

GE Provides a Mobile Water Scarcity Solution for Pemex Refinery in Mexico

Challenge

During an extended period of drought, a Pemex refinery in Mexico was challenged by a curtailment of freshwater supplied by the neighboring city. The city struggled to meet drinking water demands of the community.

To avoid a loss of production, the plant sought an alternative to use effluent from the city's wastewater treatment plant. While this water was suitable for some production needs, the high total dissolved solids and organics of the water from the municipal wastewater plant were beyond the design capacity of the refinery demineralizer system used to treat the water boiler makeup.

Solution

GE Water & Process Technologies provided a solution that included a mobile reverse osmosis system with two-pass media filter pretreatment, reducing the dissolved solids from 800 ppm to 80 ppm and organics from as high as 20 ppm to less than 1 ppm, so such that the water could then be readily processed by the plant's demineralizer system.

Results

The system, operated by GE at up to 1,600 gpm for over six months, converted the municipal wastewater into high quality demineralizer feed until the supply of city water was restored, allowing continuation of full refinery production through drought conditions.



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