COMBINED HEAT & POWER AND EFFICIENCY INITIATIVES

South District Wastewater Treatment Plant

Presented By: Debbie Griner, Resilience Manager

September 27, 2018

COMBINED HEAT & POWER AND EFFICIENCY INITIATIVES

Project Objectives

COMBINED HEAT & POWER AND EFFICIENCY INITIATIVES

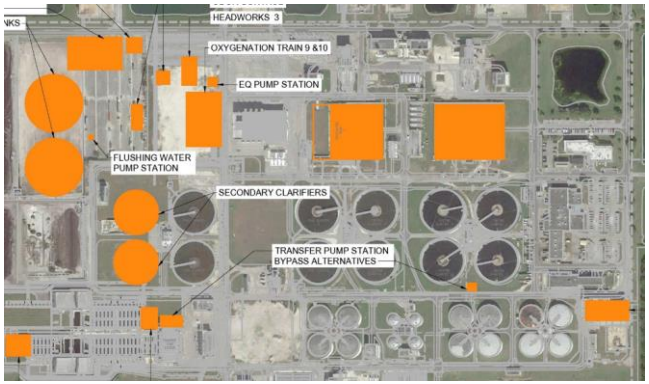
Barrier to Implementation

- Integration
  - Electrical distribution systems – parallel interconnection and configuration of switchgear connections
  - Utility agreements
- High maintenance systems
  - Blending sources with varying methane content and heating values while achieving engine efficiencies and meeting air emissions standards
- Air permitting
- Staff - sufficient number and expertise (electricians, diesel mechanics, instrument technicians)
- Competing priorities

COMBINED HEAT & POWER AND EFFICIENCY INITIATIVES

Lessons Learned

- Engaging operations staff at the project planning phase to maximize effective design and operation
- Consider long-term plant power load to enable expansion of cogeneration to offset new demand
- Establish performance measurement data & tools
- A Champion to support troubleshooting, continued improvement, and reporting and messaging
- Partnership is key for continuous improvement
  - US DOE CHP Accelerator
  - Academic sector



COMBINED HEAT & POWER AND EFFICIENCY INITIATIVES

Project Impact

- 2-3 MW / 30% of energy needs
- $650,000 annual savings
- Reduce emissions from wastewater and landfill operations
- Operational continuity during and after storm events
- Allows for response resources across region