NFRC ERP Application
Attachment A—Project Description

The scope of this project includes construction of a new aerial overhead 161-kilovolt (kV) transmission line extending from Gulf Power Company's (GPC's) Sinai Cemetery substation in Jackson County to the existing Florida Power & Light Company's (FPL's) Raven substation in Columbia County, Florida. This project will traverse through seven north Florida counties: Columbia, Suwannee, Madison, Jefferson, Leon, Gadsden, and Jackson.

The project will increase the capacity of the existing transmission network in the GPC Sinai Cemetery area and the FPL Raven area in a reliable manner consistent with North American Electric Reliability Corporation (NERC) and other applicable transmission system standards. The transmission connection between the GPC and FPL transmission networks will improve resources and transfer capabilities while providing flexibility for power flows between the two systems and both existing and future substations, resulting in greater resiliency.

Impacts to wetlands will be minimized by selective pole placement and the use of roadless, padless construction techniques that will be described in a subsequent section. No new permanent roads will be constructed to build this project.

PROJECT PURPOSE AND NEED

To maintain electric reliability for electric utility customers in the north and northwest area of the state of Florida, lower projected costs for GPC's customers, and meet resource/transfer needs, GPC is proposing to build a new 161-kV transmission line extending from GPC's Sinai Cemetery substation in Jackson County to FPL's existing Raven substation in Columbia County, Florida.

Studies have identified a benefit for a direct transmission interconnection between the GPC and FPL transmission networks to create transfer capability between the two utilities. This transfer capability will improve both utilities' ability to optimize both the planning for and operation of GPC and FPL generation resources through reliable power flows between existing and future substations in these areas.

An analysis of alternative plans resulted in GPC's selection of the project as a cost-effective and efficient means to: (a) increase the capacity of the existing 115-kV transmission network in GPC's Sinai Cemetery area and FPL's Raven area in a reliable manner and good utility practice; (b) minimize the need to build new baseload capacity in GPC's service area; and (c) provide the capability to add additional electrical ties from FPL and GPC to neighboring utilities. The project is a cost-effective alternative, taking into account the demand for electricity and the need for abundant, low-cost electrical energy to assure the economic well-being of the citizens of this state.

From a resource planning perspective, the addition of this line is projected to benefit the customers of GPC in two ways. First, GPC's customers are expected to benefit economically by having access to lower cost energy generated on FPL's system. This is expected to help lower

net system energy costs on GPC's system even after reimbursing FPL for the additional megawatt-hours that will be generated on FPL's system. (With such a reimbursement, FPL's customers would be made whole for the costs of this additional generation.) Second, having access to additional off-system generation due to the existence of the new transmission line should help provide greater reliability for the GPC system, thus minimizing or eliminating the need to build new baseload generation in the GPC area.

PROJECT LOCATION

The project is approximately 176 miles in length and traverses portions of seven north Florida counties: Columbia, Suwannee, Madison, Jefferson, Leon, Gadsden, and Jackson. Figures 1, 2, and 3 provide the project location map, road map, and topographical map, respectively.

PROJECT FACILITIES

The project will be constructed using monopole, self-support structures with some exceptions, where locations require heavy turn angles and the poles require guy wires. Structures will either be spun concrete or steel. The aerial overhead transmission line will have three phases and an optical wire/ overhead ground wire, which can also be used for communications.

Permanent patrol roads will not be constructed. However, both temporary and permanent easements along the road rights-of-way have been and continue to be acquired for both construction and maintenance purposes. Typical land requirements will be either 15-foot wide easements when adjacent to nonlimited access road right-of-way and 60 feet in width otherwise. The width and length of off-road right-of-way access points will vary as needed, depending on site-specific locations and landowner negotiations.

For the purpose of both construction and maintenance, both temporary and permanent easements will be required, including right-of-way activities, off-right-of-way access, staging areas, and material storage. Approximately 2,000 transmission poles, typically varying in height from 75 to 110 feet above ground height, will be used to construction this project. Poles will be approximately 3 to 4 feet in diameter, and foundations will be either direct embedded or augered, cast-in-place concrete varying in width from 4 to 8 feet. Pole spacing will typically vary from 400 to 600 feet, depending on physical features and site conditions along the right-of-way.

There will be eight temporary work areas used during construction of the transmission line. These areas will be used for contractor trailers and staging of materials such as poles, wire, and conductors. Certain portions of these areas will also be designated for temporary holding areas for timber that is removed or similar needs. Attachment C provides additional details related to the temporary construction staging areas.

Additionally, there is a fiber-optic telecommunication repeater station proposed in Jefferson County. The repeater station will be located at approximately Milepost 86.5 on the northwest corner of the Interstate 10 and County Road 257B intersection. Attachment C contains additional details related to the repeater station.

DESIGN CODES AND STANDARDS

The primary code used in design of transmission lines is the National Electrical Safety Code (NESC), 2017 Edition. The NESC is an American National Standards Institute standard that covers electrical clearances and loading and strength requirements, including extreme wind. Codes and standards of other agencies and standard organizations that provide rules, guidelines, and conditions for particulars not specified by NESC but used to design and construct proposed transmission lines include the following:

- Occupational Safety and Health Administration (OSHA) rules, which provide requirements for safe minimum approach distances during construction
- American Society of Civil Engineers Manual of Practice No. 74, Guidelines for Electrical Transmission Line Structural Loading, 2009, and Standard No. 048 11, Design of Steel Transmission Pole Structures, if using steel structures
- Federal Aviation Administration guidelines (Title 14, Part 77, Code of Federal Regulation [CFR]), which cover requirements in the vicinity of airports, if applicable
- Florida Department of Environmental Protection (FDEP) regulations for electric and magnetic fields from electrical transmission lines under the provisions of Sections 403.061(30) and 403.523(14), Florida Statutes (The pertinent rule is 62-814, Florida Administrative Code. No permit is issued; however, utility companies can demonstrate compliance with the regulations with monitoring.)
- Florida Department of Transportation (FDOT) 2017 Utility Accommodation Manual

These codes, guidelines, and standards provide design parameters with the goal of protecting public safety.

CONSTRUCTION OF THE FACILITIES

General Construction Description

The project will not construct new permanent roads but will instead utilize roadless, padless construction techniques to minimize impacts to wetland features. Permanent impacts will be limited to the footprint of the transmission line structures, and selection of those pole placement locations has been planned to avoid or minimize impacts to wetlands and water bodies to the extent practicable. Temporary impacts to wetlands will be restricted to areas where access or construction workspace is needed. Matting will be used to protect wetlands where impacts cannot be avoided. The route of line drawings (Attachment B) depict where those temporary impacts are expected to occur. Following construction, natural contours will be restored to preconstruction levels. In areas where clearing is required, some forested wetlands will be converted to herbaceous. Those impacts may be found in Table 7, Summary of Wetland/Waterbody Impacts, and Table 8, Wetland/Waterbody Impacts and are depicted in Figure 5, Impacts Map.

The project will use a combination of skilled construction personnel. Prior to clearing, survey crews will enter the transmission right-of-way to establish clearing limits followed by clearing

crews, which will generally consist of laborers and equipment operators. After clearing is complete, matting will be placed as needed by matting crews. Foundation installation and excavation will be completed by site civil personnel, which, similar to clearing and matting, will consist of laborers and equipment operators. Concrete workers will also be utilized for those structures supported by auger cast foundations. Structure setting, framing, and conductor installation will be performed by experienced transmission line workers, crane operators, and other heavy equipment operators. Clearing crews will be utilized to maintain stormwater pollution prevention plan measures and right-of-way restoration. Continuous oversight of construction operations will be provided by GPC, with daily direct supervision of construction (including adherence to safety and environmental requirements) performed by the general contractor's supervisory personnel.

Construction sequencing along several spreads will keep the duration of construction to a minimum and limit the disturbance of the temporary matting. Attachment C provides an exhibit on typical matting detail. Once construction is completed, the area will be returned to its original contours.

Best management practices will be implemented during construction to prevent or minimize release of fluids from construction-related equipment. Attachment C provides an exhibit for typical best management practices.

Construction Clearing Methods

The work area will be cleared according to area type (i.e., wetland, upland) using the following methods. In general, vegetation removal will occur in the work area to the widths specified on the plans:

- Clearing Within Wetlands—Removal of trees by hand or utilizing low ground pressure equipment to reduce soil compaction and damage to ground cover and mowing of remaining vegetation with a low ground pressure flail or grinder type mower. Removable construction matting in conjunction with best management practices may be used in wetlands to support equipment. Final cut height of tree stumps will be either the top of water or ground surface, whichever is higher. Cut vegetation and woody debris will be removed, and resulting ruts will be repaired.

- Mowing Within Wetlands—Shrub vegetation will be mowed to ground surface or top of water, whichever is higher, utilizing a low ground pressure flail or grinder type mower. Woody debris will be removed, and resulting ruts will be repaired.

- Clearing Within Uplands—At minimum, all at-grade roads, pads, structure, and guy areas will be grubbed. Remaining tree removal can be grubbed or stumps ground to below ground surface. Remaining shrubs and ground cover can be grubbed or mowed. Disturbed areas will be filled, leveled, and stabilized with seed and mulch. Disturbed slopes will be sodded and staked.

Construction Schedule

The transmission line construction is anticipated to begin at the end of 2020 and be completed approximately 6 months later.

Access to Right-of-Way

GPC has obtained or is currently negotiating agreements with landowners for temporary and permanent easements for both construction and maintenance access. No new roads are proposed. Easements currently identified for access may be found in Attachments B and Figure 5. Improvements to access easements are expected to be limited to light grading, filling in of potholes, and tree trimming or removal in some areas. Matting will be used as needed to address site-specific conditions to be assessed at the time of construction. Attachment C provides a typical drawing for site-specific matting.

Operations and Maintenance

Once constructed, the transmission line would be in service continuously for 50 years. Routine inspection/maintenance will be conducted for poles, conductors, vegetation management, and the right-of-way once a year from the ground. Additional inspections may also be conducted by helicopter, or drone, on an as-needed basis.

NextEra Energy's vegetation management practices are to use an integrated vegetation management approach to achieve program objectives through:

- Identification of compatible and incompatible vegetation through inspections that occur two times a year.
- Implementation of appropriate control methods to discourage incompatible vegetation.
- Promotion of compatible vegetation.

Control methods are based on environmental impact and anticipated effectiveness, along with site characteristics, security, economics, current land use, and other factors. These methods include, but are not limited to pruning, removal, herbicide application, and mowing. Typical mowing cycles are on a regular maintenance cycle, whereas other work activities are performed as needed.

Crossings

Attachment C contains typical drawings and details on crossings of specific features such as water bodies, road and bridge crossings, and the crossing of other utilities. Appendix G contains crossing details for sovereign submerged lands.