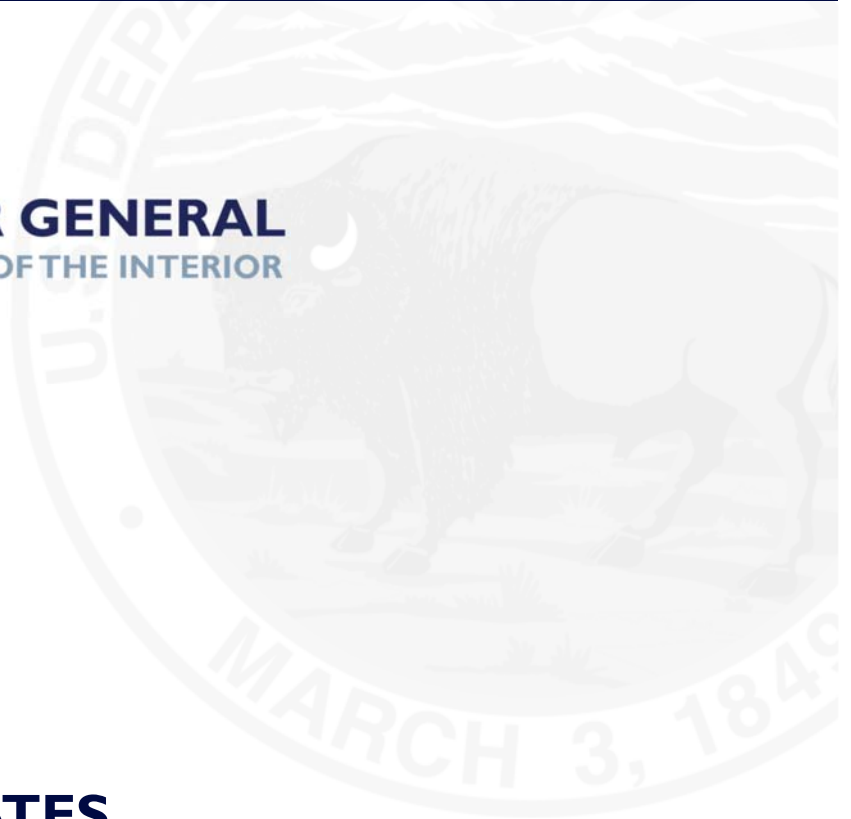




OFFICE OF
INSPECTOR GENERAL
U.S. DEPARTMENT OF THE INTERIOR



THE UNITED STATES BUREAU OF RECLAMATION HYDROELECTRIC FACILITY MANAGEMENT




OFFICE OF
INSPECTOR GENERAL
U.S. DEPARTMENT OF THE INTERIOR

Memorandum

JAN 09 2018

To: Brenda Burman
Commissioner, U.S. Bureau of Reclamation

From: Mary L. Kendall 
Deputy Inspector General

Subject: Survey Report – U.S. Bureau of Reclamation Hydroelectric Facility Management
Report No. 2017-EAU-054

We have completed the survey phase of our evaluation of the United States Bureau of Reclamation's (USBR's) hydroelectric facility management. The objective of our evaluation was to examine the USBR's strategy for maintaining and increasing hydroelectric power generation. We found that the USBR pursues a varied strategy to maintain and increase hydroelectric power generation, including a robust maintenance program, technological improvements to existing facilities, and hydrologic studies to identify locations for new facilities. We believe that further review would not be beneficial. Therefore, we are discontinuing our evaluation of the USBR's hydroelectric facility management. The scope and methodology of our work can be found in Attachment 1.

Results

USBR's strategy for maintaining hydroelectric power generation is accomplished through its facility maintenance and inspection programs. These programs include life expectancy estimates for individual hydroelectric components, (such as generators and governors), three levels of annual maintenance and safety inspections, and 3- to 10-year budgeting plans. These programs are driven by area offices due to the individual requirements imposed by the authorizing legislation of individual projects. This bottom-up approach allows staff at the individual facilities to make maintenance and funding decisions.

USBR's strategy for increasing hydroelectric power generation capacity is two pronged, focusing on technological advancements in power generation and identifying geographical areas for new development. Primarily, USBR has relied on replacing older generation components with technologically superior ones as the older components reach the end of their effective lifespans. These newer components can either increase overall capacity or are more efficient than the components that they are replacing. The USBR is focusing on enhancing efficient generation of hydroelectric power at its facilities, as opposed to trying to increase capacity. To accomplish this, it is augmenting systems to deliver consistent power supplies with variable water availability.

The USBR has also performed various studies to determine areas for increased hydroelectric power generation, as well as new areas for hydroelectric power development. This

has led to increasing hydroelectric power capacity at USBR facilities and leasing USBR facilities for new hydroelectric power development.

In examining performance measures for this program, we identified missing data in USBR's tracking system, HydroAmp. We shared the details of this with the USBR. The Bureau was aware of the system's limitations and was in the process of taking corrective action. We encourage USBR to continue to make progress in improving its performance tracking systems.

We appreciate the cooperation and assistance provided by your staff during our survey. If you have any questions regarding this report, please contact me at 202-208-5745.

Scope and Methodology

We reviewed the U.S. Bureau of Reclamation's (USBR's) current strategy for managing hydroelectric equipment replacement, repair, improvements, and reliability, as well as for increasing capacity and power generation. Specifically, we—

- Reviewed laws, directives and standards, and policies pertaining to USBR's hydroelectric power generation program
- Interviewed staff from the Pacific Northwest Region, Upper Colorado Region, Lower Colorado Region, Mid-Pacific Region, and Great Plains Region, USBR Power Resources Office, and USBR Asset Management Division about individual, regional, and national planning, budgeting, and inspection processes
- Reviewed the 2017 Federal Hydropower Replacement Blue Book; USBR's Infrastructure Investment Strategy; MOUs between U.S. Department of the Interior, U.S. Army Corps of Engineers, and the U.S. Department of Energy; USBR's hydropower leasing policies; USBR's Sustainable Energy Strategy Fiscal Years 2013-2017; USBR's Asset Management Plan; and USBR's memorandum to regional directors regarding the Major Rehabilitation and Replacement activities, as well as prior audits related to USBR's hydroelectric facilities
- Analyzed, when available, data from 1997 to the present related to hydroelectric facility maintenance, performance, and outages, including but not limited to hydroelectric generator component condition, forced outages, planned outages, actual maintenance time for all outages, peak availability, actual power generated, and inspection recommendation tracking
- Visited USBR-operated and leased hydroelectric facilities in the Great Plains region

We did not test operation and reliability of internal controls related to the hydroelectric program. The USBR provided computer-generated data related to facility performance, maintenance, and inspection recommendation tracking, which we used but did not test for completeness and accuracy.

We conducted our evaluation in accordance with the Quality Standards for Inspection and Evaluation as put forth by the Council of the Inspectors General on Integrity and Efficiency. We believe that the work performed provides a reasonable basis for our conclusions and recommendations. The legislation creating the Office of Inspector General requires that we report to Congress semiannually on all audit, inspection, and evaluation reports issued; actions taken to implement our recommendations; and recommendations that have not been implemented.

