NORTH AMERICAN DEVELOPMENT BANK

PROJECT CLOSEOUT FACT SHEET

Project:	Water System Improvements Project		
Location:	City of Calexico, California	Certification Date:	June 24, 1998
Type:	Water	Operation Startup:	December 31, 2010
Population Benefitted:	26,400	Closeout Date:	July 9, 2020

Pre-project Conditions

Calexico obtains its drinking water from the Colorado River. Its water treatment plant (WTP) was constructed in 1949 and expanded in 1965 to treat up to 10 million gallons per day (mgd). In 1997, the California Department of Health Services (DHS) Office of Drinking Water identified numerous deficiencies in the WTP that compromised its ability to provide properly treated and disinfected drinking water in compliance with the applicable quality standards on a continuous basis to meet growing demand. Population growth in the service area had increased average daily flow requirements by 6 mgd and peak flows during the summer months by 8 mgd. Moreover, the city had limited water storage capacity. The State encouraged the city to expand the plant to correct these deficiencies.

Project Objective

Provide a reliable source of safe drinking water by improving the water treatment system and correcting the deficiencies found by DHS, as well as provide additional capacity to meet future growth of the community through the year 2020.

Project Scope

The project consisted of the rehabilitation and expansion of the water treatment plant, from 10 to 16 mgd, as well as construction of a 24-inch diameter, 13,200-foot water distribution main and, a 6-million gallon treated water storage reservoir and pump station.

1993 Milwaukee Cryptosporidiosis outbreak

The 1993 Milwaukee Cryptosporidiosis outbreak was a significant distribution of the Cryptosporidium protozoan in Milwaukee, Wisconsin, and the largest waterborne disease outbreak in documented United States history. The Howard Avenue Water Purification Plant was contaminated, and treated water showed turbidity levels well above normal. It was one of two water treatment plants for Milwaukee. The root cause of epidemic was never officially identified; initially it was suspected to be caused by the cattle genotype due to runoff from pastures. It was also thought that melting ice and snowmelt carrying Cryptosporidium may have entered the water treatment plants through Lake Michigan. MacKenzie et al. and the CDC showed that this outbreak was caused by Cryptosporidium oocysts that passed through the filtration system of one of the city's water-treatment plants, arising from a sewage treatment plant's outlet 2 miles upstream in Lake Michigan.

Project Results

Outputs	Indicator	Target in 1998 (at certification)	Actual (2010)
Drinking water distribution lines	linear feet	13,200	13,200
New drinking water storage capacity	mgd	6	6
New or improved water treatment system	number	1	1
New or improved water treatment system capacity	mgd	6	6

Outcomes	Indicator	Target in 1998 (at Certification)	Actual (2010)
New or improved water treated	mgd	6.0	6.0

Significant Contribution of the Project
The new filtration and disinfection facility achieved the required water quality with an average daily effluent turbidity goal of 0.2 NTU, in compliance with the DHS action plan to prevent Cryptosporidiosis outbreaks.

Project Financing
(USD)

Sources of Funding	Estimated at certification	Actual Amount
NADB BEIF construction assistance grant*	$ 3,000,000	$ 3,000,000
NADB BEIF transition assistance grant**	3,477,128	3,477,128
Other sources***	4,852,680	8,557,853
Total	**$ 11,330,000**	**$ 15,034,981**

* Border Environment Infrastructure Fund (BEIF) funded by the U.S. Environmental Protection Agency (EPA) and administered by NADB
** BEIF transition assistance is used to help pay system debt associated with the project, so that user fees can be raised gradually to the level required to make the system self-sustaining.
*** Other sources include City of Calexico revenue bonds and a U.S. Economic Development Agency (EDA) grant.