

Worth Its Salt:

El Paso Water Utilities
Kay Bailey Hutchison Desalination Plant

The Kay Bailey Hutchison plant is located in El Paso, Texas, and is the largest inland desalination plant in the nation. The desalination plant has a design capacity of 27.5 million gallons per day (MGD) (15.0 MGD permeate and 12.5 MGD blend water). Sixteen production wells and 16 blend wells feed groundwater from the Hueco Bolson Aquifer to the facility. Pretreatment includes sand strainers, cartridge filters, and the addition of anti-scalant.

There are five reverse osmosis trains constructed in a two-stage configuration, 48:24 pressure vessel array. Each pressure vessel has seven elements. The membrane model installed is ESPA1 manufactured by Hydranautics. Each train is designed to produce 3 MGD at 82.5 percent recovery. Permeate throttling is used to control permeate flow between the first and second stages.

The concentrate flow is pumped from a concentrate pump station to a surface injection facility and disposed via deep well injection into the Fusselman and Montoya formations approximately 22 miles northeast of the plant site, near the Texas-New Mexico state line. Total project cost was approximately \$90 million, with concentrate disposal costing about \$19 million.

The Consortium for Hi-Technology Investigations in Water & Wastewater (CHIWAWA) research facility is located inside the desalination process building and accessible to universities and other entities interested in conducting research. The Tech₂O Center is an educational and training center located adjacent to the desalination building that is open to the public and frequently visited by students in grades 5th and up to learn about the importance of water conservation.



Reverse Osmosis Train



Feed Pumps



Salts



Cartridge Filter Casing



Tech₂O Center Exhibit Hall



Research Facility