

## FRIANT DAM TOP LIGHTING IMPROVEMENT PROJECT WITH ADVANCED ENERGY-EFFICIENT LED LIGHTING

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Friant Dam is located on the upper San Joaquin River in the Sierra Nevada foothills of Fresno County, California, near the town of Friant. The concrete gravity dam was completed in 1942 and forms Millerton Lake. It was built by the Bureau of Reclamation under the Central Valley Project.

Since the 2009 signing of Executive Order 13514 (EO 13514), which focused on Federal leadership in environmental, energy and economic performance, the Friant Dam engineering and operations division has continued to improve the facility with advanced energy conservation projects. A major achievement included the remodel of the Friant Dam Operations Office with the latest energy-reduction technology and green-building design, as well as construction measures incorporated through the whole process. The goal of the Mid-Pacific Regional Energy Management Program is to exceed the EO 13514 goal of reducing energy usage by 3 percent per year.

The existing 1940s incandescent dam top lighting had a high electrical demand. The outdated lighting component contributed the most to this electrical demand; therefore, a light-emitting diode (LED) lighting upgrade was used to reduce electrical consumption. Upgrading the Friant Dam facilities' lighting to new efficient LEDs has been an on-going mission as energy management funds are available. New energy-saving products, like LEDs, offer low maintenance and a much longer lifespan than the original incandescent lights, which had an estimated life of only 5k hours; the LED fixtures have an estimated life of 50k hours.

The project was completed in July 2014. Thirty-one dated pole fixtures were retrofitted with LED features. Friant Dam is benefitting from a great reduction in annual energy usage, resulting in a decrease of maintenance costs, while also reducing greenhouse gas emissions each year. The Friant Dam staff is also appreciating a boost in safety as replacement of the original incandescent lights was hazardous and labor intensive due to the more than 300 feet altitude of the dam. Special thanks go to Darrin Williams, Friant maintenance crew, and South-Central California Area Office energy conservation staff for delivering this cost-saving renovation!

For technical project details, please contact Hubbert Booze, Mid-Pacific Energy Management Specialist, at 916-978-5312 or [hbooze@usbr.gov](mailto:hbooze@usbr.gov). For installation and maintenance project details, please contact Darrin Williams, Supervisory Civil Engineer, at 559-822-2211 or [dwilliams@usbr.gov](mailto:dwilliams@usbr.gov).

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