

# BRICKELL SUBSTATION

FLORIDA POWER AND LIGHT (FPL)  
FLORIDA

COMPLETION DATE: 2017

## SUBSTATION RESUME



### Key Facts and Highlights:

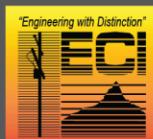
- Three transformer station with 55 MVA transformers and 21 metal-clad feeders
- Enclosed by a building with an open grate roof

### Project Description:

ECI provided engineering design services to support Florida Power & Light's (FPL's) Miami Substation. Design included three autotransformers in the southern portion of the substation set side by side (two 230-138 kV, 560MVA units and a 138-69 kV). A violent failure of one unit could damage the adjacent transformer, or all three units, which would result in a large outage in downtown Miami –unwanted, negative press, and a lengthy restoration since replacement autotransformers would need to be barged to the site which resulted in a high profile risk. ECI's experienced project team was up to the task.

The project consisted of 3 phases: 1) Separation of the Autotransformers; 2) A new Distribution Substation (Brickell); and 3) Modifications to Breaker and One Half Bays to feed Brickell. ECI designed relocation for one of the 230-138 kV autotransformers in a very compact station. Many undocumented underground obstructions were known to exist. ECI provided extensive field support to locate obstructions for final transformer placement. The new Brickell Distribution Substation is a three (3) transformer station with 55MVA transformers and twenty one (21) metal-clad feeder positions. The station looped an oil-filled pipe cable 138 kV line. In addition, Brickell was enclosed by a building with an open grate roof to meet City requirements. ECI worked closely with the Architect to locate through-the-wall bushings and to accurately detail steel members for equipment mounting inside of FPL's largest enclosed substation. The switchgear and control room were located on the building mezzanine. The selected design for the Brickell building included the 138 kV bus underhung from the ceiling. Space constraints dictated this alternative.

This highly successful project was recently highlighted by T&D World Magazine in their April 2018 edition. Eric Silagy, President and CEO of FPL said, "This state-of-the-art facility is yet another example of our steadfast commitment to continuing to provide the power that Miami relies upon today and well into the future, and is illustrative of our shared goal with the city of Miami and Miami-Dade County of continuing to help grow this dynamic and vibrant community." To read the full article in T&D World, click [here](#).



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