Alamo Lake Dam, AZ

Operations and Maintenance

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

LOCATION AND DESCRIPTION:
Located 25 miles North of Wenden, AZ and 120 miles NW of Phoenix, AZ. Placed in full operation, July 1968. Project condition is good and has a proposed dam safety action class rating of DCAC 2 (high urgency). Project elements being operated and maintained include: Dam (earthfill: 283-ft high; 975-ft long) Outlet Works Spillway Service Roads Reservoir (1,045,300 acre-ft cap, spillway crest - 1977) One Recreation Area with annual visits estimated at 35,000.

AUTHORIZATION:
Flood Control Act of 1944.

ACTIVITIES FOR FY 2021:
Funds will be used for legal or policy mandated minimum level operational activities, including fabrication of the new bulkhead gate; design of electrical system repairs and required updates at the dam control tower; design of the H2S gas ventilation system repairs; hydraulic system repairs; updates to the Emergency Action Plan as well as a table top exercise to communicate risk to local emergency managers; water control and management, including data analysis and review of potential modifications to operations; environmental stewardship activities and recreation management.

As of 5 Feb 2021

FINANCIAL SUMMARY:	**O&M**
Estimated Federal Cost	$5,156,000
Estimated Non-Federal Cost	0
Total Estimated Project Cost	$5,156,000
Allocation thru FY20	$2,875,950
Allocation for FY21	$5,104,440
President's Budget for FY22	TBD
House Report for FY22	TBD
Senate Report for FY22	TBD
Balance to Complete After FY22	N/A

FY 2022 PLANNED ACCOMPLISHMENTS:
Optimal funds could be used for: Completing the upper conduit inspection, Rehabilitation of the upper conduit include service and emergency gate rehab as well as structural repairs within the conduit; design and construction of the replacement bulkhead gate installation system; completion of an ARC-Flash survey at the Dam Tender compound; completion of the design of the H2S gas ventilation system repairs and implementation of the repairs; water control and management, including data analysis and review of potential modifications to operations; environmental stewardship activities; and recreation management. Legal or policy mandated maintenance activities, including highest priority electrical rehabilitation and structural needs for elevators and dam facilities.

ISSUES AND OTHER INFORMATION:
The latest studies indicate that during a probable maximum flood event, the spillway would be incapable of handling the discharge, resulting in overtopping and possible failure of the Dam. Further studies are planned for FY21-22 to better understand increased flood risk at the dam and potential consequences downstream. Several protected species occur within the vicinity of Alamo Dam, including the endangered southwestern willow flycatcher, the threatened yellow-billed cuckoo, and the northern Mexican garter snake. The Bill Williams River Corridor Steering Committee, consisting of stakeholder agencies concerned with operations of Alamo Dam, has made operational recommendations proposing to modify the 2003 water control manual. The Corps supports some of these recommendations and also plans to update the water control manual for more efficient flood risk management purposes. After 50 years, there is a need to rehabilitate the dam operator compound structures as well as significant dam components to reduce the risk of structural and component

failure. Efforts are underway to complete an inspection of the upper outlet works, which has not been inspected in more than 20 years and cannot be inspected until the bulkhead gate fabrication is completed. Once the bulkhead gate, bulkhead gate installation system, and sill are in the condition required to safely place the bulkhead gate, the upper outlet works will be inspected. It is highly likely the upper outlet works will require repair/rehabilitation. The Corps will continue to pursue funding to complete the required repair/rehabilitation to the upper conduit and gate systems. The current method used to install the bulkhead gate is no longer structurally up to par and is exceptionally challenging and unsafe to use in its current submerged condition. Funding is being pursued to redesign and replace the installation structure. The ventilation system for the control house needs to be redesigned and modified to provide adequate capacity and to discharge H2S gases away from the entrance to the tower. The Corps is working on obtaining funding to complete an upgrade to this system to increase ventilation capacity and creating positive pressure in the areas frequented by dam staff to prevent H2S gas exposure. Electronic and telephone communication can be unreliable between the LA District office and operators at the Dam, particularly during inclement weather events. The Corps is working to obtain funding to complete a communication study to assess the best technology available to rectify the communication issues.

CONGRESSIONAL INTEREST:
Congressman Paul Gosar (AZ-4).