

TECO Polk Power Station-Reclaimed Water Project



Owner/Client: Tampa Electric Company

Owner's Engineer: AECOM

Location: Mulberry, FL, USA

Capacity: 7.2 MGD

Start-up: 2015/2016

Application: Power; water reuse; BWRO



Tampa Electric was awarded the 2015 Edison Electric Institute award for innovative projects utilizing reclaimed water.



This unique project demonstrates a public private utility partnership and reduces wastewater released into the environment. Treated wastewater from the local municipality is reclaimed and used as the feedwater to the RO system to produce water for the cooling towers and high quality make-up water for the power station.



Operational Data:

- Feed water TDS: 731 mg/l
- Permeate TDS: 116 mg/l
- Permeate flow: 1,666 gpm/train
- RO Recovery: 75%
- Array: 48:24:12 Hybrid design

SWT provided the design, fabrication, delivery and installation supervision of three brackish water RO trains. The design was unique in that the trains were designed to be all shop fabricated in a block design. The three stages of the train were separated into two blocks, shipped to site, bolted together and pipe headers joined by couplings. This greatly reduced the site construction and made for smooth commissioning. All chemical feed systems, local controls, CIP system, and instrumentation were supplied. We provided testing, start-up and owner training.

SWT continues to work with the owners to assist them in improving the pretreatment to improve TOC reduction and minimizing/elimination of biofouling.