

## Siphon Drop Power Plant Celebrates its 25th Anniversary

On November 21, 2013, the Yuma County Water User's Association (YCWUA) hosted a public celebration along the Yuma Main Canal to commemorate 25 years of electrical service by the Siphon Drop Power Plant.

The current power plant, brought initially online in 1988, was the result of a partnership between the YCWUA and Bard Water District. Power generated at the facility is certified as a renewable resource by the California Energy Commission.

Energy generated by the plant is marketed to California entities to help utilities meet their renewable portfolio standards requirements. These requirements were set in place by the California Energy Commission which sets benchmarks requiring a certain percentage of a utility's generation be obtained from renewable resources.

Since its initial construction, the plant has undergone a major upgrade of its governor system, and a total rebuild on one of the two turbine/generator assemblies in 2010. The plant has a design life of 50 years, but it's anticipated that it will exceed this with proper maintenance, upgrades, and overhaul activities.

The Siphon Drop Power Plant – a key feature of the historic Yuma Project – is located at the diversion into the Yuma Main Canal from the All-American Canal. Each of the two turbine/generator assemblies located within the plant is capable of producing 2.2 megawatts, with a total combined plant capacity of 4.4 megawatts.

The Yuma Project was the first major undertaking authorized for the new U.S. Reclamation Service (now Bureau of Reclamation) in 1904; actual construction of the Laguna Dam began in 1905. Completed in 1909, the Laguna Dam was the first dam on the Colorado River, marking the end of the steamboat era - and the beginning of irrigated agriculture. The project is designed to exploit year-round farming conditions and water from the Colorado River. It consists of the Laguna Diversion Dam, pumping plants, a power plant, a 53-mile system of canals, 218 miles of lateral canals, levees and drains.

Construction on the Yuma Canal which branched off the California side of the Laguna Dam began in 1909. One and half miles from the dam, at Indian Heading, the Yuma Canal splits into the Reservation Main Canal and the Yuma Main Canal. The Yuma Main Canal continues 10.5 miles southwest until it reaches the 9.9-foot Siphon Drop Spillway where the power plant was later built in 1926.

The Yuma County Water Users' Association assumed the operating responsibility from the Bureau of Reclamation for the Valley Division irrigation facilities on July 1, 1951, and for the Yuma Main Canal, the Siphon Drop Power Plant, and the 34.5-kV transmission line from Siphon Drop Power plant in California to the Boundary Pumping Plant in Arizona on January 1, 1963.

**Editorial Note:** Article includes contributed content from the Yuma County Water Users Association.



The **Siphon Drop Power Plant** is located at the diversion into the Yuma Main Canal from the All-American Canal. Photography provided courtesy of Thomas E. Fox, Hydrologic Technician, with Reclamation's Yuma Area Office.



Each of the two **turbine/generator assemblies** located within the plant is capable of producing 2.2 megawatts, with a total combined plant capacity of 4.4 megawatts. Photography provided courtesy of Thomas E. Fox, Hydrologic Technician, with Reclamation's Yuma Area Office.