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United States General Accounting Office
Washington, DC 20548

April 12, 2002

The Honorable Joe Skeen
Chairman,
The Honorable Norman D. Dicks
Ranking Minority Member,
Subcommittee on Interior and Related Agencies
Committee on Appropriations
House of Representatives

Subject: National Park Service: Status of Efforts to Develop Better Deferred Maintenance Data

As GAO, the Department of the Interior's inspector general, and others reported,[1] the National Park Service has struggled to develop an effective maintenance management system that would, among other things, enable the agency to provide an accurate and reliable estimate of the amount of deferred maintenance on its assets. Although the Park Service has spent almost two decades addressing this problem, Park Service officials acknowledge that the service still does not have an accurate inventory of existing assets or a reliable estimate of deferred maintenance costs for these assets. Over the years, estimates of the amount of deferred maintenance throughout the national park system have varied widely—sometimes by billions of dollars.

In 1984, the Congress directed the National Park Service to develop and implement a maintenance management system. The agency spent about $11 million developing the system. However, park managers found that it did not provide them with all of the information needed to manage their deferred maintenance workload. As a result, the use of the system was terminated. In 1998, spurred by continuing congressional concern and new federal accounting standards,[2] the Park Service initiated the design of a new asset management process that, among other things, is to provide the agency with a systematic method for documenting deferred maintenance needs and tracking progress in reducing the amount of deferred maintenance. The Park Service

[1] U.S. General Accounting Office, *National Park Service: Efforts to Identify and Manage the Maintenance Backlog*, GAO/RCED-98-143 (Washington, D.C.: May 14, 1998). U.S. Department of the Interior, Office of Inspector General, *Followup of Maintenance Activities*, *National Park Service*, 98-I-344 (Washington, D.C.: Mar. 1998). U.S. Department of the Interior, Interior Planning, Design and Construction Council, *Facilities Maintenance Assessment and Recommendations* (Washington, D.C.: Feb. 1998).

[2] The Statement of Federal Financial Accounting Standards No. 6, *Accounting for Plant*, *Property*, *and Equipment*, issued by the Federal Accounting Standards Advisory Board in 1996, requires that deferred maintenance be disclosed in federal agencies' annual financial statements beginning with fiscal year 1998.

has now spent more than 3 years developing its new asset management process. The Congress continues to monitor the agency's efforts, including whether the new process will provide the type of accurate and reliable information needed to determine the scope of the deferred maintenance problem and track progress in reducing the deferred maintenance backlog.

As part of this ongoing monitoring effort, you asked us to determine whether the Park Service's new asset management process will provide accurate and reliable deferred maintenance data that will permit agency managers and the Congress to measure progress in reducing deferred maintenance both at the park level and agencywide.

To address these issues, we reviewed the status of the Park Service's asset management process with headquarters officials, regional coordinators, and officials at 14 parks throughout the nation.[3] The 14 parks were selected to include all 6 parks that pilot-tested the new process and 8 other parks where staff are fully trained in using the new process and have a large number of assets, proportionally, in their respective regions. In addition, we discussed asset management processes and practices with officials at other federal and nonfederal organizations that, like the Park Service, are responsible for managing and maintaining a large number of facilities: the Bureau of Reclamation within the Department of the Interior, the Navy, the National Aeronautics and Space Administration, the Department of Energy, the Army Corps of Engineers, and one private company, Walt Disney World. We also reviewed maintenance management literature and contacted two facility experts who are members of the Federal Facilities Council Standing Committee on Operations and Maintenance.[4] We conducted our review from November 2001 through April 2002 in accordance with generally accepted government auditing standards. Because our work was based on a limited number of park locations, it may not be representative of all Park Service units. However, we believe the information we gathered provides useful insights into the progress the agency is making in implementing a new asset management process.

In discussions with your staff, we agreed that a formal briefing would meet the needs of the subcommittee. This letter summarizes our answers to your questions, and enclosure I documents the information we provided during a briefing with your office on March 22, 2002.

In summary, we found that the Park Service has made progress in developing a new asset management process that should, when fully and properly implemented, provide the agency with more accurate and reliable estimates of the amount of deferred maintenance of its assets. As currently planned, the new process being

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[3] The six pilot parks we contacted were Big Cyprus National Preserve, Effigy Mounds National Monument, Fort Caroline National Memorial, Redwood National Park, Santa Monica National Recreation Area, and Timucuan Ecological and Historic Preserve. The eight other parks included Mt. Rainier, Yosemite, and North Cascades National Parks in the Pacific West region; Glacier and Yellowstone National Parks in the Intermountain region; Delaware Water Gap National Recreation Area and Shenandoah National Park in the Northeast region; and Great Smoky Mountains National Park in the Southeast region.

[4] The Federal Facilities Council, a part of the National Research Council, is a cooperative association whose purpose is to increase federal agencies' understanding of the design, construction, acquisition, and operation of federal facilities.

developed will, for the first time, enable the agency to have a (1) reliable inventory of its assets; (2) process for reporting on the condition of each asset in its inventory; and (3) systemwide methodology for estimating deferred maintenance costs for each asset. While the design of the new process is complete, it is just now being implemented. For example, staff training in the new process is taking place at 123 park units[5] of 385 parks in the national park system, with training at the remaining parks to follow. Because managers at each park will be required to implement this new process using a consistent systemwide methodology, the resulting deferred maintenance estimates should permit agency managers, as well as the Congress, to monitor progress in reducing deferred maintenance both at the individual park and systemwide levels. However, while the new process is promising, its success cannot be determined until staff in each of the park units are trained and the new asset management process is fully and properly implemented.

In addition to providing specific answers to your questions, we wanted to bring to your attention some other matters that will affect the agency's implementation of its new asset management process. While these matters are not significant enough to undermine the overall merit of the new process, addressing them will improve the effectiveness of the process. First, even though the Park Service has been developing its new process for more than 3 years, it has not yet estimated what its total implementation costs will be or developed a schedule for when full implementation will occur. While the agency has made progress in developing schedules and costs for some components of the process, including the acquisition and use of the needed maintenance management software, it has not yet estimated when all of the required condition assessments will be done or what they will cost. Without complete estimates and schedules that include all components of the process, including the completion of condition assessments, monitoring and assessing performance against budgets and timeframes will be difficult.

Second, two different operating divisions within the Park Service—Concessions Management and Facilities Management—are developing separate processes for tracking and reporting deferred maintenance, even though both units are responsible for managing the condition of government-owned facilities. Because both of these units have similar responsibilities for determining the condition of government-owned facilities and ensuring that they are properly maintained, it seems reasonable that they would work together in a coordinated way to ensure that their efforts are not duplicative.

Finally, a key element of the Park Service's new asset management process requires the parks to assess the condition of each asset. There are two types of condition assessments: annual and comprehensive. Annual condition assessments are designed to identify only obvious and apparent asset deficiencies, while comprehensive condition assessments are designed to identify hard-to-find problems such as hidden structural defects in building foundations, roofs, or walls. Currently, about 123 park units are to complete the annual condition assessments by the end of fiscal year 2002. While this approach may be appropriate for meeting programmatic and financial

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[5] Because some park units are combined for administrative purposes, the 123 park units include 175 different parks. For example, Cape Hatteras National Seashore includes Fort Raleigh National Historic Site and the Wright Brothers National Memorial.

reporting needs in the short term, it may result in more complex and costly problems being overlooked in the long term. As a result, this approach could understate the amount of the deferred maintenance problem. In the final analysis, it is a tradeoff between the accuracy of the deferred maintenance estimates and the added expense and time that would be required if more comprehensive facility condition assessments were done. Park Service officials told us that the agency eventually plans to conduct comprehensive assessments for all assets. However, so far they have not developed a plan providing specifics about where, when, and how the assessments will be done or what they will cost.

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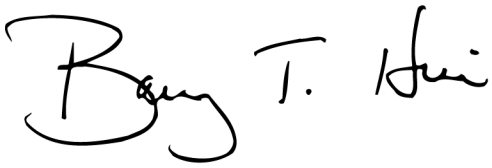
We provided a draft of this report to the Park Service for its review and comment. The Park Service generally agreed with the information presented in the report and provided us with a number of clarifying and technical comments that we incorporated as appropriate. They also provided us with two additional, more substantive comments. First, regarding our concern that the agency has not yet developed complete schedule and cost estimates for implementing the process, agency officials said that their plans for conducting the comprehensive condition assessments are still evolving. As a result, they are reluctant to develop complete schedule and cost estimates at this time. While we understand their reluctance, developing a complete implementation schedule and cost estimate would facilitate program accountability by providing a basis for monitoring and evaluating agency performance over time. Second, agency officials told us that in managing the new asset management process they are trying to de-emphasize the significance of providing precise deferred maintenance amounts. Instead, they are taking a more results-oriented approach to managing the program by tracking and measuring changes in the condition of Park Service assets. In our view, there is merit in this approach. Nonetheless, it does not diminish the need to develop accurate and reliable deferred maintenance estimates so that the scope of the problem can be identified and budgetary needs can be supported.

As agreed with your offices, we will make copies of this letter available to others upon request. This letter will also be available on GAO's home page at http://www.gao.gov.

If you have any questions or need additional information, please contact me at (202) 512-3841, or Cliff Fowler, Assistant Director, at (202) 512-8029. Major contributors to this letter include Lloyd Adams, Brian Estes, Cliff Fowler, and Paul Staley.



Barry T. Hill
Director, Natural Resources
and Environment

Enclosure

(360154)

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Status of the National Park Service's Efforts to Develop Better Deferred Maintenance Data

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NPS Deferred Maintenance a Longstanding Concern

- GAO and others have previously reported that NPS has struggled for decades to effectively manage its deferred maintenance; estimates have varied greatly
- Better data still needed on the size of NPS' deferred maintenance problem and its ability to track progress in reducing it

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Results in Brief

You Asked Us to Assess

- Whether the Park Service's new asset management process will provide accurate and reliable data on deferred maintenance that will permit the agency and Congress to measure progress in reducing deferred maintenance

- Results:
  - Progress achieved
    - Software acquired--MAXIMO™
    - 6 pilot parks--facility condition assessments, and maintenance cost estimates done
    - About 175 parks plan to assess maintenance needs by 9-30-02

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Results in Brief

Results (continued)

- While the new process is promising, accurate and reliable data depends on full and successful implementation which is just now underway.
- Effectiveness of the new process could be improved by:
  - A better implementation strategy that includes:
    - Overall cost and schedule for asset management process
    - Coordination between NPS divisions responsible for deferred maintenance on government owned assets
  - Resolving uncertainties for conducting asset condition assessments
- If implementation concerns resolved, process appears to have capability to track progress at park and national levels

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Scope and Methodology

- Contacted NPS officials
  - Headquarters
  - Regional coordinators
  - 6 pilot parks
  - 8 additional parks in 4 different regions
- Discussed maintenance management systems similar to NPS' with the Bureau of Reclamation, Navy, NASA, DOE, U.S. Army Corps of Engineers, and Walt Disney World
- Reviewed maintenance management literature and contacted two facility experts--members of the Federal Facilities Council's Committee on Operations and Maintenance

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Background

For Decades NPS Unsuccessful in Developing a Maintenance Management System

- 1980s:
  - GAO reports on need for maintenance management system
  - Park Service required by P.L. 98-540 (1984) to implement such a system
  - Over $11 million spent on prior systems
- 1990s:
  - 1998 GAO report identified need for more accurate data
  - 1998 DOI OIG report identified NPS maintenance system as a material weakness
  - 1998 DOI Planning, Design and Construction Council study team identified problems
  - 1998 Federal Financial Accounting Standards No.6 – annual deferred maintenance disclosure requirements placed on agencies

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Background

- Current Efforts Address Deferred Maintenance Based on a Broader Asset Management Approach Than in The Past
  - Attempt to better align deferred maintenance spending with NPS priorities and performance measures
  - De-emphasizes the significance of providing precise deferred maintenance amounts; emphasizes tracking changes in the condition of assets
  - Greater headquarters control over funding for maintenance and rehabilitation projects

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Background

Components of the Asset Management Process

- Facility Management Software System
  - In 1999 acquired off-the-shelf computerized maintenance management software: MAXIMO™
- Facility Condition Assessment Survey
  - Asset Priority Index--to determine the relative importance of asset to a park's mission
  - Facility Condition Index--to identify asset deficiencies and their relative priority
- Cost Estimating Software System—to determine the cost of repairing asset deficiencies

Park Service Efforts to Develop Better Data and Monitor Progress

Progress Made

- Integrated servicewide computerized system has the potential for many benefits
- Facility management software already in use by other Federal agencies and corporations
- Financial incentives for parks to use system--access to FY 2003 repair/rehabilitation funds tied to park units implementation of asset management process
- For the first time, agency may have a reliable asset inventory

Park Service Efforts to Develop Better Data and Monitor Progress

Effectiveness of the New Process Could Be Improved By:

- A better implementation strategy
- Resolving uncertainties for conducting asset condition assessments

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Park Service Efforts to Develop Better Data and Monitor Progress

Better Implementation Strategy Would Resolve Concerns About:

- No overall costs and schedules developed for the asset management process
- New process applies only to government operated facilities— does not include concession-operated facilities
  - Two different NPS divisions--concessions and facility management--developing separate processes for reporting on deferred maintenance
    - Cost-savings possible through greater coordination

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Park Service Efforts to Develop Better Data and Monitor Progress

Better Implementation Strategy Would Resolve Concerns About: (continued)

- Overall asset management process not fully pre-tested--condition assessment component was still under development during 6 pilot tests. Deficiency data developed by contractors--a resource not available for parks now using the process
- Additional system integration required to develop better deferred maintenance data--e.g., Cost Estimating Software System, Project Management Information System
- Monitoring and oversight delegated to NPS regions which may result in inconsistent approaches and different levels of commitment

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Park Service Efforts to Develop Better Data and Monitor Progress

Resolve Uncertainties Over Approach for Conducting Asset Condition Assessments

- Plan for annual condition assessments will identify only "obvious and apparent" maintenance needs
  - Facility experts and NPS regional officials suggest this will likely underestimate total deferred maintenance
  - May lead to inconsistent and incomplete identification of facility deficiencies
    - Some parks include building code violations but others exclude them
- More complete estimate will require comprehensive condition assessments; time frames and costs unknown

Summary Observations

- Observations:
  - While the overall process has merit, its effectiveness can be improved if the Park Service:
    - Develops an overall cost and schedule for implementing new asset management process
    - Coordinates NPS divisions having responsibility for deferred maintenance on government owned assets
    - Decides on the best approach for conducting comprehensive condition assessments including when they will be done and at what cost