Order Code RL34466

CRS Report for Congress

The Bureau of Reclamation's Aging Infrastructure

Updated November 26, 2008

Nic Lane
Analyst in Natural Resources Policy
Resources, Science, and Industry Division

Congressional Research Service

Prepared for Members and Committees of Congress

The Bureau of Reclamation's Aging Infrastructure

Summary

The Bureau of Reclamation (Reclamation) is responsible for the construction of most of the large irrigation and water resources infrastructure in the West. Reclamation manages water resource facilities in 17 western states with an original development cost of over $20.0 billion. Reclamation is over 100 years old, and many of its facilities now have an average age of over 50 years. This aging infrastructure requires increased maintenance and replacement efforts and expenditures.

Reclamation appears to have a well documented plan to assess the management needs of its portfolio of aging infrastructure. However, water resources infrastructure management objectives require prioritization due in part to a finite budget. This inevitably leads to conflicts over project funding priorities. As Reclamation's portfolio of infrastructure continues to age, these conflicts are likely to arise more often. Further, in the case of structures whose operations and maintenance responsibilities have been transferred to the local project beneficiaries, the increased maintenance and replacement efforts and expenditures associated with aging infrastructure — such as more expensive recapitalization projects — could motivate the beneficiaries to seek federal funds and congressional support to address project funding issues.

This report describes Reclamation's approach to managing aging infrastructure as well as that of two other agencies — the Army Corps of Engineers and the Natural Resources Conservation Service — involved with significant portfolios of dams and related infrastructure. Additionally, there is discussion of four specific approaches to managing Reclamation's aging infrastructure through legislative action.

Contents

The Bureau of Reclamation's Aging Infrastructure

Most large dams and water diversion structures in the West were built by, or with the assistance of, the Bureau of Reclamation (Reclamation). Reclamation's mission is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.[1] In most cases this means developing water supplies primarily for irrigation to reclaim arid lands in the West. Reclamation manages water resource facilities in 17 western states with an original development cost of over $20.0 billion.[2] Citing engineering indices, the agency has estimated that the replacement value of all Reclamation infrastructure would be over $100 billion.[3] Reclamation's inventory of assets includes 471 dams and dikes that create 348 reservoirs with a total storage capacity of 245 million acre-feet of water.[4] Reclamation is the largest wholesaler of water in the United States. Through its assets, Reclamation serves more than 31 million people, and provides irrigation water for 10 million acres of farmland that produce 60% of the nation's vegetables and 25% of its fruits and nuts. Reclamation is the nation's second-largest producer of hydroelectric power, with 58 hydroelectric power plants that provide an average of more than 42 billion kilowatt-hours of energy each year.

Reclamation has over 77% of the Department of the Interior's (DOI's) constructed assets, making the agency an important manager of infrastructure and supporting assets. Reclamation is over 100 years old, and many of its facilities now have an average age of over 50 years. This aging infrastructure requires increased maintenance and replacement efforts and expenditures.[5] Reclamation's limited budget for asset management could lead to conflicts over project funding priorities. (See discussion of St. Mary Dam, below.) As Reclamation's infrastructure continues to age, these conflicts may arise more frequently and could become an issue for Congress. In the 110th Congress, S. 2842, the Aging Water Infrastructure Act, addressed this issue and would have required that the Secretary of the Interior, acting through the Commissioner of Reclamation, carry out annual inspections of water resources infrastructure for Reclamation-owned and -operated facilities, as well as for those facilities owned by Reclamation, but operated and maintained by water users. Additionally, the bill would have required the Secretary to develop a national

---

[1] See [http://www.usbr.gov/main/about/mission.html].

[2] U.S. Dept. of the Interior, Bureau of Reclamation, *Bureau of Reclamation Asset Management Plan Fiscal Year 2007*, pp. 5 and 10. Hereinafter referred to as "AMP."

[3] Ibid.

[4] One acre-foot is the amount of water required to cover an area of one acre to a depth of one foot — 325,851 gallons.

[5] AMP, pp. 5 and 10.

priorities list of infrastructure maintenance needs and establish standards and guidelines for the maintenance of these facilities.

Reclamation estimates that approximately $3 billion will be required to rehabilitate, modify, or replace water resources assets in the future. This estimate was cited as only a rough approximation of conceivable need based on data that are not reliable for budgeting or long-term planning decisions. Reclamation estimates that at least $800 million of the $3 billion need is for transferred works.[6] Transferred works are those facilities owned by Reclamation but operated and maintained by end users such as irrigation districts. That would leave approximately $2.2 billion needed for reserved works, which are facilities both owned and operated by Reclamation. Approximately two-thirds of Reclamation facilities are transferred facilities.[7]

Reclamation states it is preparing a document summarizing the condition of its aging infrastructure, historical and current procedures to address these identified needs, and available data on the condition of its infrastructure. The document is not available for distribution outside the executive branch yet; it is still undergoing internal review.[8]

As a comparison, the Army Corps of Engineers (Corps), which operates and maintains a substantial inventory of dams and other water control infrastructure throughout the country, indicates that in FY2006 it had $1.8 billion in deferred maintenance for its civil works activities.[9]

Reclamation's Approach to Aging Infrastructure Management

General Approach. Maintenance, repair, and rehabilitation needs at Reclamation projects are typically identified through regular monitoring by project operators, or more formal facility condition assessments performed by technical experts. Maintenance activities are scheduled, funded, and accomplished based on an assessment of the work's necessity.[10] Abrupt facility failures may receive immediate maintenance action to restore facility service or protect public safety. Finally, if the facility has reached or exceeded its expected service life, Reclamation

---

[6] Testimony of Mr. Robert Johnson, Commissioner, U.S. Dept. of the Interior, Bureau of Reclamation, before the Senate Committee on Energy and Natural resources, Subcommittee on Water and Power, April 17, 2008.

[7] AMP, p. 7.

[8] Email correspondence on February 28, 2007, with Mr. Carter Brown, Special Assistant, Congressional and Legislative Affairs Office, U.S. Dept. of the Interior, Bureau of Reclamation, Washington, DC. Hereinafter referred to as "Brown, February 28."

[9] Dept. of Defense, *Performance and Accountability Report for Fiscal Year 2006*, p. 164. Available at [http://www.defenselink.mil/comptroller/par/fy2006/Entire_Document_(7.8_MB).pdf]. The 2007 edition of this report does not update this estimate, and the Corps has not provided CRS with a more recent figure.

[10] The guidelines Reclamation follows for infrastructure evaluations are indicated in the AMP, p. 37.

may consider a major rehabilitation or replacement activity (i.e., recapitalization effort).[11]

The primary day-to-day responsibility for asset management lies with Reclamation's 25 area offices. Each office reports to one of the five Reclamation regional offices which, in turn, reports to the Deputy Commissioner for Operations. Ultimately, asset portfolio decisions are the responsibility of the Commissioner, who relies on several advisory bodies for assistance.[12]

Reclamation's Facilities Operation and Maintenance (O&M) Team addresses Reclamation-wide O&M-related priorities, issues, activities, program and budget formulation, and facilitate program accomplishment. The team's responsibilities include reviewing and making recommendations to the Deputy Commissioner for Operations on issues including:

- deferred maintenance,
- asset management,
- condition assessments/field review activities,
- Replacements, Additions, and Extraordinary Maintenance (RAX) items,
- facility security and public safety, and
- maintenance management practices and systems.[13]

The identification of maintenance needs is similar for both transferred works and reserved works. Maintenance needs are identified either by the operating entities or through periodic facility reviews conducted by Reclamation.

Major maintenance or rehabilitation for reserved works is typically funded from annual appropriations.[14] However, maintenance funding for transferred works is the responsibility of the operating entity, which may have difficulty funding major recapitalization efforts. Securing needed additional funding through private lenders for rehabilitation work on transferred facilities can be difficult because the federal government retains title, so the facilities cannot be used as collateral by the operators to secure a loan. In FY2008 Reclamation requested funding for a loan guarantee program to aid operating entities in their pursuit of private funds.

Specific Cases. In some instances the rehabilitation and maintenance of specific Reclamation dams and water projects are addressed directly by legislation. These approaches address individual facilities (the Reclamation Safety of Dams Program being an exception), but may have broader effects on public policy — for example, if proponents of future rehabilitation projects view them as creating precedents or appearing to provide a number of different policy models to choose from. Four cases are discussed below.

---

[11] Brown, February 28.

[12] AMP, p. 30.

[13] Ibid.

[14] Ibid.

Arrowrock Dam. Arrowrock Dam was completed in 1915. The 350-foot high concrete arch dam is about 13 miles east of Boise, Idaho. Water releases at the dam are controlled by 20 ensign valves and five sluice gates. After nearly 90 years of continuous operation, Reclamation replaced all 10 of the lower valves with devices called clamshell gates that would permit inspection and maintenance without the need to draw down the level of the reservoir.[15]

Reclamation worked over a three-year period to install the clamshell gates that replaced the 89-year-old ensign valves. Total cost for the project, which was completed in the summer of 2004, was about $20 million of federal funding. The project required coordination between Reclamation and irrigation districts, fishery biologists, recreation interests, and the Corps to manage flows during construction in order to ensure adequate water flows for all interests.[16]

In §206 of the Energy and Water Development Appropriations Act of 2002,[17] Congress stipulated that Reclamation was to recover no more than $6.9 million (35%) of reimbursable expenses typically charged to water users for project O&M costs at Arrowrock Dam. Congress further stipulated that these costs were to be recovered over a 15-year period. Reclamation typically requires O&M costs to be repaid by project beneficiaries within the fiscal year that the funds were disbursed.[18]

Jackson Gulch Dam. The Mancos Project in southwestern Colorado includes the Jackson Gulch Dam and reservoir, as well as inlet and outlet canals. It provides supplemental irrigation water for nearly 14,000 acres. The project was approved by President Roosevelt on October 21, 1940.[19] Construction began in 1941, and was completed nine years later. The first water from Jackson Gulch Reservoir was delivered to water users in 1949. Responsibility for O&M at the project was transferred to the Mancos Water Conservancy District in 1963.[20]

In the 110th Congress, S. 1477, the Jackson Gulch Rehabilitation Act, would have directed the Secretary of the Interior, through Reclamation, to pay an 80% share of the cost of the Jackson Gulch Rehabilitation Project. The bill would have authorized $6.45 million for the federal share of rehabilitation work. The Mancos Water Conservancy District would have remained responsible for O&M at the project. Reclamation's FY2009 budget request for facility maintenance and

---

[15] See [http://web.archive.org/web/20030813035609/www.usbr.gov/pn/programs/arrowrockvalve/].

[16] See [http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=1582].

[17] P.L. 107-66.

[18] Document provided on April 18, 2008, by Reclamation's Contracts Services Office, Denver, CO; and testimony of Mr. Charles McGinnis, National Research Council Committee, before the Senate Committee on Energy and Natural Resources, Subcommittee on Water and Power, April 17, 2008.

[19] Water Conservation and Utilization Program Act of August 11, 1939 (53 Stat. 1418), as amended October 14, 1940 (54 stat. 1119).

[20] Reclamation website for the Mancos Project at [http://www.usbr.gov/dataweb/html/mancos.html].

rehabilitation at the Mancos project is $64,000.[21] This amount is less than 1% of the funding authorized for rehabilitation, thus it appears that the agency is not yet seeking funding to begin rehabilitation work at the project.

Reclamation did not support S. 1477, stating that the activities authorized by the bill are the responsibility of the Mancos Water Conservancy District. Reclamation considers rehabilitation work to be O&M, and thus the responsibility of the water users.[22]

S. 1477 would have provided a legislative response to a specific conflict. That conflict centers around the federal role in maintaining the nation's aging infrastructure versus adherence to interpreted contractual obligations and reliance on the ability of project stakeholders to perform the more significant work associated with rehabilitation.

Dam Safety Program. The Reclamation Safety of Dams Act of 1978[23] gave the Secretary of the Interior permanent authority to modify Reclamation dams and related facilities to ensure their structural integrity and safety. The act provides direction on how repair or upgrade work is to be classified for repayment. Generally, repair costs that are the result of modifications due to age, normal deterioration, or nonperformance of normal maintenance are considered reimbursable project costs, while those resulting from new safety criteria or new hydrologic or seismic data are nonreimbursable. Reclamation's Dam Safety Program has two primary components, the Safety of Dams Evaluation and Modification Program and the DOI Dam Safety Program. The DOI Dam Safety Program is a relatively small program — the FY2009 budget request is $1.25 million — that provides facilitation and guidance to other DOI departments on their dam safety programs.

The Safety of Dams Evaluation and Modification Program constitutes the bulk of the dam safety budget, with an FY2009 budget request of $90.0 million. It focuses specifically on Reclamation dams and has two primary sub-tasks, the Safety Evaluation of Existing Dams program (SEED) and the Initiate Safety of Dams Corrective Action program (ISCA). The SEED program is focused on the analysis and identification of potential hazards or increased risk at Reclamation dams, while ISCA is the implementation component of the program aimed at the study, identification, and accomplishment of repairs or rehabilitation.

When a need for corrective action is identified, that action is funded under ISCA. Funding requests to begin and continue the construction of remedial actions identified through ISCA are transferred from the Dam Safety Program and assigned to the specific project.

---

[21] Bureau of Reclamation FY2009 Budget Justification, *Upper Colorado Region*, p. 49.

[22] Hearing before the Subcommittee on Water and Power of the Senate Committee on Energy and Natural Resources, testimony of Mr. Larry Todd, Deputy Commissioner for Policy, Administration and Budget, Bureau of Reclamation, S. Hrg. 110-152, *Miscellaneous Water and Power Legislation*, July 26, 2007, p. 9.

[23] P.L. 95-578, and amended in 1984 under P.L. 98-404.

Work funded through ISCA is conducted under authority granted by the Safety of Dams Act; however, the SEED program is a response to the October 4, 1979, presidential memorandum directing federal agencies to implement the *Federal Guidelines for Dam Safety*.[24] SEED work is considered a public benefit and its costs are not assigned to a specific project for reimbursement.[25]

St. Mary Dam and Diversion. The St. Mary Diversion Dam is part of Reclamation's Milk River Project in northwestern Montana. The dam, located on the St. Mary River, is 6 feet high and diverts water to the St. Mary Canal. The canal runs 29 miles to the point where the water is discharged into the North Fork of the Milk River.[26] Features of the canal in need of repair are sections of the earthen canal itself; two 90-inch wide, 3,600-foot long steel pipes; a second set of pipes, 78 inches in diameter and 1,405 feet long; and a series of five large concrete drops at the lower end of the canal. The facility is owned and operated by Reclamation.

The canal is designed to carry 850 cubic feet of water per second (cfs); however, the current capacity is reported to be 620 cfs, nearly 30% lower. It is reported that the earthen canals are crumbling, the pipes that carry the water across the St. Mary River and Hall's Coulee are affected by slope instability and leakage, and the concrete drops at the end of the canal are cracking.[27]

The Water Resources Development Act of 2007 (WRDA),[28] §5103, authorizes $153 million for the Secretary of the Army, in consultation with Reclamation, to study, plan, design, and construct the rehabilitation of the St. Mary Dam and Conveyance Works. Except for construction associated with standard O&M and for emergency repairs that ensure water transportation or protect life or property, no construction is authorized to begin until January 2011, or earlier if Congress approves the water rights settlement of the Blackfeet Tribe and Fort Belknap Indian Community. Reclamation has requested $135,000 for facility maintenance and rehabilitation for all of the infrastructure that comprises the Milk River Project in FY2009.[29]

The 109th Congress proposed legislation (S. 3563) that would have authorized Reclamation to conduct feasibility studies on the rehabilitation of St. Mary facilities. The bill would also have authorized planning, design, and construction for

---

[24] U.S. Dept. Of Homeland Security, Federal Emergency Management Agency, *Federal Guidelines for Dam Safety*, June 1979, reprinted April 2004. Available at [http://www.fema.gov/library/viewRecord.do?id=1578].

[25] Bureau of Reclamation FY2009 Budget Justification, *Bureauwide* pp. 8, 9, and 11.

[26] See [http://www.usbr.gov/dataweb/html/milkriver.html#general].

[27] Hearing before the Senate Committee on Energy and Natural Resources, statement of Senator Max Baucus, S. Hrg. 109-764, *St. Mary Diversion and Conveyance Works and Milk River Project*, September 1, 2006, p. 3; and Paul Azevedo, Montana Dept. of Natural Resources and Conservation, *The Need to Rehabilitate the St. Mary Facilities*, p. 1. See [http://dnrc.mt.gov/st_mary/pdfs/stmarybackground.pdf].

[28] P.L. 110-114.

[29] Bureau of Reclamation FY2009 Budget Justification, *Great Plains Region*, p. 51.

rehabilitation work on the St. Mary facilities. The repayment allocation indicated was 55% nonreimbursable and 45% reimbursable. Additionally, the federal share of the reimbursable construction costs was to be 75%. Thus, the total federal share would have been 88.75%.

Reclamation indicated support for the proposed feasibility studies in S. 3563 but did not support authorization for construction in WRDA or the cost-sharing arrangement in the bill. The agency indicated that authorization of construction prior to the completion of feasibility studies was premature, and that pending tribal water rights claims should be resolved prior to rehabilitation work at the project. Further, Reclamation opposed the proposed project repayment terms, citing a concern that repayment terms which depart from standard Reclamation practice are precedent-setting and may pose problems for the agency in the future.[30] Typically, Reclamation has constructed projects using federal funds and then established a repayment schedule for project beneficiaries based on the amount of total construction costs allocated to various project purposes. Reclamation project authorizations typically require 100% repayment, with interest.[31]

Corps and NRCS Approaches to Aging Infrastructure Management

Two other federal agencies associated with significant inventories of dams or other water resources infrastructure are the Corps of Engineers (Department of Defense) and the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS). They have different roles and responsibilities regarding O&M and rehabilitation. The Corps is an active federal dam operator, while NRCS was a partner in the construction of many agricultural dams that are the responsibility of local entities, and is now a partner in their rehabilitation. The O&M prioritization programs for the Corps and NRCS are summarized below.

The Corps of Engineers.[32] The Corps is responsible for water resources projects that provide flood damage reduction, navigation, hydropower generation, and water supplies.[33] The agency operates and maintains 609 dams, including 75 hydroelectric power stations that generate 24% of the nation's hydropower and 3% of its total electricity. It also operates and maintains 257 navigation locks.[34]

For each budget cycle, the Corps publishes its procedures for ranking O&M actions for the portfolio of its infrastructure. The budget process starts at the Corps

---

[30] Hearing before the Senate Committee on Energy and Natural Resources, statement of Mr. Mike Ryan, Regional Director, Bureau of Reclamation, S. Hrg. 109-764, *St. Mary Diversion and Conveyance Works and Milk River Project*, September 1, 2006, pp. 40-42.

[31] Two seminal laws shaping Reclamation policy on project repayment are the Reclamation Act of 1902, 43 U.S.C. § 391, and the Reclamation Project Act of 1939, 43 U.S.C. § 485.

[32] Nicole Carter, CRS Specialist in Natural Resources Policy, contributed to this section.

[33] See [http://www.usace.army.mil/missions/#Water%20Resources].

[34] See [http://www.usace.army.mil/missions/#Infrastructure].

district and division level,[35] where individual budget activities within business lines are identified. Business lines are functional categories such as hydropower, navigation, and water supply. Each activity is ranked based on the O&M procedures for its business line for that budget cycle, and the cost of each activity is estimated. The rankings are largely determined by project performance measures; most of these measures are based on economic (e.g., tons of commercial cargo moved, benefit-cost ratio), safety, or environmental outputs. The smallest increment of work for O&M funding is a work item or task (e.g., mowing a levee or painting a lock gate). Since the adoption of a performance-based budgeting approach, the Administration's most recent budget requests for O&M funding have been organized by geographic regions or basins, rather than for individual line items. As indicated by the Corps' budget development procedures, the process for developing the basin or region O&M estimates consists of aggregating estimates for individual actions.

The actions included in the Administration's final budget request are determined by Corps headquarters in conjunction with the Office of Management and Budget based on the rankings supplied from the Corps Divisions, as long as they are consistent with established Corps and Administration policy (which may include the Administration's overall level of support for the O&M account) and adhere to the procedures established for that budget cycle.[36] Although the Administration identifies and prioritizes project O&M funding needs based on Corps procedures and Administration policy, Congress also directs Corps funding during its annual consideration of Energy and Water Development appropriations bills.

Natural Resources Conservation Service. The NRCS has participated in the construction of over 11,000 dams. Local sponsors own the dams and are responsible for their operation and maintenance. In 2000, the Watershed Protection and Flood Prevention Act[37] was amended to authorize NRCS to assist with rehabilitation of these aging dams. The NRCS approach to aging infrastructure is driven by the end user, with assistance from the NRCS Watershed Rehabilitation Program allocated based on the risk to public safety and availability of appropriations.

NRCS staff indicate that they do not make estimates of future rehabilitation funding needs.[38] Rehabilitation projects are identified by local entities as they apply for rehabilitation funding assistance. Local sponsors can apply for the Watershed Rehabilitation Program at any time as long as they are within the eligibility criteria

---

[35] Within the Corps there are eight Divisions, or Major Subordinate Commands (MSC) across the United States. In turn, these are comprised of 41 Districts. Division and District boundaries are defined by watershed, not states.

[36] Dept. of Defense, U.S. Army Corps of Engineers, *Army Programs — Corps of Engineers Civil Works Direct Program — Program Development Guidance Fiscal Year 2009*, pp. C-2-13 and C-2-14.

[37] 68 Stat. 666; 16 U.S.C. §§ 1001-1008.

[38] Email correspondence with Mr. Stuart Simpson, National Watersheds Program Leader, U.S. Dept. of Agriculture, NRCS, Washington, DC (October 30, 2007, and February 21, 2008). Hereinafter referred to as *Simpson*.

for the program. When NRCS receives an application, NRCS's state conservationists perform a risk assessment of the hazards associated with the dam. The state conservationists forward assistance requests along with data from the risk assessment to NRCS headquarters annually. The national office evaluates all requests and funds those that pose the highest risk to public safety within available appropriations. The amount funded by NRCS is typically less than the total applications for aid,[39] and total applications for aid do not necessarily reflect the total need. For FY2003 through FY2008, authorized funding for the program was at the following levels: FY2003, $29.8 million; FY2004, $29.6 million; FY2005, $27.5 million; FY2006, $31.5 million; FY2007, $31.3 million; and FY2008, $19.9 million. The Administration's FY2009 budget request for this program is $5.9 million. All authorized funding is subject to appropriations via the Agriculture appropriations bill.[40]

Summary and Analysis

There is an established process within Reclamation for identifying and prioritizing the O&M or rehabilitation funding needs of the water resources infrastructure that Reclamation has constructed since its creation in 1902. However, it is clear that these needs are addressed in a number of ways both internal and external to Reclamation — i.e., through the Dam Safety Program and through congressionally directed spending.

As the dams and water conveyance structures continue to age and need more costly repairs and upgrades, the question of who should pay will likely be raised repeatedly. For Jackson Gulch (the Mancos Project), even if the contractual responsibility to conduct rehabilitation work is clearly defined as O&M and remains the responsibility of water users, are the nation's best interests served by allowing infrastructure to deteriorate further when those water users are unable or unwilling to undertake repairs? Or should water users be held accountable for their contractual obligations? If the latter, should funding for, and transfer of, future projects be contingent on stricter analyses of end users' ability to repay their obligations?

In contrast to the Jackson Gulch Project described above, at Arrowrock Dam the approach to the rehabilitation of aging infrastructure stipulated by Congress in §206 of the Energy and Water Development Appropriations Act of 2002 appears to classify the replacement of worn-out equipment as O&M. The repayment of these costs is typically the responsibility of water users, to be repaid in the fiscal year that costs are incurred. However, the legislation caps the total responsibility of water users at $6.9 million and extends the repayment period to 15 years.

---

[39] In FY2005, NRCS received approximately $46 million in aid applications and dispensed approximately $27 million in aid funding. U.S. Dept. of Agriculture, NRCS, *Watershed Rehabilitation: A Progress Report 2005*, p. 2 (January 2005).

[40] FY2003 through FY2007 data, *Simpson*. FY2008 and FY2009 data, U.S. Dept. of Agriculture, *2009 Budget, Explanatory Notes for Committee on Appropriations, vol. 2*, pp. 18-36.

For the St. Mary Dam issue, Congress chose the approach of designating — and authorizing funding for — another federal agency to do the work instead of Reclamation. However, the solution may add complexity to an already complicated issue. The WRDA legislation stipulates a 75% federal cost share of the total cost of the rehabilitation project, but does not specify repayment of the remaining 25%. It might be assumed that the remaining cost is to be borne by water users under Reclamation's repayment rules, but this is not specified. Also, this cost share allocation may conflict with §4(a) of the Reclamation Safety of Dams Act of 1978,[41] which indicates that costs associated with modification of structures resulting from age and deterioration or nonperformance of normal maintenance by the operating entity are to be considered reimbursable project costs.

Further, regarding St. Mary Dam, the WRDA stipulation for an exclusion on construction associated with standard O&M as well as that for emergency repairs[42] appears to indicate that the broader St. Mary rehabilitation project is considered neither routine O&M nor an emergency repair. If that is the case, it may bolster the position of those who would seek to classify the work as "modification of structures resulting from age and deterioration or nonperformance of normal maintenance" cited from the Safety of Dams Act above, and thus subject to reimbursement under the terms of the act.

Finally, as its name suggests, the Dam Safety Program is focused solely on dams. Review, analysis, and repair of other water resources infrastructure such as canals and pump stations are not within the scope of this program. The Dam Safety Program is clear in its design, with well-delineated evaluation and implementation components. However, its limited scope — albeit focused on a vital element of water infrastructure — excludes other important water resource facilities.

Based on a review of documents such as the *Bureau of Reclamation Asset Management Plan, Fiscal Year 2007*, commentors would likely conclude that the agency has a well-documented plan to assess the management needs of its portfolio of aging infrastructure. However, as may be indicated by some of the projects discussed above such as the St. Mary Dam, the necessity of prioritization given a finite budget for asset management objectives inevitably leads to conflicts over project funding priorities. As Reclamation's infrastructure continues to age, these conflicts may arise more frequently. Additionally, more expensive recapitalization projects may exceed the financial means of local operators in the case of transferred works and could drive those entities to seek congressional support for project funding.

---

[41] P.L. 95-578.

[42] P.L. 110-114, § 5103(c)(2)(A) and (B).