

CT Peaking Plant Uses Mobile Water System for Operating Savings

Challenge

A 340-megawatt dual-fuel combustion turbine merchant power plant was designed to operate about 500 hours per year, primarily in the summer months. For emissions control, demineralized water is required for injection to exhaust gas at 450 gpm (1.7 m³/minute). The plant owner needed a large water treatment system, but also needed to produce low-cost power for the merchant market. It was not a good economic choice to make a large capital investment in an asset that would see infrequent and sporadic use. The plant is also highly automated and operates with a minimal staff level, and there were no operators on staff skilled in the operation of a water treatment system.

Solution

GE Water & Process Technologies supplied the MobileFlow* demineralizer, a mobile treatment system that can quickly be delivered and placed into operation each time the plant becomes operational. No capital investment was required and the plant incurs cost for treated water only during operation, paying only as needed to support production. The MobileFlow system is trailer enclosed and simple to operate, and chemical regenerations are performed at GE facilities so no wastewater is produced or discharged at the site.

Results

The plant receives orders from a central dispatch center when it's production capacity is needed, and it must start up within 24-hours. Once it is dispatched, it contacts the GE logistics center and places an order for a MobileFlow demineralizer trailer. The trailer is delivered and placed into operation before the turbine system is brought on line. Plant operators monitor the operating MobileFlow

system, and provide information daily to GE logistics so that a replacement unit can be delivered when regeneration is required. The plant saved over US\$1 Million in capital investment and has low operating expenses, paying for treated water only as required to meet production needs. Since the MobileFlow system is regenerated at GE facilities, the time and expense of site wastewater permits was also saved.



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