NFPA 101 requires that at least half of all exits discharge directly to outside areas. The Kennedy Center has less than half of its exits discharging directly to the outside.

³NFPA 101 defines means of egress as a continuous and unobstructed way of travel from any point in a building to a public way consisting of three separate and distinct parts: (1) the exit access, (2) the exit, and (3) the exit discharge.

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February GAO Management Letter Sent to
the Kennedy Center

In the meantime, we are continuing our review of the Comprehensive Building Plans and related fire safety issues. We will include the issues raised in this letter, and any actions that you take to resolve them, along with other findings we present in our final report.

If you have any questions, please contact me at (202) 512-2834 or at goldsteinm@gao.gov.

Sincerely yours,



Mark L. Goldstein
Director, Physical Infrastructure Issues

cc: Debbie Weatherly, Staff Assistant, House Committee on Appropriations,
Subcommittee on Interior and Related Agencies

Comments from the John F. Kennedy Center for the Performing Arts

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

The John F. Kennedy Center for the Performing Arts

April 4, 2005

WASHINGTON, D.C. 20566-0001
202 416-8010
FAX 202 416-8018

Mr. Mark L. Goldstein
Director, Physical Infrastructure Issues
United States Government Accountability Office
441 G St. NW
Washington, DC 20458

Dear Mr. Goldstein:

On behalf of the Trustees and the staff of the John F. Kennedy Center for the Performing Arts, we want to thank you and your team from the Government Accountability Office for forwarding the draft report, "Stronger Oversight of Fire Safety Issues, Construction Projects, and Financial Management Needed", received March 21, 2005, with modifications received March 28, 2005.

We appreciate the time and thoughtfulness of the GAO team that completed this evaluation and we acknowledge the extraordinary effort the team has given this project over the past 15 months. We acknowledge that this review will assist us in our continuing efforts to improve all aspects of Kennedy Center management. However, the report also includes many sweeping statements, surrounded by qualifiers, which are, therefore, misleading. In addition, in our opinion, many of the conclusions are inaccurate.

The Board of the Kennedy Center take seriously its responsibility to keep our building, a Federal asset and a Presidential memorial, in the best condition possible. Maintaining a safe, accessible and functional building is essential since, each year, the Kennedy Center reaches over 2 million people with more than 2,000 performances in all performing arts disciplines.

The Center has completed a vast majority of the projects outlined in its initial comprehensive building plan developed in 1995 and continues to implement the plan which has been updated most recently in November 2004. The implementation plan and the associated budgets are fluid documents. Projects are evaluated and re-prioritized continually throughout the year as specific details and drawings are developed for each project and more detailed and accurate budgets are developed. The Center makes every effort to spend its appropriated funds prudently and expeditiously. As the environment, appropriations levels, the economy and Center programming changes, the renovation plan is changed accordingly.

The Center believes that we have made significant strides to improve the management of capital projects. The tone and content of the report implies that the Center is not

Appendix V
Comments from the John F. Kennedy Center
for the Performing Arts

addressing previous recommendations made by GAO and that there continue to be pervasive problems with capital project management. The Center has learned a significant amount in the past ten years regarding project management, the existing conditions of the building, the development of budgets and the resources available to assist in maintaining strong oversight. Several of the projects referenced in the report were initiated in the early stages of the project management office. The infancy of the department contributed to incomplete budget development and cost overruns due to expansion of scope of work after the project contract was awarded. For example, budgets for three of the four projects singled out in the report included no contingency. By our own admission, such tight budgets were irresponsible, because unknown conditions, errors and omissions and owner changes are a fact of life in all construction projects. That being said, however, the Center's expenditures for projects were neither irresponsible nor wasteful. Cost and schedule changes were fully controlled; it was simply a case of naïve budget development.

Our budgets are now developed using a comprehensive approach that allows all elements of a project to be considered and that includes design, construction and owner contingencies. In this ever-changing economic climate, such contingencies are particularly important. As design and construction progresses on a project, the budget is continually tested and revised as necessary. For these purposes, the Center utilizes expert construction estimating, budgeting and scheduling consultants for assistance.

The Center will continue to improve its management and policies and procedures. We anticipate that independent oversight through strategic and annual audits will assist in strengthening controls and management.

The Center's financial management controls are strong, and the financial information is accurate and complete. Federal resources are being appropriately safeguarded and the Center's financial reporting is designed to ensure complete, accurate and transparent information for its stakeholders.

The report also makes recommendations to ensure the safety of the Center. We strongly disagree with the supposition that the Kennedy Center is out of compliance with the fire safety code. A fire modeling study, conducted by registered fire protection engineers, was completed in November 2003 and showed that a performance-based approach would meet the goals and objectives of the code. More specifically, the Kennedy Center's egress and fire modeling study showed that the goals and objectives of the code would be met without additional exits or the addition of a smoke evacuation system or sprinklers throughout the Hall of States, Hall of Nations and Grand Foyer (including the Millennium Stages). The Center is currently implementing the recommendations of the modeling study and is undertaking a complete survey of doors to assure they provide adequate fire separation.

The Kennedy Center has consistently used Registered Fire Protection Engineers (the highest qualification in the field) to perform fire protection and life safety assessments and designs. However, it is noted that GAO's consultants, upon whose conclusions the

See comment 1.

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See comment 2.

report is based, are not Fire Protection Engineers. Additionally, the Center has engaged the Smithsonian Institution's Office of Safety and Environmental Management to conduct an independent review of the issues raised by GAO in their report. Specifically, the review will include an assessment of the performance-based design for the Grand Foyer, Hall of States, and Hall of Nations, and the dead end issue at the Millennium Stages.

The details of the GAO draft report are addressed below.

Fire Life Safety

The Kennedy Center was originally constructed between 1966 and 1971 in accordance with applicable building codes. Since that time, the codes and standards to which it conformed have been substantially modified. As a federal entity, the Center is its own authority having jurisdiction over the property, and as such, adopts the particular codes and standards that it will follow. In October 2004, it formally adopted a list of updated building codes. This policy, in line with the requirements of the Public Buildings Amendments of 1988, 40 United States Code (U.S.C.) 3312, requires that any construction or renovation project at the building shall, to the extent feasible, be in compliance with up-to-date nationally recognized model building codes. In general, this does not mean that existing portions of the building need to be modified each time new versions of the building codes are released. Rather, at the time of design contract award, the Center will follow the current version of the codes for the portion of the building in design for construction or renovation.

See comment 3.

Given the above, it is incorrect to suggest that the Center is out of compliance where it is voluntarily upgrading existing life safety and fire protections systems (e.g., sprinklers) to meet the current building code requirements for new construction. The Life Safety Code (NFPA 101), which includes some retroactive standards for existing buildings, recognizes that there might be situations where applying such requirements to existing situations is not practical. To address this issue, the code provides the authority having jurisdiction with the latitude to modify standards and/or phase their implementation as needed.

The Center's 2002 Comprehensive Building Plan identified several fire and life safety deficiencies based on current building codes and standards. Center management decided, where feasible, to systematically bring the entire building up to current life safety and fire protection standards. These upgrades are occurring through a phased process of comprehensive renovations (e.g., the Opera House renovation) and a life safety improvement project that addresses life safety issues not covered by the discrete renovation projects.

NFPA 101 provides two options for achieving compliance:

1. A prescriptive-based life safety design is the traditional approach. Each applicable requirement is met individually, after which the resultant level of life safety is deemed to meet the overall goals and objectives of the code.

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2. A performance-based life safety design is exempt from the myriad prescriptive, specification-based requirements of the code (with the exception of a few retained provisions) and uses complex fire and egress modeling to show that the design meets the overall goals and objectives of the code.

The Center is using both prescriptive-based and performance-based solutions to address the identified deficiencies, although most could be fixed using prescriptive code solutions. For example, prescriptive code solutions are being used to provide fire separations between the main theaters and the Hall of States, Hall of Nations and Grand Foyer and will be completed during the Eisenhower Theater renovation and Life Safety Improvement projects.

Recognizing that an existing exit discharge deficiency could not be resolved through prescriptive code solutions without detracting from the uniqueness and landmark nature of the building, the Center's fire protection consultants recommended an egress and fire modeling study to determine whether a performance-based approach would meet the goals and objectives of the code for the Grand Foyer, Hall of States, and Hall of Nations. In simple terms, this type of study looks at existing conditions and uses the results to determine the fire and life safety improvements that would be necessary to allow for the safe evacuation of building occupants in a fire emergency. The Center's plan to conduct a performance-based engineering evaluation of the building, including fire modeling analysis and timed egress studies, to develop and confirm the design recommendations was stated in Michael Kaiser's testimony of September 10, 2003 before the House Subcommittee on Economic Development, Public Buildings and Emergency Management.

The modeling study, completed in November 2003, showed that, with the assumptions and approximations noted in the report, a performance-based approach would meet the goals and objectives of the code. More specifically, the Center's egress and fire modeling study showed that the goals and objectives of the code would be met without the addition of a smoke evacuation system or sprinklers throughout the Hall of States, Hall of Nations and Grand Foyer (including the Millennium Stages). As such, the performance-based design for this area does not include prescriptive solutions such as sprinkler and smoke control systems at the Millennium Stages. The results of the study changed our approach to fire safety, in certain instances, from those outlined in previous comprehensive building plans, the majority of which were conducted before performance-based design was an option. The installation of sprinklers throughout the rest of the building is still scheduled for completion by planned renovations, e.g., Eisenhower Theater project and the Life Safety Improvements Project.

It should be noted that this study included a second trial design that was conducted for the South Millennium Stage fire scenario (as part of a sensitivity analysis). For this second trial design, the heat release rate of the fire was increased significantly to represent a much larger fire. While this fire size was not considered a credible fire for the Millennium Stage, it demonstrated that the design would likely require a fire three times the size of the worst credible fire to have the first performance criterion (i.e., visibility in

See comment 4.

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the Grand Foyer) fail. Additionally, the fire loading of the Millennium stages is very limited; the stages do not have the overhead stage rigging capability or wing space that could potentially store significant quantities of scenery or drops.

See comment 5.

The validity of the study's conclusions rely on the correction of some of the prescriptive code deficiencies outlined in the 2002 Comprehensive Building Plan, as well as those specifically retained by NFPA 101 for performance-based solutions. Some of these deficiencies are being addressed in the planned renovation projects such as the Eisenhower Theater renovation. The remaining deficiencies are being addressed in the Life Safety Improvements Project. In addition, the Center's consultants provided recommendations to reduce evacuation time, limit fuel load, and maintain the building's fire protection systems. All of these items are in progress.

See comment 6.

It should be recognized that GAO's reference to the Society of Fire Protection Engineers survey, when trying to illustrate that "*code officials are hesitant or reluctant to accept performance-based designs,*" offers statistics that are not particularly relevant. The Society of Fire Protection Engineers survey was completed at the conclusion of awareness-level workshops conducted in 2000, only months after performance-based design was introduced as a compliance option for NFPA 101. Presumably, the workshops represented the introduction of performance-based design concepts for the responding participants, of which only 10% were engineers or designers. Therefore, it is not surprising that the majority of the respondents did not characterize themselves as being comfortable with performance-based design.

See comment 7.

It should also be noted that GSA accepts a performance-based approach. In its 2003 Facilities Standards for the Public Buildings Service (P100), Chapter 7, Fire Protection Engineering, GSA outlines its technical fire protection requirements and design criteria for GSA facilities. In Section 7.1, General Approach, the section on applicability states that, far from being hesitant or reluctant to accept performance-based designs, "*Performance-based designs are encouraged.*" The same section later states "*Deviations from established requirements are allowed when the Design Team's registered fire protection engineer performs an assessment that analyzes the risks.*" In fact, performance-based designs have been used for both new and existing federal buildings in the Washington, D.C. area.

See comment 8.

The Center does not agree that the Millennium Stages are located at dead ends as stated in the draft report received on March 21st. A dead end is described in NFPA 101, Annex A as a situation where "*an occupant enters a corridor thinking there is an exit at the end and, finding none, is forced to retrace the path traveled to reach a choice of egress paths.*" In the case of the Millennium Stages, the Grand Foyer is not a corridor and a situation does not exist where a person would enter the area thinking there is an exit at the end and, finding none, would be forced to retrace the path traveled to reach a choice of egress paths. Qualified architects and registered fire protection engineers have conducted multiple life safety studies at the Center and none of these experts considered these spaces to be dead ends.

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See comment 9.

To allay GAO's concerns about fire and life safety in the building, the Center shall utilize the Smithsonian Institution's Office of Safety and Environmental Management to conduct an independent review of the issues raised by GAO in their report. Specifically, the review shall include an assessment of the performance-based design for the Grand Foyer, Hall of States, and Hall of Nations, and the dead end issue at the Millennium Stages.

See comment 10.

In regards to the acceptance of the modeling study, the Center agrees that further documentation is required. However, NFPA 101 does not require the Center management to document that the modeling study establishes equal or superior protection to the use of a fire suppression system and smoke evacuation system to address the exit issue, as stated in the GAO report. Rather, the Center must document that the design meets the life safety goals and objectives outlined in NFPA 101, Sections 4.1 and 4.2. The Center must also document: (1) approval of the building as a performance-based design with certain specified design criteria and assumptions; and (2) the need for required re-evaluation and re-approval in cases of remodeling, modification, renovation, change in use, or change in established assumptions. This documentation will be finalized before construction completion and operational control implementation.

GAO also questioned whether certain fire doors have an appropriate fire rating, in part because several of the doors inspected have paint over their rating labels. The Center recognizes that this condition exists in various areas throughout the building. Therefore, the Center will engage a qualified contractor to conduct a survey of all fire door assemblies so they can be repaired, replaced, or re-certified and re-labeled.

To provide for third-party review and assistance on significant future life safety and fire protection issues, the Center shall set up an inter-agency agreement with the Smithsonian Institution's Office of Safety and Environmental Management. This office has the requisite in-house resources for this task and has a solid understanding of the particular needs of historic/landmark structures and cultural activities.

Financial Reporting

See comment 11.

One of the overriding goals of the Center's finance office is to provide complete and accurate accounting information to the Center's stakeholders, including management. To this end, the Center has established procedures for recording financial transactions in the general ledger. These written procedures were provided to GAO during their engagement. GAO expressed concern about a lack of a comprehensive set of policies and procedures. While the Center can always improve the documentation of procedures and is working with the project management and contracting office to complete a comprehensive policies and procedures manual for construction activity, the existing procedures were evident and utilized by Center personnel in the execution of their duties.

The Center's existing financial systems and reporting considerations were developed with the needs, and in some cases the specific requests, of the Center's stakeholders in mind.

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See comment 12.

For example, summarized financial information pertaining to capital project obligations is periodically provided to OMB and Congress.

See comment 13.

The Center's stakeholders exhibit financial oversight of the Center mainly through the review of the Center's annual financial statement audit. The Center's audit committee reviews the Center's comprehensive GAAP financial statement audit annually. The annual financial statement includes a complete accrual of all costs, including construction costs, incurred through the end of the fiscal year. GAO has suggested that interim status reports could include construction costs that have not yet been invoiced; we believe it is more helpful to include those funds that have been obligated.

To best safeguard federal assets and use these precious resources most expediently, the Center monitors project activity primarily through obligations, which track contractual commitments. By the time expenses are incurred through work completed it would be far too late to make any adjustments to a project in order to manage the budget. The time for those adjustments would be before obligations are made. Therefore, monitoring project budget obligations is more meaningful than monitoring expenses incurred.

GAO expressed concerns that certain transactions with the U.S. Army Corps of Engineers (the Corps) were not properly supported when paid by the Center and that the Center did not follow the guidelines of the Economy Act to ensure that costs charged to the Center by the Corps reflect actual costs incurred.

See comment 14.

The Center engaged the Corps to manage the Fire Alarm Project on behalf of the Center through an interagency agreement. The Corps, in turn engaged Johnson Controls to perform the project. Johnson Controls submitted invoices to the Corps for payment throughout the project. The Center would review the Johnson Controls invoices for reasonableness prior to the Corps remitting payment. The Corps would then invoice the Center for reimbursement (along with overhead incurred by the Corps). The invoices submitted to the Center by the Corps were summarized invoices, which were certified complete and accurate by the Corps. These amounts were reviewed and approved by the Center's Project Management Office and the Contracting Office for reasonableness, based on its knowledge of the project status and review of the Johnson Controls invoices. This procedure allowed the Center to reject payments if the Corps invoices were deemed unreasonable. Based on this review, the Center believes the Corps invoices were appropriately supported and management exhibited the appropriate diligence in relinquishing payment for these invoices.

In addition, a provision of the Economy Act states that "A bill submitted or a request for payment is not subject to audit or certification in advance of the payment. Proper adjustment of amounts paid in advance shall be made as agreed to by the heads of the agencies or units on the basis of the actual costs of goods or services provided." The responsibility for ensuring that Johnson Controls invoices were adequately supported initially fell to the Corps. The Center's decision to pay the Corps' summarized invoices (based on the Center's knowledge of the underlying Johnson Control invoices and related

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project) was justified. We believe the provisions of the Economy Act support such treatment.

See comment 15.

The Center has just begun project closeout procedures with the Corps on this project. To ensure further compliance with the provisions of the Economy Act, the Center will reconcile amounts paid to the Corps to ensure that all amounts paid reflect actual costs of goods and services provided. This review will determine whether Johnson Controls costs are properly supported and that Corps overhead charges reflect actual charges incurred by the Corps.

See comment 16.

In summary, the Center believes that the financial information for projects reviewed by GAO was accurate and complete, and that federal resources were appropriately safeguarded.

Project Management

The mission of the Kennedy Center, based on its enabling legislation, is to be a living memorial to the nation's 35th President while also being the national center for the performing arts. The Center, with the knowledge and input of its Board of Trustees, prioritizes the capital needs of the Center, while taking into consideration: (1) the disruption to the overall Center caused by construction; (2) the comfort and safety of our patrons; and (3) the need to be accountable to our stakeholders, who provide the necessary resources to help us meet our mission. The uniqueness of the Center and its operations present unique constraints and challenges and must be considered when formulating general recommendations.

See comment 17.

The GAO draft report provides criticism of the Kennedy Center's project management practices in terms of cost control and communication. The basis for this criticism is a detailed investigation of four construction projects. The last major construction work for each of the four projects examined was completed in December 2003, with the exception of a small phase of the Public Space Improvements project. We therefore take exception to the validity of these findings as a state of current project management at the Kennedy Center and the assertion that a number of significant "ongoing" issues remain. (The Eisenhower Theater renovation project was also briefly examined but since the planning for this project is in its early stages, no conclusions were drawn.)

See comment 18.

The Kennedy Center has made significant strides in the improvement of its capital project management program. Since the issuance of the 2003 and 2004 reports, the Center has hired a Director of Capital Projects with responsibility for overseeing the capital project activity of the Center. The Center has also modified its budgeting processes and has drafted a comprehensive policies and procedures manual for capital projects that covers much of the subject matter discussed in the GAO draft report. This draft document consists of over 100 pages of standard design and construction procedures, financial management considerations, and dozens of additional pages of applicable standard forms. The best practices noted by GAO in their draft report are considered in this manual and

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have been utilized by the Center in the management of current activities and construction projects currently underway, which were not reviewed by the GAO.

We acknowledge that the Opera House, Concert Hall, and Fire Alarm projects experienced cost overruns due to modifications during construction. We do not defend the magnitude of the changes nor do we dispute the need to improve upon the performance of those projects. In fact, we have taken many steps to better our management methods, some of which are acknowledged in the report, but many of which are not.

The earliest project referenced is the Concert Hall project. The construction phase for this project occurred in 1997, over seven years ago. The senior management team has changed substantially since that time. We acknowledge that some issues of cost control existed for this project, the first theater renovation conducted by the Kennedy Center, but stress that many improvements in our practices have been made since that time. Because the Kennedy Center's project management office had recently been created, the U.S. Army Corps of Engineers was retained to manage the work and some reliance was placed upon them for technical advice and expertise. The Fire Alarm project, also a U.S. Army Corps of Engineers project, experienced significant cost growth for a variety of reasons, including unexpected asbestos abatement requirements and an inability to re-use existing system components as originally planned. As with the Concert Hall, this project predates the September 2003 GAO report.

Of the projects discussed, the GAO report provides the most detailed information describing the issues and challenges related to the Opera House project. We cannot stress enough the unique nature of this project. Completing an entire Opera House renovation in just 11 months minimized the amount of foregone performance and education programming and ticket revenue. In our opinion, overtime charges were warranted in order to meet our schedules and to deal with the unforeseen conditions encountered in the project.

The GAO draft report states that the Kennedy Center "may have" overpaid for change orders and project modifications due to the practice of negotiating the price after the work was complete. GAO did not perform any analysis of change order pricing or negotiation. No cost estimating was performed by GAO, and no schedule analysis was conducted to determine the impact of delay to the critical path of individual changes. GAO did not review or evaluate information related to change order proposals, such as the contractor's submitted amount versus the final negotiated values. The report does not provide facts that support a conclusion that the Kennedy Center overpaid.

We also do not agree that our practices have led to overpayment. The Kennedy Center followed the most fiscally responsible avenue for managing the construction given the constraints related to the projects. We agree that this method should not be standard practice for all situations, and in fact there are many instances on the theater projects where prices were negotiated prior to work implementation. The Kennedy Center works

See comment 19.

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very diligently on all negotiations to ensure fair and reasonable pricing for the Government.

The overriding factor on the theater renovation projects is time. If the Kennedy Center had negotiated prices prior to work, delays to the project would have occurred. Delaying the projects to negotiate change orders before proceeding with the work would lead to charges from the contractor for extending the project schedule or for working overtime to make up for the delay. GAO has not provided an analysis of this tradeoff. A proper assessment of this situation would consist of an evaluation of each change as it relates to the critical path of the project, an estimate of the amount of time required to perform an Independent Government Estimate and to negotiate, and the resultant delay to the project. Subsequently, the contractors' general conditions costs could then be calculated on a per-day basis to determine the cost of the delay. That cost would undoubtedly be substantial over the course of the project, and in our opinion, it would far outweigh any potential savings that might occur from establishing a fixed price prior to performing the work. No quantitative analysis of these considerations was provided in the draft report.

In general, on the topic of change order negotiations and overtime payments, the unusual and pervasive issues related to the unique nature of our theaters, their renovations, and the constraints involved have not been considered in the report. Kennedy Center theater renovation project schedules simply cannot be extended when a problem is encountered in order to perform negotiations that would possibly, but not definitely, save a fraction of the modification costs. The Center believes that its actions were appropriate and in accordance with industry practice.

The report states that the Kennedy Center does not have as-built drawings of the existing construction. This is partially true. As-built drawings from the original construction do exist, but not for all areas, and in the case of the Opera House and Concert Hall renovation projects, the drawings were not completely accurate. Going into the projects, there was little reason to believe that the drawings in our possession were inaccurate, so new design was based upon the information provided. It is simply not cost effective to discount the as-built drawings and implement a full destructive investigation of the area prior to construction. Such an undertaking is not standard practice in the industry, regardless of the age of the facility.

The report implies that the architects were not allowed access to certain areas by the Kennedy Center and that the Center actively prevented the architect from performing investigative activities during design. This implication is a simplification of a very complex issue. Every renovation project will include an existing conditions survey of the space to be renovated, and every renovation will have a limit to how much destructive investigation can be implemented. Our limit for active spaces, such as the Opera House and Concert Hall, is that the finishes must remain intact. We believe this constraint to be self-evident and reasonable. After the surveys were completed during the design process, the theaters remained in service for several months prior to the start of construction. The Kennedy Center is a preeminent performing arts center, and we will not deliberately

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conduct performances with patched holes in the walls, floor, or other compromises to the aesthetic or acoustic integrity of the space.

Regarding accurate and timely communications, we acknowledge that improvements could be made. However, the referenced communications predate the GAO report of September 2003 and provide no insight into our current communication methods. The 2004 Comprehensive Building Plan update includes a new section that outlines changes since the last update and reasons for the changes. This section will continue to be incorporated in further updates. The Kennedy Center also submits monthly reports to the Office of Management and Budget that detail project budgets, schedules, and financial activity. In the event of a change to any budget or schedule details, the OMB report for that project is updated and specifically footnoted to explain the change.

See comment 22.

In addition, we have both formal and informal meetings with Congressional representatives and their staffs, including Operations Committee meetings, staff briefings, and formal testimony. As an example, the stakeholders were kept apprised of the changing renovation plans for the Opera House and the resulting changes in schedule and design as a result of The Washington National Opera's decision to stay at the Kennedy Center. As the Subcommittee will recall, during the time frame indicated in the GAO report, The Washington National Opera was involved in a years-long process to determine whether it would move to a new facility. The Center had to proceed, to the extent possible, with its design plan for renovation of the facility, but was not a party to The Washington National Opera's deliberations. It was not until September of 1999 that The Washington National Opera notified the Center that it would not be leaving. A few months later, the Center informed this subcommittee of the change in plans and the delay of the project in writing:

See comment 23.

“EXCERPT FROM QUESTIONS FOR THE RECORD – May, 2000

Several years ago, The Washington Opera was contemplating leaving the Kennedy Center. Now that they have agreed to stay, how will that impact your renovation program?

After the Washington Opera announced its intention to move, the Kennedy Center's architects/engineers designed modifications to the Opera House as were required to bring the 30-year old facility up to current standards for life safety, accessibility and functionality. To meet these objectives in the most cost-effective manner, the space was to be renovated to accommodate expanded usage for amplified performances and lesser usage for unamplified operatic performances. The repair and renovation design included changing the rake of the auditorium floor. It also called for mezzanines in the Hall of States, Hall of Nations and Grand Foyer to bring patrons up to what would then be the new main entrances for the space at the box tier level, which was to be the new entrance to the Hall. When the Washington Opera cancelled its plans to move to a new space, the Kennedy Center implemented changes in design to accommodate the changed usage. The floor and entrance configuration under the previous design, while well suited to meeting accessibility, life safety and functionality objectives for

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non-operatic uses, would have reduced the volume of the facility and changed the acoustics of the space to the detriment of live, unamplified operas. These design changes have delayed the project from its original schedule. Redesign of the repairs and renovations is underway, in consultation with The Washington Opera.”

It should also be noted that Michael Kaiser began his tenure at the Kennedy Center on January 16, 2001. One month later, on February 15, 2001, he personally met with the staff of the House Subcommittee on Interior and Related Agencies to inform them of the changes to the Center’s renovation program. He was accompanied by the Center’s former project executive, Brad Faughn, and our liaison to congress, Jared Barlage. This very project was discussed. While it was not a “formal” communication and minutes of this meeting were not recorded, the staff was fully briefed.

Regarding record retention, the Kennedy Center is currently developing a formal policy that will govern this topic. While our retention policy can be strengthened, it should be noted that much of the information referenced as missing or incomplete is old enough to be well beyond any reasonable statute of limitations for financial or construction data.

In summary, we agree that there is always room for improvements in cost control and communication regarding project data, and we appreciate the insights provided by GAO. However, the information presented in the report is skewed toward older projects and practices that have already been enhanced. As an example, a different project delivery approach is being pursued for the current Family Theater renovation project. In addition, budgets are continually being reviewed and reevaluated during the design and bidding phases of all construction projects.

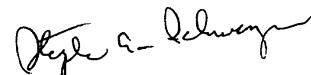
The Center believes that we have made significant strides to improve management of capital projects. The tone and content of the draft report implies that the Center is not addressing previous recommendations made by GAO and there continue to be pervasive problems with capital project management. However, the scope and procedures performed by GAO do not take into account procedures and actions subsequent to earlier reports. When reviewed in context with earlier reports, the Center has made significant improvements and will continue to do so.

Again, we appreciate the time, effort and thoughtfulness of the GAO team that completed this project and will incorporate many of the recommendations into our future practices.

Sincerely yours,



Michael Kaiser
President



Stephen A. Schwarzman
Chairman

The following are GAO's comments on the John F. Kennedy Center for the Performing Arts' letter dated April 4, 2005.

GAO Comments

1. We found that the Kennedy Center has not fully implemented the conditions of its fire-modeling study. For example, it has not developed and implemented a program to manage the storage of scenery, props, and other combustible materials or installed sprinklers at the Millennium Stages, conditions on which the modeling study was based. Until these conditions are met, the study's assumptions are invalid. Two additional areas of concern are (1) doors in critical areas do not provide adequate protection from fire and (2) the Millennium Stages have exit deficiencies. Specifically, the Kennedy Center's decision to obscure the nearest external exits with curtains violates fire code. At the time of our review, none of these conditions and deficiencies was addressed in the Kennedy Center's ongoing fire life safety upgrades.
2. Our independent experts were qualified to assess fire life safety code compliance. Our principal fire safety expert has a Ph.D. in a related field, is certified in industrial hygiene, and has conducted life safety surveys for all three branches of government, including the White House Communications Agency, the Architect of the Capitol, and the U.S. Supreme Court, among others. We were not asked to assess the quality or accuracy of the Kennedy Center's fire-modeling study.
3. We do not believe the main point is one of voluntary upgrading to the current code as characterized by the Kennedy Center, but begins with the statutory requirement found at 40 U.S.C. § 3312. As recognized by the Kennedy Center, when it decided to renovate the facility to upgrade fire life safety systems to current code, it was bound by 40 U.S.C. § 3312, which requires the Kennedy Center to be in compliance with nationally recognized fire and life safety codes to the maximum extent feasible. On the basis of our work, it appears that the Kennedy Center did not comply with selected provisions of the code it adopted. Although we recognize the Kennedy Center has discretion in complying with fire and life safety codes, and is the final authority on this, because the Kennedy Center's actions on this matter involve the seriousness of fire and life safety issues, we believe that the Kennedy Center's decisions should be reviewed by a knowledgeable third party, which the Kennedy Center has agreed to do.

4. We do not believe that the Kennedy Center followed a decision-making process that considered other options regarding its exit deficiency. Although the Kennedy Center installed sprinkler systems in its renovated theaters and created fire separations in certain areas, we found no evidence that the center seriously considered these types of prescriptive fire code solutions in deciding how to approach its exit deficiency.
5. We support the Kennedy Center's continuing fire life safety upgrades. However, we did not find any evidence that the Kennedy Center has a plan to develop and implement a program to manage the storage of scenery, props, and other combustible materials or installed sprinklers at the Millennium Stages, which were conditions of the fire-modeling study.
6. We removed references to the Society of Fire Protection Engineers survey from our report.
7. GSA fire protection officials told us that GSA's philosophy is to do all that is possible to protect life and property, and that they do not support the performance models to avoid prescriptive solutions that could increase the protection of life and property. For example, GSA officials said that they take every possible step to protect life and property, and then do fire or smoke modeling to determine if those steps were sufficient. The Kennedy Center's approach to fire modeling is not consistent with GSA's philosophy.
8. We removed the reference to "dead end" from the report. However, the Millennium Stages continue to lack clear, marked exit paths and sprinklers that are required by fire code.
9. We support the Kennedy Center's decision to seek independent review of its handling of the center's performance-based design for the Grand Foyer, the Hall of States, the Hall of Nations, and the Millennium Stages. However, we encourage the Kennedy Center to implement our full recommendation to seek peer review of its entire approach to fire life safety in addition to the issues related to the fire-modeling study. Third-party validation is particularly important in this instance because the center's fire safety decisions are not subject to external review.
10. We support the Kennedy Center's intention to conduct a survey of all fire door assemblies so they can be repaired, replaced, or recertified

and relabeled because, in order to comply with fire code, the center must ensure that the doors in all key locations provide adequate protection from fire.

11. Although the Kennedy Center has procedures for recording financial management transactions, we remain concerned that these procedures do not provide the comprehensive detailed guidance needed for its nonfinancial staff members to (1) clearly understand their roles and responsibilities and (2) properly and effectively execute their assigned duties in examining and verifying the accuracy and validity of underlying supporting information and approving contractor invoices for payment. We found that the center's current financial accounting procedures consisted of one page of bullet points and a memorandum to its external auditors and did not include fundamental procedures, such as the center's annual accrual process for year-end work-in-progress or minimum documentation requirements necessary before payments to vendors are made.
12. The Kennedy Center provides summarized financial information periodically to the Office of Management and Budget (OMB) and Congress pertaining to capital project obligations, but this financial information does not mention budget execution or status of funds. While information regarding obligations is important, so is information about costs incurred for work performed in the execution of construction contracts. We agree that the Kennedy Center should continue to monitor budget obligations on construction contracts; however, we believe the center should accrue expenses on construction projects—on at least a quarterly basis—to determine if such accruals are material to the center's OMB reports. We continue to believe that, to the extent the Kennedy Center also periodically reports information on budget execution and status of the funds it received for capital projects, the center faces increased risk that such information reported would be in error at times other than at the end of the fiscal year. In addition, capital investments and key performance measures are usually expressed in terms of costs.
13. The Kennedy Center's annual audited financial statements are prepared only once a year. Additionally, they do not provide a breakdown of cost or budget information by specific project. Consequently, we believe that these statements provide stakeholders too little information—too late—for effective oversight on construction projects.

14. The Kennedy Center was unable to link specific Johnson Controls' invoices to U.S. Army Corps of Engineers' (Corps) invoices. Consequently, we continue to believe that the Kennedy Center did not have assurance that the Corps' invoices to the center accurately reflected amounts billed by Johnson Controls, were free of error, and did not represent amounts previously paid. We found that 1 of 56 invoices from the Corps was rejected by the Kennedy Center due to a lack of support. When that invoice was resubmitted by the Corps, it was for an amount 50 percent less than the amount originally invoiced. For the other 55 invoices from the Corps, the center paid the invoice without any supporting documentation attached.
15. We support the Kennedy Center's plans to determine if the Corps' billed costs represented its actual costs and make any necessary adjustments to comply with the Economy Act agreement during contract closeout. If the center completes the reconciliation, it can provide the objective evidence needed to support the Corps' invoices and provide a strong basis for its conclusions on the accuracy and completeness of the invoices. However, the Kennedy Center may find it more cumbersome to reconcile Corps invoices received over the life of the project to supporting cost information at the end of the project than it would be if the reconciliation was done each month at the time invoices are received.
16. We disagree. For the reasons previously stated and in the body of our report, we continue to believe that the center did not maintain complete and accurate financial records, which could impact the safeguarding of federal funds.
17. We reviewed these projects because they were the most recently completed major projects at the Kennedy Center. These projects were also among the most costly or important projects related to fire safety and disabled access improvements included in the Kennedy Center's CBP.
18. We support the Kennedy Center's progress toward establishing a policies and procedures manual. However, the policies manual for capital projects remains in draft, and the Kennedy Center has not formalized its contractual and financial management policies and procedures. A comprehensive set of policies and procedures for managing federal funds covering the Project Management, Contract, and Finance offices, and the interaction between them, would help

guide the various activities related to the acquisition of goods and services for the center's capital improvements program.

19. The Kennedy Center's tight schedules necessitated the overtime charges. However, Kennedy Center officials said that the overtime charges and all other cost growth for these projects were paid using federal appropriations, while the ticket revenue goes into the Kennedy Center's trust funds.
20. It was not within the scope of our work to conduct a comprehensive procurement review that would be necessary to assess the full impact of how the Kennedy Center managed contract modifications. However, our previous work has shown that contractors have limited incentive to control costs until firm prices are negotiated for contract changes, and the government does not have an opportunity to consider more efficient construction methods or management controls if the work is completed before the price is established.
21. We do not suggest that existing drawings be ignored in favor of destructive investigation. However, when existing as-built drawings do not exist or are proven to be inaccurate, as the Kennedy Center has indicated, it may help reduce the risk of cost increase or schedule delays to investigate the actual site conditions, which is sometimes destructive to building finishes. As discussed with Kennedy Center staff, where destructive investigation is not feasible, the center should consider incorporating additional cost and schedule contingencies in its budget estimates to reflect the increased risk of unforeseen conditions being discovered during construction.
22. We continue to believe that the Kennedy Center did not always timely or accurately communicate with its board or Congress. For example, recent Kennedy Center documents continue to state that the center intends to install sprinkler systems throughout the entire facility, even though that is not the case.
23. We removed this example, regarding communication on delays related to the Opera House renovation, from our report.

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