



May 2021

KENNEDY CENTER FACILITIES

Life-Cycle Cost
Analysis and Other
Capital-Planning
Practices Could Help
Minimize Long-term
Costs



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GAO@100 Highlights

Highlights of [GAO-21-446](#), a report to congressional committees

Why GAO Did This Study

The Kennedy Center is a national cultural arts center and a living memorial to President John F. Kennedy. The federal government funds the Kennedy Center's capital repairs and renovations of its facilities, as well as its operations and maintenance, all of which totaled \$40.4 million in regular appropriations for fiscal year 2021. The REACH expansion, built using private funds, has increased the Kennedy Center's federally funded operations and maintenance expenses.

GAO was asked to examine how well the Kennedy Center manages its projects. This report evaluates the extent to which the Kennedy Center followed selected practices in its: (1) capital planning, including for the REACH; (2) procurement; and (3) operations and maintenance, including energy efficiency and facility security.

GAO selected criteria from government and industry to review the Kennedy Center's documentation for three projects that GAO selected based on cost. GAO assessed the Kennedy Center's capital planning, procurement, and operations and maintenance actions against selected industry and government practices and interviewed officials.

What GAO Recommends

GAO is making five recommendations to the Kennedy Center: that it conduct life-cycle cost analyses for its projects, update its capital-planning and procurement policies and procedures, establish sound project documentation practices, and define and document operations and maintenance policies and procedures. The Kennedy Center agreed with GAO's recommendations.

View [GAO-21-446](#). For more information, contact Jill Naamane at (202) 512-2834 or NaamaneJ@gao.gov.

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KENNEDY CENTER FACILITIES

Life-Cycle Cost Analysis and Other Capital-Planning Practices Could Help Minimize Long-term Costs

What GAO Found

The John F. Kennedy Center for the Performing Arts partially or fully met most selected practices for capital planning, procurement, and maintaining its facilities, but could take action to help ensure efficiency in future projects. Specifically, in planning for maintaining and renovating its facilities, the Kennedy Center met or partially met six out of seven selected capital planning practices. For example, it developed a capital plan for its portfolio of projects, budgeted for these projects, prioritized these projects, and completed an assessment of its facilities' conditions. The Kennedy Center has not, however, updated its capital planning policies and procedures for over 15 years nor did it comprehensively analyze the life-cycle costs—such as the cost of repair, maintenance, and operations—of its projects, including the recent REACH expansion. Implementing these two selected practices would position the Kennedy Center to ensure that it has a consistent, repeatable process for managing projects effectively and that it is making decisions early in the planning of the project to minimize the long-term costs to the federal government.

Kennedy Center's Original Building with the REACH Expansion



Source: The Kennedy Center. | GAO-21-446

Six of the Kennedy Center's nine highest cost capital projects from 2015-2020 were within 10 percent of the contract award amount, a government benchmark. But GAO found that the Kennedy Center did not have up-to-date procurement procedures or well-documented projects. Without updated procurement policies and procedures in accordance with selected practices, the Kennedy Center could apply its procurement program inconsistently. Further, without complete project documentation, the Kennedy Center lacks reasonable assurance that project requirements are met or that it established traceability concerning what has been done, who has done it, and when it was done. This omission could potentially affect the quality of the product delivered to the Kennedy Center.

The Kennedy Center met most selected practices for operations and maintenance. For example, it developed an operations and maintenance plan, used a specialized information system to help manage its activities, and used automatic control systems to enhance energy efficiency. However, fully defined policies and procedures for its operations and maintenance program would better position the Kennedy Center to meet its mission to provide the highest quality services related to the repair and maintenance of its facilities.

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Abbreviations

FCA	facility condition assessment
FCI	Facility Condition Index
GSA	General Services Administration
LEED	Leadership in Energy and Environmental Design
MEP	Mechanical, Electrical, and Plumbing
NIBS	National Institute of Building Sciences
OMB	Office of Management and Budget
NASA	National Aeronautics and Space Administration
PMI	Project Management Institute

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May 19, 2021

The Honorable Peter A. DeFazio
Chairman
The Honorable Sam Graves
Ranking Member
Committee on Transportation and Infrastructure
House of Representatives

The Honorable Dina Titus
Chairwoman
The Honorable Daniel Webster
Ranking Member
Subcommittee on Economic Development, Public Buildings, and
Emergency Management
Committee on Transportation and Infrastructure
House of Representatives

The John F. Kennedy Center for the Performing Arts (Kennedy Center) is a national cultural arts center and a living memorial to President John F. Kennedy.¹ The federal government is responsible for funding the Kennedy Center's major repairs and renovations as well as its operations and maintenance program, which includes heating, cooling, lighting, routine repairs, and services such as facility security. The REACH, which opened in September 2019, was the first and only expansion in the Kennedy Center's history. The REACH provides rehearsal, performance, and educational spaces, and its construction was privately funded. For fiscal year 2021, the Kennedy Center received \$40.4 million in regular appropriations—\$26.4 million for operations and maintenance of its facilities, and \$14 million for capital projects including major repairs and renovations. The Kennedy Center uses its own income from ticket sales, other earned revenue, and private contributions to fund its performances and education programs.

¹The Kennedy Center, initially established in 1958 as the National Culture Center, was reconstituted and renamed in 1964 to serve as the living memorial and sole monument in the Washington, D.C., area to President Kennedy and to recognize his "devotion to education, cultural understanding, and advancement of the performing arts." See Pub. L. No. 85-874, 72 Stat. 1698 (1958); Pub. L. No. 88-260, 76 Stat. 4 (1964); S. Rep. No. 102-295 at 2 (1992).

You asked us to review, among other things, the costs of the Kennedy Center's recent capital repair projects, how those costs compare with the budgeted costs, and what opportunities exist to reduce capital repair and operations and maintenance costs. Your request also noted that capital repairs, as well as expansions such as the REACH, can affect operations and maintenance costs, for which the federal government is responsible. This report evaluates the extent to which the Kennedy Center met selected practices in its:

- capital planning, including for the REACH;
- procurement and whether the Kennedy Center met its own cost estimates for capital projects; and
- operations and maintenance, including energy efficiency and facility security.

This report also discusses the Kennedy Center's efforts to make its performing arts programming affordable.

To assess the extent to which the Kennedy Center met selected practices in its capital planning, procurement, and operations and maintenance, we identified sources of practices from government and industry requirements and guidance. We identified Office of Management and Budget (OMB) requirements and guidance and General Services Administration (GSA) guidance as sources of capital-planning practices,² OMB's and the Project Management Institute's (PMI) guidance as sources of procurement practices,³ and the Interagency Security Committee's standards and the Department of Energy's, OMB's, National Institute of Building Sciences', National Aeronautics and Space Administration's (NASA), and PMI's guidance, as sources of operations

²OMB, *Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2017); OMB, "Implementation of Agency-wide Real Property Capital Planning," M-20-03, November 6, 2019; and General Services Administration, *Federal Real Property Council: 2019 Guidance for Real Property Inventory Reporting, Version 3* (Washington, D.C. Sept. 24, 2019).

³OMB, *Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2017) and PMI, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, Sixth Edition (Newtown Square, Pa.:2017). PMBOK is a trademark of Project Management Institute, Inc. The Project Management Institute is a not-for-profit association that provides global standards for, among other things, project and program management.

and maintenance practices—including the areas of general management, energy efficiency, and facility security.⁴ We selected these sources because of their government- or industry-wide nature or consensus-based process of development, or because the authoring agency has a lead role in this area. Although the Kennedy Center is not required to follow the requirements and guidance that we identified, we determined that such requirements and guidance describe practices that are helpful for effective capital planning, procurement, and operations and maintenance. Because the construction of the REACH was privately funded, we did not look at the management of the REACH project as a whole, only at the selected practice (performing alternatives analyses with life-cycle cost analyses) that affected costs to the federal government.

We selected practices from these sources based on their relevance to capital planning, procurement, and operations and maintenance. We obtained and reviewed documentation of the Kennedy Center's efforts in these areas and interviewed Kennedy Center officials responsible for these efforts. We then assessed the extent to which the Kennedy Center's efforts met the selected practices. More specifically, we determined whether the Kennedy Center's efforts fully met, partially met, or did not meet the selected practices. We also conducted case studies of three projects (Garage Surfaces Restoration, Terrace Theater

⁴Department of Energy, *Operations & Maintenance Best Practices: A Guide to Achieving Operational Efficiency*, Release 3.0 (August 2010); OMB, *Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2017); National Institute of Building Sciences, "Computerized Maintenance Management Systems (CMMS)," in *Whole Building Design Guide*, September 2016, accessed January 18, 2020, <https://www.wbdg.org/facilities-operations-maintenance/computerized-maintenance-management-systems-cmms>; National Institute of Building Sciences, "Reliability-Centered Maintenance (RCM)," in *Whole Building Design Guide*, November 2016, accessed January 17, 2020, <https://www.wbdg.org/resources/reliability-centered-maintenance-rcm>; NASA, *Reliability-Centered Maintenance Guide for Facilities and Collateral Equipment* (September 2008); PMI, *The Standard for Program Management*, Fourth Edition (Newtown Square, Pa.: 2017); Interagency Security Committee, *The Risk Management Process for Federal Facilities: An Interagency Security Committee Standard*, 2nd Edition (November 2016); and Interagency Security Committee, *Facility Security Plan: An Interagency Security Committee Guide*, 1st Edition (February 2015). The National Institute of Building Sciences (NIBS) is a non-profit, non-governmental organization established by Congress in 1974. NIBS brings together representatives of government, the professions, industry, labor and consumer interests, and regulatory agencies to support advances in building science and technology to improve the built environment. The Interagency Security Committee is an interagency organization chaired by the Department of Homeland Security and comprised of over 50 federal departments and agencies, among others.

Renovations, and Mechanical, Electrical, and Plumbing Modernizations Phase 2) to learn about the Kennedy Center's procurement practices and the capital planning practice of performing project alternatives analyses with life-cycle cost analyses.⁵ We selected projects that were among the highest cost projects completed from 2015-2020. To assess whether the Kennedy Center met its own cost estimates for capital projects, we analyzed cost estimates from the nine largest capital projects completed within the last 5 fiscal years, 2015-2020. To describe the Kennedy Center's efforts to make its performing arts programming affordable, we obtained and analyzed data from the Kennedy Center on its discounted ticket programs, free performances, and on-line programming, and interviewed Kennedy Center officials. We assessed the reliability of the data on project costs and the data on program affordability by reviewing the Kennedy Center's responses to our questions about the systems and agency documents that generated the data. We determined that the data were sufficiently reliable for the purposes of this report. See appendix I for more details on our objectives, scope, and methodology.

We conducted this performance audit from November 2019 to May 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The Kennedy Center for the Performing Arts opened in Washington, D.C. in 1971 and receives about 3 million visitors each year. It is sited on 17 acres and the original building contains about 1.5-million square feet, including four major theaters and several smaller theaters, five public galleries, and office space. For fiscal year 2021, the Kennedy Center received \$40.4 million in regular appropriations—\$26.4 million for operations and maintenance of its facilities, and \$14 million for capital projects including major repairs and renovations.⁶ Recent capital projects

⁵The purpose of a life-cycle cost analysis is to estimate the overall costs of project alternatives and to help select the design that ensures the facility will provide the lowest overall cost of ownership consistent with its quality and function.

⁶Pub. L. No. 116-260, 134 Stat. 1182, 1531 (2020). In fiscal year 2020, the Kennedy Center received an additional \$25 million in the CARES Act to remain available until the end of fiscal year 2021. Pub. L. No. 116-136, 134 Stat. 281, 552 (2020). The Kennedy Center CARES Act funds supported three primary areas: (1) employee compensation, (2) employee benefits, and (3) facility cleaning, supplies, and COVID safety related contracts.

include renovating a theater, resurfacing the garage, and replacing the escalators.

The Kennedy Center's expansion, the REACH, which has increased the Kennedy Center's operations and maintenance expenses, contains about 130,000 square feet of green space and 72,000 interior square feet, including classroom, rehearsal, and performance spaces, housed in three pavilions and several underground spaces. See figure 1.

Figure 1: Kennedy Center's Original Building with the REACH Expansion

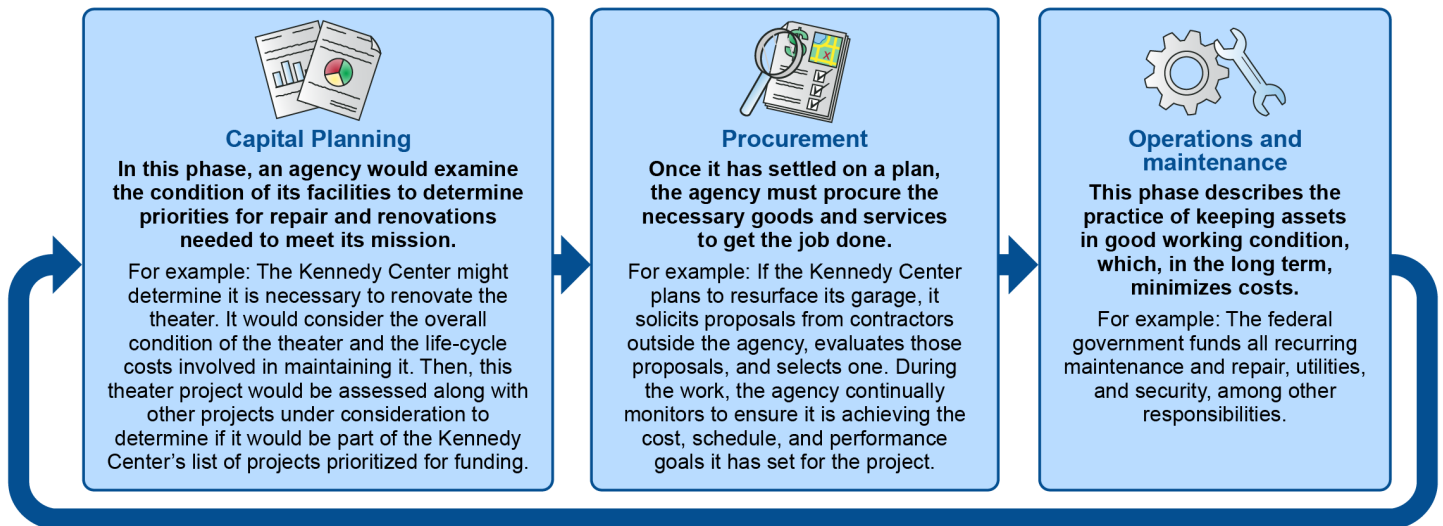


Source: The Kennedy Center. | GAO-21-446

OMB's Capital Programming Guide outlines several steps to bring a project, such as a theater renovation, to fruition. These steps include: how to select the project; how to contract for, or procure, the materials and services to complete the work; and how to operate and maintain the building in the long-term.⁷ Figure 2 illustrates these three phases of the capital-programming cycle for construction.

⁷According to Kennedy Center officials, the Kennedy Center contracts out most of its capital and minor repair projects.

Figure 2: Phases of the Capital-Programming Cycle



Sources: Office of Management and Budget Capital Programming Guide and GAO. | GAO-21-446

For each of these three phases, we identified relevant practices for capital planning, procurement, and operations and maintenance. We selected practices from the government and industry guidance described above and in appendix I that were relevant to these areas.

Capital-planning practices. We selected seven practices in the capital-planning phase:

1. documenting capital-planning requirements,
2. assessing the condition of the facility,
3. developing a capital plan,
4. developing an annual budget request,
5. conducting life-cycle cost analyses,
6. identifying priorities, and
7. measuring the completion of projects against performance metrics, such as facility condition improvement.

Procurement practices. We selected nine practices in the procurement phase:

1. documenting and updating procurement policies and procedures,

-
2. developing an acquisition plan,
 3. managing risks to the project,
 4. defining performance requirements,
 5. evaluating proposals and selecting the project proposal with the best value to the federal government,
 6. managing the project through project planning,
 7. assuring contract requirements are met,
 8. evaluating the quality of work after the project is complete, and
 9. documenting the project well.

Operations and maintenance practices. We selected 10 practices in the operations and maintenance phase; these practices fall into three areas as follows:

- **General management:** (1) developing a mission statement, (2) developing a plan, (3) using performance measures, (4) using a specialized information system, (5) using maintenance practices that maximize facility and equipment reliability while minimizing life-cycle costs, and (6) defining program policies and procedures.
- **Energy efficiency:** (7) using automatic control systems to enhance energy efficiency and (8) implementing an energy metering program
- **Facility security:** (9) using a risk management process for facility security and (10) developing a facility security plan.

A capital project is a long-term project to build, improve, maintain, or develop a significant asset. The Kennedy Center's Comprehensive Building Plan (building plan) states that capital projects are those over \$150,000, minor repairs are those projects between \$10,000 and \$150,000, and projects costing under \$10,000 are generally considered operations and maintenance. In this report, we discuss the following four key cost estimates for the capital projects we reviewed:

- **Conceptual design estimate.** This step is an early design estimate provided to OMB and Congress for the cost of a project. For the Kennedy Center, according to Kennedy Center officials, this estimate

is completed at the beginning of design where there is considerable cost uncertainty.⁸

- **Construction contract amount.** This represents the project construction cost agreed upon between the contractor with the winning bid and the federal agency.
- **Construction cost.** This represents total construction costs, which does not include costs associated with the design of the project.
- **Total cost.** This sum represents the final total project cost, including design and construction costs and any changes, once the project is completed.

The Kennedy Center Met or Partially Met Most Selected Capital-Planning Practices, but Did Not Estimate the Life-Cycle Cost of Projects

The Kennedy Center met two out of seven selected capital-planning practices: (1) developing a capital plan and (2) developing an annual budget request,⁹ and partially met four other practices described below. However, it did not meet one selected practice: conducting project alternatives analyses with life-cycle cost analyses.

The Kennedy Center Had a Capital Plan, Completed an Annual Budget Request, and Partially Met Four Other Capital-Planning Practices

The Kennedy Center met or partially met six of seven selected capital-planning practices. For example, the Kennedy Center developed a capital plan for its portfolio of projects, budgeted for these projects, prioritized

⁸Federal agencies, including the Kennedy Center, sometimes measure themselves against estimates at 35 percent design where the design is sufficiently complete that the agency is more confident about what a project will ultimately cost.

⁹This is often referred to as a budget justification submitted to Congress.

these projects, and completed an assessment of its facilities' conditions.¹⁰ The capital plan lays out the capital projects and their costs for the upcoming year and subsequent 5 years. The Kennedy Center identifies its capital-repair and operations and maintenance priorities to Congress in its annual budget request. The Kennedy Center also completed a facility condition assessment in 2015 and has issued a statement of work to complete an update of this assessment in 2021. See table 1 below for an assessment of the Kennedy Center's performance against selected capital-planning practices.

Table 1: GAO Assessment of the Kennedy Center's Performance against Selected Capital-Planning Practices

Capital-planning practice	Kennedy Center's actions	Assessment
Update capital-planning policies and procedures ^a	The Kennedy Center has documented its capital-planning policies and procedures through its Capital Project Management Policies and Procedures completed in 2005. The Kennedy Center plans to update its project management policies and procedures manual to fully address current capital-planning practices used to manage Kennedy Center projects and expects to complete this update in fiscal year 2021.	Partially Met
Develop facility condition assessment (FCA) ^b	The Kennedy Center completed an FCA in 2015 as part of its Comprehensive Building Plan (building plan). An FCA should be completed every 5 years. The Kennedy Center did not complete an FCA in 2020, but it has issued a statement of work for an FCA and plans to complete it in 2021.	Partially met
Conduct project alternatives analyses with life-cycle cost analyses ^{a,c}	The Kennedy Center did not conduct alternatives analyses that included life-cycle cost analyses for any of the three projects we examined. Kennedy Center officials told us it does not conduct or require alternatives analyses with life-cycle cost analyses.	Not met
Develop a process to prioritize capital projects ^{a,c}	Kennedy Center officials explained that its building plan prioritizes capital projects and minor repair projects. Within the building plan, projects to bring the building into compliance with life-safety and accessibility are a priority. The changes to the projects in the building plan annually reflect reprioritization. The Kennedy Center also prioritizes its capital repair projects based on facility condition, institutional priorities, and available funding. However, according to our analysis, it is not transparent how decision factors are weighed to prioritize projects and determine the final project list.	Partially met

¹⁰The Kennedy Center updates its capital plan, called the Comprehensive Building Plan (building plan) every year. A facilities condition assessment should be completed as part of a building plan, in general, every 5 years. The Kennedy Center last completed a facility condition assessment as part of its building plan in 2014/2015. The building plan annual update uses the capital plan as the baseline and is updated based on annual project progress and current conditions of the facility.

Capital-planning practice	Kennedy Center's actions	Assessment
Establish performance metrics ^{a, c}	The Kennedy Center does not include performance goals or metrics that measure progress in meeting facility needs in the capital plan. Kennedy Center officials told us that these assessments are not taking place. However, the Kennedy Center performs high-level progress reporting to OMB and its Operations Committee. For example, according to Kennedy Center officials, OMB reporting is performed on a monthly basis and provides the progress and financial status of each active capital project.	Partially met
Develop a capital plan ^{a, c}	The Kennedy Center's most recently completed building plan in 2020 lays out the capital projects and their costs for the upcoming year and subsequent 5 years. It is updated every year. We found that the building plan follows most federal capital plan guidance.	Met
Develop an annual budget request ^a	The Kennedy Center annually submits a budget to OMB and Congress; the budget allocates resources among various priorities and includes a request for operations, maintenance, and capital repair funds.	Met

Rating guide: "Met" means that actions have been taken to meet the selected practice and that no significant actions need to be taken to further address the practice. "Partially met" means that some, but not all, actions necessary to address the practice have been taken. "Not met" means that few, if any, actions toward addressing the practice have been taken.

Source: GAO analysis of Kennedy Center information. | GAO-21-446

Note: These assessments are based on Kennedy Center actions to manage its entire portfolio of capital projects with the exception of the assessment related to the practice of performing alternatives analyses with life-cycle cost analyses. That assessment was based on our three project case studies and their recent actions in this area because this practice occurs during planning and is both project-specific and portfolio-based.

Note: Although the Kennedy Center is not required to follow the guidance and requirements that we identified, we determined that such guidance and requirements describe practices that are helpful for effective capital planning, procurement, and operations and maintenance.

^aOffice of Management and Budget, Implementation of Agency-wide Real Property Capital Planning, M-20-03, Nov. 6, 2019.

^bGeneral Services Administration, Federal Real Property Council: 2019 Guidance for Real Property Inventory Reporting, Version 3 (Washington, D.C. Sept. 24, 2019).

^cOffice of Management and Budget, Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets (Washington, D.C.: 2017).

The Kennedy Center Did Not Analyze Life-Cycle Costs for Selected Projects or Update Its Capital-Planning Policies and Procedures Manual

As mentioned in table 1, the Kennedy Center did not conduct alternatives analyses that included life-cycle cost analyses for its projects. Further, while the Kennedy Center has documented its capital-planning policies and procedures, its project management policies and procedures manual is not current and does not fully address the other partially met capital-planning practices.

- **Alternatives analysis with a life-cycle cost analysis.** We found the Kennedy Center did not analyze the costs and benefits of various project options—referred to as an alternatives analysis—using life-cycle cost analyses for any of the three projects (the Garage Surface Restoration, the Terrace Theater renovation, and the Mechanical, Electrical, and Plumbing Modernizations Phase 2) that we examined.

Based on OMB's capital-planning guidance, we identified that performing an alternatives analysis with life-cycle cost analysis is a capital-planning practice that should be used in projects affecting costs to the federal government.¹¹

- Kennedy Center officials told us that they had not included a requirement in its capital-planning policies and procedures for a life-cycle analysis for any capital project due to the need to identify the types of projects that will require an analysis. The solicitation for the design of the REACH also did not call for the engineering firm to conduct a lifecycle cost analysis, according to Kennedy Center officials. However, the REACH was designed with a number of sustainability features and is certified at the Leadership in Energy and Environmental Design's (LEED) "Gold" level, which is the second highest level.¹² For example, according to Kennedy Center officials, the REACH uses all LED lighting, which is less costly to operate than incandescent lighting. See figure 3. At this level, according to LEED, the REACH should have lower operations and maintenance costs than a non-LEED-certified facility. OMB's capital-planning guidance allows agencies flexibility in determining how to implement it. An agency can determine what types of analyses are applicable to its capital projects, and in some cases, certain analyses might not apply to certain types of projects. For example, as noted above, the Kennedy Center defines capital projects as those over \$150,000—not all of which might require a life-cycle cost estimate. However, without conducting a life-cycle cost analysis for most of its capital projects, the Kennedy Center lacks reasonable assurance that the design selected minimizes costs to the federal government. For example, without such an analysis, it would be difficult to know whether the equipment using the least amount of energy is selected or to demonstrate that the Kennedy Center chose the heating, ventilation, and air conditioning

¹¹The purpose of a life-cycle cost analysis is to estimate the overall costs of project alternatives and to help select the design that ensures the facility will provide the lowest overall cost of ownership consistent with its quality and function. Alternatives analysis involves an evaluation of the costs and benefits of various, available project options to meet an agency's need. For example, a theater renovation might consider options for replacement flooring and seating, among other things.

¹²Leadership in Energy and Environmental Design (LEED) certification is a green-building certification program used worldwide. According to Kennedy Center officials, the REACH uses all LED lighting, which is less costly to operate than incandescent lighting—the Kennedy Center's electric bill dropped \$700,000 when it switched. The REACH also has (1) a green roof; (2) motion sensors for turning lights on and off; (3) lighting dimmers; and (4) durable materials such as terrazzo and concrete.

system, floor materials, or windows that result in the lowest costs to the federal government over time.

Figure 3. The Kennedy Center’s REACH with Leadership in Energy and Environmental Design (LEED) Compliant Lighting



Source: The Kennedy Center. | GAO-21-446

Updated capital-planning policies and procedures. As shown in table 1, the Kennedy Center partially met four selected capital-planning practices:

1. updating policies and procedures,
2. developing a facility condition assessment every 5 years,
3. prioritizing projects, and
4. establishing performance metrics.

For example, although the Kennedy Center has a project-management policies and procedures manual that includes capital-planning policies, it was last updated in 2005 and does not contain some selected practices that we identify in this report. In addition, although the Kennedy Center has a project prioritization process, the Kennedy Center’s building plan does not show how the Kennedy Center’s final project list is determined

or what decision factors are used to prioritize projects. Furthermore, there is a lack of performance goals or metrics in the Kennedy Center's capital plan to measure whether the Kennedy Center's needs are being met. Kennedy Center officials told us that they would be taking steps to implement the capital-planning practices that are not fully met through an update of their capital-planning policies and procedures. For example, officials told us that they plan to identify the facility's needs and project priorities by conducting a facility condition assessment during the development of the 2021 building plan. Officials said that the facility condition assessment is also intended to produce an assessment of the condition of the Kennedy Center's assets and help establish performance metrics for assessment of facility needs. The facility condition assessment is scheduled to be completed in 2021.¹³ As of January 2021, the Kennedy Center officials said they had not yet started the process of updating its capital-planning policies and procedures, and that this updating process will require dedicated staff to complete.

Either OMB's or the General Services Administration's capital-planning practices state that capital-planning policies and procedures should be updated, that the facility's condition should be assessed every 5 years, that prioritization should be transparent, and that progress in meeting the facility's needs should be assessed through performance metrics. In particular, a transparent process for prioritizing projects would include criteria, a score for each capital project, informed by the results of a facility condition assessment. Further, establishing performance metrics and assessing whether an agency's needs have been met will help inform an agency's facilities management decisions.

Officials told us the update of the Kennedy Center's capital-planning policies and procedures in its project management manual has been delayed in part due to considerable turnover among the facilities management staff, who will be responsible for implementing these changes, including a new Vice President of Facilities and Directors of Project Management and Contracting. The Kennedy Center has not had a Vice President of Facilities since early 2020 and a Project Management Director since mid-2020. Thus, according to Kennedy Center officials, they have been short of staff to develop updated policies and procedures

¹³Kennedy Center officials told us that project prioritization would be enhanced during the development of the 2021 building plan. The building plan will include a facilities condition assessment that includes a Facility Condition Index (FCI) that measures deferred maintenance deficiencies. The FCI will be a key element in project execution and prioritization decisions.

with prioritization and performance metrics policies that meet selected practices. The Kennedy Center plans to start completing these capital-planning policy and procedure updates after these key positions have been filled. Updating project management policies and procedures would better position the Kennedy Center to meet the other partially met practices, such as project prioritization and assessment of the facility's needs against performance metrics. With such updates, the Kennedy Center would also be better positioned to apply a consistent, repeatable process to select projects that meet its most pressing needs and support its mission.

The Kennedy Center Partially Met Most Selected Practices for Procurement and Completed Most Projects within 10 Percent of the Awarded Contract's Amount

We identified nine selected practices in the procurement phase and found that the Kennedy Center partially met eight of these selected practices including developing an acquisition plan, evaluating contract proposals, and conducting post-project evaluations. However, it did not meet one selected procurement practice: establishing effective project-documentation practices. In addition, the Kennedy Center completed six of nine capital projects within 10 percent of the contract award amount.

The Kennedy Center Partially Met Most Selected Procurement Practices, but Lacked Some Documentation and Updated Procedures

The Kennedy Center partially met most selected practices for procurement. To assess the Kennedy Center's procurement, we reviewed three projects against our selected procurement practices: (1) the Garage Surfaces Restoration; (2) the Mechanical, Electrical, and Plumbing (MEP) Modernizations Phase 2; and (3) the Terrace Theater Renovation. For example, we found that the Kennedy Center has procurement policies and procedures, but these have not been updated since 2008. In addition, it conducted a proposal evaluation for the Terrace Theater Renovation that resulted in the selection of a proposal that the Kennedy Center determined provided the best value to the government and had documented project management plans for the Terrace Theater and Garage Surfaces Restoration projects. However, it did not have either of these documents—a proposal evaluation or a project management plan—for the MEP Modernizations project. See table 2 below for a summary and explanation of the assessment for each of the selected procurement practices.

Table 2: GAO Assessment of the Kennedy Center’s Performance against Selected Procurement Practices

Procurement practice	Kennedy Center’s actions	Assessment
Update procurement policies and procedures ^a	The Kennedy Center has documented its procurement policies and procedures through its 2005 Capital Project Management Policies and Procedures and its 2008 Federal Contracting Manual. According to Kennedy Center officials, they are updating the project management and contracting policies and procedures manuals to address current procurement practices used to manage Kennedy Center projects and expect to complete this update in fiscal year 2021.	Partially met
Develop an acquisition plan ^b	The Kennedy Center developed an acquisition plan for the Terrace Theater Renovation project but not for the Garage Surfaces Restoration and Mechanical, Electrical, and Plumbing (MEP) Modernizations projects. Kennedy Center officials told us that it currently does not require an acquisition plan but going forward all construction projects over \$10 million will have a full acquisition plan, while a streamlined plan may be required for projects under \$10 million.	Partially met
Manage risk ^b	The Kennedy Center did not conduct a risk analysis for any of the three projects we reviewed. Kennedy Center officials told us that they do not perform formal risk assessments for capital projects. The officials told us that they mitigate risk with certified project managers, integrated product teams, and training of staff. The Kennedy Center has had a Contracting Review Board since 2008 that provides risk oversight in support of the Kennedy Center’s goals and mission. In addition, Kennedy Center officials told us they are creating an acquisitions review board to develop project requirements.	Partially met
Define performance requirements ^b	The statements of work for the Terrace Theater and the Garage Surfaces Restoration projects documented performance requirements. The MEP Modernizations project files did not contain a statement of work with performance requirements. In general, Kennedy Center officials told us that performance requirements in prior statements of work for capital projects were ambiguous, but recent statements of work have improved in quality.	Partially met
Make use of competition, evaluate proposals, and select project that provides the best value ^b	The Kennedy Center conducted a proposal evaluation for the Terrace Theater that selected the option with the best value. However, the Kennedy Center did not have a proposal evaluation in the files we reviewed for the Garage Surfaces Restoration or MEP Modernizations projects. The Kennedy Center also provided a recent proposal evaluation for its 2021 Comprehensive Building Plan.	Partially met
Manage the contract through project planning to meet goals ^b	The Terrace Theater Renovation and Garage Surfaces Restoration projects each had a project management plan containing a project schedule and work plan. Procurement management should make use of performance metrics to demonstrate if cost and schedule goals are being met, according to Office of Management and Budget (OMB) guidance. We did not find use of metrics in the file to demonstrate if cost and schedule goals are being met. In addition, the Kennedy Center did not have a project management plan in the file we reviewed for the MEP Modernizations project.	Partially met
Assure contract requirements are met ^b	The Kennedy Center did not have documentation of assurance that the three projects we reviewed met the requirements of the contracts. However, Kennedy Center officials stated that they are working on a new set of standard operating procedures for project closeout.	Partially met
Conduct post–project evaluation ^b	The Kennedy Center has conducted limited post-project evaluations of its capital projects. For example, it surveyed patrons of the Terrace Theater about their opinions of the theater space after it was renovated. The Kennedy Center also solicits and receives comments from its staff about the quality of, and issues related to, completed capital projects. A post-project evaluation was not conducted for the Garage Surfaces Restoration or MEP Modernizations. In addition, post-project evaluation is not part of the Kennedy Center’s required procurement procedures.	Partially met

Procurement practice	Kennedy Center's actions	Assessment
Establish effective project documentation practices ^a	The Kennedy Center lacked significant documentation for two of the three capital projects that we selected and evaluated. The Terrace Theater file contained many of the key documents recommended by OMB guidance and by the policies in its project management manual. However, the Kennedy Center generally did not have key documentation for the Garage Surfaces Restoration and MEP Modernizations projects in the files we reviewed and did not follow its own documentation requirements. For example, the files did not contain an acquisition plan or post-project evaluation.	Not met

Rating guide: "Met" means that actions have been taken to meet the selected practice and that no significant actions need to be taken to further address the practice. "Partially met" means that some, but not all, actions necessary to address the practice have been taken. "Not met" means that few, if any, actions toward addressing the practice have been taken.

Source: GAO analysis of Kennedy Center information. | GAO-21-446

Note: These assessments are based on Kennedy Center documentation for three projects that we selected as case studies, as well as statements from Kennedy Center officials about their practices for managing projects in each of these areas.

Note: Although the Kennedy Center is not required to follow the guidance and requirements that we identified, we determined that such guidance and requirements describe practices that are helpful for effective capital planning, procurement, and operations and maintenance.

^aProject Management Institute, A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition (2017).

^bOffice of Management and Budget, Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets (Washington, D.C.: 2017).

The Kennedy Center did not meet one selected practice for procurement—establish and maintain documentation for individual projects—and partially met another selected practice—update procurement policies and procedures. Complete documentation would include risk analyses, statements of work, and post-project evaluations, for example, but these documents were not in the files we reviewed for all projects that we examined. Meeting the practice of updating policies and procedures is key to the full implementation of the other partially met procurement practices, such as managing risk and post-project evaluation.

- **Updated procurement policies and procedures.** The contracting (procurement) policies and procedures manual has not been updated since 2008, and, according to Kennedy Center officials, current Kennedy Center project management and procurement policies and procedures do not have requirements for an acquisition plan, risk analysis, and post-project evaluations. We found that the Kennedy Center had acquisition plans for one of the three projects we reviewed and had conducted limited post-project evaluations, but it had not done a risk review for any of the three projects we reviewed. According to our selected procurement practices, procurement policies and procedures should be updated and include these elements. Kennedy Center officials told us they plan to update their

manual to reflect current procurement practices. In addition, the Kennedy Center officials told us that they would update standard operating procedures in its contracting manual to better ensure, for example, development of clear performance requirements in statements of work and project closeout procedures. These are also elements that we found should be included and updated in procurement policies and procedures.

As of January 2021, the Kennedy Center had not updated its manual. Officials stated that the delay is due, in part, to considerable turnover among the management and staff in the project management office. In addition, the Kennedy Center has not had a Vice President of Facilities since early 2020 or a Project Management Director since mid-2020. According to Kennedy Center officials, they plan to work on these procurement policy and procedure updates after these key positions have been filled. Without fully defined and updated policies and procedures, the Kennedy Center's procurement program could be applied inconsistently from project to project.

- **Project documentation practices.** Two of three projects—Garage Surfaces Restoration and MEP Modernizations Phase 2 projects—generally lacked complete project documentation, such as acquisition plans and proposal evaluations. In addition, the Kennedy Center did not follow its own documentation requirements at times. For example, Kennedy Center policies and procedures state that project estimates at different stages of development should be completed in the design phase, but project files we reviewed did not have these documents. In addition, the Kennedy Center policies and procedures did not state who should review project files and when this review should occur, both of which are important documentation practices based on the procurement practices we identified. Kennedy Center officials told us that considerable turnover and a shortage in staffing in the project management office, as noted above, made it challenging to maintain complete project files, but that they plan to include requirements for maintaining documentation for individual projects when updating their manual. Without complete project documentation and effective review practices, the Kennedy Center lacks reasonable assurance that project requirements are fulfilled or establish traceability concerning what has been done, who has done it, and when it has been done, potentially affecting the quality of the product delivered to the Kennedy Center.

The Kennedy Center Completed Most Capital Projects within the Government Benchmark of Ten Percent of the Construction Contract Amount and below the Conceptual Design Estimate

Comparison of Construction Contract Amount and Construction Cost

For the nine highest cost capital projects completed from 2015-2020, the Kennedy Center had three projects that were completed at or below the construction contract amount, three that were completed less than 10 percent over the construction contract amount, and three that were completed more than 10 percent over the construction contract amount (see table 3 below). Completing projects within 10 percent of contract award is a general government benchmark.

Table 3: Comparison of Construction Contract Amount and Construction Cost for the Nine Highest Cost Kennedy Center Projects Completed from 2015-2020 (Dollars in Thousands)

Project	Construction contract amount (\$000)	Construction cost ^a (\$000)	Difference between construction cost and construction contract amount (%)
Garage Surfaces Restoration	2,725	3,578	31.3
Hydronic Systems Optimization	3,778	4,870	28.9
Handrail Replacements	1,808	2,037	12.7
Garage Wayfinding & Signage, Level A	391	428	9.5
Terrace Theater Renovations	16,889	18,303	8.4
Escalator Replacements	3,400	3,445	1.3
Concert Hall Climate Control	876	876	0.0
Garage/Plaza Water Management	734	734	0.0
Mechanical, Electrical, and Plumbing Modernizations, Phase 2	8,695	8,456	-2.7

Source: GAO analysis of Kennedy Center data. | GAO-21-446

Note: We did not include Parking Garage Repairs, Phases 1-4 (\$5 million), in this table because this project consisted of many smaller projects and cost data were not available for all these projects.

^aConstruction cost includes only construction cost, not design costs.

For those projects we reviewed that increased from contract amounts, reasons varied.

- **Garage Surfaces Restoration project.** This project was completed at approximately 31 percent (\$853,000) over the construction contract amount (cost of contract) primarily due to an oversight in the original statement of work and the need for additional garage floor coating that would allow coloring, according to Kennedy Center officials. The extra coating cost \$664,000 and was not part of the original contract.
- **Hydronic Systems Optimization project.** This project was approximately 29 percent (almost \$1.1 million) over the construction contract amount in large part because the government cost estimate did not anticipate the cost of emergency repairs to the condenser water tank in August 2018, according to Kennedy Center officials.
- **Terrace Theater Renovations project.** This project was 8.4 percent (almost \$1.4 million) over the construction contract amount primarily due to hundreds of change orders. According to Kennedy Center officials, changes occurred for a variety of reasons, including asbestos abatement, design changes during construction, and unforeseen site conditions. For example, an added forestage catwalk cost just under \$100,000. See figure 4 below for images of the Terrace Theater and the other projects we reviewed.

Figure 4: Photos of the Kennedy Center's Garage Surfaces Restoration, Hydronic Systems Optimization, and Terrace Theater Renovations Projects (Left to Right)



Sources: GAO (left and middle) and The Kennedy Center, image by Ron Blunt (right). | GAO-21-446

Comparison of Conceptual Design Estimate and Total Cost

Because the Kennedy Center uses conceptual design estimates in its annual budget request to Congress, as submitted through OMB, according to Kennedy Center officials, we also analyzed differences between conceptual design estimates and the total cost of the nine selected projects. Conceptual design estimates are made at the beginning of design, when there is uncertainty about project cost. Kennedy Center officials told us that they update these cost estimates as part of the cyclical update of the Comprehensive Building Plan and historical cost data are used for developing and updating cost estimates.

The total cost of five of nine Kennedy Center capital projects were below the conceptual design estimates, which are provided to Congress, as submitted through OMB, as part of its budget request. Kennedy Center officials told us that the estimates at the conceptual design stage usually include a design contingency since additional unforeseen requirements are often discovered during the development of the design and construction documents.¹⁴ If unforeseen requirements are not discovered, those contingency funds are not committed and do not become part of the total cost.¹⁵ For example, the MEP Modernization project's total cost was about 6.4 percent below the conceptual design estimate due to lower design fees and construction costs than budgeted, such as two chilled water pumps that cost \$54,217 instead of the \$100,000 budgeted. In contrast, one Kennedy Center capital project—the Garage Surfaces Restoration Project—had total costs about 30 percent more than the conceptual design estimate. This project was over the design estimate due primarily to an oversight for a required coating in the statement of work. See the above discussion about the Garage Surfaces Restoration project. See table 4 below.

¹⁴Overestimation of costs early in design can restrict the availability of funds that could be used for other necessary projects, but contingencies can help to ensure there is enough funding to accommodate unforeseen requirements.

¹⁵In addition, according to Kennedy Center officials, the construction market at the time of contract award is a significant factor on how the bids compare against the government estimate.

Table 4: Comparison of Conceptual Design Estimate and Total Cost for the Nine Highest Cost Kennedy Center Projects Completed from 2015-2020 (Dollars in Thousands)

Project	Estimated cost at conceptual design (\$000)	Total cost ^a (\$000)	Difference between total cost and estimated cost at conceptual design (%)
Garage Surfaces Restoration	2,750	3,578	30.1
Terrace Theater Renovations	20,100	21,375	6.3
Hydronic Systems Optimization	4,828	5,080	5.2
Handrail Replacements	2,250	2,140	-4.9
Mechanical, Electrical, and Plumbing Modernizations, Phase 2	9,800	9,176	-6.4
Garage/Plaza Water Management	800	734	-8.3
Concert Hall Climate Control	1,590	948	-40.4
Escalator Replacements	7,350	3,756	-48.9
Garage Wayfinding and Signage, Level A	Not available	464	Not calculable

Source: GAO analysis of Kennedy Center information. | GAO-21-446

^aTotal cost includes construction and design costs.

The Kennedy Center Met Most Selected Operations and Maintenance Practices but Has Not Fully Defined Policies and Procedures

The Kennedy Center met five of the six selected general management practices for operations and maintenance programs, met both of the selected energy efficiency practices, and met one of the two selected facility security practices. For example, it met the energy efficiency practice of using automatic control systems to enhance energy efficiency. The Kennedy Center partially met the following practices: the general management practice of defining program policies and procedures, and the facility security practice of developing a facility security plan.

General management of operations and maintenance programs. The Kennedy Center met five out of six selected practices for general management of its operations and maintenance program and partially met the other practice (see table 5 below). Among the general management practices the Kennedy Center met are developing a plan for the program, using a specialized information system to help manage the program, and using a reliability-centered approach to maintenance.

Table 5: GAO’s Assessment of the Kennedy Center’s Performance against Selected Practices for the General Management of Operations and Maintenance Programs

Practice for the general management of operations and maintenance programs	Kennedy Center’s actions	Assessment
Develop a mission statement ^a	The Kennedy Center’s operations and maintenance program has a mission statement “to provide the highest quality services related to the repair, maintenance, and alteration of its facilities in order to maintain optimum functionality.”	Met
Develop an operations and maintenance plan and obtain upper management’s approval of the plan ^{a, b}	The Kennedy Center develops and obtains upper management’s approval of annual building plans listing proposed or approved maintenance and repair projects generally estimated to cost between \$10,000 and \$150,000 each. The Kennedy Center prioritizes the projects within several categories, including heating, ventilation, and air conditioning; electrical; plumbing; safety; and office space.	Met
Use a variety of measures to assess the program’s performance ^a	The Kennedy Center uses several performance measures related to its completion of maintenance tasks; develops annual budget estimates of several cost categories, including personnel, utilities, minor repairs, and contracts for housekeeping and security; and develops a dollar estimate of its deferred maintenance backlog, which it includes in its semi-annual reports to the Kennedy Center’s operations committee.	Met
Use a specialized information system to help manage the program ^{c, d}	The Kennedy Center uses a specialized information system to help it manage its operations and maintenance activities and resources.	Met
Use reliability-centered maintenance to maximize facility and equipment reliability while minimizing life-cycle costs ^{a, e, f}	The Kennedy Center uses all four types of maintenance that comprise reliability-centered maintenance: reactive maintenance (i.e., “fix it when it fails”); scheduled preventive maintenance; inspection-based maintenance; and proactive maintenance, which is based on analytical methods such as analyzing equipment failures to identify causes and prevent problems from recurring.	Met
Define program policies and procedures ^g	The Kennedy Center’s 2020 building plan and some other program documents define in general terms some policies and procedures for its operations and maintenance program, such as how minor repair projects are prioritized. However, the Kennedy Center has not fully defined policies and procedures for the program.	Partially met

Rating guide: “Met” means that actions have been taken to meet the selected practice and that no significant actions need to be taken to further address the practice. “Partially met” means that some, but not all, actions necessary to address the practice have been taken. “Not met” means that few, if any, actions toward addressing the practice have been taken.

Source: GAO analysis of Kennedy Center information. | GAO-21-446

Note: Although the Kennedy Center is not required to follow the guidance and requirements that we identified, we determined that such guidance and requirements describe practices that are helpful for effective capital planning, procurement, and operations and maintenance.

^aDepartment of Energy, Operations & Maintenance Best Practices: A Guide to Achieving Operational Efficiency, Release 3.0 (August 2010).

^bOffice of Management and Budget, Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets (Washington, D.C.: 2017).

^cNational Institute of Building Sciences, “Facilities Operations & Maintenance – An Overview,” in Whole Building Design Guide, (December 2017), accessed January 17, 2020, <https://www.wbdg.org/facilities-operations-maintenance>.

^dNational Institute of Building Sciences, “Computerized Maintenance Management Systems (CMMS),” in Whole Building Design Guide, (September 2016), accessed January 18, 2020, <https://www.wbdg.org/facilities-operations-maintenance/computerized-maintenance-management-systems-cmms>.

^eNational Institute of Building Sciences, “Reliability-Centered Maintenance (RCM),” in Whole Building Design Guide, (November 2016), accessed January 17, 2020, <https://www.wbdg.org/resources/reliability-centered-maintenance-rcm>.

^fNational Aeronautics and Space Administration, Reliability-Centered Maintenance Guide for Facilities and Collateral Equipment (September 2008).

^gProject Management Institute, The Standard for Program Management, Fourth Edition (Newtown Square, Pa.: 2017).

The Kennedy Center partially met the practice of defining program policies and procedures. We found that the following documents describe in general terms some policies and procedures for the operations and maintenance program: the 2020 building plan, a list of minor repair projects, and preventive maintenance reports from a specialized information system. For example, the 2020 building plan lists the factors the Kennedy Center considers when prioritizing minor repair projects and states that the Kennedy Center uses its specialized information system to help it manage its operations and maintenance activities and resources.

However, these documents do not fully define policies and procedures for the Kennedy Center’s operations and maintenance program. For example, they do not describe the roles and responsibilities of the different organizational units and staff that run the program. Kennedy Center officials told us that fully documenting the policies and procedures for their operations and maintenance program has not been a priority. However, the officials said that improving the program’s documentation would be a priority going forward, subject to staffing and funding constraints during the COVID-19 pandemic. As of January 2021, the Kennedy Center had not started this process. Fully defined policies and procedures for its operations and maintenance program would better position the Kennedy Center to meet its mission to “provide the highest quality services related to the repair, maintenance, and alteration of its facilities in order to maintain optimum functionality.” In addition, fully defining policies and procedures would better position the Kennedy Center to benefit from the institutional knowledge of its staff. This could prepare the Kennedy Center to effectively manage its operations and maintenance program in preparation for future staff turnover.

Energy efficiency and facility security. The Kennedy Center met three of four selected practices for energy efficiency and facility security, including using automatic control systems to enhance energy efficiency

and using a risk management process for facility security (see table 6 below).

Table 6. GAO’s Assessment of the Kennedy Center’s Performance against Selected Practices for Energy Efficiency and Facility Security

Practice for energy efficiency or facility security	Kennedy Center’s actions	Assessment
Use automatic control systems to enhance energy efficiency ^a	The Kennedy Center uses automatic control systems for its heating, ventilation, and air conditioning system and most of its lighting systems, and conducts daily checks of both control systems.	Met
Implement an energy metering program ^a	The Kennedy Center uses meters to help monitor its consumption of electricity and gas and alerts senior management of any abnormalities.	Met
Use a risk management process for facility security ^b	The Kennedy Center maintains a Crisis Management Team comprised of senior agency officials; the team meets regularly to assess ongoing threats and serves as the core group that analyzes and reacts to potential and actual threats to the Kennedy Center.	Met
Develop a facility security plan ^c	The Kennedy Center is developing a facility security plan, which it expects to complete by the end of 2021. To help ensure that the plan is consistent with federal guidance, the Kennedy Center plans to consult with the Federal Protective Service.	Partially met

Rating guide: “Met” means that actions have been taken to meet the selected practice and no significant actions need to be taken to further address the practice. “Partially met” means that some, but not all actions, necessary to address the practice have been taken. “Not met” means that few, if any actions, toward addressing the practice have been taken.

Source: GAO analysis of Kennedy Center information. | GAO-21-446

Note: Although the Kennedy Center is not required to follow the guidance and requirements that we identified, we determined that such guidance and requirements describe practices that are helpful for effective capital planning, procurement, and operations and maintenance.

^aDepartment of Energy, Operations & Maintenance Best Practices: A Guide to Achieving Operational Efficiency, Release 3.0 (August 2010).

^bInteragency Security Committee, The Risk Management Process for Federal Facilities: An Interagency Security Committee Standard, 2nd Edition (November 2016).

^cInteragency Security Committee, Facility Security Plan: An Interagency Security Committee Guide, 1st Edition (February 2015).

The Kennedy Center partially met the practice of developing a facility security plan by drafting a plan that we found to be largely consistent with the Interagency Security Committee’s Standard that calls for such plans to describe roles and responsibilities for security-related tasks, threats to the facility, and current and planned countermeasures for those threats, among other things. Subsequent to our review of the draft plan, the Kennedy Center decided to organize and format the plan in the manner prescribed by the Standard in consultation with the Federal Protective Service, and it expects to complete the plan by the end of 2021. We anticipate that this effort will result in a facility security plan consistent with the federal ISC Standard.

The Kennedy Center Has Efforts to Make Its Programming Affordable

The Kennedy Center has several efforts that offer discounted or free tickets to many of its performances to a broad range of qualifying individuals—such as students, 18- to 30-year-olds, seniors, active military, people with permanent disabilities, and persons with fixed low incomes—and groups, such as schools and community organizations. According to our analysis of data provided by the Kennedy Center, of the approximately 1.5 million tickets sold in fiscal year 2019, about 20,000 (or 1.3 percent) were discounted. In addition, in the 2018-2019 school year about 5,600 students and teachers attended performances at the Kennedy Center using free tickets provided by the Kennedy Center. The Kennedy Center also provided about 500 free tickets to students and their families in fiscal year 2019. See table 7 below for additional information about the Kennedy Center’s discounted and free programs.

Table 7: Selected Kennedy Center Efforts Aimed at Making Its Programming Affordable to the Public

Name and description	Key statistics
MyTix - discounted tickets available to students, 18- to 30- year-olds, and active military. Tickets are available first-come, first-served, 2 to 3 weeks before performance dates.	Tickets sold in fiscal year 2019: 12,391 Average ticket price in fiscal year 2019: \$33 compared to an average full ticket price of \$78
Specially Priced Tickets - tickets at 50 percent off available to persons with permanent disabilities, full-time students, seniors, active military, and persons with fixed low incomes. Available on a first-come, first-served basis on the first date tickets go on sale.	Tickets sold in fiscal year 2019: 5,965 Average ticket price in fiscal year 2019: \$33 compared to an average full ticket price of \$78
Get on the Bus - Title I schools—i.e., schools at which 40 percent or more of students are eligible to receive free or reduced lunch—within a 50-mile radius of the Kennedy Center can receive up to 50 free tickets to a daytime performance at the Kennedy Center and a free bus, or up to 100 free tickets without a bus. Support is provided each school year on a first-come, first-served basis.	Schools served in 2018-2019 school year: 39 Students and teachers served in 2018-2019 school year: 2,855
Millennium Stage – free nightly performances at the Kennedy Center featuring music, dance, theater and other artists.	Average attendance per performance in fiscal year 2019: about 220 Total attendance in fiscal year 2019: about 81,000
Moonshot Studio - free art-making activities in a dedicated-learning space in the Kennedy Center’s REACH facility. Open to the general public on weekends and school groups on weekdays. Activities include dance, music, poetry, and animation.	Average guests per day from October 2019 to March 2020: about 210 Total guests from October 2019 to March 2020: about 10,000
Free on-line performances and other content - includes live-streams and recordings of the Kennedy Center’s Millennium Stage performances. Also includes content designed for viewing during the COVID-19 pandemic, such as drawing and writing sessions with a children’s book author; concerts live streamed from artists’ couches around the country; and specially commissioned short plays and musicals for families to download and perform at home.	Average views per episode for 15 episodes of a series on drawing and writing in March and April 2020: 628,001

Source: Kennedy Center and GAO analysis of Kennedy Center information. | GAO-21-446

The Kennedy Center also has a program of free nightly performances that has staged over 5,000 performances since its inception in 1997. In addition, the Kennedy Center began expanding its on-line programs in March 2020 after it cancelled scheduled live programs due to the COVID-19 pandemic.

Kennedy Center officials told us that arts education and the affordability and accessibility of its programming have been core values of the Kennedy Center since its opening in 1971. The officials also told us that these values are reflected in the Kennedy Center’s mission statement and included in some of the goals and strategies in the Kennedy Center’s most recent strategic plan.¹⁶ For example, the strategic plan includes a goal to “set the national bar for arts learning, creativity, and accessibility by providing powerful, culturally relevant experiences for all.” The plan also notes that the Kennedy Center’s REACH facility provides a new and more open space for interacting with artists and producing work, helping to expand the Kennedy Center’s accessibility.

Conclusions

The Kennedy Center partially or fully met many of the federal capital-planning practices we selected, but there is opportunity for improvement. One area in particular—conducting a life-cycle cost analysis—would help in selecting the most cost-effective alternatives for maintaining the facilities over the long term. Since the federal government funds the Kennedy Center’s operations and maintenance, knowing the life-cycle costs could give Congress a more accurate picture of the Kennedy Center’s long-term funding needs. While the Kennedy Center also partially followed most selected practices for capital planning and procurement, it did not:

- have transparent prioritization practices,
- keep complete project records,
- or require acquisition plans or post-project evaluations.

Without complete project records, it can be difficult to know who performed what type of work and when the work was complete. Further, the Kennedy Center’s policies and procedures were outdated and should fully include our selected capital-planning and procurement practices.

¹⁶The Kennedy Center’s mission statement reads: “As the nation’s performing arts center, and a living memorial to President John F. Kennedy, we are a leader for the arts across America and around the world, reaching and connecting with artists, inspiring and educating communities. We welcome all to create, experience, learn about, and engage with the arts.”

Updating capital-planning and procurement policies and procedures could improve transparency in the Kennedy Center's capital planning and consistency in its procurement processes. Last, the Kennedy Center's operations and maintenance program could be more effective if it fully defined its policies and procedures, thus preserving the accumulated institutional knowledge of its operations and maintenance staff to pass on to new staff needing this information. With improvements in these capital-programming practices, Congress can have greater assurance of minimizing long-term costs while sustaining the Kennedy Center as a living memorial providing cultural arts to the public.

Recommendations for Executive Action

We are making the following five recommendations to the President of the Kennedy Center:

The President should, as the Kennedy Center begins to update its capital-planning policies and procedures, include a requirement to conduct an alternatives analysis with a life-cycle cost analysis for its capital projects. (Recommendation 1)

The President should, as the Kennedy Center begins to update its capital-planning policies and procedures, ensure they fully address all selected capital-planning practices, such as more transparent project prioritization and assessment of facility needs against performance metrics. (Recommendation 2)

The President should, as the Kennedy Center begins to update its procurement policies and procedures, ensure they fully address all selected procurement practices, such as requiring an acquisition plan and post-project evaluation. (Recommendation 3)

The President should, as the Kennedy Center begins to update its procurement policies and procedures, ensure they include requirements for reviewing project documentation for each capital project. (Recommendation 4)

The President should ensure that the Kennedy Center fully defines and documents its operations and maintenance policies and procedures, such as roles and responsibilities of the different organizational units and staff that run the program. (Recommendation 5)


Agency Comments

We provided a draft of this report to the Kennedy Center for review and comment. In its comments, reproduced in appendix II, the Kennedy Center agreed with our five recommendations. In addition, the letter

provided timelines for the implementation of these recommendations. For example, the Kennedy Center stated that it will begin performing life-cost analysis immediately and will implement our other four recommendations, including updating its capital-planning and contracting policies and procedures, by late 2021 or early 2022.

We are sending copies of this report to the appropriate congressional committees, the Chairman of the Kennedy Center Board of Trustees, the President of the Kennedy Center, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or NaamaneJ@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.



Jill Naamane, Acting Director
Physical Infrastructure

Appendix I: Objectives, Scope and Methodology

This report evaluates the extent to which the Kennedy Center met selected practices in its: (1) capital planning, including for the REACH; (2) procurement and whether it met its own cost estimates; and (3) operations and maintenance, including energy efficiency and facility security. This report also discusses the Kennedy Center's efforts to make its performing arts programming affordable.

For the first three objectives, we reviewed government guidance and requirements and industry guidance to identify and select practices against which we assessed the Kennedy Center's performance, as described in more detail below for each objective. Although the Kennedy Center is not required to follow the guidance and requirements from which we selected the practices, we determined that the practices are helpful for effective capital planning, procurement, and operations and maintenance. For each objective, we reviewed Kennedy Center documents or data, or both, as described in more detail below and interviewed Kennedy Center officials responsible for capital planning, procurement, or operations and maintenance. We interviewed, as applicable, the Senior Vice President of Operations, the Vice President of Facilities, the Vice President of Production, the Project Director for the REACH, the Director of Contracting, the Director of Project Management, the Director of Operations and Maintenance, two Project Managers, the Director of Facility Services, and the Director of Safety and Security. We also interviewed the former Director of Project Management and the former Director of Operations and Maintenance.

Capital Planning

To assess the extent to which Kennedy Center's capital planning, including for the REACH, met selected practices, we compared the Kennedy Center's capital-planning efforts to seven capital-planning practices that we identified based on a review of Office of Management and Budget (OMB) guidance and General Services Administration guidance.¹ We used the OMB guidance because OMB is the lead agency responsible for capital planning across federal agencies. We used the GSA guidance because GSA is responsible for the management of federal real property. To help narrow and refine our list of practices, one GAO analyst developed a preliminary list of practices, and another GAO

¹OMB, *Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2017); OMB, *Implementation of Agency-wide Real Property Capital Planning*, M-20-03, Nov. 6, 2019; and General Services Administration, *Federal Real Property Council: 2019 Guidance for Real Property Inventory Reporting, Version 3* (Washington, D.C. Sept. 24, 2019).

analyst and a GAO subject matter expert in civil engineering reviewed the list.

We then assessed the Kennedy Center's capital-planning efforts against the selected practices. Specifically, we reviewed the Kennedy Center's annual Comprehensive Building Plans (building plans) for fiscal years 2015 through 2020; strategic plan for 2016 to 2021; project documentation; and capital-planning requirements and procedures.² In addition, for the practice of performing alternatives analyses with a life-cycle cost analyses, we examined the Kennedy Center's efforts on three projects.³ See the procurement objective below for a description of our methodology for selecting the projects. Because the construction of the REACH was privately funded, we did not look at the management of the REACH project as a whole, only at the selected practice (performing alternatives analyses with life-cycle cost analyses) that affected costs to the federal government.

One analyst reviewed the Kennedy Center's capital-planning efforts to determine the extent to which they met the seven selected practices. That analyst documented the results, rationales, and supporting evidence of this analysis, and another analyst reviewed the documentation to assess whether the determinations were well supported. Any disagreements about the determinations were resolved through discussion. We categorized the Kennedy Center's efforts related to each practice as follows:

- Met: actions have been taken to meet the practice and no significant actions need to be taken to further address the practice.
- Partially met: some, but not all, actions necessary to address the practice have been taken.
- Not met: few, if any, actions toward addressing the practice have been taken.

²The Comprehensive Building Plan is the Kennedy Center's capital plan, which defines the agency's long-term capital asset decisions and long-term renovation efforts.

³The purpose of a life-cycle cost analysis is to estimate the overall costs of project alternatives and to help select the design that ensures the facility will provide the lowest overall cost of ownership consistent with its quality and function.

Procurement

To assess the extent to which the Kennedy Center's procurement met selected practices, we compared the Kennedy Center's procurement efforts to nine procurement practices that we identified based on a review of OMB and Project Management Institute (PMI) guidance.⁴ We selected the OMB guidance because OMB is responsible for providing capital-planning guidance to federal agencies. We selected the PMI guidance because it identifies a consensus-based project-management body of knowledge that is generally recognized as good practice. To help narrow and refine our list of practices, one GAO analyst developed a preliminary list of practices, and another GAO analyst and a GAO subject matter expert in project management reviewed the list.

We then assessed the Kennedy Center's procurement efforts against the selected practices. Specifically, we reviewed the Kennedy Center's project management policies and procedures and contracting policy manuals to understand internal requirements in this area. We also conducted case studies of three projects (Garage Surfaces Restoration, Terrace Theater Renovations, and Mechanical, Electrical, and Plumbing Modernizations Phase 2) that we selected based on their total cost. To select our case studies, we identified the four highest cost projects completed from 2015-2020 for which there is total cost data to ensure that we were looking at projects with significant impacts on the Kennedy Center budget. We selected one project from each of the following three tiers of total costs: (1) met or less than the awarded contract amount, (2) less than 10 percent above the awarded contract amount, and (3) more than 10 percent over the awarded contract amount.⁵ Ten percent is generally considered an acceptable government benchmark for project cost increase. We reviewed project files from these case studies for relevant documentation. Using the same methodology and rating scale as described above, one analyst reviewed the Kennedy Center's

⁴OMB, *Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2017) and PMI, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, Sixth Edition (Newtown Square, Pa.: 2017). PMBOK is a trademark of the Project Management Institute, Inc. The PMBOK® Guide provides guidelines for managing individual projects. The Project Management Institute is a not-for-profit association that provides global standards for, among other things, project and program management.

⁵Since there were two projects in the tier that were at least 10 percent over budget, we selected the Garage Surfaces Restoration project for review from this tier because its percentage of total construction cost over awarded contract amount was slightly higher than the other project option.

procurement efforts to determine the extent to which they met the nine selected practices, and another analyst reviewed the determinations.

To assess whether the Kennedy Center met its own cost estimates for capital projects, we analyzed cost estimates from the nine largest capital projects completed within the last 5 fiscal years, 2015-2020.⁶ We determined that the data were sufficiently reliable for helping to provide a high-level overview of the extent to which the Kennedy Center's most recent, highest cost projects met conceptual design and contract award estimates. We determined that the cost data that the Kennedy Center provided were reliable by checking them against project file documents.

Operations and Maintenance

To assess the extent to which the Kennedy Center's operations and maintenance met selected practices, we compared the Kennedy Center's operations and maintenance efforts to 10 operations and maintenance practices in the areas of general management, energy efficiency, and facility security that we identified based on a review of guidance and requirements from the Department of Energy, OMB, National Institute of Building Sciences, National Aeronautics and Space Administration

⁶We started with 10 capital projects, and subsequently removed one of the projects because it consisted of many smaller projects for which some data could not be found. We analyzed the remaining nine projects.

(NASA), PMI, and Interagency Security Committee.⁷ We selected the OMB and PMI guidance for the reasons discussed above. We selected the Department of Energy guidance because it is a “best practices” guide developed by a federal program whose mission is to facilitate the implementation of sound, cost-effective energy management and investment practices. In addition, according to the guide, it highlights operations and maintenance programs targeting energy and water efficiency that are estimated to save 5 percent to 20 percent on energy bills without a significant capital investment. We selected the National Institute of Building Sciences guidance because it was developed by a congressionally established non-government organization that brings together representatives of government and industry to support advances in building science and technology to improve the built environment. We selected the NASA guidance because, according to NASA, the guidance is used by public and private organizations worldwide to improve the effectiveness of equipment while controlling the life-cycle cost inherent with asset management and facility stewardship. We selected the Interagency Security Committee guidance because this committee’s mandate is to enhance the quality and effectiveness of the physical

⁷Department of Energy, *Operations & Maintenance Best Practices: A Guide to Achieving Operational Efficiency*, Release 3.0 (August 2010); OMB, *Capital Programming Guide V3.0: Supplement to Office of Management and Budget Circular A–11: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2017); National Institute of Building Sciences, “Computerized Maintenance Management Systems (CMMS),” in *Whole Building Design Guide*, (September 2016), accessed January 18, 2020, <https://www.wbdg.org/facilities-operations-maintenance/computerized-maintenance-management-systems-cmms>; National Institute of Building Sciences, “Reliability-Centered Maintenance (RCM),” in *Whole Building Design Guide*, (November 2016), accessed January 17, 2020, <https://www.wbdg.org/resources/reliability-centered-maintenance-rcm>; NASA, *Reliability-Centered Maintenance Guide for Facilities and Collateral Equipment* (September 2008); PMI, *The Standard for Program Management*, Fourth Edition (Newtown Square, Pa.: 2017); Interagency Security Committee, *The Risk Management Process for Federal Facilities: An Interagency Security Committee Standard*, 2nd Edition (November 2016); and Interagency Security Committee, *Facility Security Plan: An Interagency Security Committee Guide*, 1st Edition (February 2015). The National Institute of Building Sciences (NIBS) is a non-profit, non-governmental organization established by Congress in 1974. NIBS brings together representatives of government, the professions, industry, labor and consumer interests, and regulatory agencies to support advances in building science and technology to improve the built environment. *The Whole Building Design Guide* is a web-based portal that provides government and industry practitioners information on building-related guidance, criteria, and technology. *The Standard for Program Management* provides guidance on principles, practices, and activities of program management that are generally recognized to support good program management practices and that are applicable to most programs, most of the time. The Interagency Security Committee is an interagency organization chaired by the Department of Homeland Security and comprised of over 50 federal departments and agencies, among others.

security of non-military federal facilities. To help narrow and refine our list of practices, one GAO analyst developed a preliminary list of practices, and another GAO analyst and a GAO subject matter expert in civil engineering reviewed the list.

We then assessed the Kennedy Center's operations and maintenance efforts against the selected practices. Specifically, we reviewed the building plans, documentation related to the Kennedy Center's specialized information system, and the draft facility-security plan. Using the same methodology and rating scale as described above, one analyst reviewed the Kennedy Center's operations and maintenance efforts to determine the extent to which they met the selected practices, and another analyst reviewed the determinations.

Affordability of Performing Arts Programming

To describe the Kennedy Center's efforts to make its performing arts programming affordable, we obtained and analyzed data from the Kennedy Center on its discounted ticket programs, free performances, and online programming. We assessed the reliability of the data by reviewing the Kennedy Center's responses to our questions about the systems and agency documents that generated the data. We determined that the data were sufficiently reliable for providing a high-level overview of the Kennedy Center's efforts to make its performing arts programming more affordable. We also interviewed Kennedy Center officials responsible for these efforts, including the Director of Marketing and the Director of School and Community Programs.

We conducted this performance audit from November 2019 to May 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Comments from the Kennedy Center



Deborah F. Rutter
President

April 27, 2021

Ms. Jill Naamane
Acting Director, Physical Infrastructure
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Acting Director Naamane,

This letter is in response to the report entitled *Kennedy Center Facilities: Life-Cycle Cost Analysis and Other Capital Planning Practices Could Help Minimize Long-term Costs* (GAO-21-446). The Kennedy Center leadership appreciates the time and thoughtfulness that the GAO team has spent over the past 16 months reviewing the Center's practices on capital planning, procurement, and practices for maintaining the Center's facilities.

Over the past 16 months, the Kennedy Center has faced challenges unlike any we have faced over the past 49 years of our existence. All performances ceased on March 13, 2020 and since that time the Center has reduced full and part-time trust funded staff by more than 80% over 2019 total staffing levels, has lost over \$115 million in earned and contributed revenue for fiscal year 2020, and projects to lose more than \$138 million for fiscal 2021. In addition, the Kennedy Center has continuously operated the facility and advanced maintenance and capital projects despite the retirement of the vice president of facilities due to illness and continued use of weather and safety leave for over 70% of its federal staff.

The Kennedy Center is committed to its role as the nation's cultural center and the living memorial to President John F. Kennedy, and to the mission of being the leader for performing arts across the United States - reaching and connecting with artists and inspiring and educating communities. We welcome all to create, experience, learn about, and engage with the performing arts. We appreciate that the GAO report examines and acknowledges the Center's efforts at making our programming affordable to the public.

Kennedy Center Action Items in Response to the GAO Report

The leadership of the Kennedy Center reviewed a GAO draft report and acknowledges there are no factual errors in need of correction. The Center further acknowledges and accepts the five recommendations for action contained in this report that include: perform life-cycle cost analyses on major capital projects; update our capital planning policies to achieve greater transparency on project prioritization; update our procurement policies to include an acquisition plan and post-project review; establish better project documentation practices; and document operations maintenance policies and procedures. We have provided timelines for achievement of these recommendations as follows:

Perform life-cycle cost analyses on major capital projects. We concur that assessing the cost for the full life of major projects does help determine best value for the use of federal dollars. This

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was the reasoning behind the Center's requirement that the REACH achieve a LEED¹ Gold rating, which increased the cost of construction for the REACH² but lowers operating costs significantly. In addition to the energy saving measures noted in the GAO report, the REACH project also installed 24 geothermal wells which will return excess energy to the main building to lower energy costs. The Center will start performing a life cycle analysis immediately with the JFK Memorial Projects currently in design and will present this analysis to the Center's Board of Trustees for approval prior to construction. A copy of this analysis will also be provided to the Office of Management and Budget as part of the Kennedy Center's regular reports on the progress of our capital projects. Other projects that will receive this analysis prior to construction will be phase three of the chiller replacement and the fire alarm replacement project, both of which are slated to finish design in the fall of 2021.

Updating our capital planning policies and procedures. The Center's contracting and project management policies and procedures have not been updated since 2008. While our basic procurement procedures have not changed and the Center continues to follow standard reporting and planning procedures as described by the GAO, both plans need to be updated. In these updates we will ensure clarity on project prioritization, inclusion of an acquisition plan for projects, and conduct post-project evaluations. These revised plans shall be reviewed and approved by the Center's Contract Review Board (CRB).³ Timeline for implementing these updates are as follows:

Capital Project Policies and Manual Update

- January 2021: Revision process with bi-weekly project management staff reviews.
- October 2021: Draft for Review by VP Facilities, SVP Operations, General Counsel
- November 2021: Final revisions
- December 2021: Approval by Contracting Review Board

Contracting Policies and Procedures Manual Update

- May 2021: Map out Manual Information and changes required
- October 2021: Draft Review by VP Finance, VP Facilities and General Counsel
- November 2021: Final revisions
- December 2021: Approval by Contract Review Board
- January 2022: Distribution and Implementation

Establish better project documentation practices. As a small agency the Center experiences turnover in key process management positions, so ensuring that project documentation is in a unified electronic format and a centralized location is valuable. The Center has already made great strides in organizing project documentation including:

- December 2019: Project Management Office (PMO) Electronic Project File standard established for capital projects. Minimum documentation requirements identified for project files.

¹ Leadership in Energy and Environmental Design

² Funding for construction of the REACH was through donated private funds. The Center followed best practice procurement procedures for procurement of contractors and designers for this project.

³ The Charter for the CRB will be revised to reflect the responsibility to review policies and procedures on a regular basis and to perform post-project reviews for all major capital projects.

Appendix II: Comments from the Kennedy Center

- December 2020 – PMO Server file directory reorganized.
- January 2021 – Project Completion Report established to track project performance related to budget, actual cost, and change orders for all capital projects.

The Center will complete additional project documentation efforts including:

- October 2021 – Begin utilizing a web-based construction management system (PlanGrid or Procore) to track and manage projects during construction.
- December 2021 – Establish project completion procedures to ensure all required documentation is saved to the project file prior to archiving.
- On-going – Retroactive organization of the existing electronic project archives files for ease of search and access.

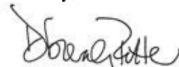
Define and document operations and maintenance policies and procedures. While the Center reports the progress on operations and facility services activities and initiatives to the Board on a regular basis, we will further define the roles and responsibilities of these divisions. The timeline for documenting these policies and procedures is as follows:

- April 2021 – Kennedy Center’s Computer Maintenance and Management System updated to include O&M workflows.
- July 2021 – Draft updated role and responsibilities for operations & maintenance and facilities services due to VP Facilities, SVP Operations for review and edit.
- October 2021 – Final Draft for review and approval by Kennedy Center Leadership.

As the living memorial to President Kennedy and in support of our artistic and educational programming missions, the Kennedy Center Board of Trustees takes seriously its responsibility to keep the Kennedy Center facility, a federal asset, in the best condition possible. We appreciate the financial support and guidance we receive from Congress to achieve this goal. Since 1995, we have renovated six theaters to improve accessibility, re-worked the entry plaza for better site circulation, installed sprinklers throughout the facility, installed a new fire alarm system and public address system - with upgrades currently in process. We have replaced the roof, all pavers on the roof terrace, and all marble pavers with granite on the plaza level. We have modernized our security camera system, including adding cameras inside the theaters in the event of an emergency, upgraded our HVAC system, including installation of a building automation system for better control of airflow throughout the building, resurfaced and repainted the garage, and added visitor information and tour stations for our visitors.

These are a sample of the dozens of projects completed by the Kennedy Center to ensure that the facility continues to be comfortable and safe. The Kennedy Center will continue to be a beacon for the performing arts, engaging artists and audiences around the world to share, inspire, and celebrate the cultural heritage by which a great society is defined and remembered.

Sincerely,



Deborah Rutter

Appendix III: GAO Contact and Staff Acknowledgments

Contact

Jill Naamane at (202) 512-2834 or NaamaneJ@gao.gov

Staff

Acknowledgments

In addition to the contact named above, Amelia Bates Shachoy (Assistant Director); Kieran McCarthy (Analyst-In-Charge); David Goldstein; Geoff Hamilton; Jon Melhus; Josh Ormond; Rachel Stoiko; Janet Temko-Blinder; and Amelia Michelle Weathers made key contributions to this report.

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