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March 13, 2025

**VIA ELECTRONIC FILING**

Adam J. Teitzman, Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399-0850

Re: *Review of 2026-2035 Storm Protection Plan, pursuant to Rule 25-6.030, F.A.C.,  
Duke Energy Florida, LLC; Docket No. 20250015*

Dear Mr. Teitzman:

On behalf of Duke Energy Florida, LLC ("DEF"), please find enclosed for electronic filing in the above referenced docket, Corrected Exhibit No. (BML-1) to the direct testimony of Brian Lloyd.

Corrected Exhibit No. (BML-1) includes the proposed 2026 Project list for the proposed Transmission Insulator subprogram which was inadvertently omitted from the January 15, 2025, filing. *See* Page 45 of 56. Corrected Exhibit No. (BML-1) also includes DEF's revision to the Estimated SPP Rate Impacts, *see* Page 56 of 56 which was previously submitted on February 5, 2025. For ease of reference, all 56 pages of Corrected Exhibit No. (BML-1) are being resubmitted.

Thank you for your assistance in this matter. Please feel free to call me at (850) 521-1428 should you have any questions concerning this filing.

Respectfully,

/s/ Matthew R. Bernier

Matthew R. Bernier

MRB/mh  
Enclosure





# DUKE ENERGY FLORIDA

# Storm Protection Plan

## Program Descriptions

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# PROGRAM DESCRIPTIONS

The following sections of this document describe each of Duke Energy Florida's ("DEF") Storm Protection Plan ("SPP") Programs. This exhibit includes the Program vision, description, costs, and estimated benefits from completion of the Program.

Note: Shifts of scope may occur between years to optimize benefits delivery to customers and execution efficiencies.

At the Commission's direction and under its supervision, DEF has engaged in significant storm hardening activities since the 2006 adoption of the Storm Hardening Rule (Rule 25-6.0342, F.A.C., since repealed, due to the adoption of § 366.96, Fla. Stat., and subsequent adoption of Rule 25-6.030, F.A.C.). After the 2016-2017 storm seasons, the Commission initiated its "Review of Florida's Electric Utility Hurricane Preparedness and Restoration Actions 2018"<sup>1</sup> to evaluate the efficacy of the approximately 12 years of hardening efforts. As a result of the analysis performed in that docket, the Commission determined that "Florida's aggressive storm hardening programs are working."<sup>2</sup> This conclusion was borne out by several observations: the length of outages from the 2016-2017 storm season was reduced markedly from the 2004-2005 storm season, hardened overhead distribution facilities performed better than non-hardened facilities, and underground facilities performed much better than overhead facilities.<sup>3</sup>

DEF agrees with the Commission's determination. In recognition of the efficacy of the storm hardening plans implemented since 2006, DEF's initial SPP ("SPP 2020") as well as its second SPP ("SPP 2023") carried on the storm hardening work included in the Company's 2019-2021 Storm Hardening Plan ("SHP"); as such, the programs that were carried over from the SHP into the SPP are the very programs the Commission has previously acknowledged "are grounded in substantive strengthening and protection of the utility's electric facilities. Programs include tree trimming, pole inspections, hardening of feeders and laterals, and undergrounding."<sup>4</sup> DEF's current SPP ("SPP 2026") will continue these programs and build upon them, adding incremental investment over the life of the Plan. DEF will also continue researching and investigating additional technologies and programs.

That said, DEF also agrees with the Commission's recognition that "[n]o amount of preparation can eliminate outages in extreme weather events"<sup>5</sup> so while DEF's Plan is designed with an eye toward strengthening the system and reducing outages and outage duration, it must be understood that there is no panacea, and individual storms will produce unique challenges.

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<sup>1</sup> *Review of electric utility hurricane preparedness and restoration actions*, Docket No. 20170215-EU.

<sup>2</sup> *Id.* at p. 1.

<sup>3</sup> *See id.* at pp. 2-3.

<sup>4</sup> *See id.* at p. 9.

<sup>5</sup> *Id.* at p. 6.

# Distribution Programs

## Program Summaries

# Feeder Hardening

## Vision

Feeder Hardening is a long-term program that will systematically upgrade the feeder backbone to meet the National Electric Safety Code (“NESC”) 250C extreme wind load standard. The existing backbone is approximately 6,500 miles on over 1,300 feeders. The Feeder Hardening Program began in 2021 and is estimated to take approximately 50 years to complete. At completion, all feeder miles will be hardened.

## Description

The Feeder Hardening program will enable the feeder backbone to better withstand extreme weather events. This includes strengthening structures, updating basic insulation level (“BIL”) to current standards, updating conductor to current standards, relocating difficult to access facilities, relocating or undergrounding facilities to address clearance encroachments, replacing oil filled equipment as appropriate, and incorporates the Company’s pole inspection and replacement activities.



*Figure 1: Distribution feeder poles broken by straight line winds from Category 3 hurricane.*

## Structure Strengthening

Structure strengthening includes upgrading existing poles and other facilities as necessary to align with the NESC 250C extreme wind load standard. For example, a stronger pole class reduces the extent of damage incurred on feeder lines during extreme wind events. Other related hardware upgrades will occur simultaneously, such as insulators, crossarms, support brackets, and guys.



*Figure 2: Hardened distribution feeder including structures that have been strengthened to the NESC 250C standard and increased BIL from hardware and spacing upgrades.*

## BIL

While upgrading feeders to the extreme wind load standard, the Company will also upgrade the BIL to further harden the system. Upgrading the BIL involves framing for more space between phases, more wood material between insulator mounting points, application of the larger standard insulator sizes, and moving arresters to the lowest level of the primary space.

## Conductor Upgrades

As part of Feeder Hardening, DEF will replace any deteriorated or undersized conductor on the feeder backbone. This conductor is more susceptible to storm damage. It will be replaced with our current standard conductor.

## Relocating Difficult to Access Facilities

Where practical, feeder sections that traverse hard to access areas, such as wetlands, will be relocated to truck-accessible routes. These line sections often suffer damage in extreme wind load events and, due to their location, are among the most expensive and longest to restore outages.

## Relocating or Undergrounding Facilities to Address Clearance Encroachments

While upgrading feeders to the extreme wind load standards, the Company will review clearances with non-company owned structures and assets to determine if there will be adequate clearances with the proposed, hardened structures. If inadequate, the Company will relocate the facilities or install underground facilities where necessary.

## Replacing Oil-Filled Equipment

While working to upgrade each feeder, hydraulic (oil-filled) reclosers will be upgraded to electronic reclosers (vacuum interrupters) with communications and remote Supervisory Control and Data Acquisition (“SCADA”) control capability, as available. Electronic reclosers enable remote visibility and control. Real-time operational information is remotely available, such as current per phase, voltage per phase, var flow per phase, health condition of the device, on-board battery health, fault information, and interrupter status by phase. This real-time data will help target restoration efforts helping to reduce outage durations. Additionally, these oil-filled devices can cause negative environmental impacts. Electronic reclosers are vacuum interruption devices and have no internal oil.



*Figure 3: SCADA enabled Electronic Recloser*

## Pole Inspection and Replacement

Per Commission Order No. PSC-2006-0144-PAA-EI, pole inspection is performed on an 8-year cycle. These inspections determine the extent of pole decay and any associated loss of strength. The information gathered from these inspections is used to determine pole replacements and to effectuate the extension of pole life through treatment and reinforcement.

## Cost

It is expected that the 10-year cost will be approximately \$2.2B Capital and \$8M O&M. This would cover approximately 1,400 miles of feeder hardening and costs of the pole inspection and replacement activities.

	DEF		
	2026	2027	2028
<b>Feeder Hardening</b>			
Totals	\$164,524,855	\$220,865,806	\$230,882,047
Feeder Hardening	\$138,002,655	\$193,992,300	\$201,603,828
Capital	\$137,894,505	\$193,840,272	\$201,445,836
O&M	\$ 108,150	\$ 152,028	\$ 157,992
Total Units	105	144	146
<b>Pole Inspection/Replacement</b>			
Totals	\$ 26,522,200	\$ 26,873,506	\$ 29,278,219
Capital	\$ 25,898,725	\$ 26,248,000	\$ 28,646,163
O&M	\$ 623,475	\$ 625,506	\$ 632,056
Total Units	2,275	2,250	2,400

## Cost Benefit Comparison

As provided in the Cost section above, the estimated cost for DEF's Feeder Hardening Program during the 10-year planning horizon is approximately \$2.2B Capital and \$8M O&M.

After deployment of the 2026-2035 Feeder Hardening Program work is complete, DEF estimates it will reduce the cost of extreme weather events on the Distribution system by approximately \$7.6M to \$9.5M annually based on today's costs.

After deployment of the 2026-2035 Feeder Hardening Program work, DEF estimates it will reduce Distribution MED Customer Minutes Interrupted ("CMI") by approximately 20 million to 25 million minutes annually. CMI reduction is used as a proxy for reduction in extreme weather event duration for the average customer.

## Prioritization Methodology

Work will be prioritized using the following process.

1. **Probability of Damage:** To prioritize the work in the Florida regions, the Transmission and Distribution systems were modeled, and weather simulations were run to provide probabilistic exposure frequency for all asset locations. The weather modeling uses the FEMA Hazus and Sea, Lake, and Overland Surges from Hurricanes ("SLOSH") models, which contain the weather data for storms over the last 200 years. Using the geographical locations of the Florida assets and the historic storm paths embedded in the Hazus model, a spatial correlation of future storm exposure can be derived. To determine probability of damage given that exposure, eight years of historical outage data was provided and correlated with the closest weather tower to determine the conditions during historic failures recorded in the outage data. Then, the expected quantities of asset failure for simulated future weather exposure conditions was derived by combining simulated weather patterns with historical asset failure through conditional probability methods.
2. **Consequence of Damage:** Once the output of probabilistic damage is assessed, the probable impact to customers is considered. This step considers the number of customers served by a given asset (e.g., each pole, or segment of conductor on a feeder), observed outage durations, the mix of customers, and critical facilities. This step is performed both for the existing

configuration of each feeder and the hardened configuration resulting from the particular program. The difference between the existing condition and the hardened configuration is the program impact.

- Distribution subject matter experts then use these outputs to determine the optimum deployment plan considering factors such as current projects in the area, critical customers, operational knowledge, resource availability and efficiency.

## Year 1 Project List

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - FEEDER HARDENING

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
ALTAMONTE_BANK01 - M572	4.16	1,856	5,463,249	4,285	1/2/2026	6/30/2027
ALTAMONTE_BANK02 - M578	4.44	1,809	5,830,968	4,573	1/2/2026	9/30/2027
ALTAMONTE_BANK02 - M579	3.8	2,079	4,990,468	3,914	1/2/2026	12/15/2026
BAYBORO SOUTH_BANK01 - X9	4.11	2,347	5,397,585	4,233	1/2/2026	12/15/2026
BAYBORO SOUTH_BANK01 - X21	5.02	2,623	6,592,671	5,171	1/2/2026	12/15/2026
EAST CLEARWATER_BANK01 - C901	1.8	1,314	2,363,906	1,854	1/2/2026	12/15/2026
EATONVILLE_BANK03 - M1139	4.96	1,631	6,513,874	5,109	1/2/2026	3/31/2027
HAINES CITY_BANK01 - K18	4.12	1,892	5,410,718	4,244	1/2/2026	12/15/2026
HAINES CITY_BANK01 - K21	5.8	3,330	7,617,030	5,974	1/2/2026	12/15/2027
HAINES CITY_BANK02 - K16	4.39	1,046	5,765,304	4,522	1/2/2026	9/30/2027
HAINES CITY_BANK02 - K17	6.12	2,527	8,037,280	6,304	1/2/2026	12/15/2027
JASPER SOUTH_BANK02 - N192	3.1	1,037	4,071,171	3,193	1/2/2026	12/15/2026
JASPER SOUTH_BANK02 - N191	4	850	5,253,124	4,120	1/2/2026	3/31/2027
KELLER ROAD_BANK01 - M3	0.12	50	157,594	124	1/2/2026	12/15/2026
LAKE BRYAN_BANK02 - K239	1.02	907	1,339,547	1,051	1/2/2026	12/15/2026
LAKE BRYAN_BANK03 - K230	0.19	32	249,523	196	1/2/2026	12/15/2026
LAKE PLACID_BANK01 - K758	5.41	1,398	7,104,850	5,572	1/2/2026	12/15/2026
LAKE PLACID_BANK01 - K757	4.97	995	6,527,007	5,119	1/2/2026	9/30/2027
LAKE PLACID_BANK02 - K1066	4.09	1,457	5,371,319	4,213	1/2/2026	6/30/2027
MADISON_BANK02 - N1	5.96	1,225	7,827,155	6,139	1/2/2026	12/15/2027
SILVER SPRINGS SHORES_BANK02 - A128	1.3	25	1,707,265	1,339	1/2/2026	12/15/2026
SIXTEENTH STREET_BANK01 - X45	3.8	2,071	4,990,468	3,914	1/2/2026	12/15/2026
SIXTEENTH STREET_BANK02 - X46	3.86	2,836	5,069,265	3,976	1/2/2026	12/15/2026
SUN N LAKES_BANK02 - K1137	1.99	33	2,613,429	2,050	1/2/2026	12/15/2026
SUNFLOWER_BANK01 - W0470	1.2	2,087	1,575,937	1,236	1/2/2026	12/15/2026
UCF_BANK01 - W1013	1.56	988	2,048,718	1,607	1/2/2026	12/15/2026
MAXIMO_BANK03 - X142	2.03	2,621	2,665,960	2,091	1/2/2026	12/15/2026
DUNEDIN - C102	2.34	1,606	3,073,078	2,410	1/2/2026	12/15/2026
FORTIETH STREET_BANK02 - X84	2.81	2,181	3,690,320	2,894	1/2/2026	12/15/2026
FORTIETH STREET_BANK02 - X85	3.09	1,045	4,058,038	3,183	1/2/2026	12/15/2026
LARGO - J406	3.44	2042	4,517,681	3,543	1/2/2026	12/15/2026

Pole inspections and replacements benefit the entire distribution system. These annual programs are completed on a cycle-basis. As such, these SPP programs do not lend themselves to identification of specific project locations. A Year 1 Project List has been provided at the Operations Center level.

**DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - FEEDER HARDENING POLE REPLACEMENTS**

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
BUENA VISTA	159	158,538	1,767,921	1,431	1/2/2026	12/15/2026
CLEARWATER	320	148,422	3,558,080	2,880	1/2/2026	12/15/2026
DELAND	263	91,841	2,924,297	2,367	1/2/2026	12/15/2026
HIGHLANDS	27	57,774	300,213	243	1/2/2026	12/15/2026
JAMESTOWN	14	146,108	155,666	126	1/2/2026	12/15/2026
LAKE WALES	363	148,811	4,036,197	3,267	1/2/2026	12/15/2026
LONGWOOD	54	96,080	600,426	486	1/2/2026	12/15/2026
MONTICELLO	301	60,125	3,346,819	2,709	1/2/2026	12/15/2026
OCALA	298	94,307	3,313,462	2,682	1/2/2026	12/15/2026
SE ORLANDO	55	102,974	611,545	495	1/2/2026	12/15/2026
ST. PETERSBURG	27	183,237	300,213	243	1/2/2026	12/15/2026
WALSINGHAM	231	155,414	2,568,489	2,079	1/2/2026	12/15/2026
WINTER GARDEN	163	91,089	1,812,397	1,467	1/2/2026	12/15/2026

**DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - FEEDER HARDENING POLE INSPECTIONS**

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
BUENA VISTA	1,051	158,538	42,040	42,040	1/2/2026	12/15/2026
CLEARWATER	2122	148,422	84,880	84,880	1/2/2026	12/15/2026
DELAND	1743	91,841	69,720	69,720	1/2/2026	12/15/2026
HIGHLANDS	178	57,774	7,120	7,120	1/2/2026	12/15/2026
JAMESTOWN	90	146,108	3,600	3,600	1/2/2026	12/15/2026
LAKE WALES	2405	148,811	96,200	96,200	1/2/2026	12/15/2026
LONGWOOD	355	96,080	14,200	14,200	1/2/2026	12/15/2026
MONTICELLO	1996	60,125	79,840	79,840	1/2/2026	12/15/2026
OCALA	1973	94,307	78,920	78,920	1/2/2026	12/15/2026
SE ORLANDO	366	102,974	14,640	14,640	1/2/2026	12/15/2026
ST. PETERSBURG	180	183,237	7,200	7,200	1/2/2026	12/15/2026
WALSINGHAM	1531	155,414	61,240	61,240	1/2/2026	12/15/2026
WINTER GARDEN	1085	91,089	43,400	43,400	1/2/2026	12/15/2026

# Lateral Hardening

## Vision

Lateral Hardening is a long-term Program that will systematically upgrade and harden branch line sections fed by the feeder backbone. There will be two main approaches, undergrounding and overhead hardening. The existing lateral system is approximately 12,000 miles. The Lateral Hardening Program began in 2022 and is estimated to take 70 years to complete. At completion, approximately all lateral miles will be hardened.

## Description

The Lateral Hardening Program will enable branch lines to better withstand extreme weather events. This will include undergrounding of the laterals most prone to damage during extreme weather events and overhead hardening of those laterals less prone to damage.

## Lateral Undergrounding

Lateral segments that are most prone to damage resulting in outages during extreme weather events will be placed underground. Doing so will greatly reduce both damage costs and outage duration for DEF customers. Lateral Undergrounding focuses on branch lines that historically experience the most outage events, contain assets of greater vintage, are susceptible to damage from vegetation, and/or often have facilities that are inaccessible to trucks. These branch lines will be replaced with a modern, updated, and standard underground design of today.



*Figure 1: An example of residential customers that would be candidates for Undergrounding due to section of line and service in heavily vegetated areas.*



*Figure 2: Section of lines that runs through backlot and heavily vegetated areas that is a candidate for Undergrounding.*

## Lateral Hardening Overhead

The overhead hardening strategy includes structure strengthening, deteriorated conductor replacement, removing open secondary wires, replacing fuses with automated line devices, pole replacement (when needed), line relocation, and/or hazard tree removal.

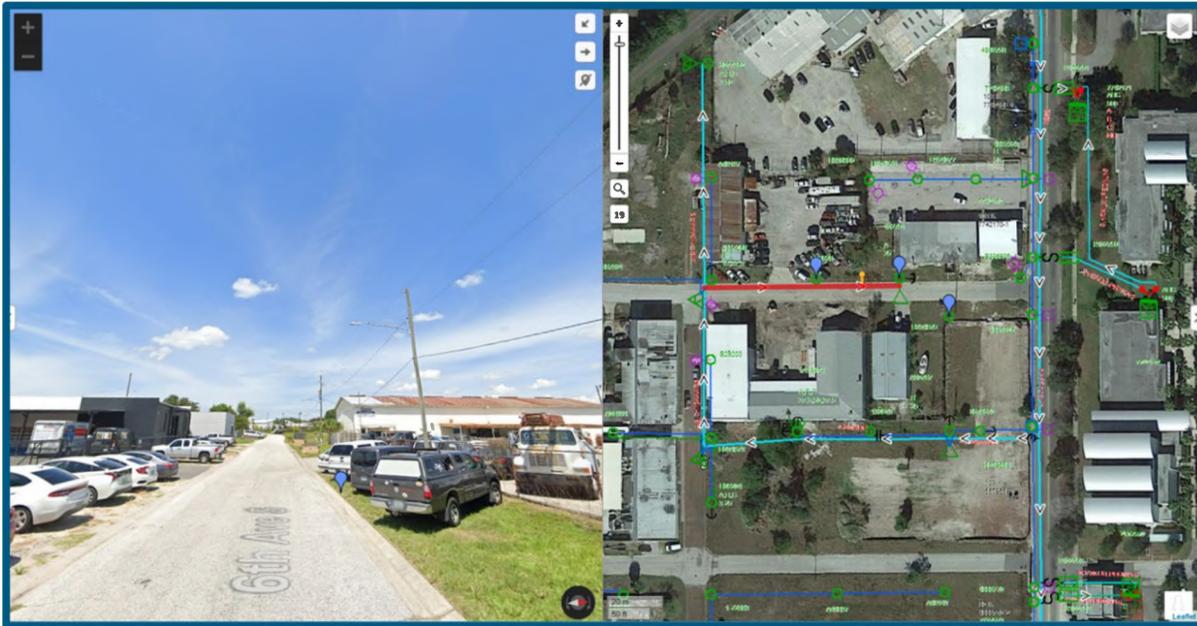


Figure 3: The teal tap line branches off the main road through an open lot to side streets where it splits again. It serves a few customers with minimal, to no vegetation. The street view is a view of the red line where there are no vegetation concerns.

### Structure Strengthening

Structure Strengthening includes upgrading existing poles and other facilities as necessary to align with the NESC 250C extreme wind loading standard. For example, a stronger pole class reduces the extent of damage incurred on lateral lines during extreme wind events. Other related hardware upgrades will occur simultaneously, such as installation of insulators, crossarms, support brackets, and guys.

### Conductor Upgrades

As part of Lateral Hardening Overhead, DEF will replace any deteriorated or undersized conductor on the lateral. This conductor is more susceptible to storm damage. It will be replaced with our current standard conductor.

### Upgrade Open Wire Secondary

Removing the open secondary wire will mitigate outages during extreme weather conditions. This activity will eliminate an older design standard that is susceptible to wires contacting vegetation and debris. Modern triplex cable will be installed to replace the open wire secondary.





Figure 4: Three examples of open wire secondary that will be addressed.

### Fusing

DEF will replace current one-time use fuses with automated line devices (“ALD”), which are small vacuum reclosers, to improve lateral performance in extreme weather events. ALDs use current fuse holders and do not generally require pole reframing. The reclosing capability inherent in the ALD will reduce outage events for downstream customers. ALDs will also serve as the temporary fault clearing device, thus reducing momentary interruptions for customers upstream on the feeder.

### Line Relocation

Where practical, lateral line sections that traverse hard to access areas, such as wetlands, will be relocated to truck accessible routes. These line sections often suffer damage in extreme wind load events, and due to their location are among the most expensive to repair and take the longest to restore to service from an outage.

### Hazard Tree

During the upgrade process DEF will identify hazard trees in the area surrounding the lateral requiring remediation. A hazard tree is a tree that is dead, structurally unsound, dying, diseased, leaning, or otherwise in a condition that is likely to result in striking electrical lines or other assets. Once identified, hazard trees are assigned to a contractor for remediation. When hazard trees are located in areas where DEF does not have the legal right to mitigate the danger, DEF or its contractor will work with the property owner to gain access and remediate.

### Pole Inspection and Replacement

Per Commission Order No. PSC-2006-0144-PAA-EI, pole inspection is performed on an 8-year cycle. These inspections determine the extent of pole decay and any associated loss of strength. The information gathered from these inspections is used to determine pole replacements and to effectuate the extension of pole life through treatment and reinforcement.

## Cost

It is expected that the 10-year cost will be approximately \$2.9B Capital and \$26M O&M. This would cover approximately 500 miles of Lateral Hardening Underground, approximately 800 miles of Lateral Hardening Overhead, and costs of the pole inspection and replacement activities.

	DEF		
	2026	2027	2028
<b>Lateral Hardening</b>			
<b>Totals</b>	<b>\$249,945,453</b>	<b>\$304,823,403</b>	<b>\$298,710,167</b>
Lateral Hardening	\$ 188,454,733	\$ 236,039,609	\$ 222,945,192
Capital	\$ 187,830,707	\$ 235,214,477	\$ 222,169,926
O&M	\$ 624,026	\$ 825,132	\$ 775,266
Total Units	122	142	132
<b>Pole Inspection/Replacement</b>	<b>\$ 61,490,720</b>	<b>\$ 68,783,794</b>	<b>\$ 75,764,975</b>
Capital	\$ 59,853,560	\$ 67,131,750	\$ 74,067,375
O&M	\$ 1,637,160	\$ 1,652,044	\$ 1,697,600
Total Units	5,240	5,750	6,200

## Cost Benefit Comparison

As provided in the Cost section above, the estimated cost for DEF's Lateral Hardening Program during the 10-year planning horizon is approximately \$2.9B Capital and \$26M O&M.

After deployment of the 2026-2035 Lateral Hardening Program work, DEF estimates it will reduce the cost of extreme weather events on the Distribution system by approximately \$19.5M to \$24.4M annually based on today's costs.

After deployment of the 2026-2035 Lateral Hardening Program work, DEF estimates it will reduce Distribution MED CMI by approximately 152 million to 190 million minutes annually. CMI reduction is used as a proxy for reduction in extreme weather event duration for the average customer.

## Prioritization Methodology

The following steps are used to prioritize the work:

1. **Probability of Damage:** To prioritize the work in the Florida regions, the Transmission and Distribution systems were modeled, and weather simulations were run to provide probabilistic exposure frequency for all asset locations. The weather modeling uses the FEMA Hazus and SLOSH models, which contain the weather data for storms over the last 200 years. Using the geographical locations of the Florida assets and the historic storm paths embedded in the Hazus model, a spatial correlation of future storm exposure can be derived. To determine probability of damage given that exposure, eight years of historical outage data was provided and correlated with the closest weather tower to determine the conditions during historic failures recorded in the outage data. Then, the expected quantities of asset failure for simulated future weather exposure conditions was derived by combining simulated weather patterns with historical asset failure through conditional probability methods.
2. **Consequence of Damage:** Once the output of probabilistic damage is assessed, the probable impact to customers is considered. This step considers number of customers served by a given asset (e.g. each pole, or segment of conductor on a feeder), observed outage durations, the mix of customers, and critical facilities. This step is performed both for the existing configuration of each feeder, and the hardened configuration resulting from the particular

program. The difference between the existing condition and the hardened configuration is the program impact.

- Distribution subject matter experts then use these outputs to determine the optimum deployment plan considering factors such as current projects in the area, critical customers, operational knowledge, resource availability and efficiency.

## Year 1 Project List

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - LATERAL HARDENING OVERHEAD

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
ALTAMONTE_BANK01 - M572	3.94	1,856	3,684,121	2,888	1/2/2026	12/15/2026
ALTAMONTE_BANK01 - M573	2.16	685	2,019,721	1,583	1/2/2026	12/15/2026
ALTAMONTE_BANK02 - M578	5.26	1,809	4,918,395	3,856	1/2/2026	3/31/2027
ALTAMONTE_BANK02 - M575	0.28	324	261,816	205	1/2/2026	12/15/2026
BAY RIDGE_BANK01 - M453	5.58	1,675	5,217,612	4,090	1/2/2026	12/15/2027
BAYBORO SOUTH_BANK01 - X9	5.52	2,347	5,161,509	4,046	1/2/2026	3/31/2027
BAYBORO SOUTH_BANK01 - X21	5.39	2,623	5,039,952	3,951	1/2/2026	3/31/2027
BEACON HILL_BANK02 - N527	4.01	1,563	3,749,575	2,939	1/2/2026	12/15/2026
BEACON HILL_BANK02 - N515	0.91	458	850,901	667	1/2/2026	12/15/2026
EAST CLEARWATER_BANK01 - C901	0.18	1,314	168,310	132	1/2/2026	12/15/2026
EATONVILLE_BANK03 - M1138	3.62	471	3,384,903	2,653	1/2/2026	12/15/2026
FERN PARK_BANK01 - M907	1.1	1,292	1,028,562	806	1/2/2026	12/15/2026
FERN PARK_BANK01 - M909	2.08	793	1,944,916	1,525	1/2/2026	12/15/2026
HAINES CITY_BANK01 - K18	2.23	1,892	2,085,175	1,635	1/2/2026	12/15/2026
HAINES CITY_BANK02 - K16	0.55	1,046	514,281	403	1/2/2026	12/15/2026
LAKE BRYAN_BANK02 - K238	0.1	902	93,506	73	1/2/2026	12/15/2026
LAKE BRYAN_BANK02 - K244	0.55	2,402	514,281	403	1/2/2026	12/15/2026
LAKE PLACID_BANK01 - K758	3.23	1,398	3,020,231	2,368	1/2/2026	12/15/2026
LAKE PLACID_BANK02 - K1066	4.52	1,457	4,226,453	3,313	1/2/2026	12/15/2026
SILVER SPRINGS SHORES_BANK02 - A128	1.54	25	1,439,986	1,129	1/2/2026	12/15/2026
SIXTEENTH STREET_BANK01 - X43	1.71	1,328	1,598,946	1,253	1/2/2026	12/15/2026
SUN N LAKES_BANK02 - K1137	0.35	33	327,270	257	1/2/2026	12/15/2026
UCF_BANK01 - W1012	1.13	2,486	1,056,613	828	1/2/2026	12/15/2026
ULMERTON WEST_BANK01 - J680	1.95	695	1,823,359	1,429	1/2/2026	12/15/2026
MAXIMO_BANK03 - X142	1.7	2,621	1,589,595	1,246	1/2/2026	12/15/2026
DUNEDIN - C102	3.43	1,606	3,207,242	2,514	1/2/2026	12/15/2026
FORTIETH STREET_BANK02 - X84	5.92	2,181	5,535,532	4,339	1/2/2026	9/30/2027
FORTIETH STREET_BANK02 - X85	5.01	1,045	4,684,631	3,672	1/2/2026	12/15/2026
LARGO - J406	3.05	2,042	2,851,923	2,236	1/2/2026	12/15/2026

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - LATERAL HARDENING UNDERGROUND

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
DELAND - W0805	1.08	1,269	2,779,953	13,622	7/12/2022	5/31/2028

DELAND - W0806	0.85	1,624	2,187,926	10,721	1/6/2023	5/31/2028
DELAND - W0807	1.18	1,449	3,037,357	14,883	5/17/2022	5/31/2028
DELAND - W0808	0.23	1,829	592,027	2,901	7/25/2022	5/31/2028
DELAND - W0809	0.67	891	1,724,601	8,451	2/15/2024	5/31/2028
DELAND EAST - W1103	0.07	1,710	180,182	883	6/8/2022	3/31/2026
DELAND EAST - W1105	0.18	1,297	463,326	2,270	11/21/2022	3/31/2026
DELAND EAST - W1109	0.03	759	77,221	378	11/21/2022	3/31/2026
MAITLAND - PHASE 2 - W0079	1.02	1,269	2,625,512	12,865	7/31/2023	9/2/2029
MAITLAND - PHASE 2 - M80	1.12	1,441	2,882,915	14,127	1/2/2026	9/2/2029
MAITLAND - PHASE 2 - M82	0.15	602	386,105	1,892	1/2/2026	9/2/2029
MAITLAND - PHASE 2 - W0086	0.72	386	1,853,302	9,081	1/2/2026	9/2/2029
ECON - W0320	0.08	2,844	205,922	1,009	1/2/2026	6/11/2027
ECON - W0321	0.51	1,401	1,312,756	6,433	1/2/2026	6/11/2027
LAKE ALOMA - W0151	0.45	1,720	1,158,314	5,676	1/2/2026	7/11/2027
FIFTY FIRST STREET - X102	8.79	4,103	22,625,732	110,868	10/6/2022	12/30/2027
CLEARWATER - C11	0.78	1,154	2,007,744	9,838	1/2/2026	12/30/2027
CLEARWATER - C12	0.23	1,236	592,027	2,901	1/2/2026	12/30/2027
CROSS BAYOU - J143	3.34	1,320	8,597,264	42,127	1/2/2026	12/30/2027
OAKHURST - J224	8.62	2,348	22,188,147	108,724	1/2/2026	12/30/2027
VINOY - X70	4.34	2,019	11,171,295	54,740	1/2/2026	12/30/2027
PORT RICHEY WEST - C202	0.07	2,237	180,182	883	8/30/2022	3/31/2026
SEVEN SPRINGS - C4501	0.07	2,302	180,182	883	1/2/2025	9/30/2026
CURLEW - C4973	0.13	1,838	334,624	1,640	1/2/2025	9/30/2026
CURLEW - C4976	0.03	2,222	77,221	378	1/2/2025	9/30/2026
CURLEW - C4985	0.23	1,304	592,027	2,901	1/2/2025	9/30/2026
CURLEW - C4987	0.03	906	77,221	378	1/2/2025	9/30/2026
CURLEW - C4989	0.6	2,274	1,544,419	7,568	1/2/2025	9/30/2026
CURLEW - C4990	0.34	1,698	875,171	4,288	1/2/2025	9/30/2026
CURLEW - C4991	0.51	2,111	1,312,756	6,433	1/2/2025	9/30/2026
BOGGY MARSH - K957	0.15	2,972	386,105	1,892	1/2/2025	4/26/2027
BOGGY MARSH - K959	0.2	976	514,806	2,523	1/2/2025	4/26/2027
CENTRAL PARK - K495	4.03	1,026	10,373,345	50,830	1/2/2025	5/3/2027
CENTRAL PARK - W0497	0.06	62	154,442	757	1/2/2025	5/3/2027
BAY HILL - K67	0.08	1,914	205,922	1,009	1/2/2025	4/26/2027
BAY HILL - K68	0.39	1,870	1,003,872	4,919	1/2/2025	4/26/2027
BAY HILL - K73	0.07	898	180,182	883	1/2/2025	4/26/2027
BAY HILL - K76	0.3	833	772,209	3,784	1/2/2025	4/26/2027
SKY LAKE - W0363	0.34	2,160	875,171	4,288	1/2/2025	3/31/2028
SKY LAKE - W0365	0.77	2,615	1,982,004	9,712	1/2/2025	3/31/2028
SKY LAKE - W0366	1	965	2,574,031	12,613	1/2/2025	3/31/2028
SKY LAKE - W0367	0.02	219	51,481	252	1/2/2025	3/31/2028
SKY LAKE - W0368	0.44	1,266	1,132,574	5,550	1/2/2025	3/31/2028
RIO PINAR - W0968	0.11	3,514	283,143	1,387	1/2/2025	4/26/2027
RIO PINAR - W0970	0.48	3,002	1,235,535	6,054	1/2/2025	4/26/2027
RIO PINAR - W0975	0.11	3,483	283,143	1,387	1/2/2025	4/26/2027

Pole inspections and replacements benefit the entire distribution system. These annual programs are completed on a cycle-basis. As such, these SPP programs do not lend themselves to identification of specific project locations. A Year 1 Project List has been provided at the Operations Center level.

**DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - LATERAL HARDENING POLE REPLACEMENTS**

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
BUENA VISTA	73	158,538	811,687	657	1/2/2026	12/15/2026
CLEARWATER	758	148,422	8,428,202	6,822	1/2/2026	12/15/2026
DELAND	581	91,841	6,460,139	5,229	1/2/2026	12/15/2026
HIGHLANDS	192	57,774	2,134,848	1,728	1/2/2026	12/15/2026
JAMESTOWN	30	146,108	333,570	270	1/2/2026	12/15/2026
LAKE WALES	783	148,811	8,706,177	7,047	1/2/2026	12/15/2026
LONGWOOD	62	96,080	689,378	558	1/2/2026	12/15/2026
MONTICELLO	962	60,125	10,696,478	8,658	1/2/2026	12/15/2026
OCALA	1032	94,307	11,474,808	9,288	1/2/2026	12/15/2026
SE ORLANDO	114	102,974	1,267,566	1,026	1/2/2026	12/15/2026
ST. PETERSBURG	151	183,237	1,678,969	1,359	1/2/2026	12/15/2026
WALSINGHAM	388	155,414	4,314,172	3,492	1/2/2026	12/15/2026
WINTER GARDEN	114	91,089	1,267,566	1,026	1/2/2026	12/15/2026

**DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - LATERAL HARDENING POLE INSPECTIONS**

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
BUENA VISTA	550	158,538	22,000	22,000	1/2/2026	12/15/2026
CLEARWATER	5750	148,422	230,000	230,000	1/2/2026	12/15/2026
DELAND	4408	91,841	176,320	176,320	1/2/2026	12/15/2026
HIGHLANDS	1458	57,774	58,320	58,320	1/2/2026	12/15/2026
JAMESTOWN	225	146,108	9,000	9,000	1/2/2026	12/15/2026
LAKE WALES	5938	148,811	237,520	237,520	1/2/2026	12/15/2026
LONGWOOD	469	96,080	18,760	18,760	1/2/2026	12/15/2026
MONTICELLO	7301	60,125	292,040	292,040	1/2/2026	12/15/2026
OCALA	7825	94,307	313,000	313,000	1/2/2026	12/15/2026
SE ORLANDO	865	102,974	34,600	34,600	1/2/2026	12/15/2026
ST. PETERSBURG	1142	183,237	45,680	45,680	1/2/2026	12/15/2026
WALSINGHAM	2945	155,414	117,800	117,800	1/2/2026	12/15/2026
WINTER GARDEN	874	91,089	34,960	34,960	1/2/2026	12/15/2026

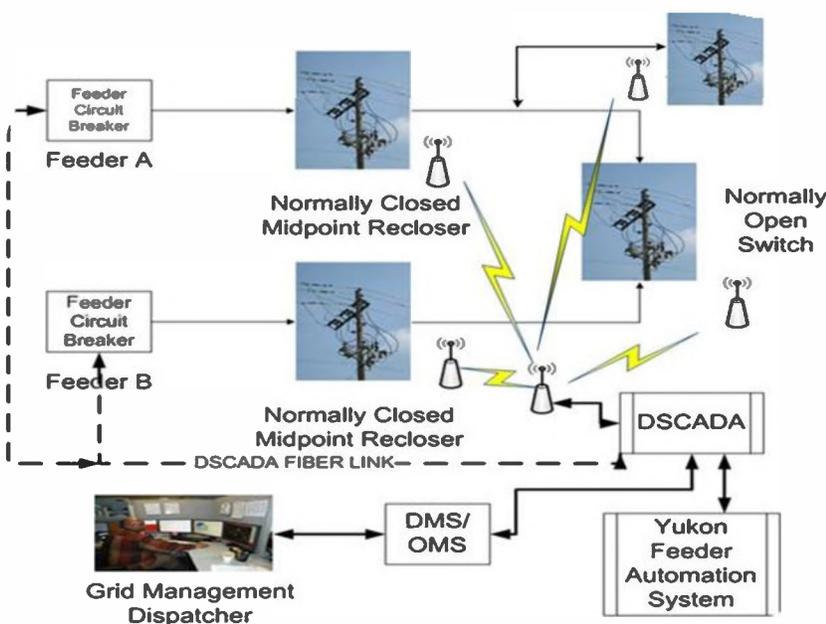
# Self-Optimizing Grid – SOG

## Vision

The SOG Program started as part of DEF's Grid Investment Plan which was partially funded through the 2017 Revised and Restated Settlement Agreement and was later continued through SPP 2020 and SPP 2023. DEF plans to continue this Program through SPP 2026 and at end of year 2026, approximately 80% of the distribution feeders on the DEF system will have the ability to automatically reroute power around damaged line sections. Nearly 100% of the distribution feeders will have automated switching capability. DEF is continuing to evaluate data gathered as result of hurricanes Debby, Helene, and Milton, but initial indications show the SOG Program was responsible for saving over 300 million minutes of customer outages during these storms. As a result of the Program's impressive customer benefits, DEF is evaluating whether the SOG Program should be continued to cover a greater percentage of the distribution system.

## Description

The current grid has limited ability to reroute and rapidly restore power. The SOG Program is established to address both issues.



The SOG Program consists of three (3) major components: capacity, connectivity, and automation and intelligence. The SOG Program redesigns key portions of the distribution system and transforms it into a dynamic smart-thinking, self-healing network. The grid will have the ability to automatically reroute power around trouble areas, like a tree on a power line, to quickly restore power to the maximum number of customers and rapidly dispatch line crews directly to the source of the outage. Self-healing technologies can reduce outage impacts by as much as 75 percent on affected feeders.

The **SOG Capacity projects** focus on expanding substation and distribution line capacity to allow for two-way power flow. **SOG Connectivity projects** create tie points between circuits. **SOG Automation projects** provide intelligence and control for the SOG operations; Automation projects enable the grid to dynamically reconfigure around trouble and restore customers not impacted by an outage.

## Cost

The SOG Program’s deployment to serve 80% of feeders with automated power rerouting around damaged sections of line is planned to be completed in 2026. Below are the projected units and costs for 2026-2028:

Self-Optimizing Grid (SOG)	DEF		
	2026	2027	2028
<b>Totals</b>	<b>\$115,437,821</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Automation</b>	<b>\$ 58,922,448</b>	<b>\$ -</b>	<b>\$ -</b>
Capital	\$ 58,635,408	\$ -	\$ -
O&M	\$ 287,040	\$ -	\$ -
Total Units	624	0	0
<b>Connectivity &amp; Capacity</b>	<b>\$ 56,515,373</b>	<b>\$ -</b>	<b>\$ -</b>
Capital	\$ 56,471,083	\$ -	\$ -
O&M	\$ 44,290	\$ -	\$ -

## Cost Benefit Comparison

Costs from 2026 through 2028 are approximately \$115M Capital and \$0.3M O&M.

At completion, with more customers automatically restored through automated switching, cost reductions can be achieved through better targeting of restoration efforts and personnel. SOG enables the grid to rapidly reroute power around damaged line sections. Accordingly, the benefit from the completion of this program is a reduction in customers affected by long duration outages as a result of extreme weather events, increased ability to target restoration efforts, and enhancement of overall reliability via anticipated decrease in CMI.

After deployment of the currently planned 2026 Self-Optimizing Grid Program work, DEF estimates it will reduce Distribution MED CMI by approximately 32 million to 40 million minutes annually. CMI reduction is used as a proxy for reduction in extreme weather event duration for the average customer.

## Prioritization Methodology

The following steps are used to prioritize the work:

1. **Probability of Damage:** SOG does not directly reduce damage but rather is intended to reduce the duration of outages, thus SOG impacts are conservatively assessed after other hardening projects. Since other hardening projects reduce equipment failures and outages, the simulated SOG impacts are evaluated against this new hardened baseline. To prioritize the work in the Florida regions, the Transmission and Distribution systems were modeled, and weather simulations were run to provide probabilistic exposure frequency for all asset locations. The weather modeling uses the FEMA Hazus and SLOSH models, which contain the weather data for storms over the last 200 years. Using the geographical locations of the Florida assets and the historic storm paths embedded in the Hazus model, a spatial correlation of future storm exposure can be derived. To determine probability of damage given that exposure, eight years of historical outage data was provided and correlated with the closest weather tower to determine the conditions during historic failures recorded in the outage data. Then, the expected quantities of asset failure for simulated future weather exposure conditions was

derived by combining simulated weather patterns with historical asset failure through conditional probability methods.

2. Consequence of Damage: Once the output of probabilistic damage is assessed, the probable impact to customers is considered. This step considers the number of customers served by a given asset (e.g., each pole, or segment of conductor on a feeder), observed outage durations, the mix of customers, and critical facilities. For SOG, this step is performed based on the hardened configuration of the feeder after completion of the Feeder Hardening program (see above for a description of the Feeder Hardening program).
3. Consequence of Automation: Because the program benefits are tied to reduction in outage length and customers affected during outages, these values were calculated as a part of the simulation described in steps 1 and 2, with the addition of SOG automation. The outage time reduction varied feeder by feeder, based on number of customers served, historic observed outage durations by asset class on each feeder, the reduction impact of feeder hardening on the feeder, and current level of automation.
4. Distribution subject matter experts then use these outputs to determine the optimum deployment plan considering factors such as current projects in the area, critical customers, operational knowledge, resource availability and efficiency.

## Year 1 Project List

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - SELF-OPTIMIZING GRID SEGMENTATION & AUTOMATION

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
FROSTPROOF - K101	6	2,728	563,802	2,760	1/2/2026	12/15/2026
CROOKED LAKE - K1771	2	1,092	187,934	920	1/2/2026	12/15/2026
WEST LAKE WALES - K866	2	1,249	187,934	920	1/2/2026	12/15/2026
CROOKED LAKE - K1772	3	940	281,901	1,380	1/2/2026	12/15/2026
LAKE WALES - K56	1	370	93,967	460	1/2/2026	12/15/2026
DELTONA EAST - W0123	5	2,299	469,835	2,300	1/2/2026	12/15/2026
CASSADAGA - W0516	2	1,625	187,934	920	1/2/2026	12/15/2026
CASSADAGA - W0523	1	814	93,967	460	1/2/2026	12/15/2026
BITHLO - W0956	4	2,260	375,868	1,840	1/2/2026	12/15/2026
BITHLO - W0951	4	1,676	375,868	1,840	1/2/2026	12/15/2026
BITHLO - W0955	5	1,487	469,835	2,300	1/2/2026	12/15/2026
BITHLO - W0952	1	818	93,967	460	1/2/2026	12/15/2026
UCF - W1012	6	2,486	563,802	2,760	1/2/2026	12/15/2026
SUNFLOWER - W0475	5	2,760	469,835	2,300	1/2/2026	12/15/2026
UCF NORTH - W0992	5	2,301	469,835	2,300	1/2/2026	12/15/2026
EAST ORANGE - W0265	4	2,039	375,868	1,840	1/2/2026	12/15/2026
SUNFLOWER - W0472	4	1,787	375,868	1,840	1/2/2026	12/15/2026
UCF - W1018	2	1,026	187,934	920	1/2/2026	12/15/2026
UCF - W1013	3	988	281,901	1,380	1/2/2026	12/15/2026
UCF - W1015	3	130	281,901	1,380	1/2/2026	12/15/2026
HUNTERS CREEK - K40	5	2,190	469,835	2,300	1/2/2026	12/15/2026
HUNTERS CREEK - K48	4	1,811	375,868	1,840	1/2/2026	12/15/2026
HUNTERS CREEK - K43	4	1,598	375,868	1,840	1/2/2026	12/15/2026
MIDWAY - K1475	6	2,909	563,802	2,760	1/2/2026	12/15/2026
MIDWAY - K1473	5	2,478	469,835	2,300	1/2/2026	12/15/2026

<b>POINCIANA NORTH - K631</b>	4	2,198	375,868	1,840	1/2/2026	12/15/2026
<b>POINCIANA - K1237</b>	4	2,383	375,868	1,840	1/2/2026	12/15/2026
<b>MIDWAY - K1472</b>	3	2,026	281,901	1,380	1/2/2026	12/15/2026
<b>POINCIANA - K1556</b>	3	1,745	281,901	1,380	1/2/2026	12/15/2026
<b>POINCIANA - K1509</b>	5	1,676	469,835	2,300	1/2/2026	12/15/2026
<b>POINCIANA NORTH - K629</b>	2	1,545	187,934	920	1/2/2026	12/15/2026
<b>MONTICELLO - N67</b>	2	1,643	187,934	920	1/2/2026	12/15/2026
<b>MONTICELLO - N69</b>	2	1,317	187,934	920	1/2/2026	12/15/2026
<b>WAUKEENAH - N65</b>	1	550	93,967	460	1/2/2026	12/15/2026
<b>MONTICELLO - N66</b>	1	731	93,967	460	1/2/2026	12/15/2026
<b>WAUKEENAH - N64</b>	6	698	563,802	2,760	1/2/2026	12/15/2026
<b>MONTICELLO - N68</b>	1	318	93,967	460	1/2/2026	12/15/2026
<b>BAYVIEW - C654</b>	4	3,431	375,868	1,840	1/2/2026	12/15/2026
<b>BAYVIEW - C657</b>	6	2,835	563,802	2,760	1/2/2026	12/15/2026
<b>LARGO - J403</b>	3	2,633	281,901	1,380	1/2/2026	12/15/2026
<b>TRI-CITY - J5032</b>	5	2,895	469,835	2,300	1/2/2026	12/15/2026
<b>TRI-CITY - J5036</b>	6	2,397	563,802	2,760	1/2/2026	12/15/2026
<b>ZEPHYRHILLS - C855</b>	7	2,962	657,769	3,220	1/2/2026	12/15/2026
<b>ZEPHYRHILLS - C851</b>	6	3,002	563,802	2,760	1/2/2026	12/15/2026
<b>ZEPHYRHILLS NORTH - C340</b>	5	2,901	469,835	2,300	1/2/2026	12/15/2026
<b>ZEPHYRHILLS NORTH - C341</b>	5	2,582	469,835	2,300	1/2/2026	12/15/2026
<b>ZEPHYRHILLS NORTH - C345</b>	2	1,588	187,934	920	1/2/2026	12/15/2026
<b>ZEPHYRHILLS - C852</b>	3	484	281,901	1,380	1/2/2026	12/15/2026
<b>BEVERLY HILLS - A75</b>	4	2,149	375,868	1,840	1/2/2026	12/15/2026
<b>BEVERLY HILLS - A72</b>	4	1,783	375,868	1,840	1/2/2026	12/15/2026
<b>BEVERLY HILLS - A74</b>	2	1,625	187,934	920	1/2/2026	12/15/2026
<b>HOLDER - A47</b>	3	1,718	281,901	1,380	1/2/2026	12/15/2026
<b>BEVERLY HILLS - A73</b>	3	1,451	281,901	1,380	1/2/2026	12/15/2026
<b>PERRY NORTH - N14</b>	2	1,704	187,934	920	1/2/2026	12/15/2026
<b>PERRY - N9</b>	2	1,136	187,934	920	1/2/2026	12/15/2026
<b>PERRY - N10</b>	1	1,093	93,967	460	1/2/2026	12/15/2026
<b>PERRY - N7</b>	1	1,049	93,967	460	1/2/2026	12/15/2026
<b>PERRY NORTH - N15</b>	2	1,013	187,934	920	1/2/2026	12/15/2026
<b>PERRY - N8</b>	1	389	93,967	460	1/2/2026	12/15/2026
<b>DUNNELLON TOWN - A68</b>	4	2,480	375,868	1,840	1/2/2026	12/15/2026
<b>INDIAN PASS - N556</b>	3	2,272	281,901	1,380	1/2/2026	12/15/2026
<b>BEACON HILL - N527</b>	1	1,563	93,967	460	1/2/2026	12/15/2026
<b>PORT ST. JOE - N53</b>	1	1,318	93,967	460	1/2/2026	12/15/2026
<b>PORT ST. JOE - N52</b>	1	821	93,967	460	1/2/2026	12/15/2026
<b>PORT ST. JOE - N54</b>	1	791	93,967	460	1/2/2026	12/15/2026
<b>PORT ST. JOE IND. - N202</b>	2	1,152	187,934	920	1/2/2026	12/15/2026
<b>MADISON - N3</b>	2	1,568	187,934	920	1/2/2026	12/15/2026
<b>MADISON - N2</b>	1	921	93,967	460	1/2/2026	12/15/2026
<b>MADISON - N4</b>	1	337	93,967	460	1/2/2026	12/15/2026
<b>CIRCLE SQUARE - A251</b>	7	2,702	657,769	3,220	1/2/2026	12/15/2026
<b>CIRCLE SQUARE - A250</b>	8	2,863	751,736	3,680	1/2/2026	12/15/2026

CIRCLE SQUARE - A253	4	1,866	375,868	1,840	1/2/2026	12/15/2026
HERNANDO AIRPORT - A431	4	2,781	375,868	1,840	1/2/2026	12/15/2026
TANGERINE - A264	3	1,078	281,901	1,380	1/2/2026	12/15/2026
TANGERINE - A263	1	897	93,967	460	1/2/2026	12/15/2026
HERNANDO AIRPORT - A430	4	453	375,868	1,840	1/2/2026	12/15/2026
ANCLOTE - C4206	4	2,462	375,868	1,840	1/2/2026	12/15/2026
ELFERS - C953	3	1,939	281,901	1,380	1/2/2026	12/15/2026
ELFERS - C954	1	1,356	93,967	460	1/2/2026	12/15/2026
BROOKSVILLE - A95	3	1,768	281,901	1,380	1/2/2026	12/15/2026
BROOKSVILLE - A96	2	1,696	187,934	920	1/2/2026	12/15/2026
TANGERINE - A262	2	1,671	187,934	920	1/2/2026	12/15/2026
BROOKSVILLE - A97	2	1,554	187,934	920	1/2/2026	12/15/2026
BROOKSVILLE - A98	2	1,477	187,934	920	1/2/2026	12/15/2026
DENHAM - C152	6	3,119	563,802	2,760	1/2/2026	12/15/2026
MORGAN RD - C55	5	2,403	469,835	2,300	1/2/2026	12/15/2026
MORGAN RD - C53	5	2,249	469,835	2,300	1/2/2026	12/15/2026
DENHAM - C157	2	1,896	187,934	920	1/2/2026	12/15/2026
DENHAM - C151	4	1,678	375,868	1,840	1/2/2026	12/15/2026
DENHAM - C156	4	1,594	375,868	1,840	1/2/2026	12/15/2026
MORGAN RD - C54	3	1,244	281,901	1,380	1/2/2026	12/15/2026
MORGAN RD - C52	8	1,365	751,736	3,680	1/2/2026	12/15/2026
MORGAN RD - C56	2	1,070	187,934	920	1/2/2026	12/15/2026
MORGAN RD - C57	2	1,591	187,934	920	1/2/2026	12/15/2026
INVERNESS - A82	3	1,958	281,901	1,380	1/2/2026	12/15/2026
INVERNESS - A81	2	1,772	187,934	920	1/2/2026	12/15/2026
INVERNESS - A84	1	1,296	93,967	460	1/2/2026	12/15/2026
INVERNESS - A85	3	1,010	281,901	1,380	1/2/2026	12/15/2026
ADAMS - A199	2	1,527	187,934	920	1/2/2026	12/15/2026
DUNNELTON TOWN - A69	1	1,130	93,967	460	1/2/2026	12/15/2026
DUNNELTON TOWN - A70	1	1,408	93,967	460	1/2/2026	12/15/2026
RAINBOW SPRINGS - A368	1	1,400	93,967	460	1/2/2026	12/15/2026
DUNNELTON TOWN - A71	1	1,082	93,967	460	1/2/2026	12/15/2026
RAINBOW SPRINGS - A369	1	1,147	93,967	460	1/2/2026	12/15/2026
GEORGIA PACIFIC - A45	4	1,425	375,868	1,840	1/2/2026	12/15/2026
ZUBER - A205	1	1,122	93,967	460	1/2/2026	12/15/2026
ZUBER - A202	2	751	187,934	920	1/2/2026	12/15/2026
LAND O LAKES - C148	9	2,853	845,703	4,140	1/2/2026	12/15/2026
LAND O LAKES - C141	7	2,190	657,769	3,220	1/2/2026	12/15/2026
ODESSA - C4322	8	3,684	751,736	3,680	1/2/2026	12/15/2026
ODESSA - C4318	7	1,855	657,769	3,220	1/2/2026	12/15/2026
EATONVILLE - M1135	6	2,651	563,802	2,760	1/2/2026	12/15/2026
SPRING LAKE - M669	4	2,011	375,868	1,840	1/2/2026	12/15/2026
PIEDMONT - M474	3	2,040	281,901	1,380	1/2/2026	12/15/2026
PIEDMONT - M473	3	1,706	281,901	1,380	1/2/2026	12/15/2026
LOCKHART - M412	3	1,809	281,901	1,380	1/2/2026	12/15/2026
PIEDMONT - M472	2	1,539	187,934	920	1/2/2026	12/15/2026

SUN-N-LAKES - K1136	5	2,336	469,835	2,300	1/2/2026	12/15/2026
LAKEWOOD - K1706	3	2,047	281,901	1,380	1/2/2026	12/15/2026
SUN-N-LAKES - K1135	3	2,011	281,901	1,380	1/2/2026	12/15/2026
SUN-N-LAKES - K1297	3	1,383	281,901	1,380	1/2/2026	12/15/2026
SUN-N-LAKES - K1300	2	1,289	187,934	920	1/2/2026	12/15/2026
LAKEWOOD - K1705	2	1,107	187,934	920	1/2/2026	12/15/2026
DESOTO CITY - K3222	2	527	187,934	920	1/2/2026	12/15/2026
MINNEOLA - K949	4	2,518	375,868	1,840	1/2/2026	12/15/2026
MINNEOLA - K946	3	1,607	281,901	1,380	1/2/2026	12/15/2026
EUSTIS - M504	4	1,414	375,868	1,840	1/2/2026	12/15/2026
EUSTIS SOUTH - M1059	2	1,750	187,934	920	1/2/2026	12/15/2026
EUSTIS - M499	3	1,630	281,901	1,380	1/2/2026	12/15/2026
EUSTIS - M503	2	1,444	187,934	920	1/2/2026	12/15/2026
EUSTIS SOUTH - M1055	2	1,473	187,934	920	1/2/2026	12/15/2026
EUSTIS - M501	2	1,732	187,934	920	1/2/2026	12/15/2026
EUSTIS SOUTH - M1054	1	756	93,967	460	1/2/2026	12/15/2026
LEISURE LAKES - K1415	4	2,145	375,868	1,840	1/2/2026	12/15/2026
LAKE PLACID NORTH - K24	2	951	187,934	920	1/2/2026	12/15/2026
DESOTO CITY - K3221	4	329	375,868	1,840	1/2/2026	12/15/2026
CHAMPIONS GATE - K1764	4	2,056	375,868	1,840	1/2/2026	12/15/2026
LAKE WILSON - K881	3	2,587	281,901	1,380	1/2/2026	12/15/2026
LAKE WILSON - K881/K880	5	2,587	469,835	2,300	1/2/2026	12/15/2026
BAY RIDGE - M451	3	1,078	281,901	1,380	1/2/2026	12/15/2026
BAY RIDGE - M453	2	1,675	187,934	920	1/2/2026	12/15/2026
WELCH ROAD - M548	3	1,723	281,901	1,380	1/2/2026	12/15/2026
WELCH ROAD - M545	3	1,129	281,901	1,380	1/2/2026	12/15/2026
BAY RIDGE - M447	2	1,317	187,934	920	1/2/2026	12/15/2026
WOLF LAKE - M564	2	1,063	187,934	920	1/2/2026	12/15/2026
BAY RIDGE - M445	1	1,716	93,967	460	1/2/2026	12/15/2026
KELLY PARK - M822	1	453	93,967	460	1/2/2026	12/15/2026
LAKE OF THE HILLS - K1885	1	1,353	93,967	460	1/2/2026	12/15/2026
CYPRESSWOOD - K561	2	1,167	187,934	920	1/2/2026	12/15/2026
COUNTRY OAKS - K1443	2	1,157	187,934	920	1/2/2026	12/15/2026
DUNDEE - K3246	1	446	93,967	460	1/2/2026	12/15/2026
LISBON - M1519	4	2,052	375,868	1,840	1/2/2026	12/15/2026
LISBON - M1518	4	1,875	375,868	1,840	1/2/2026	12/15/2026
LISBON - M1520	2	1,903	187,934	920	1/2/2026	12/15/2026
UMATILLA - M4407	4	2,312	375,868	1,840	1/2/2026	12/15/2026
UMATILLA - M4405	2	790	187,934	920	1/2/2026	12/15/2026
COLEMAN - A105	5	301	469,835	2,300	1/2/2026	12/15/2026
EAGLES NEST - A228	3	1,727	281,901	1,380	1/2/2026	12/15/2026
BELLEVIEW - A3	4	542	375,868	1,840	1/2/2026	12/15/2026
WILDWOOD - A395	4	3,022	375,868	1,840	1/2/2026	12/15/2026
LAKE WEIR - A61	3	1,743	281,901	1,380	1/2/2026	12/15/2026
TRENTON - A90	2	1,261	187,934	920	1/2/2026	12/15/2026
EAST CLEARWATER - C903	2	559	187,934	920	1/2/2026	12/15/2026

ELFERS - C951	3	1,577	281,901	1,380	1/2/2026	12/15/2026
EAST LAKE WALES - K1032	3	1,602	281,901	1,380	1/2/2026	12/15/2026
FOUR CORNERS - K1407	2	174	187,934	920	1/2/2026	12/15/2026
WORLD GATEWAY - K187	2	645	187,934	920	1/2/2026	12/15/2026
LAKE BRYAN - K230	3	32	281,901	1,380	1/2/2026	12/15/2026
LAKE BRYAN - K239	1	907	93,967	460	1/2/2026	12/15/2026
LAKE BRYAN - K240	2	1,111	187,934	920	1/2/2026	12/15/2026
OKAHUMPKA - K284	3	1,627	281,901	1,380	1/2/2026	12/15/2026
CYPRESSWOOD - K317	1	992	93,967	460	1/2/2026	12/15/2026
GROVELAND - K673	3	1,645	281,901	1,380	1/2/2026	12/15/2026
CLARCONA - M339	1	679	93,967	460	1/2/2026	12/15/2026
LAKE EMMA - M424	1	1,027	93,967	460	1/2/2026	12/15/2026
WELCH ROAD - M543	2	1,192	187,934	920	1/2/2026	12/15/2026
PLYMOUTH - M704	2	980	187,934	920	1/2/2026	12/15/2026
SUNFLOWER - W0469	6	1,253	563,802	2,760	1/2/2026	12/15/2026
MAGNOLIA RANCH - W0504	6	3,036	563,802	2,760	1/2/2026	12/15/2026
HIGHBANKS - W0751	1	1,767	93,967	460	1/2/2026	12/15/2026
BARBERVILLE - W0902	3	1,516	281,901	1,380	1/2/2026	12/15/2026
DISSTON - X61	1	1,009	93,967	460	1/2/2026	12/15/2026
WELCH ROAD - M542	1	1,768	93,967	460	1/2/2026	12/15/2026
PIEDMONT - M475	1	1,508	93,967	460	1/2/2026	12/15/2026
WELCH ROAD - M550	2	1,616	187,934	920	1/2/2026	12/15/2026
PLYMOUTH - M707	1	1,726	93,967	460	1/2/2026	12/15/2026
APOPKA SOUTH - M725	2	1,695	187,934	920	1/2/2026	12/15/2026
APOPKA SOUTH - M721	1	1,559	93,967	460	1/2/2026	12/15/2026
ZELLWOOD - M32	1	1,099	93,967	460	1/2/2026	12/15/2026
PIEDMONT - M478	1	1,929	93,967	460	1/2/2026	12/15/2026
BROOKER CREEK - C5404	2	2,813	187,934	920	1/2/2026	12/15/2026
CURLEW - C4976	2	2,222	187,934	920	1/2/2026	12/15/2026
BROOKER CREEK - C5406	2	2,180	187,934	920	1/2/2026	12/15/2026
CURLEW - C4972	2	1,848	187,934	920	1/2/2026	12/15/2026
BROOKER CREEK - C5405	2	1,343	187,934	920	1/2/2026	12/15/2026
BROOKER CREEK - C5400	2	1,061	187,934	920	1/2/2026	12/15/2026
CITRUS HILLS - A284	1	1,027	93,967	460	1/2/2026	12/15/2026
CITRUS HILLS - A286	1	1,669	93,967	460	1/2/2026	12/15/2026
TURNER PLANT - W0761	1	1,977	93,967	460	1/2/2026	12/15/2026
DELTONA - W4558	1	1,566	93,967	460	1/2/2026	12/15/2026
EUSTIS SOUTH - M1058	1	1,953	93,967	460	1/2/2026	12/15/2026
EUSTIS SOUTH - M1056	1	1,772	93,967	460	1/2/2026	12/15/2026
ALAFAYA - W0290	2	2,299	187,934	920	1/2/2026	12/15/2026
UCF NORTH - W0981	2	1,837	187,934	920	1/2/2026	12/15/2026
UCF NORTH - W0980	1	1,680	93,967	460	1/2/2026	12/15/2026
LOCKWOOD - W0482	1	1,495	93,967	460	1/2/2026	12/15/2026
UCF NORTH - W0988	2	372	187,934	920	1/2/2026	12/15/2026
NORTHRIDGE - K1822	3	2,897	281,901	1,380	1/2/2026	12/15/2026
WEST DAVENPORT - K1524	1	2,293	93,967	460	1/2/2026	12/15/2026

GIFFORD - K83	3	4,190	281,901	1,380	1/2/2026	12/15/2026
GIFFORD - K84	2	3,755	187,934	920	1/2/2026	12/15/2026
REEDY LAKE - K1108	2	3,131	187,934	920	1/2/2026	12/15/2026
ANCLOTE - C4204	1	1	93,967	460	1/2/2026	12/15/2026
HOLOPAW - W0629	1	1,280	93,967	460	1/2/2026	12/15/2026
LARGO BANK 02 - J406	5	2,042	469,835	2,300	1/2/2026	12/15/2026
DOUGLAS AVENUE BANK02 - M113	2	1,570	187,934	920	1/2/2026	12/15/2026
DOUGLAS AVENUE BANK02 - M1706	2	1,642	187,934	920	1/2/2026	12/15/2026
DOUGLAS AVENUE BANK02 - M471	3	1,675	281,901	1,380	1/2/2026	12/15/2026
DOUGLAS AVENUE BANK02 - M663	2	1,274	187,934	920	1/2/2026	12/15/2026
DOUGLAS AVENUE BANK02 - M670	2	1,652	187,938	920	1/2/2026	12/15/2026

**DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - SELF-OPTIMIZING GRID CAPACITY & CONNECTIVITY**

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
WEST LAKE WALES - K866	3.41	1,249	4,478,288	3,512	1/2/2026	12/15/2026
CROOKED LAKE - K1772	3.41	940	4,478,288	3,512	1/2/2026	12/15/2026
UCF - W1012	0.21	2,486	275,789	216	1/2/2026	12/15/2026
EAST ORANGE - W0265	0.21	2,039	275,789	216	1/2/2026	12/15/2026
MIDWAY - K1472	0.78	2,026	1,024,359	803	1/2/2026	12/15/2026
POINCIANA - K1556	1.17	1,745	1,536,539	1,205	1/2/2026	12/15/2026
TRI-CITY - J5032	0.27	2,895	354,586	278	1/2/2026	12/15/2026
ZEPHYRHILLS - C855	0.42	2,962	551,578	433	1/2/2026	12/15/2026
ZEPHYRHILLS NORTH - C340	0.19	2,901	249,523	196	1/2/2026	12/15/2026
ZEPHYRHILLS NORTH - C341	0.09	2,582	118,195	93	1/2/2026	12/15/2026
ZEPHYRHILLS NORTH - C345	1.33	1,588	1,746,664	1,370	1/2/2026	12/15/2026
BEVERLY HILLS - A75	1.04	2,149	1,365,812	1,071	1/2/2026	12/15/2026
CIRCLE SQUARE - A251	0.57	2,702	748,570	587	1/2/2026	12/15/2026
BROOKSVILLE - A95	1.04	1,768	1,365,812	1,071	1/2/2026	12/15/2026
TANGERINE - A262	1.33	1,671	1,746,664	1,370	1/2/2026	12/15/2026
BROOKSVILLE - A97	1.42	1,554	1,864,859	1,463	1/2/2026	12/15/2026
MORGAN RD - C53	0.13	2,249	170,727	134	1/2/2026	12/15/2026
DENHAM - C157	1.52	1,896	1,996,187	1,566	1/2/2026	12/15/2026
DENHAM - C156	0.76	1,594	998,094	783	1/2/2026	12/15/2026
MORGAN RD - C56	3.26	1,070	4,281,296	3,358	1/2/2026	12/15/2026
DUNNELLON TOWN - A69	2.08	1,130	2,731,624	2,142	1/2/2026	12/15/2026
PIEDMONT - M472	0.11	1,539	144,461	113	1/2/2026	12/15/2026
SUN-N-LAKES - K1136	0.28	2,336	367,719	288	1/2/2026	12/15/2026
SUN-N-LAKES - K1300	0.19	1,289	249,523	196	1/2/2026	12/15/2026
LAKE PLACID NORTH - K24	0.87	951	1,142,554	896	1/2/2026	12/15/2026
DESOTO CITY - K3221	0.28	329	367,719	288	1/2/2026	12/15/2026
DUNDEE - K3246	0.57	446	748,570	587	1/2/2026	12/15/2026
CRYSTAL RIVER SOUTH - A159	2.84	1,111	3,729,718	2,925	1/2/2026	12/15/2026

<b>WOODSMERE - M254</b>	0.85	702	1,116,289	876	1/2/2026	12/15/2026
<b>EATONVILLE - M1138</b>	0.66	471	866,765	680	1/2/2026	12/15/2026
<b>HAINES CITY - K21</b>	1.55	3330	2,035,586	1,597	1/2/2026	12/15/2026
<b>PILSBURY - X256</b>	0.76	402	998,094	783	1/2/2026	12/15/2026
<b>ANCLOTE PLANT BANK 08 - C4201</b>	1.59	2685	2,088,117	1,638	1/2/2026	12/15/2026
<b>NARCOSEE BANK 02 - W0217</b>	3.72	2549	4,885,405	3,832	1/2/2026	12/15/2026
<b>NORTHEAST BANK 02 - X287</b>	0.13	2408	170,727	134	1/2/2026	12/15/2026
<b>DOUGLAS AVENUE BANK02 - A48</b>	0.38	1998	499,047	391	1/2/2026	12/15/2026
<b>LARGO BANK 02 - J405</b>	0.17	1812	223,258	175	1/2/2026	12/15/2026
<b>ANCLOTE - C4204</b>	1.14	1	1,497,140	1,174	1/2/2026	12/15/2026
<b>LARGO BANK 02 - J406</b>	1.14	2042	1,497,140	1,174	1/2/2026	12/15/2026
<b>DOUGLAS AVENUE BANK02 - M1706</b>	1.13	1642	1,484,004	1,164	1/2/2026	12/15/2026

# Underground Flood Mitigation

## Vision

The Underground Flood Mitigation program is a targeted Program to harden existing underground distribution facilities in locations that are prone to storm surge during extreme weather events. This Program will address the areas identified as being at high risk for significant flooding by installing submersible equipment. The Underground Flood Mitigation Program is scheduled to start in 2025 and is estimated to take 30 years to complete.

## Description

Underground Flood Mitigation will harden existing underground line and equipment to withstand storm surge through the use of DEF's current storm surge standards. This involves the installation of specialized stainless-steel equipment, submersible connections and concrete pads with increased mass. The primary purpose of this hardening activity is to minimize the equipment damage caused by storm surge and thus reduce customer outages and/or expedite restoration after the storm surge has receded.

For selected locations, DEF would utilize a concrete pad with increased weight and stainless steel tiedowns and change all the connections to waterproof (submersible) connections. Conventional switchgear would be replaced with submersible switchgears that are able to withstand the storm surge.



Figure 1: Underground construction with severe corrosion and electrolysis due to storm surge during Hurricane Helene



Figure 2: Underground construction with sealed connectors mitigating impacts of storm surge.

## Cost

It is expected that the 10-year cost will be approximately \$15M.

UG Flood Mitigation	DEF		
	2026	2027	2028
Totals	\$ 1,497,150	\$ 1,534,575	\$ 1,551,963
Capital	\$ 1,497,150	\$ 1,534,575	\$ 1,551,963
O&M	\$ -	\$ -	\$ -
Total Units	75	75	74

## Cost Benefit Comparison

As provided in the Cost section above, the estimated cost for DEF’s Underground Flood Mitigation Program during the 10-year planning horizon is approximately \$15M Capital.

After deployment of the 2026-2035 Underground Flood Mitigation Program work, DEF estimates it will reduce the cost of extreme weather events on the Distribution system by approximately \$0.8M to \$1.0M annually based on today’s costs.

After deployment of the 2026-2035 Underground Flood Mitigation Program work, DEF estimates it will reduce Distribution MED CMI by approximately 0.6 million to 0.8 million minutes annually. CMI reduction is used as a proxy for reduction in extreme weather event duration for the average customer.

## Prioritization Methodology

Work will be prioritized using the following process.

1. **Probability of Damage:** To prioritize the work in the Florida regions, the Transmission and Distribution systems were modeled, and weather simulations were run to provide probabilistic exposure frequency for all asset locations. The weather modeling uses the FEMA Hazus and SLOSH models, which contain the weather data for storms over the last 200 years. Using the geographical locations of the Florida assets and the historic storm paths embedded in the Hazus model, a spatial correlation of future storm exposure can be derived. To determine probability of damage given that exposure, eight years of historical outage data was provided and correlated with the closest weather tower to determine the conditions during historic failures recorded in the outage data. Then, the expected quantities of asset failure for simulated future weather exposure conditions was derived by combining simulated weather patterns with historical asset failure through conditional probability methods.
2. **Consequence of Damage:** Once the output of probabilistic damage is assessed, the probable impact to customers is considered. This step considers the number of customers served by a given asset (e.g., each pole, or segment of conductor on a feeder), observed outage durations, the mix of customers, and critical facilities. This step is performed both for the existing configuration of each feeder, and the hardened configuration resulting from completion of the program. The difference between the existing condition and the hardened configuration is the program impact.

3. Distribution subject matter experts then use these outputs to determine the optimum deployment plan considering factors such as current projects in the area, critical customers, operational knowledge, resource availability and efficiency.

## Year 1 Project List

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS – UNDERGROUND FLOOD MITIGATION

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
FLORAMAR - C4002	75	2,343	1,497,150	-	1/2/2026	12/15/2026

# Distribution Vegetation Management

## Vision

DEF will continue to utilize a fully Integrated Vegetation Management (IVM) to minimize the impact of vegetation on the distribution assets.

## Description

DEF Distribution will continue a fully IVM program focused on trimming feeders and laterals on an average 3 and 5-year cycles respectively. This corresponds to trimming approximately 1,900 miles of feeder backbone and 2,450 miles of laterals annually. The IVM program consists of the following: routine maintenance “trimming”, hazard tree removal, herbicide applications, vine removal, customer requested work, and right-of-way brush “mowing” where applicable. The IVM program incorporates a combination of condition, time since last trim and reliability-driven prioritization of work to reduce event possibilities during extreme weather events and enhance overall reliability.

Additionally, a hazard tree patrol is conducted every year on all three-phase circuits. Hazard trees are defined as trees that are dead, dying, structurally unsound, diseased, leaning or otherwise defective. The trees that are located within the right of way are removed prior to hurricane season each year, hazard trees that are located outside the right of way require landowner permission prior to removal. After contact with the landowner is initiated and permission for removal received, tree removal is targeted for completion prior to hurricane season when possible. If a feeder circuit is relocated or circuit height changes, an additional hazard tree assessment will be conducted in the line segments that will be impacted.

DEF will optimize the IVM program costs against reliability and storm performance objectives to harden the system for extreme weather events. There are four key objectives for optimization:

- Customer and employee safety;
- Tree-caused outage minimization, with the objective to reduce the number of tree-caused outages, particularly in the “preventable” category;
- Effective cost management; and
- Customer satisfaction.

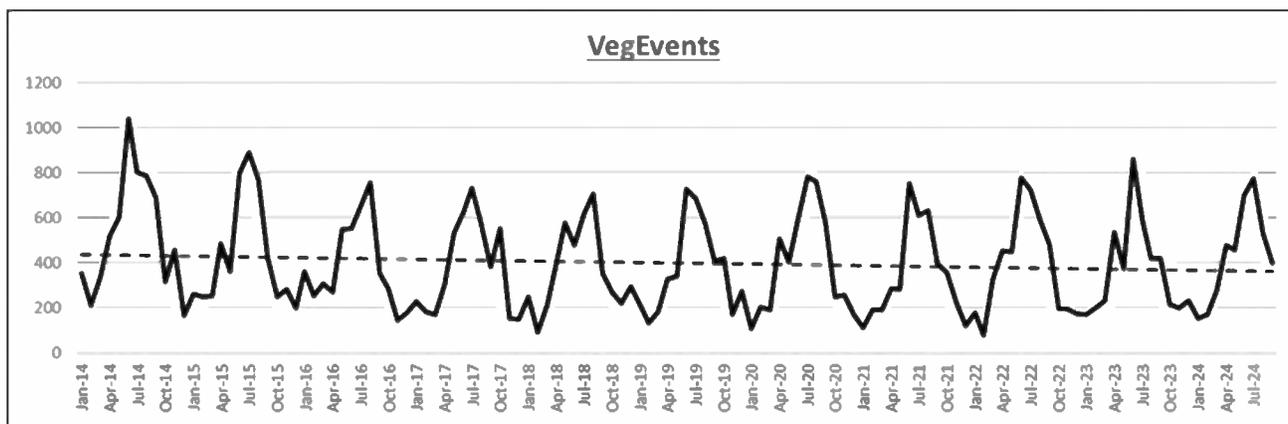
## Cost

It is expected that the 10-year cost will be approximately \$34M Capital and \$566M O&M. This would cover the inspection and vegetation remediation activities. The circuit maintenance work performed is predominantly billed under a unit-based contract structure and not differentiated between labor and equipment. The estimated contractor ratio is 95% and the estimated utility personnel ratio is 5%.

2026-2028 Labor / Equipment Breakout		
	Labor	Equipment
<b>Utility Personnel Totals</b>	<b>\$ 7,939,735</b>	<b>\$ 417,881</b>
Capital	\$ 665,378	\$ 35,020
O&M	\$ 7,274,357	\$ 382,861
<b>Contract Personnel Totals</b>	<b>\$ 115,374,051</b>	<b>\$ 38,200,442</b>
Capital	\$ 6,429,227	\$ 2,143,076
O&M	\$ 108,944,824	\$ 36,057,366

VM - Distribution	DEF		
	2026	2027	2028
Totals	\$ 52,399,115	\$ 53,961,648	\$ 55,571,345
Capital	\$ 3,000,000	\$ 3,090,000	\$ 3,182,700
O&M	\$ 49,399,115	\$ 50,871,648	\$ 52,388,645
Approximate Miles	4,450	4,385	4,385

## Cost Benefit Comparison



DEF’s Distribution IVM program is focused on delivering reliable electric service in a cost-effective manner while utilizing industry best management practices to control the growth of incompatible vegetation to ensure the safe operation of the distribution system by minimizing vegetation-related interruptions and ensuring adequate conductor-to-vegetation clearances. The Vegetation Management Program maintains compliance with regulatory, environmental and safety requirements/standards. The chart above shows a reduction in vegetation related outage events over the past 10 years and demonstrates the effectiveness of the IVM program. Activities focus on the removal and/or control of incompatible vegetation within and along the right of way to minimize the risk of vegetation-related outages.

## Prioritization Methodology

DEF’s Distribution Vegetation Management Program is leveraging advanced technologies such as remotely sensed imagery (i.e. satellite) and modelling to develop a condition-based maintenance strategy. This modelling takes into account vegetation density and proximity to conductors, previous tree-caused outages, equipment configuration, and time since last pruning to determine the risk of a future tree-caused outage and the optimal time to prune.

As systems and technologies continue to evolve and mature, DEF intends to leverage emerging technologies/systems and analytics to evaluate numerous variables coupled with local knowledge to optimize the annual planning and scheduling of work DEF follows the ANSI 300 standard for pruning and the guide “Pruning Trees Near Electric Utility Lines” by Dr. Alex L. Shigo.

# Transmission Programs

## Program Summaries

# Structure Hardening

## Vision

The Structure Hardening program began in 2021 and focuses on DEF's transmission structures throughout the state. As part of the program completion, all wood poles on DEF's transmission system will be replaced with non-wood structures within 3 years. In addition, at the completion of the program, approximately 6,000 towers will be hardened, cathodic protection installed on all eligible towers, approximately 56,000 insulator sites upgraded, approximately 824 miles of overhead ground wire will be replaced, and approximately 60 gang operated air break switches will be automated for system resiliency. The Structure Hardening Program is estimated to take approximately 30 years to complete from inception and will enhance the overall reliability of the DEF transmission system.

## Description

The Transmission Structure Hardening program addresses existing vulnerabilities on the system. This will enable the transmission system to better withstand extreme weather events. This program includes wood to non-wood upgrades, tower upgrades, adding cathodic protection, automating gang operated air break switches, insulator upgrades, overhead ground wire upgrades, and structure inspections.



*Figure 1: Broken Pole due to extreme weather event.*



*Figure 2: Broken Static due to extreme weather event.*

## Wood to Non-Wood Upgrade

This activity upgrades wood poles to non-wood material such as steel or concrete. Wood pole failure has been the predominate structure damage to the transmission system during extreme weather. This strengthens structures by eliminating damage from woodpeckers and wood rot. The new structures will be more resistant to damage from extreme weather events. Other related hardware upgrades will occur simultaneously, such as insulators, crossarms, switches, and guys.



*Figure 3: Wood to non-wood upgrade.*

## Tower Upgrade

Tower Upgrade will prioritize towers based on inspection data and enhanced weather modeling. The upgrade activities will replace tower types that have previously failed during extreme weather events.

In addition, the tower upgrade activities will upgrade towers identified by visual ground inspections, aerial drone inspections and data gathered during cathodic protection installations (discussed below). This will improve the ability of the transmission grid to sustain operations during extreme weather events by reducing outages and improving restoration times. Other related hardware upgrades will occur simultaneously such as insulators, cathodic protection, and guys.



Figure 4: Lattice Tower impacted by Hurricane Idalia

### Cathodic Protection

The purpose of the Cathodic Protection (CP) activities is to mitigate active groundline corrosion on the tower system. This will be done by installing passive CP systems comprised of anodes on each leg of the towers. The anodes serve as sacrificial assets that corrode in place of structural steel, preventing loss of structure strength to corrosion. Each CP project will address all towers on a line from beginning point to end point.

The following tangible benefits will be gained related to hardening the tower system:

- Site Classification - Subsurface investigation and cathodic protection installation prioritized first on all lattice structures. Then prioritizing lines based on system criticality, age, and potential storm impact. Galvanization and member thickness measurements will be taken on all legs and diagonals, and structural steel will be classified by corrosion severity. Concrete piers will be classified on concrete health, cracking, and rebar corrosion. This system evaluation will identify any potential weak spots resulting from ground line corrosion on DEF's lattice system.
- Corrosion Mitigation – Each structure tower leg will have cathodic protection installed on it in order to arrest the corrosion process.
- Corrosion Database – Soil conditions recorded at each tower site will include resistivity, soil pH, redox, and half-cell potentials. These values will be saved into a database which will be used to help classify areas of DEF's system prone to corrosion. This information will be used to aid in condition-based maintenance of system infrastructure.

## Gang Operated Air Break (GOAB)

The GOAB line switch automation project is an initiative that will upgrade switch locations with modern switches enabled with SCADA communication and remote-control capabilities. Automation will add resiliency to the transmission system. Later years will include adding new switch locations to add further resiliency to the transmission system. Transmission line switches are currently manually operated and cannot be remotely monitored or controlled. Switching, a grid operation often used to section off portions of the transmission system in order to perform equipment maintenance or isolate trouble spots to minimize impacts to customers, has historically required a technician to go to the site and manually operate one or more-line switches. The GOAB upgrade increases the number of remote-controlled switches to support faster isolation of trouble spots on the transmission system and more rapid restoration following line faults.



Figure 5: DEF Manually Operated Switch

## Overhead Ground Wire (OHGW)

Florida is known for a high concentration of lightning events, which continually stress the existing grid protection. Deteriorated overhead ground wire reduces the protection of the conductor and exposes the line to repeated lightning damage and risk of failure impacting the system. This initiative will also reduce the safety risk due to the required removal of OHGW prior to any restoration work on the system. By targeting deteriorated OHGW on lines with high lightning events, the benefit of this activity will be maximized. An added benefit is upgrading to fiber optic OHGW, facilitating high-speed relaying and enhanced communication and control between stations and centralized control centers.

## Structure Inspections and Drone Inspections

The transmission system's inspection activities include all types of structures, line hardware, guying, and anchoring systems. Inspections include:

- Aerial helicopter Transmission Line Inspections
- Wood Pole Line Patrols
- Wood Pole Sound and Bore Line Patrol – 8-year cycle
- Non-wood Structure Line Patrols – 6-year cycle

DEF will continue to conduct drone inspections on targeted lattice tower lines. The intent of these continued inspections is to identify otherwise difficult to see structure, hardware, or insulation vulnerabilities through high resolution imagery. DEF has incorporated drone patrols into the

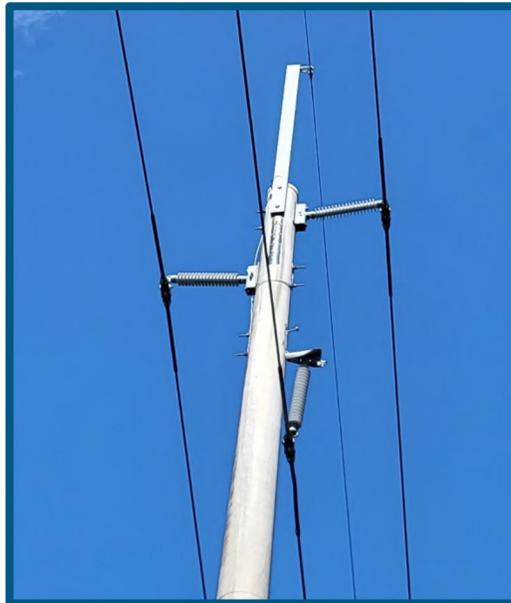
inspections because drones have the unique ability to provide a close vantage point with multiple angles on structures that is unattainable through aerial or ground patrols with binoculars.



*Figure 6: Failed static due to extreme weather event.*

### Insulators

The line insulator subprogram is targeting porcelain insulators which show pin erosion 'pencil-ing' of the connections between the insulators. The replacement insulators utilize a more uniform matrix than porcelain, with a design change that includes a zinc sleeve to mitigate the pin erosion for a better mechanical connection. The implementation of the improved design in the bell and connection is to reduce the effects of pencil-ing over time, ultimately mitigating failure during extreme weather events and minimizing outage events.



*Figure 7: Failed porcelain insulator due to extreme weather event.*

## Cost

DEF estimates the 10-year cost will be approximately \$1.6B Capital and \$21M O&M, and will entail approximately:

- 3,000 wood to non-wood poles;
- 2,000 tower replacements;
- Cathodic protection for all towers;
- 40 GOABs;
- 670 miles of OHGW;
- Insulators; and
- System inspection cycles, ground, and aerial.

Structure Hardening	DEF		
	2026	2027	2028
Totals	\$174,854,273	\$180,666,106	\$151,614,404
Capital	\$171,263,258	\$177,051,531	\$149,854,225
O&M	\$ 3,591,015	\$ 3,614,575	\$ 1,760,179
Total Units	2,005	1,928	462

## Cost Benefit Comparison

As provided in the Cost section above, the estimated cost for DEF's Structure Hardening Program during the 10-year planning horizon is approximately \$1.6B Capital and \$21M O&M.

After deployment of the 2026-2035 Structure Hardening Program work is complete, DEF estimates it will reduce the cost of extreme weather events on the Transmission system by approximately \$19.7M to \$24.6M annually based on today's costs.

After deployment of the 2026-2035 Structure Hardening Program work is complete, DEF estimates it will reduce Transmission MED CMI by approximately 22 million to 27 million minutes annually. CMI reduction is used as a proxy for reduction in extreme weather event duration for the average customer.

Transmission system damage can result in severe consequences in both cost and outage duration. The estimation of benefits represents an annual average expected value based on historical data and does not represent what could happen in individual events or scenarios in which severe damage occurs on critical parts of the Transmission system.

## Prioritization Methodology

Work will be prioritized using the following processes:

1. **Probability of Damage:** To prioritize the work in the Florida regions, the Transmission and Distribution systems were modeled, and weather simulations were run to provide probabilistic exposure frequency for all asset locations. The weather modeling uses the FEMA Hazus and SLOSH models, which contain the weather data for storms over the last 200 years. Using the geographical locations of the Florida assets and the historic storm paths embedded in the Hazus model, a spatial correlation of future storm exposure can be derived. To determine probability of damage given that exposure, eight years of historical outage data was provided and correlated with the closest weather tower to determine the conditions during historic failures recorded in the outage data. Then, the expected quantities of asset failure for

simulated future weather exposure conditions was derived by combining simulated weather patterns with historical asset failure through conditional probability methods.

2. Consequence of Damage: Once the output of probabilistic damage is assessed, the probable impact to customers is considered. This step considers number of customers served by a given asset (e.g. each pole, or segment of conductor on a line), observed outage durations, the mix of customers, and critical facilities. This step is performed both for the existing configuration of each asset, and the hardened configuration resulting from completion of the Program. The difference between the existing condition and the hardened configuration is the program impact.
3. Transmission subject matter experts then use these outputs to determine the optimum deployment plan considering factors such as current projects in the area, critical customers, operational knowledge, and resource availability.

## Year 1 Project List

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - WOOD POLE REPLACEMENTS

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
ALTAMONTE - SPRING LAKE 230KV	3	0*	184,422	3,903	2/2/2026	6/30/2026
EATONVILLE - SPRING LAKE 69KV	1	25,431	61,474	1,301	2/2/2026	6/30/2026
DEBARY PL - NORTH LONGWOOD 230KV	5	12,835	307,370	6,505	2/2/2026	6/30/2026
KATHLEEN - WIRE ROAD CKT#1 230KV	1	0*	61,474	1,301	2/2/2026	6/30/2026
PALM HARBOR - TARPON SPRINGS 69KV	1	9,601	61,474	1,301	2/2/2026	6/30/2026
16TH ST - 40TH ST 115KV	1	23,436	61,474	1,301	2/2/2026	6/30/2026
ALDERMAN - CURLEW 115KV	1	32,874	61,474	1,301	2/2/2026	6/30/2026
CENTRAL PLAZA - MAXIMO 115KV	15	32,540	922,110	19,515	2/2/2026	6/30/2026
DUNEDIN - PALM HARBOR 69KV	1	21,668	61,474	1,301	2/2/2026	6/30/2026
CAMP LAKE - GROVELAND 69KV	75	17,760	4,610,550	97,575	2/2/2026	6/30/2026
CENTRAL PARK - WINDERMERE 69KV	1	7,684	61,474	1,301	2/2/2026	6/30/2026
UMERTON WEST - WALSINGHAM 69KV	19	32,214	1,168,006	24,719	2/2/2026	6/30/2026
CAMP LAKE - CLERMONT 69KV	12	16,476	737,688	15,612	2/2/2026	6/30/2026
PASADENA - 51ST ST 115KV	1	33,863	61,474	1,301	2/2/2026	6/30/2026
FISHEATING CREEK - LAKE PLACID 69KV	3	8,921	184,422	3,903	2/2/2026	6/30/2026
BAYBORO - CENTRAL PLAZA 115KV	11	21,053	676,214	14,311	2/2/2026	6/30/2026
CLERMONT - CLERMONT EAST 69KV	8	10,554	491,792	10,408	2/2/2026	6/30/2026
ODESSA - TARPON SPRINGS 69KV	4	14,212	245,896	5,204	2/2/2026	6/30/2026
TURNER PL - DELTONA 115KV	15	31,262	922,110	19,515	2/2/2026	6/30/2026
DELAND WEST - ORANGE CITY 230KV	2	0*	122,948	2,602	2/2/2026	6/30/2026
CASSADAGA - DELTONA 115KV	2	25,265	122,948	2,602	2/2/2026	6/30/2026
PIEDMONT - SPRING LAKE 69KV	1	25,157	61,474	1,301	2/2/2026	6/30/2026
HAINES CITY - HAINES CITY EAST 69KV	10	15,109	614,740	13,010	2/2/2026	6/30/2026
ALTAMONTE - NORTH LONGWD CKT2 69KV	2	11,002	122,948	2,602	2/2/2026	6/30/2026
SEMINOLE - OAKHURST 69KV	4	31,843	245,896	5,204	2/2/2026	6/30/2026
LAKE WALES - W LAKE WALES CKT#2 69KV	3	9,325	184,422	3,903	2/2/2026	6/30/2026
DISSTON - STARKEY ROAD 69KV	1	13,774	61,474	1,301	2/2/2026	6/30/2026
CYPRESSWOOD - HAINES CITY 69KV	3	21,755**	184,422	3,903	2/2/2026	6/30/2026
EAST CLEARWATER - HIGHLANDS 69KV	6	39,548	368,844	7,806	2/2/2026	6/30/2026
DUNEDIN - HIGHLANDS 69KV	1	27,219	61,474	1,301	2/2/2026	6/30/2026

FOUR CORNERS - GIFFORD 69KV	2	14,067	122,948	2,602	2/2/2026	6/30/2026
MAITLAND - SPRING LAKE 69KV	13	24,618	799,162	16,913	2/2/2026	6/30/2026
AVON PARK PL - DESOTO CITY 69KV	3	9,341	184,422	3,903	2/2/2026	6/30/2026
AVON PARK PL - FT MEADE 230KV	2	0*	122,948	2,602	2/2/2026	6/30/2026
DOUGLAS AVE - SPRING LAKE 69KV	7	17,216	430,318	9,107	2/2/2026	6/30/2026
LARGO - TAYLOR AVE 69KV	2	29,386	122,948	2,602	2/2/2026	6/30/2026
ALAFAYA - UCF 69KV	2	20,718	122,948	2,602	2/2/2026	6/30/2026
N LONGWOOD - WINTER SPRINGS 69KV	6	14,335	368,844	7,806	2/2/2026	6/30/2026
LK LOUISA- CLERMONT E - WILDWD 69KV	5	11,810	307,370	6,505	2/2/2026	6/30/2026
LK LOUISA-CLERMONT E-HAINES CTY 69KV	1	11,810	61,474	1,301	2/2/2026	6/30/2026
DELAND - DELAND WEST 69KV	2	10,724	122,948	2,602	2/2/2026	6/30/2026
DINNER LAKES - SUN N LAKES 69KV	2	19,064	122,948	2,602	2/2/2026	6/30/2026
WINDERMERE - WOODSMERE 69KV	10	11,961	614,740	13,010	2/2/2026	6/30/2026
BAY HILL - ISLEWORTH 69KV	5	22,975	307,370	6,505	2/2/2026	6/30/2026
FT MEADE - SOUTH POLK 230KV	1	0*	61,474	1,301	2/2/2026	6/30/2026
BAY RIDGE - SORRENTO 69KV	3	8,466	184,422	3,903	6/30/2026	9/30/2026
LEESBURG - OKAHUMPKA 69KV	8	4,045	491,792	10,408	6/30/2026	9/30/2026
DALLAS - ORANGE BLOSSOM 69KV	10	9,822	614,740	13,010	6/30/2026	9/30/2026
CRYSTAL RIVER SOUTH - HOMOSASSA 115KV	2	3,878	122,948	2,602	6/30/2026	9/30/2026
CENTRAL FLA - ORANGE BLOSSOM 69KV	3	25,515	184,422	3,903	6/30/2026	9/30/2026
EUSTIS TAPLINE 69KV	5	1*	307,370	6,505	6/30/2026	9/30/2026
CRYSTAL RIVER S - TWIN CTY RANCH 115KV	2	17,440	122,948	2,602	6/30/2026	9/30/2026
MT DORA EAST SEC 69KV TAPLINE	11	5,050	676,214	14,311	6/30/2026	9/30/2026
FT MEADE - DRY PRAIRIE 230KV	64	1**	3,934,336	83,264	6/30/2026	9/30/2026
CRYSTAL RIVER NORTH TAPLINE 115KV	2	2,411	122,948	2,602	6/30/2026	9/30/2026
MT DORA EAST SEC 69KV	7	5,050	430,318	9,107	6/30/2026	9/30/2026
EUSTIS - UMATILLA 69KV	24	12,548	1,475,376	31,224	6/30/2026	9/30/2026
CRYSTAL RIVER TAPLINE 115KV	1	5,723	61,474	1,301	6/30/2026	9/30/2026
ENOLA - UMATILLA 69K	1	4,532	61,474	1,301	6/30/2026	9/30/2026
VANDOLAH - MYAKKA 69KV	7	3,063	430,318	9,107	6/30/2026	9/30/2026
BARBERVILLE - DELAND WEST DE 69KV	4	7,372	245,896	5,204	6/30/2026	9/30/2026
BARBERVILLE - DELAND WEST 69KV	4	7,372	245,896	5,204	6/30/2026	9/30/2026
TROPIC TERRACE TAPLINE 115KV	2	3,466	122,948	2,602	6/30/2026	9/30/2026
FT GREEN SPRINGS - FT MEADE 69KV	2	3,019**	122,948	2,602	6/30/2026	9/30/2026
BEVERLY HILLS - CITRUS HILLS LINE 115KV	3	15,105	184,422	3,903	6/30/2026	9/30/2026
COUNTRY OAKS - EAST LAKE WALES 69KV	1	10,873	61,474	1,301	6/30/2026	9/30/2026
CARRABELLE - CRAWFORDVILLE 69KV	82	9,490	5,040,868	106,682	6/30/2026	9/30/2026
HOWEY SEC - OKAHUMPKA 69KV	8	14,687	491,792	10,408	6/30/2026	9/30/2026
MURPHY ROAD PREC TAPLINE 69KV	14	1,889	860,636	18,214	6/30/2026	9/30/2026
BRADFORDVILLE WEST - TIE #3 115KV	27	0*	1,659,798	35,127	6/30/2026	9/30/2026
MCINTOSH TAPLINE 69KV	1	2,207	61,474	1,301	6/30/2026	9/30/2026
LAKE BRYAN WORLD GATEWAY 69KV	2	8,662	122,948	2,602	6/30/2026	9/30/2026
CROOKED LAKE TAPLINE 69KV	66	2,032	4,057,284	85,866	6/30/2026	9/30/2026
GA PACIFIC - WILCOX 69KV	1	1,425	61,474	1,301	6/30/2026	9/30/2026
BEVERLY HILLS - LECANTO 115KV	18	11,306	1,106,532	23,418	6/30/2026	9/30/2026
DRIFTON - HANSON 115KV	20	2,795	1,229,480	26,020	6/30/2026	9/30/2026

AVON PARK PL - SOUTH POLK 230KV	2	3**	122,948	2,602	6/30/2026	9/30/2026
BRADFORDVILLE WEST - RABON 115KV	35	0*	2,151,590	45,535	6/30/2026	9/30/2026
TAYLOR AVE - WALSINGHAM 69KV	10	32,849	614,740	13,010	6/30/2026	9/30/2026
SAND LAKE - WINDERMERE 69KV	8	5,736	491,792	10,408	6/30/2026	9/30/2026
MARTIN WEST - SILVER SPRINGS 69KV	48	12,182	2,950,752	62,448	6/30/2026	9/30/2026
CHIEFLAND-GA PACIFIC 69KV	1	0*	61,474	1,301	6/30/2026	9/30/2026
LEISURE LAKES TAPLINE 69KV	24	2,145	1,475,376	31,224	6/30/2026	9/30/2026
HAVANA - QUINCY 115KV	63	2,103	3,872,862	81,963	6/30/2026	9/30/2026
SUWANNEE RIVER PL - TWIN LAKES 115KV	10	0*	614,740	13,010	6/30/2026	9/30/2026
JASPER -HOMERVILLE 115KV	16	0*	983,584	20,816	6/30/2026	9/30/2026
NEWBERRY - TRENTON 69KV	8	5,340	491,792	10,408	6/30/2026	9/30/2026
BROOKRIDGE - TWIN COUNTY RANCH 115KV	14	6,107	860,636	18,214	6/30/2026	9/30/2026
ARCHER - WILLISTON 69KV	61	2,627	3,749,914	79,361	6/30/2026	9/30/2026
HANSON - CHERRY LAKE TREC 115KV	6	1,688	368,844	7,806	6/30/2026	9/30/2026
VANDOLAH - WAUCHULA 69KV	7	4,165	430,318	9,107	6/30/2026	9/30/2026
FORT GREEN #4 TAPLINE 69KV	6	1**	368,844	7,806	6/30/2026	9/30/2026
AIR PRODUCTS & CHEMICAL CO TAP 69KV	6	1**	368,844	7,806	6/30/2026	9/30/2026
AVON PARK PL - WAUCHULA 69KV	11	19,325	676,214	14,311	6/30/2026	9/30/2026
CROSS BAYOU - GE PINELLAS 69KV	15	14,178	922,110	19,515	6/30/2026	9/30/2026
OCC SWIFT CRK #1 - OCC MTRING 115KV	49	755**	3,012,226	63,749	6/30/2026	9/30/2026
CHIEFLAND - INGLIS 69KV	150	7,050	9,221,100	195,150	6/30/2026	9/30/2026
BROOKSVILLE WEST - HUDSON 115KV	9	26,521	553,266	11,709	6/30/2026	9/30/2026
FT MEADE - HOMELAND 69KV	10	2,783	614,740	13,010	6/30/2026	9/30/2026
FTO 69KV	45	1*	2,766,330	58,545	9/30/2026	12/4/2026
DALLAS AIRPORT - WILDWOOD 69KV	11	33,686	676,214	14,311	9/30/2026	12/4/2026
BROOKSVILLE - UNION HALL 69KV	18	16,939	1,106,532	23,418	9/30/2026	12/4/2026
ARCHER - HULL ROAD 69KV	44	5,929**	2,704,856	57,244	9/30/2026	12/4/2026
CRAWFORDVILLE - JACKSON BLUFF 69KV	12	2,784	737,688	15,612	9/30/2026	12/4/2026
IDYLWILD - UNIVERSITY FLA 69KV	16	2**	983,584	20,816	9/30/2026	12/4/2026
FT WHITE - JASPER 69KV	109	7,169	6,700,666	141,809	9/30/2026	12/4/2026
OCC SWIFT CRK #1 - #2 115KV	29	2**	1,782,746	37,729	9/30/2026	12/4/2026
FL GAS TRN EAST - WEWAHOOTEE 69KV	240	81**	14,753,760	312,240	9/30/2026	12/4/2026
TBD	155		9,528,470	214,665	9/30/2026	12/4/2026
ENGINEERING/MATERIALS FOR 2027 PROJECTS			401,420		1/30/2026	12/4/2026

Notes: \* Customer count is zero due to GRID Redundancy  
\*\* Customer count includes Industrial Customer

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - TOWER REPLACEMENTS

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
SOUTH ELOISE (TECO) - WEST LAKE WALES	2	0*	525,024	5,852	2/23/2026	6/30/2026
CRAWFORDVILLE - ST MARKS EAST	38	0*	9,975,456	111,188	3/30/2026	9/30/2026
PERRY - SUWANNEE RIVER	36	0*	9,450,432	105,336	6/30/2026	11/30/2026

Notes: \* Customer count is zero due to GRID Redundancy

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - CATHODIC PROTECTION

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
CRP CKT#2 - CITRUS CC CKT#2 230KV	12	0*	128,172	0	2/1/2026	6/30/2026
AVALON - WINDERMERE 230KV	4	0*	42,724	0	2/1/2026	6/30/2026
AVON PARK PL - FT MEADE 230KV	92	0*	982,652	0	2/1/2026	6/30/2026
ECON - WINTER PARK EAST 230KV	13	15,106	138,853	0	2/1/2026	6/30/2026
LAKE TARPON - PALM HARBOR 230KV	19	0*	202,939	0	2/1/2026	6/30/2026
LAKE TARPON -SEVEN SPRINGS 230KV	15	0*	160,215	0	2/1/2026	6/30/2026
LARGO - ULMERTON 230KV	25	0*	267,025	0	2/1/2026	6/30/2026
RIO PINAR PL - ECON 230KV	15	15,106	160,215	0	2/1/2026	6/30/2026
SILVER SPRG- SILVER SPRINGS N CKT1 230KV	7	0*	74,767	0	2/1/2026	6/30/2026
WINDERMERE - SOUTHWOOD 230KV	5	0*	53,405	0	2/1/2026	6/30/2026
WINTER PARK EAST - WINTER SPRINGS 230KV	17	16,122	181,577	0	2/1/2026	6/30/2026
WINDERMERE - WOODSMERE 230KV	11	0*	112,151	0	2/1/2026	6/30/2026

Notes: \* Customer count is zero due to GRID Redundancy

#### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - GANG OPERATED AIR BREAK (GOAB)

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
LISBON TAP	1	7,479	1,778,776	0	3/1/2026	5/23/2026
BIG CREEK SEC TAP	1	29,596	1,778,776	0	2/23/2026	4/30/2026
ST AUGUSTINE TCEC TAP	1	4,900**	1,778,776	0	4/30/2026	6/30/2026
OCHLOCKONEE TAP	1	9,490	1,778,776	0	6/30/2026	9/30/2026
ENGINEERING/MATERIALS FOR 2027 PROJECT			444,692	0	1/30/2026	11/30/2026

Notes: \*\* Customer count includes Industrial Customer

#### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - OVERHEAD GROUND WIRES

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
CLEARWATER - EAST CLEARWATER	5.52	44,495	2,447,770	0	3/30/2026	9/30/2026
OAKHURST - WALSINGHAM	1.82	34,320	807,055	0	3/30/2026	9/30/2026
DELTONA - MONASTERRY	4.5	18,817	1,995,465	0	3/30/2026	9/30/2026
CASSADEGA - MONASTERRY	3.17	11,907	1,405,694	0	3/30/2026	9/30/2026
MAITLAND - KELLER	2.95	12,338	1,308,138	0	3/30/2026	9/30/2026
KELLER- SPRING LAKE	1.71	13,491	758,277	0	3/30/2026	9/30/2026
PIEDMONT- PLYMOUTH	8.07	16,975	3,429,689	0	3/30/2026	9/30/2026
ALTAMONTE - CASSELBERRY	3.46	30,436	1,532,343	0	3/30/2026	9/30/2026
DISSTON-KENNETH	3.19	37,106	1,414,563	0	3/30/2026	9/30/2026
N LONGWOOD - WINTER SPRINGS	2.95	27,170	1,308,138	0	3/30/2026	9/30/2026

#### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - INSULATOR UPGRADES

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
CITRUS COMBINED CYCLE - CENTRAL FLA 500KV	642	0*	5,828,718	0	2/23/2026	9/30/2026
ENGINEERING/MATERIALS FOR 2027 PROJECT			27,237	0	1/30/2026	11/30/2026

Notes: \* Customer count is zero due to GRID Redundancy

**DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - GROUND PATROL INSPECTIONS**

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
DINNER LAKES - SUN N LAKES 69KV	132	19,064	0	5,280	2/9/2026	11/30/2026
ALTAMONTE - MAITLAND 69KV	119	24,919	0	4,760	2/9/2026	11/30/2026
ALTAMONTE - NORTH LONGWOOD CKT1 69KV	70	18,088	0	2,800	2/9/2026	11/30/2026
ALTAMONTE - NORTH LONGWOOD CKT2 69KV	69	11,002	0	2,760	2/9/2026	11/30/2026
BARCOLA - WEST SUB 230KV	162	0*	0	6,480	2/9/2026	11/30/2026
BRADFORDVILLE WEST - DRIFTON 115KV	36	6,611	0	1,440	2/9/2026	11/30/2026
BROOKSVILLE - UNION HALL 69KV	239	16,939	0	9,560	2/9/2026	11/30/2026
BROOKSVILLE WEST - HUDSON 115KV	229	26,521	0	9,160	2/9/2026	11/30/2026
CELEBRATION WORLD GATEWAY 69KV	41	6,632	0	1,640	2/9/2026	11/30/2026
CLEARWATER - HIGHLANDS 69KV	50	35,251	0	2,000	2/9/2026	11/30/2026
CROOKED LAKE 69KV TAPLINE	83	2,032	0	3,320	2/9/2026	11/30/2026
CROSS BAYOU - DISSTON 69KV	60	14,177	0	2,400	2/9/2026	11/30/2026
CROSS BAYOU - GE PINELLAS 69KV	31	14,178	0	1,240	2/9/2026	11/30/2026
DAVENPORT - WEST DAVENPORT 69KV	57	21,739	0	2,280	2/9/2026	11/30/2026
DCP-1A TAP	63	0*	0	2,520	2/9/2026	11/30/2026
DELAND - DELAND WEST 69KV	78	10,724	0	3,120	2/9/2026	11/30/2026
DRIFTON - HANSON 115KV	23	2,795	0	920	2/9/2026	11/30/2026
EAST CLEARWATER - HIGHLANDS 69KV	61	39,548	0	2,440	2/9/2026	11/30/2026
EATONVILLE - WINTER PARK 69KV	97	16,131	0	3,880	2/9/2026	11/30/2026
EATONVILLE - WOODSMERE 69KV	47	20,215	0	1,880	2/9/2026	11/30/2026
ENOLA - UMATILLA 69KV	28	4,532	0	1,120	2/9/2026	11/30/2026
FOUR CORNERS - GIFFORD 69KV	41	14,067	0	1,640	2/9/2026	11/30/2026
FT GREEN SPRINGS - DUETTE PREC 69KV	249	821**	0	9,960	2/9/2026	11/30/2026
GE PINELLAS - LARGO 69KV	55	16,622	0	2,200	2/9/2026	11/30/2026
HAINES CITY EAST - PONICIAN 69KV	115	15,936	0	4,600	2/9/2026	11/30/2026
HAVANA - QUINCY 115KV	16	2,103	0	640	2/9/2026	11/30/2026
KATHLEEN - ZEPHYRHILLS NORTH 230KV	95	0*	0	3,800	2/9/2026	11/30/2026
LAKE BRYAN WORLD GATEWAY 69KV	25	8,662	0	1,000	2/9/2026	11/30/2026
LAKE WEIR - CENTRAL TOWER CEC 69KV	96	9,589	0	3,840	2/9/2026	11/30/2026
LARGO - TAYLOR AVE 69KV	56	29,386	0	2,240	2/9/2026	11/30/2026
LARGO - ULMERTON WEST 69KV	40	28,751	0	1,600	2/9/2026	11/30/2026
LYNNE CEC 69KV TAPLINE	54	5,619	0	2,160	2/9/2026	11/30/2026
MAITLAND - WINTER PARK 69KV	59	14,107	0	2,360	2/9/2026	11/30/2026
MARTIN WEST - SILVER SPRINGS 69KV	288	12,182	0	11,520	2/9/2026	11/30/2026
OVIEDO - WINTER SPRINGS 69KV	79	22,251	0	3,160	2/9/2026	11/30/2026
PALM HARBOR - TARPON SPRINGS 69KV	143	9,601	0	5,720	2/9/2026	11/30/2026
PASADENA - 51ST ST 115KV	50	33,863	0	2,000	2/9/2026	11/30/2026
ST JOHNS - UMATILLA 69KV	215	33,863	0	8,600	2/9/2026	11/30/2026
ST JOHNS SEC 69KV TAPLINE	9	2,653	0	360	2/9/2026	11/30/2026
TURNER PL - DELTONA 115KV	64	31,262	0	2,560	2/9/2026	11/30/2026
TURNER PL - ORANGE CITY 115KV	63	42,132	0	2,520	2/9/2026	11/30/2026
UNION HALL - DADE CITY 69KV	16	1*	0	640	2/9/2026	11/30/2026
ZEPHYRHILLS NORTH - DADE CITY 69KV	162	15,534	0	6,480	2/9/2026	11/30/2026

DALLAS - SILVER SPRINGS 230KV	64	0*	0	2,560	2/9/2026	11/30/2026
BELL CFEC 69KV	105	3,302	0	4,200	2/9/2026	11/30/2026
GINNIE - HIGH SPRINGS 69KV	41	3,132	0	1,640	2/9/2026	11/30/2026
FL GAS TRNSMN - MAGNOLIA RANCH 69KV	43	5,574**	0	1,720	2/9/2026	11/30/2026
HUDSON - NEW PORT RICHEY 115KV	133	39,634	0	5,320	2/9/2026	11/30/2026
BROOKRIDGE - LAKE TARPON 500KV	150	0*	0	6,000	2/9/2026	11/30/2026
LAKE TARPON - PALM HARBOR 230KV	58	0*	0	2,320	2/9/2026	11/30/2026
LAKE TARPON - ULMERTON 230KV	67	0*	0	2,680	2/9/2026	11/30/2026
LARGO - SEMINOLE 230KV	70	0*	0	2,800	2/9/2026	11/30/2026
LARGO - ULMERTON 230KV	28	0*	0	1,120	2/9/2026	11/30/2026
CENTRAL FLA - COLEMAN 69KV	70	17,334	0	2,800	2/9/2026	11/30/2026
CR SOUTH - TWIN COUNTY RANCH 115KV	5	17,440	0	200	2/9/2026	11/30/2026
ENOLA - LAKE COGEN 69KV	1	1*	0	40	2/9/2026	11/30/2026
HAVANA (TEC) REA TAPLINE 69KV	1	2,622	0	40	2/9/2026	11/30/2026
ATWATER - OAK GROVE TEC 115KV	6	923	0	240	2/9/2026	11/30/2026
FOLEY 69KV TAPLINE	1	6**	0	40	2/9/2026	11/30/2026
OTTER CREEK CFEC 69KV	1	2,524	0	40	2/9/2026	11/30/2026
FT MEADE - WEST LAKE WALES 230KV	168	0*	0	6,720	2/9/2026	11/30/2026
FT GREEN SPRINGS - VANDOLAH #1 CKT 69KV	82	2**	0	3,280	2/9/2026	11/30/2026
INVERNESS - LECANTO 115KV	132	1	0	5,280	2/9/2026	11/30/2026
BROOKSVILLE - FLORIDA ROCK 69KV	185	6,499**	0	7,400	2/9/2026	11/30/2026
CROOM WREC 69KV	1	147	0	40	2/9/2026	11/30/2026
HAMMOCK WREC 115KV	1	1,332	0	40	2/9/2026	11/30/2026
CENTRAL FLORIDA - CONTINENTAL (SEC) 69KV	11	16,756	0	440	2/9/2026	11/30/2026
CRP - CR4/5 STRING BUS 230KV	4	0*	0	160	2/9/2026	11/30/2026
CR4 - CRYSTAL RIVER PL STRING BUS 230KV	2	0*	0	80	2/9/2026	11/30/2026
NORTH LONGWOOD - SANFORD (FP&L)230KV	51	12,835	0	2,040	2/9/2026	11/30/2026
CENTRAL FLORIDA STRING BUS 230KV	9	0*	0	360	2/9/2026	11/30/2026
CITY OF LEESBURG AIRPORT SUB 69KV	4	1*	0	160	2/9/2026	11/30/2026
DEBARY PLANT STRAIN BUS #1 (UNITS 1-6) 230KV	4	0*	0	160	2/9/2026	11/30/2026
DELTONA - ORANGE CITY 115KV	56	24,228	0	2,240	2/9/2026	11/30/2026
FTO 69KV	57	1*	0	2,280	2/9/2026	11/30/2026
LAKE EMMA - WINTER SPRINGS 230KV	51	6,972	0	2,040	2/9/2026	11/30/2026
CHAIRES TEC 69KV TAPLINE	136	2,940	0	5,440	2/9/2026	11/30/2026
ST AUGUSTINE TCEC 69KV	6	711	0	240	2/9/2026	11/30/2026
ST MARKS EAST - ST MARKS WEST 69KV	7	2,070	0	280	2/9/2026	11/30/2026
DUNNELLON - DUNNELLON STRING BUS 69KV	1	6,100	0	40	2/9/2026	11/30/2026
HOLDER - HOLDER STRING BUS 1 230KV	3	0*	0	120	2/9/2026	11/30/2026
HOLDER - HOLDER STRING BUSS 230KV	1	0*	0	40	2/9/2026	11/30/2026
SUWANNEE TRNSMN - COLUMBIA (FPL) 115KV	3	0*	0	120	2/9/2026	11/30/2026
BRANFORD ROAD (CLAY) 115KV	68	4,455	0	2,720	2/9/2026	11/30/2026
CROFT SVEC 115KV	2	3,305	0	80	2/9/2026	11/30/2026
OLD TOWN NORTH SW STA - WILCOX 69KV	26	0*	0	1,040	2/9/2026	11/30/2026
WALKER SVEC 115KV	6	1,287	0	240	2/9/2026	11/30/2026
BARNUM CITY - CITRUS CITY 69KV	176	17,488	0	7,040	2/9/2026	11/30/2026

CITRUS CENTER - HAINES CITY EAST 230KV	10	0*	0	400	2/9/2026	11/30/2026
CONNERSVILLE (CITY OF BARTOW) 69KV	1	3,000	0	40	2/9/2026	11/30/2026
DUNDEE - HAINES CITY EAST 230KV	19	0*	0	760	2/9/2026	11/30/2026
INTERCESSION CITY DE-ENERGIZED 69KV	1	0*	0	40	2/9/2026	11/30/2026
KATHLEEN - KATHLEEN BNK #1 BUS 230KV	4	0*	0	160	2/9/2026	11/30/2026
SEBRING EAST 69KV	1	758	0	40	2/9/2026	11/30/2026
VANDOLAH - CHARLOTTE (FPL) 230KV	1	0*	0	40	2/9/2026	11/30/2026
CENTRAL PLAZA STRING BUS 115KV	7	8,901	0	280	2/9/2026	11/30/2026
DISSTON STRING BUS 1 230 KV	4	0*	0	160	2/9/2026	11/30/2026
DISSTON STRING BUSS 2 230 KV	1	0*	0	40	2/9/2026	11/30/2026
DISSTON STRING BUSS 230 KV	3	0*	0	120	2/9/2026	11/30/2026
BRKRIDGE - FL STONE COGEN PL 115KV	3	1**	0	120	2/9/2026	11/30/2026
FLORA MAR - NEW PORT RICHEY 115KV	33	28,921	0	1,320	2/9/2026	11/30/2026
HAMMOCK 69KV	1	1	0	40	2/9/2026	11/30/2026
HEXAM 115KV	1	10,396	0	40	2/9/2026	11/30/2026
OVERSTREET 115KV	1	14,150	0	40	2/9/2026	11/30/2026
SPRING HILL #3 115KV	4	6,634	0	160	2/9/2026	11/30/2026
SPRINGWOOD 115KV	1	6,333	0	40	2/9/2026	11/30/2026
TANGERINE 115KV	2	3,646	0	80	2/9/2026	11/30/2026
TBD	6040	0*	0	241,600	2/9/2026	11/30/2026

**DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - DRONE INSPECTIONS**

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
CENTRAL FLA - KATHLEEN-HAINES CITY 500KV	120	0*	0	21,960	3/16/2026	9/30/2026
CENTRAL FLA - KATHLEEN - WILDWOOD 500KV	77	0*	0	14,091	3/16/2026	9/30/2026
CITRUS COMBINED CYCLE - BROOKRIDGE 500KV	1	0*	0	183	3/16/2026	9/30/2026
AVALON - WINDERMERE 230KV	7	0*	0	1,281	3/16/2026	9/30/2026
BROOKRIDGE - TWIN COUNTY RANCH 115KV	124	6,107	0	22,692	3/16/2026	9/30/2026
BROOKSVILLE - BROOKSVILLE WEST CKT#2 115KV	10	12,828	0	1,830	3/16/2026	9/30/2026
HUDSON - PASCO COUNTY RR 115KV	9	1**	0	1,647	3/16/2026	9/30/2026
BROOKSVILLE W - SILVERTHORNE WREC 115KV	39	17,949	0	7,137	3/16/2026	9/30/2026
BRKRIDGE - BROOKSVILLE W (BWV CKT) 115KV	33	0*	0	6,039	3/16/2026	9/30/2026
BRKRIDGE -FL CRUSHED STONE COGEN PL 115KV	3	1**	0	549	3/16/2026	9/30/2026
CROSS CITY - WILCOX 69KV	11	1,625	0	2,013	3/16/2026	9/30/2026
CCC CKT#2 - POWERLINE CKT#2 230KV	6	0*	0	1,098	3/16/2026	9/30/2026
CRP CKT#1 - CCC CKT#1 230KV	6	0*	0	1,098	3/16/2026	9/30/2026
HUDSON - RIVER RIDGE 230KV	91	0*	0	16,653	3/16/2026	9/30/2026
CCC CKT#2 - POWERLINE CKT#2 230KV	7	0*	0	1,281	3/16/2026	9/30/2026
HOLDER CKT#2 - POWERLINE CKT#2 230KV	3	0*	0	549	3/16/2026	9/30/2026
CENTRAL PLAZA-FIFTY FIRST STREET 115KV	31	25,338	0	5,673	3/16/2026	9/30/2026
CENTRAL PLAZA - MAXIMO 115KV	63	32,540	0	11,529	3/16/2026	9/30/2026
BEVERLY HILLS - LECANTO 115KV	125	11,306	0	22,875	3/16/2026	9/30/2026

<b>PORT ST JOE - CALLAWAY 230KV</b>	319	0*	0	58,377	3/16/2026	9/30/2026
<b>REEDY LAKE - DISNEY WORLD NORTHWEST 69KV</b>	54	11,297	0	9,882	3/16/2026	9/30/2026
<b>AVALON - CAMP LAKE 230KV</b>	2	0*	0	366	3/16/2026	9/30/2026
<b>CAMP LAKE - GROVELAND 69KV</b>	181	17,760	0	33,123	3/16/2026	9/30/2026
<b>DELAND WEST - SILVER SPRINGS 230KV</b>	143	0*	0	26,169	3/16/2026	9/30/2026
<b>MONTICELLO - BOSTON 69KV</b>	103	4,009	0	18,849	3/16/2026	9/30/2026
<b>JASPER - TWIN LAKES LINE 69KV</b>	155	1*	0	28,365	3/16/2026	9/30/2026
<b>JASPER -HOMERVILLE 115KV</b>	53	0*	0	9,699	3/16/2026	9/30/2026
<b>QUINCY - ATTAPULGUS 69KV</b>	113	1*	0	20,679	3/16/2026	9/30/2026
<b>FT WHITE - SUWANNEE SPRINGS WEST CKT 115KV</b>	111	2,869	0	20,313	3/16/2026	9/30/2026

Notes: \* Customer count is zero due to GRID Redundancy  
\*\* Customer count includes Industrial Customer

# Substation Flood Mitigation

## Vision

Substation Flood Mitigation is a targeted program upgrading 11 sites with flood mitigation strategies, all identified as being at risk for significant flooding during extreme weather events. The Substation Flood Mitigation Program is now scheduled to begin in 2025 and estimated to take approximately 12 years to complete.

## Description

The Substation Flood Mitigation program builds in protection for substations most vulnerable to flood damage using flood plain and storm surge data. It includes a systematic review and prioritization of substations at risk of flooding to determine the proper mitigation solution, which may include elevating or modifying equipment, or relocating substations altogether.

Flood mitigation will be a targeted application of mitigation measures for substations. New assets could include control houses, relays, or total station rebuilds to increase elevation, etc.

## Cost

It is expected that the 10-year cost will be approximately \$78M Capital. This would cover approximately 11 substations on the DEF system.

Substation Flood Mitigation	DEF		
	2026	2027	2028
Totals	\$ 6,860,000	\$ 6,860,000	\$ 15,222,156
Capital	\$ 6,860,000	\$ 6,860,000	\$ 15,222,156
O&M	\$ -	\$ -	\$ -
Total Units	1	1	2

## Cost Benefit Comparison

As provided in the Cost section above, the estimated cost for DEF's Substation Flood Mitigation Program during the 10-year planning horizon is approximately \$78M Capital.

After deployment of the 2026-2035 Substation Flood Mitigation Program work is complete, DEF estimates it will reduce the cost of extreme weather events on the Transmission system by approximately \$2.2M to \$2.8M annually based on today's costs.

After deployment of the 2026-2035 Substation Flood Mitigation Program work is complete, DEF estimates it will reduce Transmission MED CMI by approximately 0.7 million to 0.9 million minutes annually. CMI reduction is used as a proxy for reduction in extreme weather event duration for the average customer.

Transmission system damage can result in severe consequences in both cost and outage duration. The estimation of benefits represents an annual average expected value based on historical data and do not represent what could happen in individual events or scenarios in which severe damage occurs on critical parts of the Transmission system.

## Prioritization Methodology

Work will be prioritized using the following processes:

1. **Probability of Damage:** To prioritize the work in the Florida regions, the Transmission and Distribution systems were modeled, and weather simulations were run to provide probabilistic exposure frequency for all asset locations. The weather modeling uses the FEMA Hazus and SLOSH models, which contain the weather data for storms over the last 200 years. Using the geographical locations of the Florida assets and the historic storm paths embedded in the Hazus model, a spatial correlation of future storm exposure can be derived. To determine probability of damage given that exposure, eight years of historical outage data was provided and correlated with the closest weather tower to determine the conditions during historic failures recorded in the outage data. Then, the expected quantities of asset failure for simulated future weather exposure conditions was derived by combining simulated weather patterns with historical asset failure through conditional probability methods.
2. **Consequence of Damage:** Once the output of probabilistic damage is assessed, the probable impact to customers is considered. This step considers number of customers served by a given asset (e.g. each pole, or segment of conductor on a line), observed outage durations, the mix of customers, and critical facilities. This step is performed both for the existing configuration of each asset, and the hardened configuration resulting from completion of the program. The difference between the existing condition and the hardened configuration is the program impact.
3. Transmission subject matter experts then use these outputs to determine the optimum deployment plan considering factors such as current projects in the area, critical customers, operational knowledge, and resource availability.

## Year 1 Project List

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - SUBSTATION FLOOD MITIGATION

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
HOMOSASSA SUBSTATION	1	2,767	6,860,000	0	2/23/2026	6/30/2026

# Substation Hardening

## Vision

The Substation Hardening Program began in 2023 and focuses on upgrading oil breakers and electromechanical relays. The Program will eliminate 317 oil breakers. It will also upgrade approximately 200 electromechanical relay groups to electronic relays to properly isolate line faults and reduce storm restoration duration by automating fault identification. The Substation Hardening Program is estimated to take approximately 15 years to complete from inception.

## Description

Substation Hardening will address two major components: 1) Upgrading oil breakers to state-of-the-art gas or vacuum breakers to mitigate the risk of catastrophic failure and extended outages during extreme weather events; and 2) Upgrading electromechanical relays to digital relays will provide communications and enable DEF to respond and restore service more quickly from extreme weather events.

### Breaker Upgrades

Replacing oil circuit breakers with state-of-the-art breakers will result in the transmission system being able to more effectively and consistently isolate faults, reclose after momentary interruptions, and improve the customer experience through fewer interruptions. Oil circuit breakers are more unreliable than gas or vacuum breakers, especially in circumstances where they are operating numerous times over a short period, such as during extreme weather events. When oil circuit breakers are repeatedly called to operate, they can generate arcing gasses within the oil tank that can accumulate and result in catastrophic failure. Existing vintage oil breakers are less reliable when isolating line faults and can contribute to increased and longer customer outages when there is a failure.

### Electronic Relays

The Electronic Relay upgrades eliminate noncommunicating electromechanical and solid-state relays with digital relays. Upgrading to modern relay designs with communication capabilities and microprocessor technologies will enable quicker restoration from outage events. Another benefit is increased overall system intelligence, which will improve restoration planning. One digital relay replaces a variety of legacy single-function electromechanical relays. Two-way communications and event recording capabilities allow them to provide device performance information following a system event to support continuous system design and operational improvements.

Grid automation will be implemented to reduce duration and impacts from system issues. Digital relays will be installed to add remote monitoring and operations to key assets, which allows for rapid service response and better protection and monitoring of equipment during extreme weather events. Restoration times will be reduced due to remote monitoring and control which will allow quicker pinpointing and resolution of issues.

## Cost

The estimated 10-year cost for Substation Hardening Program is expected to be approximately \$347M.

This would upgrade approximately 150 oil filled breakers and 130 relay groups on the DEF system.

Substation Hardening	DEF		
	2026	2027	2028
Totals	\$ 22,178,190	\$ 16,278,591	\$ 35,099,889
Capital	\$ 22,178,190	\$ 16,278,591	\$ 35,099,889
O&M	\$ -	\$ -	\$ -
Total Units	18	14	31

## Cost Benefit Comparison

As provided in the Cost section above, the estimated cost for DEF’s Substation Hardening Program during the 10-year planning horizon is approximately \$347M.

After deployment of the 2026-2035 Substation Hardening Program work is complete, DEF estimates it will reduce the cost of extreme weather events on the Transmission system by approximately \$45k to \$56k annually based on today’s costs.

After deployment of the 2026-2035 Substation Hardening Program work is complete, DEF estimates it will reduce Transmission MED CMI by approximately 7 million to 9 million minutes annually. CMI reduction is used as a proxy for reduction in extreme weather event duration for the average customer.

Transmission system damage can result in severe consequences in both cost and outage duration. The estimation of benefits represents an annual average expected value based on historical data and do not represent what could happen in individual events or scenarios in which severe damage occurs on critical parts of the Transmission system.

## Prioritization Methodology

Work will be prioritized using the following processes:

1. **Probability of Damage:** To prioritize the work in the Florida regions, the Transmission and Distribution systems were modeled, and weather simulations were run to provide probabilistic exposure frequency for all asset locations. The weather modeling uses the FEMA Hazus and SLOSH models, which contain the weather data for storms over the last 200 years. Using the geographical locations of the Florida assets and the historic storm paths embedded in the Hazus model, a spatial correlation of future storm exposure can be derived. To determine probability of damage given that exposure, eight years of historical outage data was provided and correlated with the closest weather tower to determine the conditions during historic failures recorded in the outage data. Then, the expected quantities of asset failure for simulated future weather exposure conditions was derived by combining simulated weather patterns with historical asset failure through conditional probability methods.
2. **Consequence of Damage:** Once the output of probabilistic damage is assessed, the probable impact to customers is considered. This step considers number of customers served by a given asset (e.g., each pole, or segment of conductor on a line), observed outage durations, the mix of customers, and critical facilities. This step is performed both for the existing configuration of each asset, and the hardened configuration at project completion. The

difference between the existing condition and the hardened configuration is the program impact.

3. Transmission subject matter experts then use these outputs to determine the optimum deployment plan considering factors such as current projects in the area, critical customers, operational knowledge, and resource availability.

## Year 1 Project List

### DUKE ENERGY FLORIDA 2026 PLANNED PROJECTS - SUBSTATION HARDENING

LOCATION	Unit Count	Customer Count	Capital Cost	O&M Cost	Start Date	Finish Date
BROOKSVILLE	6	6,495	5,873,700	0	3/30/2026	7/30/2026
WINTER PARK	9	2,980	8,810,550	0	2/23/2026	6/30/2026
DESOTO CITY	2	2,294	3,662,626	0	6/30/2026	9/30/2026
CYPRESSWOOD	1	6,645	1,831,314	0	9/30/2026	11/30/2026

# Transmission Vegetation Management

## Vision

DEF will continue to utilize Integrated Vegetation Management (IVM) to minimize the impact of vegetation on the transmission assets.

## Description

DEF's Transmission IVM program is focused on ensuring the reliable operation of the transmission system by minimizing vegetation-related interruptions and adequate conductor-to-vegetation clearances, while maintaining compliance with regulatory, environmental, and safety requirements or standards. The program activities focus on the removal and/or control of incompatible vegetation within and along the right of way to minimize the risk of vegetation-related outages and ensure necessary access within all transmission line corridors. The IVM program includes the following activities: planned threat and condition-based work, reactive work that includes hazard tree mitigation, and floor management (herbicide, mowing, and hand cutting operation).

## Cost

It is expected that the 10-year cost will be approximately \$139M Capital and \$143M O&M. This would cover the inspection and vegetation remediation activities. The estimated 3-year contractor ratio is 92%. The estimated 3-year utility personnel ratio is 8%.

2026-2028 Labor / Equipment Breakout		
	Labor	Equipment
<b>Utility Personnel Totals</b>	<b>\$ 5,690,699</b>	<b>\$ 299,511</b>
Capital	\$ 2,949,254	\$ 155,224
O&M	\$ 2,741,445	\$ 144,287
<b>Contract Personnel Totals</b>	<b>\$ 49,627,294</b>	<b>\$ 21,268,840</b>
Capital	\$ 24,382,911	\$ 10,449,819
O&M	\$ 25,244,383	\$ 10,819,021

VM - Transmission	DEF		
	2026	2027	2028
<b>Totals</b>	<b>\$ 25,716,140</b>	<b>\$ 23,918,317</b>	<b>\$ 27,251,886</b>
Capital	\$ 12,784,754	\$ 11,606,419	\$ 13,546,035
O&M	\$ 12,931,386	\$ 12,311,898	\$ 13,705,851
Approximate Miles	550	550	550

## Cost Benefit Comparison

The IVM program's planned threat and condition-based work includes danger tree identification and mitigation, reactive work that includes hazard tree mitigation, and floor management (herbicide, mowing, and hand cutting operation) to reduce event possibilities during extreme weather events and enhance overall system reliability.

## Prioritization Methodology

Planned work for DEF is conditioned based and is prioritized and scheduled using threats and conditions identified through patrols, inspections and assessments while considering factors like the date of previous work activities and outage history. Set trigger distances identify incompatible vegetation within and outside the Transmission Right of Way that does not allow for safe or reliable operations of the transmission facilities under all operating conditions. These distances allow for approximately 6 years of typical vegetation re-growth and support minimum safe worker distances. As systems and technologies can be developed and implemented, DEF intends to leverage those technologies/systems and analytics to evaluate numerous variables coupled with local knowledge to optimize the risk-based planning and scheduling of work.

# Revenue Requirements and Rate Impacts

**Rule 25-6.030(3)(g):** An estimate of the annual jurisdictional revenue requirements for each year of the Storm Protection Plan.

Estimated Annual Jurisdictional Revenue Requirements for Each Year of the Storm Protection Plan										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<b>(\$ Millions)</b>	\$ 368.6	\$ 444.3	\$ 519.0	\$ 591.0	\$ 662.8	\$ 731.5	\$ 799.8	\$ 865.2	\$ 929.2	\$ 991.7

**Rule 25-6.030(3)(h):** An estimate of rate impacts for each of the first three years of the Storm Protection Plan for the utility’s typical residential, commercial, and industrial customers.

Estimated SPP Rate Impacts			
	2026	2027	2028
(1) Typical Residential % Increase from prior year Bill	2.0%	1.5%	1.5%
(2) Typical Commercial % Increase from prior year Bill	1.7%-2.0%	1.3%-1.6%	1.3%-1.5%
(3) Typical Industrial % Increase from prior year Bill	1.6%-2.3%	1.3%-1.7%	1.2%-1.7%

Note: Residential Rate is based on \$/1,000 kWh