

A Report by a Panel of the

**NATIONAL ACADEMY OF
PUBLIC ADMINISTRATION**

April 2002

**A REVIEW OF THE
NATIONAL PARK SERVICE
IMPLEMENTATION OF
REFORMS RECOMMENDED
IN A 1998 ACADEMY REPORT**



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FOREWORD

In 1998, the National Academy of Public Administration, at the request of the Department of the Interior, conducted a study of the National Park Service (NPS) line items construction program. The study resulted in a number of recommendations focused on the Denver Service Center, which had a primary role in implementing the construction program.

In the current review, the Academy found that the NPS had fully and effectively implemented nine of the eleven recommendations and made significant progress on the remaining two. Most design and all construction management are now contracted out; management of design firms has improved; an external review group for NPS construction projects is being used; and estimating factors for design/construction supervision and contingencies are being employed. In addition, the NPS has become decidedly more cost conscious. The Academy panel and team feel that there is a continuing commitment to improvement and efficiency.

I want to thank the Academy panel and staff who conducted this review for their insights and expertise. Also, I extend my appreciation to the National Park Service staff and Department of the Interior officials for their cooperation and openness.

Robert J. O'Neill, Jr.
President

EXECUTIVE SUMMARY

In 1998, the National Academy of Public Administration (Academy) conducted a study of the National Park Service (NPS) line item construction program. The study, which resulted in eleven recommendations, focused on the Denver Service Center (DSC) which had a dominant role in implementing the program. The U.S. Department of the Interior (DOI) requested that the Academy conduct the study of the program to understand the causes of the cost-control problems and to recommend solutions. The program, which includes the major facility and infrastructure development activities of the National Park System, had come under intensive Congressional scrutiny because of excessive costs.

In response to the 1998 report, the NPS implemented recommendations made in the original report. The managers representing the House and Senate at the appropriations conference committee for the Department of the Interior and Related Agencies for FY 2002 made the following statement: “The managers direct the National Park Service to contract with the National Academy of Public Administration to conduct a review of how effectively the Service has implemented the recommendations of the Academy’s 1998 report on reforms to the Service’s construction program, including the Denver Service Center operations.”¹

¹ Joint Explanatory Statement of The Committee of Conference accompanying the conference report related to the appropriation for the Department of the Interior and Related Agencies for the fiscal year ending September 30, 2002, page 91.

Most Recommendations Fully Implemented

The NPS has made significant progress in implementing nine of the eleven recommendations stemming from the Academy's 1998 report. A recommendation dealing with the establishment of an NPS program management system has been partially implemented with the establishment of a small headquarters staff. However, the accomplishments envisioned in the 1998 report have not yet been fully achieved for this recommendation. A recommendation to adopt standardized designs and construction practices has resulted in significant progress but has not yet been fully implemented.

The nine recommendations in the 1998 report that have been fully implemented focused on the following functions and activities: contracting out the majority of the design and construction management services; improving DSC's management of Architectural and Engineering (A/E) firms; using design firms with experience in the local area of the park projects; making planning and management of contracts a major critical activity of the DSC; assigning responsibility and accountability for projects to the park superintendents; establishing an external review group for NPS construction projects; base funding the DSC civil service functions; using the Academy study team's recommended estimating factors for design, construction supervision, and contingencies; and controlling NPS housing costs through the Military Family Housing cost model.

Significant changes have occurred in the NPS construction program since the 1998 Academy study was completed. One of the changes with the greatest impact on the NPS has been the large increase in the size of the line-item construction program, which has

grown from \$157 million in FY 1998 to \$275 million in FY 2002. In the same timeframe there have been dramatic increases in the fee demonstration projects, which now total approximately \$100 million per year. A parallel result has been a necessity for the regions and parks to take on more of the design and construction management workload. Today, they manage close to one half of the line item construction programs as compared to the DSC, which managed the bulk of the program prior to 1998.

These changes have been undertaken effectively through the increased use of A/E design firms and construction management firms. In addition, the Development Advisory Board (DAB) has taken on a more active role, serving as the primary review board for all projects of \$500,000 or more, rather than limiting its role to policy making.

With the implementation of most of the recommendations, the NPS has become decidedly more cost conscious and sensitive to internal criticism, as well as to potential external criticism of project costs. The NPS has made concerted efforts to implement all of the recommendations and is on track to complete the two that are only partially implemented.

New Observations and Recommendations

During the course of this study, the Academy team made several observations and generated some recommendations not directly related to the 1998 study's recommendations. A summary of these observations and recommendations is presented below.

Observation 1

Many NPS staff believe that resources are inadequate to accomplish early planning supporting the current line-item construction program. Additional funding has been received in recent budgets; yet there is general NPS concern that funds are insufficient to adequately support the necessary compliance activities in a timely manner. It is noted that NPS in-house capabilities are significant. The study team believes that this issue is transitory as the NPS adjusts to a larger facility program.

Observation 2

Considerable and prompt action has been taken to implement the recommendations contained in the original Academy report. It is notable that the DSC accomplished its implementation efforts with temporary leadership from March 2000 to December 2001 (22 months).

Observation 3

Given the extensive project review by the DAB, there appears to be little benefit in requiring the NPS director's approval of each project prior to initiating the construction process.

Recommendation

NPS should develop an approval process that does not require the approval of the Director for each line item construction project prior to initiating the construction process.

Observation 4

Contingency funds are not provided to the field at the time of contract award to accommodate necessary changes.

Recommendation

To accommodate changes, two to three percent of the project net construction costs should be provided to the contracting organization at the time of contract award.

Observation 5

The NPS housing office has made considerable progress in adjusting the NPS housing model for unit unique conditions, such as remote location factors and the small number of units authorized in some projects.

Recommendation

The NPS should continue to work with the National Association of Homebuilders' Research Center to further adjust the NPS model for unique conditions in some park units.

Observation 6

The factors contained in recommendation ten of the 1998 report are program wide factors and do not reflect individual small project limitations.

Recommendation

Factors should be treated as program wide averages and available funds should be used to correct troubled projects.

INTRODUCTION

Since its creation in 1916, the National Park Service (NPS) has successfully carried out its primary roles of preserving and enhancing the nation's historic treasures and natural wonders for the enjoyment of the American people and visitors from around the world. The NPS administers a diverse system, currently composed of 384 sites ranging from urban parks to the vast wilderness areas of the west to numerous historic dwellings, museums, battlefields, and monuments. This system has experienced sustained growth in holdings and visitation since its founding.

The continuing increase in the number of sites and visitors has required expansion of the NPS facilities and infrastructure for both park visitors and staff. The construction budget supporting these capital improvements came under intensive Congressional scrutiny in the late 1990s due to excessive costs for specific facilities and a concern with administration of the program.

As a result, the Academy was asked to perform a study of the NPS line item construction program. The study resulted in a series of recommendations aimed at improving problems, including cost control. The purpose of this follow-on study was to conduct a review of how effectively the NPS implemented the recommendations of the 1998 report on reforms to the Service's construction program, including the Denver Service Center (DSC) operations.

Methodology

To conduct the review, the Academy assembled a study team consisting of members who had conducted the 1998 study. The team reviewed project documentation and interviewed personnel at NPS parks, regional offices, the DSC, and NPS headquarters in Washington, DC. The Academy team was guided by a three member panel with expertise in design and construction programs in the public and the private sectors. The chair of this panel chaired the original one that produced the 1998 report.

Organization of the Report

Chapter 1 presents an overview of the current NPS construction program. Chapter 2 presents 1998 findings and recommendations concerning the DSC and NPS management of the construction program. It also assesses the implementation of each recommendation. Chapter 3 contains observations and recommendations from this study. Appendix A provides greater detail on the methodology of this study and a list of the interviewees. Appendix B lists the Academy panel and study team members.

CHAPTER 1

THE NATIONAL PARK SERVICE'S CONSTRUCTION PROGRAM

Major changes that have occurred in the NPS construction program since 1998 include contracting for the majority of design and all construction management services; a significant increase in the size of the line-item construction program; management of close to half of the line-item construction program by regions and parks; establishment of stronger controls over construction projects; and large increases in the fee demonstration projects. The organizational culture has changed toward one that is decidedly more cost-conscious in performing construction projects.

The Situation in 1998

In 1998, the NPS was a highly decentralized organization with 376 sites, each of which was managed by a park superintendent or a manager. These park officials reported to seven regions, which, in turn reported to the Washington, DC headquarters. In the 1998 time period, the DSC performed design and construction management on the large majority of the NPS line-item construction projects, with a small remainder performed by the parks and/or regions. DSC cost factors were high when compared to other federal agencies, and the DSC primarily undertook project design and construction work with in-house personnel. A limited number of architectural and engineering (A/E) firms performed design work in a support capacity. The responsibility for line-item construction projects appeared diffused and accountability seemed elusive.

Finally, the NPS possessed a strong insular organizational culture. This resulted in the beliefs that the NPS was totally unique and that its approach to facility aesthetics and features was reasonable. Unfortunately, the public viewed some NPS facilities as extravagant in cost. Both the public and Congress questioned NPS management. These problems were further exacerbated by the fact that project review and approval involved only the NPS in-house staff.

Major Changes Since 1998

As a result of the 1998 Academy study and external events, a number of changes were made:

1. The bulk of design and construction management is currently contracted out.
2. The size of the line-item construction program has grown dramatically. It increased from \$157 million in FY 1998 to \$275 million in FY 2002 as shown below.

	<u>FY'98</u>	<u>FY'99</u>	<u>FY'00</u>	<u>FY'01</u>	<u>FY'02</u>
Construction line-item projects	\$157M	\$172M	\$156M	\$245M	\$275M

The FY 2001 and FY 2002 appropriations increases were substantial, and put considerable pressure upon the NPS to accommodate growth. The FY 2003 administration's budget contains a request for \$205 million which will tend to keep pressure upon the NPS, even though some projects are "pass throughs" and require no NPS design and construction work. The pass through project designs and construction supervision are managed by other agencies, such as the Army Corps of

Engineers and the Bureau of Reclamation. For example, modification of the water system in the Everglades National Park and the removal of the Elwha River Dam in the Olympic National Park are pass throughs.

3. Regions and park units now manage close to half of the construction line-item program. In 1998, the DSC managed the bulk of the line-item projects. The DSC's base funding and capacity enabled it to perform approximately \$80 million of line-item construction projects. Along with increases in funding, it is expected that the DSC capacity will increase. However, this still leaves a substantial workload for the regions and park units. Their workloads are further compounded with facility projects sponsored by private groups that generally want their donations controlled locally. Increases in the number of fee demonstration projects also have contributed to the amount of work. Fee demonstration laws were enacted in 1996 and since that time fee demonstration programs have grown to where the NPS annually has approximately \$100 million available for new projects. The majority involve facility work and are paid for by entrance fees, camping fees, and other park fees.

4. Controls over construction projects have increased. As a result of the 1997 public criticism, the NPS imposed formal controls. In late 1997, the NPS director pledged to the Congress that he would personally review every project prior to initiating contracts and construction activities. This review, known as the Director's Approval (DA), has continued to present. Another measure that was introduced during the late 1990s shifted the policy-oriented Development Advisory Board (DAB) into a project

review board. Every project greater than \$500,000 is reviewed by the board regardless of fund source except the Federal Land Highway Program. Without the DAB's approval, project managers cannot proceed with design efforts or initiate construction activities. The projects are presented to the DAB by park units and/or their representative, which may be the DSC or regional project managers. The requirement to submit projects to the DAB is a major event in the facility project development cycle. As a corollary, the completion of value-engineering studies is mandatory. The following table shows the resulting increase in value-engineering studies from FY 1997 to FY 2001.

	<u>FY'97</u>	<u>FY'98</u>	<u>FY'99</u>	<u>FY'00</u>	<u>FY'01</u>
Value Engineering Studies	17	72	47	71	113

There is considerable discussion within the NPS about the future role of the DAB, specifically focusing upon the proper way for the NPS to control facility projects—DAB reviews or NPS staff reviews. These differing perspectives are healthy and necessary and the outcome is likely to vary over time depending upon the NPS environment. The discussion revolves about how the NPS can best control facility projects and continue to provide project managers with degrees of freedom to manage. The NPS must make this decision internally because the solution needs to align with the agency's overall managerial philosophy and principles.

Current NPS Environment

The changes that the NPS has made in response to the Academy's report and adverse public criticism in 1997-1998 have made it more sensitive to and concerned with the facility construction programs and associated costs. At all organizational levels, there is a preoccupation with public reaction to facility projects, as well as a concern for NPS acceptance. NPS personnel cite a "red faced test" that is applied to their work. The objective is to meet the mission requirement with design and construction projects that also preclude public *or* NPS criticism. Consequently, the organization is searching for and finding new and creative ways to meet facility project needs.

CHAPTER 2

RECOMMENDATIONS, DISCUSSIONS AND IMPLEMENTATION OF THE 1998 ACADEMY STUDY

This chapter presents the recommendations from the 1998 Academy study. They are followed by brief discussions of the situation and problems in 1998 and the changes that have taken place since that time. Comments on the status of the implementation of the recommendations then are provided.

RECOMMENDATION 1 (1998)

Contract out about 90 percent of the design work and all of the construction supervision and inspection. To assure that the DSC maintains a core capability of needed skills, retain sufficient staff to handle about ten percent of the design work. Have the professional services associate director and the DSC, with the concurrence of the applicable park superintendents and regional directors, select projects to be designed in-house. Initiate the transition to a greater amount of A/E design work in FY 1999, with a goal of completing the transition within FY 2000.

Discussion

The DSC contracted for 60 percent of design work in 1999. Currently, it is using design firms for 90 percent of the work and performing the rest in-house with its own employees. The transition from in-house designers to design firms has been implemented successfully. The DSC is expected to gain greater proficiency in working with design

firms. It is discussing how to make the interfaces between pre-design and the design firms more economical without jeopardizing the projects' quality.

The DSC also contracts for all construction management (CM) services, awarding five major indefinite delivery, indefinite quantity (IDIQ) contracts to qualified construction management firms in this successful transition. In FY 2001, the DSC used 187 task orders for construction supervision. Costs have been reduced significantly without increases in construction claims. To date, the projects have stayed within the ten percent contingency goal, except for one that exceeded the goal in FY 2001. The concern was expressed by some interviewees that construction oversight was compromised due to the lack of full time, 100 percent inspection. No evidence of degraded project quality was provided; however, anecdotal information was provided that adverse claim actions had resulted from 100 percent construction inspection. The Academy panel's and team's experience suggests that construction supervision should occur for all critical construction activities, but that work does not generally require 100 percent full time inspection. The construction supervision program is continuing to mature, and it is anticipated that future changes will lead to improvements in supervision.

Finding

The DSC has fully implemented this recommendation.

RECOMMENDATION 2 (1998)

Improve DSC's management of A/E firms performing design activities. Establish a process that assures close communication with A/E firms and maximum utilization of the full capabilities of both the DSC and the A/E firms.

Discussion

The DSC has significantly improved its ties with A/E firms, which previously had performed limited tasks on project designs rather than had responsibility for the total projects. Currently, A/E firms are responsible for the total project design in accordance with the pre-design and schematic design undertaken by the DSC in-house staff.

Discussions with the DSC indicate that the A/E communities have responded positively and are competing strongly for NPS work.

In order to meet the increased workload, the DSC has awarded approximately 86 IDIQ contracts with design firms and has access to another 80 contracts written by regions and parks. These firms have numerous local offices and associates that are available to design park projects. The IDIQ contracts allow rapid tasking of A/Es for design projects without the need for additional A/E selections on a project-by-project basis.

The DSC is continuing to develop its in-house capability to manage A/E design work.

The staff have developed training programs for contract management and administration and are working with the Design/Build Institute to conduct a course for NPS employees.

Over time, it is expected that the DSC in-house capability to manage A/E firms will continue to improve.

Finding

The DSC has fully implemented this recommendation.

RECOMMENDATION 3 (1998)

Utilize A/E firms that have experience in the general locale of the project and that have solid reputations.

Discussion

The DSC is utilizing A/E firms located near the projects. These firms are selected for their design capabilities and their knowledge of local conditions. Also, specialized design services are contracted when required.

Finding

The DSC has fully implemented this recommendation.

RECOMMENDATION 4 (1998)

Adopt standardized design and construction practices, and obtain professional services to prepare standardized design drawings and specifications.

Discussion

The DSC has adopted the use of standardized construction specifications. The DSC subscribes to the Construction Specification Institute for standard specifications. A/E design firms and construction contractors are thoroughly familiar with these specifications, resulting in construction that is consistent with industry norms.

The NPS headquarters and DSC are working to establish standard facility models for design of park structures. For example, they have completed a catalog of standardized NPS housing designs consisting of 28 different designs. In addition, they are completing a catalog of maintenance facility designs based on sizes and needs of parks; it is expected the catalog will be completed in early 2003. The basic sizing and costs contained in the standard catalog will become the point of departure for decision-making purposes, although site adaptations to each park unit are expected. The intent is to continue with standardized design work in areas such as visitor centers, thus resulting in better cost control.

Finding

The DSC and NPS have made considerable progress in implementing recommendation 4 and have plans underway that will lead to full implementation when carried out.

RECOMMENDATION 5 (1998)

Make planning and management of contracts a critical and major function of the DSC.
Improve DSC's capability to plan and manage construction contracts. Establish

construction management as a critical and major function in the organization. Utilize professional services as necessary to enhance DSC's in-house management capability.

Discussion

The DSC has established the construction contracting function as an important role in the line-item construction program. The size and professionalization of the contracting office have increased. Considerable turnover in the staff has occurred, and replacements have brought additional skills and expertise to the DSC.

Significant changes have occurred in the construction contract methods being used. The DSC has transitioned from sealed bids for construction contracts to competitive negotiations and limited design/build projects. Given the DSC's work, the changes are positive. Continued movement toward modern contracting methods, such as design/build, should produce greater efficiencies.

Finding

The DSC has fully implemented this recommendation.

RECOMMENDATION 6 (1998)

Assign responsibility and accountability for line-item construction projects to the park superintendents. Give them the authority, appropriate training, and support to ensure they can successfully discharge functions. Make cost-effective construction an important element of the park superintendents' performance evaluations.

Discussion

Project responsibility and accountability have been assigned to superintendents and practices have changed to reflect the assignment. For example, project presentations to the DAB are made by the superintendents or their representatives; it is clear that the park superintendents are the sponsors for projects, and that they fully endorse the need, cost, scope, and technical details of the projects.

In order to assist park superintendents, a training course on the management of facility projects has been developed. It defines the superintendent's responsibilities in the facility development process and the design and construction phases. Park superintendents attend the course prior to implementation of facility projects in their park units. To meet the NPS needs, the courses are offered twice per year. Reception given by superintendents to the course and its content has been good. Approximately 160 superintendents have attended the course, along with other managers including park maintenance and professional service office chiefs.

Contact with the NPS human resources office indicated that cost-effective construction was required in applicable park superintendent performance evaluations. The Academy team reviewed several performance plans and noted the requirements for the management of cost-effective facility construction projects.

Finding

The NPS has fully implemented this recommendation.

RECOMMENDATION 7 (1998)

Establish a NPS project management control system to provide visibility of project status. The system must relate to project scope, schedule, and all costs, including design, and supervision and inspection, and provide reports on a frequent basis. There are numerous systems in use, and it is expected that the NPS can modify an existing system rather than design a new one. To manage the system, and exercise oversight for the NPS director, establish a small staff of project management professionals in the Office of the Associate Director for Professional Services at NPS headquarters. Some regional offices may also require additional staff to bolster the quality of the construction program.

Discussion

The NPS established a small headquarters staff in the Office of the Associate Director for Professional Services. This staff consist of four professionals who comprise the Construction Program Management Division, physically located in the DSC offices in Denver and reports to the associate director for professional services in Washington, DC. One of the four professionals is on a temporary detail from the DSC. These staff are responsible for having full cognizance of the NPS line-item construction program. In addition, they provide support to the DAB and coordinate the NPS value-engineering program. They have performed well and appear to have the support and respect of others in the NPS. However, the increased construction programs generate workloads that clearly warrant additional staffing for this small office.

In December 2001, the staff initiated a rudimentary tracking system. This on-line system is based upon inputs from the responsible NPS personnel and is expected to evolve over the next few years as other NPS systems, such as AFSIII and Maximo, come on line. The system was expected to support management oversight of the line-item construction program by the associate director for professional services. The review team and panel observed that the current approach will result in the inclusion of too many milestone details to become a timely and useful oversight tool.

The 1998 Academy report recommended that the associate director for professional services, supported by his staff, provide the management and leadership for the line-item construction program and keep the NPS director apprised of the status and problems in the construction program. The NPS director does not have the time necessary for detailed management of the line-item construction program.

Augmenting regional offices to help conduct the NPS facility program also was recommended. In response, action was taken to increase regional offices by approximately 36 FTEs for increased contract and project support.

Finding

The NPS has partially implemented this recommendation. However, a fully effective management control system is not yet completed. The study team recommends that the staff in the Construction Program Management Division be increased by at least two additional professional program management personnel.

RECOMMENDATION 8 (1998)

Establish an external review group to assess line-item construction projects for functional suitability and cost-effectiveness. In other words, the group should look at how requirements should be fulfilled. The group should have approximately five members with experience in design and management of large-scale construction projects and an independent staff to support it. The group should undertake the reviews once the schematic design and cost estimates are available. All NPS line-item projects should be reviewed prior to budget submission or commitment of congressional add-on projects. The group should report its findings to the NPS director.

Discussion

A citizen advisory group, established with five members and alternates, meets concurrently with the DAB. It reviews every facility project over \$500,000, whether it is a line item construction project or a fee demonstration project. The joint questioning of project presenters by the DAB and advisory group leads to knowledge sharing among participants. The DAB provides a NPS decision while the advisory board provides its finding to the NPS director, who is given an opportunity to modify the project if needed.

Finding

The NPS has fully implemented this recommendation.

RECOMMENDATION 9 (1998)

Base fund the DSC civil service activities that support the general management planning, line-item pre-design, and project management activities.

Discussion

The budget structure has been altered so that DSC civil service activities associated with general management planning, line item project pre-design, and project management are included in the DSC base funding. This change occurred after the 1998 study.

Finding

The NPS has fully implemented this recommendation.

RECOMMENDATION 10 (1998)

Use the following cost estimate factors in developing the line-item construction program:

Design: ten percent of net construction cost

Construction Supervision: eight percent of net construction cost

Contingency: ten percent of net construction cost

Discussion

The NPS is using the recommended basic factors. During the Academy team's site visits, the adequacy of pre-design and supplemental services was raised (see Chapter 3,

Observation 1). However, a review of project documentation verified the use of these factors.

Finding

The NPS has fully implemented this recommendation.

RECOMMENDATION 11 (1998)

To control NPS housing costs, compare the estimated costs with the Tri Services Military Family Housing Cost Model prior to budget submission and prior to construction. Where the cost estimates exceed 110 percent of the model estimate, require park superintendents to justify additional costs and to obtain approval from the NPS director's office to proceed with the construction.

Discussion

The NPS established procedures to gain director's office approval for housing costs estimated to exceed 110 percent of the Tri-Services Housing Model costs. In cases where the housing project estimated costs exceed this percentage, the rationale for doing so is presented to the DAB for review and approval. Based upon the DAB approval, the project is carried forward. If disapproved, the project must be reworked and resubmitted to the DAB prior to proceeding. The major reasons for cost estimates exceeding 110 percent of the model are discussed in Chapter 3.

Finding

The NPS has fully implemented this recommendation.

CHAPTER 3

OBSERVATIONS AND RECOMMENDATIONS FROM THE CURRENT STUDY

In the course of gathering information concerning the implementation of the Academy's 1998 report, six observations and four recommendations were made concerning the NPS facility program. These do not relate directly to the original eleven recommendations.

OBSERVATION 1

Many NPS staff stated that resources are not adequate to accomplish the early planning phase of the current line-item construction program. During the 1998 Academy study, this issue was not raised. Some claimed that the Academy did not understand the DSC operation yet suggested cutting funds for compliance. This is not correct. The Academy understands the need for compliance activities (e.g., environmental review, archeological review, historical preservation review and approval, etc.). However, it did not address pre-design activities since they were not included in the 1998 study scope, which focused on design and construction of the line-item construction program.

Site development planning for projects is another pre-design activity cited as lacking resources. This need arose as a result of a 1998 change in the NPS General Management Plans (GMPs) process, which eliminated detailed site development.¹ The change coincided with the Academy's study, but it was a peripheral event not discussed by the NPS in the 1998 time frame. It, too, was not part of the Academy's charge.

¹ Change detailed in NPS director's Order No.2, dated May, 1998.

Since 1998, pre-design needs have been brought to the forefront. Congress responded by providing \$4.5 million in FY 2000 and 2001 for the use of the regional offices and park units in contracting pre-design and supplemental services. The amount was increased to \$9.15 million in FY 2002 and the same amount is in the FY 2003 Administration's budget submittal. As a result of the increase in facility project activity, pre-design activity has increased. In conjunction with this concern, it is noted that NPS in-house capabilities are not insignificant. The panel believes this is transitory in nature as the NPS adjusts to a larger facility program, but the team has not examined the issue in depth.

OBSERVATION 2

While considerable progress has been made in implementing the recommendations contained in the original 1998 Academy report, the DSC accomplished its efforts with temporary leadership from March 2000 until December 2001 (22 months).

During the 1998 study, the Academy panel stated that successful implementation of the recommendations would require concerted leadership by DOI and NPS senior management. The temporary leadership was able to continue to get work done; however, several top DSC leadership positions were not filled since there was no permanent DSC director to build the team. Technical direction from headquarters helped in making changes, yet building an efficient and effective team requires on-site leadership, which cannot come from an acting chief or a placeholder. This lack of leadership has hampered

DSC in reaching its full potential. The current DSC director appears to be dynamic, experienced, and capable of leading DSC to do so.

OBSERVATION 3

Given the extensive project review by the NPS DAB, there appears to be little benefit to requiring DA prior to initiating the construction process.

Requiring the DA began in late 1997 in response to the public criticism concerning the NPS construction program. The DA was to provide assurance that the NPS leadership had reviewed proposed facility projects and that the projects were consistent with NPS standards, met private citizen expectations, and had appropriate cost estimates. Since 1998, the DAB and the headquarters staff have exercised strong controls over facility projects. Given these changes, the value of requiring the DA for each project has diminished.

RECOMMENDATION 1

NPS should develop an approval process that does not require approval of the NPS director for each line item construction project prior to initiating the construction process.

OBSERVATION 4

No contingency funding is provided to the field to fund required construction changes at the time of contract award.

The NPS construction project contingency funds are held in headquarters and released to the regions and then to the contracting officer. This means that change order requests for contingency funds are made to the headquarters' comptrollers office, which releases the funds to the region, which then releases them to the field after assurances that changes are needed and legitimate, i.e., not scope creep. This process has led to delays. Headquarters staff contends few, if any, delays are caused by the process. The fear is misuse of contingency funds for inappropriate activities.

The Academy team and panel members' experiences have been that unforeseen construction changes will occur on most projects, and that rapid action is required using contract modifications and contingency funds to preclude delays and increased costs. Thus, a portion of the contingency funds is normally provided to the contracting officials and construction managers. Unused contingency funds are returned to the headquarters and any additional fund requests above the initial release are reviewed and approved, or not approved based upon the merits of the specific need.

In providing the allocated funding, management places responsibility with the contracting authorities. To be effective, accountability for the funds must follow. The Academy panel believes that the NPS personnel are responsible and can be held accountable for managing a portion of the contingency funds. If this belief is wrong, far greater problems exist with accomplishing the NPS facility construction programs.

RECOMMENDATION 2

Provide two to three percent of the project net construction cost to the contracting office at the time of contract award for necessary changes.

OBSERVATION 5

The NPS housing office has made considerable progress in adjusting the NPS housing model for unique park conditions. Since the 1998 Academy study, the NPS housing office has worked to better manage the housing programs. The NPS has developed a standard housing catalog which depict typical designs for NPS housing units. While representative, standard designs can be readily site adapted for different park conditions. The team considers this a significant step forward.

The 1998 Academy report recommended using the Tri Services Military Housing Model as an aid in controlling NPS housing costs. However, costs sometimes have exceeded the model's costs. The principal reasons for the increased costs occur because the model does not adequately address extremely remote locations, the small number of housing units per project in NPS, or local area cost factors that are too low for some remote park units. The Academy team and panel recognize these problems. Remote location and quantity adjustment factors are required to meet the NPS needs.

RECOMMENDATION 3

Continue to work with the National Association of Homebuilders' research center to adjust the NPS model for unique conditions and continue to use the DAB for reviewing those projects that exceed the acceptable cost ranges.

OBSERVATION 6

The factors contained in recommendation ten of the 1998 Academy report are program wide factors, not individual small project allocations.

The 1998 Academy report recommended that new cost estimating factors be used in developing the line-item construction program. These factors apply to project design, construction supervision, and contingencies. During discussions, problems were raised pertaining to the adequacy of the factors for smaller projects in remote locations. The Academy team and panel recognizes that design and construction supervision costs percentages are likely to increase with small projects in remote locations. However, larger projects at locations not as remote often incur costs below the factors. The factors should be used for estimating purposes and applied on a program wide basis as opposed to each and every project regardless of size. The Academy team and panel believe that these program wide estimating factors are adequate.

RECOMMENDATION 4

Treat the factors as program wide averages and use available funds from the large projects to assist in correcting the problems encountered with small projects.

APPENDIX A

METHODOLOGY FOR THE STUDY AND LIST OF INTERVIEWEES

THE WORK PLAN

The goals of this study were to:

- understand the current NPS construction program
- assess the changes to the DSC since the 1998 Academy report
- interview a representative cross-section of NPS (i.e. headquarters, regions, and park units)
- assess the changes to the NPS construction program since the 1998 Academy report
- determine if the eleven original recommendations were effectively implemented
- make relevant observations and recommendations that were encountered

The first step in conducting the study was to gain an understanding of the current NPS environment and construction through interviews and a review of available budget documentation.

The second step consisted of discussions with, and presentations by, the DSC employees to acquire knowledge of the construction program, the organization and management of the DSC, and the roles and relationships of the DSC to other NPS organizational elements.

The third step consisted of focused interviews by the Academy team with park units, regional and headquarters staffs to learn about the implementation of the 1998 Academy

recommendations and to gain insights into the current program operations. These interviews involved visits to Grand Canyon National Park, Gettysburg National Military Park, Great Smoky Mountains National Park, and Shenandoah National Park. Selected regional directors and personnel were interviewed in order to understand their perceptions of the current program, changes ensuing from the 1998 Academy report, and the current line-item construction program and its relationship to other NPS programs. These visits provided the Academy team members with the opportunity to directly observe relevant conditions.

The fourth step involved attending a DAB meeting to observe the current policies and controls used to manage the NPS construction program.

The fifth step consisted of data analysis. Relevant information was examined and synthesized to address the initial goals of the study and to generate observations and recommendations stemming from the current study.

The sixth step involved bringing in the expert knowledge of the Academy panel to assess the team's approach to determining the extent to which the recommendations of the 1998 Academy study were implemented and to review new observations and recommendations.

The final step involved preparation of the draft report and review by the panel.

LIST OF INTERVIEWEES

U.S. Congress

Deborah Weatherly, Clerk, Subcommittee on Interior & Related Agencies, U.S. House Committee on Appropriations

Department of Interior

Robert Lamb, Deputy Assistant Secretary, Budget and Finance

National Park Service

Fran P. Mainella, Director

Donald W. Murphy, Deputy Director

Sue Masica, Associate Director, Administration

Terrell M. Emmons, Associate Director, Professional Services

Bruce Sheaffer, Comptroller/Budget & Finance

Donna Compton, Housing Management

David Hartman, Housing Management

Ted Little, Housing Management

Carole Maass, Fee-Demo Program

Michelle Proce, Facilities Maintenance

Lynn Smith, Human Resources

Mike LeBorgne, Construction Program Management, Washington Office

Roger Kelly Brown, Construction Program Management, Washington Office

Denver Service Center

Dan Wenk, Director

Rodger Evans, Chief, Facility Design & Construction

Donna K. Kavel, Chief, Contracting Services

Edie Ramey, Chief, Information Services

Nat Kuykendall, Chief, Planning

David Aitken, Senior Project Manager

Larry Walling, Senior Project Manager

Debbie Campbell, Project Manager

Jon Hollbrook, Project Manager

Richard Crane, Project Manager

Walt Graham, Project Manager

Joanne Cody, Landscape Architect

Ray Todd, Project Manager

Kate Winkler, Information Specialist

Bob Welch, Chief, Site Design Branch

Larry Reynolds, Structural Engineer

Intermountain Region

Hal Grovert, Associate Regional Director

National Capital Region

Terry Carlstrom, Regional Director

Northeast Region

Marie Rust, Regional Director

Midwest Region

William W. Schenk, Regional Director

Southeast Region

Tom Brown, Associate Regional Director

Grand Canyon National Park

Joseph F. Alston, Superintendent

Brad Traver, Assistant Superintendent, Professional Services

Shelley Mettlach, P.E., Project Management

John R. Beshears, P.E., Chief, Maintenance and Engineering

William Dennis, Park Maintenance

Gettysburg National Military Park

Dr. John A. Latschar, Superintendent

David Dreier, Chief, Maintenance

Great Smoky Mountains National Park

Philip Francis, Assistant Superintendent

Shawn Bengel, Chief, Maintenance

Imelda Wegwerth, Project Manager

Diana Flaugh, Park Coordinator

Shenandoah National Park

Dennis McGinnis, Chief of Maintenance

Trish Kicklighter, Administration Officer

APPENDIX B

PROJECT PANEL AND ACADEMY TEAM

Royce Hanson – Panel Chair. Visiting Professor, Policy Science Graduate Program, University of Maryland, Baltimore County. Former Professor and Dean, School of Social Sciences, University of Texas at Dallas; Associate Dean and Professor, Hubert H. Humphrey Institute of Public Affairs, University of Minnesota. Senior Staff Officer, National Research Council, National Academy of Sciences. Chairman, Montgomery County Planning Board, and Chairman, Maryland National Park and Planning Commission.

Robert Hale – Senior Fellow, Logistics Management Institute, Former Assistant Secretary of the Air Force for Financial Management and Comptroller. Assistant Director for National Security, Congressional Budget Office; Deputy Assistant Director and Principal Analyst. Analyst and Study Director, Center for Naval Analysis. Officer, U.S. Navy.

Howard Messner – Senior Advisor and former Executive Vice President and Chief Operating Officer, American Consulting Engineers Council. Former Assistant Administrator for Administration and Resources Management. U.S. Environmental Protection Agency; Comptroller, U.S. Department of Energy; Assistant Director for Management Improvement and Evaluation, U.S. Office of Management and Budget.

ACADEMY STUDY TEAM

William E. Lilly – Project Director. Director, National Aeronautics and Space Administration Programs, National Academy of Public Administration. Former Associate Administrator/Comptroller, National Aeronautics and Space Administration.

Billie J. McGarvey – Major General, USAF (Ret.). Team Member. Former Director of Facilities Engineering, National Aeronautics and Space Administration and Deputy Chief of Staff for Civil Engineering, U.S. Air Force. Registered Professional Engineer.

Thomas E. Utsman - Team Member. Former Deputy Associate Administrator, National Aeronautics and Space Administration, Headquarters, Washington, D.C., Deputy Director, Kennedy Space Center, Florida.

David Morehouse - Team member. Former Director, Natural Resource Real Estate, State of Wisconsin. Former Construction Management Chief, Department of Natural Resources, State of Wisconsin. Capital Budget and Management Analyst, Department of Natural Resources, State of Wisconsin.

Michele Young - Research Assistant.

Mary Y. Brown - Secretary, National Academy of Public Administration.



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