



PROJECT BRIEF

# Florida Power & Light Piezometer Automation

## PROJECT PROFILE

CLIENT:  
Florida Power & Light

LOCATION:  
Martin Cooling Pond  
Indiantown, FL

### VALUE:

- Reduced risk and improved safety and data quality by eliminating human error
- Increased efficiency and streamlined decisions by providing actionable data via continuous automated monitoring system
- Significant operational cost savings by reducing manpower time required to operate and maintain manual system

### SERVICES PROVIDED:

- Installation of over 200 automated vibrating wire piezometers to monitor groundwater, canal and pond levels
- Installed 32 sump pump monitoring stations to track pump status and run times

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## INSTALLATION OF GEOTECHNICAL INSTRUMENTS & DATA AUTOMATION

The primary objective was to automate data collection on over 200 existing pore pressure monitoring wells and 32 sump pump stations that FPL personnel had been reading and controlling manually. With automation, FPL was able to reduce the costs to collect and manage data, reduce maintenance, reduce human error, and improve the flexibility to read instruments at different frequencies. The provided system automatically transfers instrumentation readings directly into FPL’s existing data management system. Geocomp assessed functionality and integrity of each well in addition to repairing or replacing open wells that were determined to be non-functional. Our team designed, built, programmed, and installed a complex data logging and communications network and executed a communication test program to assess signal strength across distances exceeding 8 miles. Over 82 new data logger stations with enclosures were designed to withstand hurricane winds, plus installation of a grounding system with over 12,500 feet of cable and conduit for the project.



## BACKGROUND

Florida Power and Light wanted to update, repair, and automate the monitoring system around the 18-mile perimeter dike that impounds the Plant Martin Cooling Pond. The purpose of the geotechnical instrumentation program is to provide accurate measurements of pore water pressures internal to the dam and its foundation and adjacent river and pond levels. Monitoring data is used as a warning system to alert staff of unacceptable groundwater conditions at the facility to aid the assessment of stability and safety of site operations.