

INTERNATIONAL BOUNDARY AND WATER COMMISSION CONSTRUCTION

Resource Summary

(\$ in thousands)

Appropriations	FY 2012 Actual	FY 2013 CR ⁽¹⁾	FY 2014 Request	Increase/Decrease From FY2012
Positions - Enduring	18	18	0	(18)
Enduring Funds	31,453	31,645	31,400	(53)

(1) The FY 2013 CR is based on the annualized continuing resolution calculation for FY 2013 (P.L. 112-175).

Program Description

The International Boundary and Water Commission is a treaty-based binational commission comprised of a United States Section (USIBWC) and a Mexican Section. The United States Section is headquartered in El Paso, Texas, and the Mexican section is headquartered in Ciudad Juarez, Chihuahua. Both Sections have field offices strategically situated along the boundary, which enables the Commission to carry out its mission objectives and meet its required obligations.

Pursuant to treaties between the United States (U.S.) and Mexico, as well as U.S. law, the USIBWC carries out construction projects undertaken independent of, or with, Mexico to rehabilitate or improve water deliveries, flood control, boundary preservation, and sanitation.

Since the Convention of February 1, 1933, which provided for rectification of the Rio Grande through the El Paso–Juarez valley, the two governments have participated in several binational construction projects. The Treaty of 1944 provided for the two governments to construct diversion and storage dams on the Rio Grande and Colorado River. The dams provide the means for conservation and regulation of international river waters. In addition, the 1944 Treaty provides for flood control works on the Rio Grande, Colorado River, and Tijuana River. It also provided for both governments to give priority attention to border sanitation issues.

This appropriation provides funding for construction and major renovations along the U.S. – Mexico border that enables the storage, distribution, and delivery of international waters in the Rio Grande and Colorado River, affording protection of lives and property from floods for an estimated two million residents in border communities in Texas, Arizona, California, and Mexico. In addition, the appropriation provides for the preservation of the international boundary, and the improvement of the water quality on both sides of the border.

Border Sanitation

Under the authority of the 1944 Water Treaty between the U.S. and Mexico, the Commission is entrusted to give preferential attention to border sanitation issues. Presently, border residents are facing a number of sanitation problems in the western land boundary region. These problems are mostly a result of trash, debris, and sewage entering into the U.S. from Mexico through rivers and storm water runoff. The USIBWC is currently working toward addressing binational sanitation issues at the following areas: Nogales, AZ; Calexico, CA (New River); and in San Diego, CA (Tijuana River Valley, Estuary, and coastal environment).

The inflow of trash, debris, and raw sewage from Mexico through the New River has for years created major health and sanitation concerns in Calexico, CA. The U.S. Environmental Protection Agency (EPA)

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is addressing the sewage issues across the border in Mexicali, and the USIBWC is working on addressing the trash and debris problem that affects U.S. residents in Calexico, California. The USIBWC is working with the City of Calexico to develop defensive measures to eliminate or reduce the amount of trash and debris conveyed into the U.S. through the New River.

Congress authorized the construction of the South Bay International Wastewater Treatment Plant (SBIWTP) and ocean outfall in 1988. The purpose of the SBIWTP is to capture and treat Tijuana wastewater, which would otherwise flow into the U.S. through the Tijuana River and canyons, to secondary standards for discharge into the Pacific Ocean. The USIBWC completed construction and initiated operation of the advanced primary treatment facilities and ocean outfall in 1999. The USIBWC constructed the secondary treatment components, excluding the sludge digesters and overflow clarifiers or equalization basin, in 2011. Completion of all secondary treatment plant improvements is projected for FY 2016.

The Nogales International Wastewater Treatment Plant (NIWTP) is located 8.8 miles north of the border in Rio Rico, Arizona. The NIWTP and the associated sewer pipeline in the United States, known as the International Outfall Interceptor (IOI), are owned by the City of Nogales. Waste-water from Nogales and Rio Rico, Arizona, as well as Nogales, Sonora, Mexico is treated at the plant and discharged into the Santa Cruz River. The NIWTP was upgraded to a secondary treatment facility in June 2009. The USIBWC operates the NIWTP under agreement with the City of Nogales, Arizona.

Flood Control

The USIBWC operates and maintains flood control systems along the Tijuana River and the Rio Grande. These flood control systems protect the lives and property of over three million U.S. residents. Each country owns and is responsible for the maintenance of flood control works in its respective territory.

The USIBWC is rehabilitating deficiencies that have been identified in numerous portions of its Rio Grande flood control systems, addressing a large portion with funds appropriated in the American Recovery and Reinvestment Act of 2009. The Canalization segment starts in southern New Mexico and ends at American Dam where the international segment of the Rio Grande begins. The rectification (in far west Texas), Presidio, and Lower Rio Grande (south Texas) segments are on the international portion of the Rio Grande River, which require coordination with Mexico; however, the work is limited to the U.S. portions of the flood control systems. The canalization segment (130 miles of levees on both side of river), authorized by law in 1935 to facilitate water deliveries to Mexico under the Convention of 1906 and to protect against Rio Grande floods, extends 106 miles from Percha Dam in south central New Mexico to American Dam in El Paso, Texas. The Lower Rio Grande Flood Control Project (270 miles of levee) and the Rectification segment (91 miles of levee) were both authorized by legislation in the 1930's and the Presidio segment (15 miles of levee) authorized by law in 1970. The Lower Rio Grande Project was authorized solely for flood control, while the Presidio and Rectification segments serve the dual purpose of flood control and boundary preservation.

The USIBWC's construction program is organized into four subprogram groups, which coincide with the agency's strategic goals: Boundary Preservation, Water Conveyance, Water Quality, and Resource and Asset Management.

- The Boundary Preservation Subprogram addresses all land and river boundary demarcation and delineation efforts, including mapping of the river boundaries;

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- The Water Conveyance Subprogram consists of all mission activities related to the conveyance, distribution, diversion, storage, and accounting of boundary/transboundary river waters, including flood control and hydroelectric power generation;
- The Water Quality Subprogram involves the construction or rehabilitation of sewage treatment facilities or other infrastructure, improving the quality of river waters; and
- The Resource and Asset Management Subprogram provides capital assets that support mission operations, such as administration buildings, warehouses, heavy mobile equipment, and security enhancements at field office facilities.

To achieve its mission the USIBWC will carry out projects under these subprograms, while exploring innovative best practices from both the private and public sectors.

Performance

The IBWC began a multi-year program to rehabilitate its Rio Grande Flood Control Levee System in 2001 that will extend for the next decades. Engineering assessments and studies yielded deficiencies along much of the levee systems, with over 60 percent of the system located in high priority areas. The IBWC devised a plan to correct these deficiencies by improving an estimated 397 miles of levee/floodwall system. The primary function of the Rio Grande Flood Control System is to enhance the protection of lives and property of over two million U.S. border residents, and to achieve Federal Emergency Management Agency (FEMA) certification standards in compliance with federal regulations, which will also negate the need for residents to buy costly flood insurance. Therefore, measuring the completion of the construction work on the Rio Grande Flood Control System is an important measure of the work of the IBWC.

Strategic Goal 3: Expand and sustain the ranks of prosperous, stable and democratic states by promoting effective, accountable, democratic governance; respect for human rights; sustainable, broad-based economic growth; and well-being								
Strategic Priority		Environment/Climate Change						
Active Performance Indicator		NEW APP INDICATOR: Percentage of levee-raising and structural-rehabilitation construction work completed on the Rio Grande Flood Control System on an annual basis in terms of miles eligible for FEMA certification.						
Prior Year Results and Ratings					FY 2012		Planned Targets	
FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Target	Result and Rating	FY 2013	FY 2014
N/A	N/A	N/A	N/A	N/A	Baseline	29.3% (Baseline) New Indicator, No Rating	29.1%	12.5%

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Impact	Disaster mitigation and avoidance is an imperative part of sustainable economic development. The primary function of the Rio Grande Flood Control System is to enhance the protection of lives and property of over 2 million U.S. border residents, and to achieve FEMA certification with federal regulations, which will also negate the need for residents to buy costly flood insurance.
Methodology	Results are calculated through contract oversight (surveillance of contractor operations/activities), field quality control testing, physical inspections, correction of deficiencies as needed, and acceptance of construction improvements.
Data Source and Quality	Engineering studies and plans establish program requirements, which are used to measure against actual construction results. Monthly construction contracts progress reports by Contracting Officer's Representatives (input from government inspectors or independent construction management services firms) are used to measure construction completion. The DQA reveals no significant data quality limitations.

Justification of Request

The FY 2014 Request of \$31.4 million reflects a decrease of \$53,000 from the FY 2012 Actual. The request supports USIBWC's mission requirements of water conveyance, water quality, and boundary preservation, as well as its obligations to stakeholders and employees by protecting infrastructure and restoring facilities. This level reflects an anticipated transfer of the Heavy Equipment Program (\$1.2 million) and 18 USDH positions from IBWC's Construction account to the Salaries and Expenses account in support of IBWC administration, operations and maintenance previously requested in the FY 2013 President's Budget. The FY 2014 funding request for the construction activities are as follows:

Water Conveyance Program: \$19.5 million

Safety of Dams: \$5.0 million

The Safety of Dams master project addresses infrastructure deficiencies identified during five-year safety inspections conducted by the Joint Technical Advisors, which includes the U.S. Army Corps of Engineers (USACE). The most recent safety inspections and ratings of the six Rio Grande Dams by the Joint Technical Advisors are shown below:

- International Diversion Dam – The safety inspection was performed on February 22, 2011. The dam received a DSAC III rating, “high priority, conditionally unsafe.”
- American Diversion Dam – The safety inspection was performed on February 23, 2011. The dam received a DSAC III rating, “high priority, conditionally unsafe.”
- Anzalduas Diversion Dam – The safety inspection was performed on March 30, 2012. The dam received a DSAC IV rating, “priority, marginally safe.”
- Retamal Diversion Dam – The safety inspection was performed on March 30, 2012. The dam received a DSAC III rating, “high priority, conditionally unsafe.”
- Amistad Storage Dam – The safety inspection was performed on July 31, 2012. The dam received a rating of Dam Safety Action Class (DSAC) II, “urgent, potentially unsafe.”
- Falcon Storage Dam – The safety inspection was performed on August 2, 2012. The dam received a DSAC III rating, “high priority, conditionally unsafe.”

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These dams were rated in accordance with the risk-based action classification system used by the USACE. The safety inspection yielded urgent and high priority deficiencies at five of the six dams. Therefore, the USIBWC initiated and completed a preliminary study and risk analysis of Amistad Dam, and is currently conducting a Dam Modification Study, which is expected to be completed in FY 2014. The study involves implementation of sonar surveys, willow-stick surveys, exploratory borings, seepage explorations, and development of viable remediation alternatives. The results of this study will assist in developing design alternatives to address these deficiencies. A preliminary study for Falcon Dam has been completed, and a risk analysis is underway, with completion expected in FY 2013. Also in FY 2013, the USIBWC plans to construct upgrades to Retamal Dam, conduct field investigations for design of seepage remediation works at Amistad Dam, and initiate planning and design to seal Penstock No. 4 to prevent further cavitations at Amistad Dam.

FY 2014 funding is requested to initiate the design of the required seepage remediation works at Amistad Dam, and begin the installation of seepage monitoring equipment (piezometers) at Falcon Dam. Construction at Amistad Dam will be achieved in a phased approach, given the estimated high costs of the proposed remediation works. Completion of these works at Amistad Dam is expected to continue in the out-years until all high-risk is reduced to an acceptable level. In addition, funding will be used to seal Penstock No. 5 at Amistad International Storage Dam, which leaks oil from the hydraulic system, creating an environmental hazardous waste condition. It is imperative to remediate this problem and prevent further adverse impacts.

Rio Grande Flood Control System Rehabilitation: \$7.5 million

This project, initially funded in 2001, is a multi-year effort that includes the evaluation of approximately 510 miles of existing Rio Grande levees, and rehabilitation or improvement of deficient levee segments and related flood control structures in the United States. These levees contain about 440 miles of river and interior floodway channel along three unique Rio Grande Flood Control Systems. These three flood control systems are identified as the Upper Rio Grande, Presidio Valley, and Lower Rio Grande Flood Control Systems. The Upper Rio Grande Flood Control System protects one million U.S. residents in the metropolitan statistical areas of Las Cruces, New Mexico and El Paso, Texas with its 225 miles of levees. The fifteen-mile long Presidio Valley Flood Control System provides flood protection to nearly 5,000 people in Presidio, Texas. The Lower Rio Grande Flood Control System, with its 270 miles of river and interior floodway levees, protects one million U.S. residents in the following metropolitan statistical areas of Brownsville-Harlingen and McAllen-Edinburg-Mission in south Texas.

Deficient levee segments will be improved in order of priority by risk, population, and development. The USIBWC is currently working together with its stakeholders to address the flood control deficiencies jointly with the border fence initiative. In FY 2013 and FY 2014, the USIBWC will continue its design, construction, and environmental mitigation of levee system improvements along the Upper Rio Grande, Lower Rio Grande, and Presidio Valley.

Reconstruction of the American Canal: \$7.0 million

Funding to rebuild the American Canal, which is beyond its useful life, was initially received in FY 2010. The American Dam and Canal were built by the United States in 1938 to divert and convey the waters of Rio Grande allocated to the United States under the 1906 Convention for municipal and agricultural use. This canal, which is a vital source of water supply for the desert City of El Paso, is in very poor condition and at risk of failing. The canal lining contains many concrete panels with exposed and rusted rebar and cracked, crushed, separated, or overlapping sections. Soil voids have also formed underneath the canal lining, since waters have carried away embankment materials over time through the

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breaks and deteriorated weep holes. As a result, the canal lining may collapse and prevent the deliveries of Rio Grande waters to U.S. agricultural and municipal stakeholders.

The American Canal runs adjacent to the American Smelting and Refining Company (ASARCO), a century-old iron-ore and copper refinery that filed for Chapter 11 reorganization under the Federal bankruptcy code in 2005. Refinery operations have contaminated the adjacent canal embankment with dangerously high levels of lead and arsenic, and will require the environmental remediation of soil and groundwater during construction. In 2009, a bankruptcy court approved a settlement amount of \$22 million for environmental cleanup of USIBWC grounds at the American Dam field office, and along the Rio Grande and American Canal.

The American Canal is subdivided into three segments; each segment separated by a highway culvert. Although reconstruction of each segment will be phased-in over a three-year period, construction can only be performed during the non-irrigation season, which extends from mid-October to mid-February. In FY 2013, the USIBWC will complete the design of the replacement canal system. The FY 2014 Request and remaining unobligated balances will fund the construction of the first phase, or upper segment, of the canal. Authorized reimbursement funding will be utilized for remediation of contaminated soil and groundwater during construction. Since the entire middle and lower segments will be replaced with a closed conduit sections, these segments will be significantly more expensive than the upper segment. The required funding to complete the middle and lower segments of project is estimated at \$40 million.

Water Quality Program: \$9.0 million

Secondary Treatment of Tijuana Sewage: \$9.0 million

This project, initially funded in FY 2007, is a multi-year project for construction of secondary wastewater treatment facilities in the United States in accordance with Public Law 106-457, as amended by Public Law 108-425. This project will address the secondary treatment of Tijuana sewage by upgrading the existing South Bay International Wastewater Treatment Plant (SBIWTP) to meet the National Pollutant Discharge Elimination System (NPDES) discharge permit required under the Clean Water Act. Public Law 106-457, as amended, authorizes the USIBWC to take appropriate actions to comprehensively address the treatment of sewage emanating from the Tijuana River area, Mexico that flows untreated into the United States causing significant adverse public health and environmental impacts.

The USIBWC has completed about 70 percent of the required upgrades to the SBIWTP. The project is intended to upgrade the SBIWTP to treat an average flow of 25 million gallons per day (Mgd), with the capacity to handle prolonged peak flows of 50 Mgd. Although the existing SBIWTP is currently operating at secondary treatment standards, the plant does not have the capacity to handle peak flows. Furthermore, the plant is currently producing undigested sludge, which is more harmful to the environment and results in a higher operations cost.

During prolonged peak flow periods, the SBIWTP is unable to handle and properly treat the wastewater. This lack of system capacity causes overflows of untreated wastewater and results in occasional NPDES discharge permit violations. In order for the SBIWTP effluent to consistently meet the discharge permit requirements and fully comply with the intent of Public Law 106-457, the USIBWC must complete construction of the infrastructure upgrades as initially envisioned. By constructing anaerobic sludge digesters, the SBIWTP, the USIBWC will improve the quality of the bio-solids and reduce the volume of sludge produced by about 30 percent. This will provide positive benefits to the coastal land and marine

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environment, and will reduce operations and maintenance costs associated with the processing, stabilization, and disposal of solids.

The pending infrastructure required to complete the upgrades include secondary treatment clarifiers and activated sludge digesters. In FY 2013, the USIBWC will evaluate the plant and its operations and produce a conceptual design based on the most cost effective alternative. The FY 2014 Request of \$9 million will be used to design and construct the three secondary treatment clarifiers to address the capacity overflow problems resulting in NPDES permit violations.

Resource and Asset Management Program: \$2.9 million

Critical Infrastructure Protection: \$2.9 million

The USIBWC is requesting funds to continue a multi-year project, initially funded in FY 2009, to improve security at its facilities, which includes the critical infrastructure: Amistad and Falcon International Storage Dams and Power Plants, and the South Bay and Nogales International Wastewater Treatment Plants. This project will assist USIBWC in countering potential threats to its critical infrastructure and deter illegal activity away from these facilities. This project is consistent with the Department of Homeland Security initiatives (Homeland Security Presidential Directives 7 and 13), and the Critical Infrastructure Protection (CIP) Framework Agreement between the U.S. and Mexico. The U.S. – Mexico CIP Program specifically states that both nations will conduct binational vulnerability assessments of trans-border infrastructure and communications and transportation networks to identify and take required protective measures.

In FY 2013, the USIBWC will continue the design and implementation of security improvements at various field offices. The FY 2014 Request will be used to address the continued threats and vulnerabilities identified through assessments conducted at Falcon Dam and Amistad Dam Field Offices. FY 2014 funds will target the installation of deterrents, controls, and detection systems at these sites. Security improvements for Amistad Dam will be finalized in FY 2014, and security improvements for Falcon Dam are scheduled to be completed in FY 2015.

Funds by Object Class

(\$ in thousands)

International Boundary and Water Commission Construction (IBWC - Const)	FY 2012 Actual	FY 2013 CR	FY 2014 Request	Increase/Decrease From FY2012
2500 Other Services	31,453	31,645	31,400	(53)
Total	31,453	31,645	31,400	(53)

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