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May 9, 2022

-VIA ELECTRONIC FILING-

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

RE: Docket No. 20220000-OT
Florida Power & Light Company's 2022-2031 Ten Year Power Plant Site Plan

Dear Mr. Teitzman:

Please find attached Florida Power & Light Company's responses to Staff's Second Data Request (Nos. 1-18).

If there are any questions, please contact me at (561) 304-5662.

Sincerely,

/s/ William P. Cox
William P. Cox
Senior Attorney
Fla. Bar No. 00093531

WPC:ec
Enclosures
cc: Donald Phillips, Division of Engineering
Takira Thompson, Division of Engineering

QUESTION:
Please refer to NERC's Level 2 Alert, issued August 18, 2021, titled Cold Weather Preparations for Extreme Weather Events. Please indicate what changes, if any, the Utility has implemented or intends to implement to address the recommendations contained within the alert.

RESPONSE:
Please see FPL's response to Staff's Second Data Request No. 4.

QUESTION:
Please refer to FERC Order Approving Cold Weather Reliability Standards, issued August 24, 2021. Please indicate what changes, if any, the Utility has implemented or intends to implement to address the revisions to the NERC Reliability Standards that become effective April 2023.

RESPONSE:
Please see FPL's response to Staff's Second Data Request No. 4.

QUESTION:
Please refer to NERC's Project 2021-07: Extreme Cold Weather Grid Operations, Preparedness, and Coordination. Is the Utility a participant in this project? If so, please explain what way.

RESPONSE:
FPL is participating in the review of the proposed changes to Standards from the drafting team for NERC Project 2021-07. After determining appropriateness for the industry while understanding impact to FPL, FPL will vote on the changes to the six impacted standards (EOP-011-2, IRO-010-4, TOP-003-5, EOP-011-2, PRC-006-5, and PRC-010-2). FPL also participates in this project by sharing information through the North American Generator Forum (NAGF).

QUESTION:
Please refer to the FERC, NERC, and Regional Entity Staff Report: The February 2021 Cold Weather Outages in Texas and the South Central United States (2021 Cold Weather Report), issued November 2021. Please indicate what changes, if any, the Utility has implemented or intends to implement to address the recommended revisions listed below to the NERC Reliability Standards identified in the 2021 Cold Weather Report.

a. Identify and protect cold-weather critical components.

b. Build all new and retrofit existing units to operate during extreme weather conditions, which include the impact of wind and precipitation.

c. Perform annual training on winterization plans. If already incorporated, please provide the most recent winterization plan.

d. Develop Corrective Action Plans for any affected generating units.

e. Provide the balancing authority the percentage of generating capacity that can be relied upon during forecasted cold weather.

f. Account for wind and precipitation when providing temperature data to the balancing authority.

RESPONSE:
The summary below addresses subparts (a) through (f). Also, see Attachment No. 1 for responses to NERC on the 2021 Cold Weather Report Standards.

From the fossil generation perspective, the Utility has implemented or intends to implement to address the recommendations contained within this alert the following actions among others:

- Designed protection for reliable operation of all FPL powerplants for 8 degrees below the historic low temperature at each location. (Texas experienced temperatures 8 degrees lower than the historic low).
- Assumed low temperature conditions exists for a duration of up to 96 hours (four days) (Texas experienced these extreme low temperatures for four consecutive days)).
- All fluid, control, fuel, and other systems susceptible to cold temperatures will be evaluated and mitigated with protection as needed. A vendor has been selected and contracted to

- evaluate all the systems and provide the freeze protection required to meet the winterization parameters.
- Determined lowest-cost approach by system (*e.g.*, heat trace, insulation, recirculation, enclosures, heaters, and wind breaks).
- Maintain similarity in design and materials across units to drive down cost (short and long term).
- Develop preventive maintenance to check / repair systems on an annual basis.
- In addition to doing formal surveys, communicate with fuel suppliers for delivery of fuel during extreme cold weather.
- Include in the surveys an assessment of fuel supply shrinkage under extreme weather scenarios.
- Communicate relevant information to the Balancing Authority (BA) which will communicate with the Reliability Coordinator (RC).
- Conduct dual fuel assessments to ensure resources can switch to the alternate fuel and monitor how much alternate fuel is on site.
- Coordinated with the appropriate entities to identify applicable natural gas system supply chain facilities' (*i.e.*, facilities used for production, treating, processing, pressurizing, storing, or transporting natural gas) vulnerabilities such as wellhead freezing history/projections, compressor loss history/projections, back-up options if electric service is dropped (*e.g.*, propane heaters, battery/electric storage), and processing plant and gas treatment facility performance history/projections.
- Identified how many MWs are capable of operating in extreme cold weather conditions.
- Training for winterization procedures will be addressed as part of preventative maintenance procedures.

For nuclear generation, see FPL's response to Staff's First Data Request No. 93.

		FPL	Gulf
1.	If your organization owns fossil-fired units, do you conduct surveys with fuel suppliers for delivery of fuel during extreme cold weather? A. Yes B. No, however, we plan to conduct such surveys C. We will conduct or plan to conduct such surveys for some of the assets we own but not all of them D. No, and we have no plans to conduct any such surveys E. Not applicable – our organization is not registered as a GO or we do not own any fossil-fired units	A	A

		FPL	Gulf
1a.	If your answer to (1) was (A), (B), or (C): Which entities do you or will you communicate the results with? A. RC only B. BA only C. Fuel supply companies only D. RC and BA E. RC and fuel supply companies F. BA and fuel supply companies G. RC, BA, and fuel supply companies H. Not applicable – our answer to Question (1) was not (A), (B), or (C)	D	D

		FPL	Gulf
1b.	If your answer to (1) was (A), (B), or (C): Does your organization conduct dual fuel assessments to ensure resources can switch to the alternate fuel and monitor how much alternate fuel is on site? A. Yes B. No, we own dual fuel units but we do not conduct such assessments C. We own dual fuel units and conduct such assessments for some of the units but not all of them D. We do not own any dual fuel units E. Not applicable – our answer to Question (1) was not (A), (B), or (C)	A	A

		FPL	Gulf
1c.	If your answer to (1) was (A), (B), or (C): Do (or will) the surveys include an assessment under extreme weather scenarios for supply shrinkage? A. Yes B. No C. We will conduct an assessment of such supply shrinkage for some of the assets we own but not all of them D. Not applicable – our answer to Question (1) was not (A), (B), or (C)	A	A

		FPL	Gulf
2.	Has your organization communicated with natural gas providers (suppliers and pipelines) on emergency plans and implemented actions from the NERC Reliability Guideline: Gas and Electrical Operational Coordination Considerations? A. Yes B. No, however, we plan to connect with them C. No, and we have no plans to connect with them D. We do communicate or plan to communicate on behalf of some of the units we own but not all of them E. Not applicable – our organization is not registered as a GO or we do not own any gas fired units	A	A

		FPL	Gulf
3.	If your organization owns any fossil-fired units have you coordinated with fuel providers to evaluate the capability of the system to support ramping rates and durations to maintain electric load-supply balance during significant energy production swings, particularly in the areas of significant penetration of Variable Energy Resources (VERs)? A. Yes B. No, however, we plan to coordinate with them C. We will coordinate, or plan to coordinate, for some of the assets we own but not all of them D. No, and we have no plans to coordinate with them E. Not applicable – our organization is not registered as a GO, or we do not own any fossil-fired units	A	A

		FPL	Gulf
4.	Has your organization coordinated with the appropriate entities to identify applicable natural gas system supply chain facilities' (i.e., facilities used for production, treating, processing, pressurizing, storing or transporting natural gas) vulnerabilities, such as: ▯ Wellhead freezing history/projections ▯ Compressor loss history/projections ▯ Back-up options if electric service is dropped (e.g. propane heaters, battery/electric storage) ▯ Processing plant and gas treatment facility performance history/projections A. Yes B. No, however, we plan to coordinate with them C. No, and we have no plans to coordinate with them D. We perform this coordination for some of our natural gas assets but not all of them E. Not applicable – our organization is not registered as a GO or we do not own any gas fired units	A	A

		FPL	Gulf
5.	If you own fossil-fired units, has your organization surveyed the unit weatherization and availability for the following factors: ▯ Minimum temperature and time needed for the resources to start ▯ Temperatures and other weather conditions that the units can operate through if on-line prior to the extreme conditions (cold, or extreme wind and precipitation) ▯ Consider pre-seasonal unit startup tests and unit scheduling for infrequently run or off-line resources, or resources that have been off-line for prolonged period of time ▯ Seasonal emissions/environmental surveys ▯ Minimum alternate fuel burning procedures ▯ Water-related vulnerabilities A. Yes B. No, however, we plan to survey these factors C. No, and we have no plans to survey these factors D. We have performed, or plan to perform, a partial analysis – surveying some or all of these factors, and/or including some or all of the assets in our system E. Not applicable – our organization is not registered as a GO, or we do not own any fossil-fired units	A	A

		FPL	Gulf
6.	If you own solar-powered units, has your organization surveyed the unit weatherization and availability for the following factors: ▯ De-icing capability ▯ Low and High Ambient Temperature Constraints ▯ Actions for snow cover ▯ Unit maintenance schedule ▯ Evaluate increasing likelihood of forced outages and de-rates under extreme conditions A. Yes – we include all of these factors B. Yes – we include some of these factors C. No, however, we plan to survey these factors D. No, and we have no plans to survey these factors E. We have collected or plan to collect this information for some of the assets that we own but not all of them F. Not applicable – our organization is not registered as a GO, or we do not own any solar facilities	A	A

		FPL	Gulf
7.	Do you have a process in place to attempt to obtain an emissions waiver in the event one is needed to operate even if you have no guarantee that the waiver will be approved by federal, state, county, or other prevailing authorities? A. Yes B. No, however, we plan to develop such a process C. We have, or plan to have, this process for some of the assets that we own but not all of them D. No, and we have no plans to develop one E. Not applicable – our organization is not registered as a GO or we do not own any fossil-fired units	A	A

		FPL	Gulf
8.	If you own wind-powered units, are the units equipped with cold weather packages? A. Yes B. No, however, we plan to equip our units with cold weather packages C. Some of our units are equipped with cold weather packages but not all of them D. No, and we have no plans to equip our units with cold weather packages E. Not applicable – our organization is not registered as a GO, or we do not own any wind facilities	E	E

		FPL	Gulf
9.	If you own wind-powered units, do you have a procedure for mitigating blade icing? A. Yes B. No, however, we plan to develop such a procedure C. Some of our units have a procedure for mitigating blade icing but not all of them D. No, and we have no plans to develop one E. Not applicable – our organization is not registered as a GO, or we do not own any wind facilities	E	E

		FPL	Gulf
10.	Please fill in the number of nameplate MW for each of the three questions below using the three free-text boxes. If you are not registered as a GO, please enter "NA" in each box.		
a.	How many MW does your organization own, that in your assessment, are currently capable or will be capable of operating in extreme cold weather conditions?	30,210	3,559
b.	How many MW does your organization own that in your assessment will be unavailable due to extreme cold weather conditions?	0	0
c.	How many additional MW does your organization own that are currently operational and would not be categorized under (A) or (B). An example would be asset(s) that you have not assessed for operation in an extreme cold weather scenario. Note: The sum of (A), (B), and (C) should be the total operating MW owned by your entity	0	0

QUESTION:
Will the Utility's current capacity shortage plan require updating following the revisions to the NERC Reliability Standards that will go into effect April 2023 or the recommended revisions from the 2021 Cold Weather Report? If so, please identify the changes.

RESPONSE:
Yes, and this updating has already occurred. Of the three revised NERC Standards which are effective April 2023, only EOP-011-2 is applicable to the FPL Emergency Plan For Capacity Shortages/Transmission Limitations And Long Term Fuel Shortages (Plan). This Plan already covers emergency response to cold weather, including incident identification and trigger of actions (sections 2.1, 2.4), winter-specific load management tools (Appendix), and winterizing plants for extreme cold (section 3.8.1). In Rev 12/20/21 of the Plan, section 2.4.1 was modified to further align with the standard changes by specifying cold weather and extreme weather conditions as criteria for a Generating Capacity Advisory and to address the required heightened awareness to determine potential reliability impacts.

QUESTION:
For your generating units, please and provide the following information:

a. Identify any generating unit that has been winterized and describe the winterization activities that have been completed for each.

b. Identify any generating unit that still requires winterization and describe the winterization activities to be completed for each.

c. Identify any generating units the Utility does not intend to winterize and explain why.

RESPONSE:
a. Winterization has been completed on the following generating units: Sanford Units 4 and 5; Ft. Myers Units 2 and 3; Manatee Unit 3; West County Units 1 – 3; Cape Canaveral Unit 3; Lauderdale Unit 6; Okeechobee Unit 1; and Gulf Clean Energy Center Unit 8. Also, please see FPL's response to Staff's First Data Request No. 93.

b. Winterization has not been completed on the following generating units: Martin Units 3, 4, and 8; Turkey Point Unit 5; Riviera Unit 5; Port Everglades Unit 5; Dania Beach Unit 7; Gulf Clean Energy Center Units 4 – 7; St. Lucie Units 1 and 2, Turkey Point Units 3 and 4; and Plant Smith. For winterization activities, please see FPL's responses to Staff's Second Data Request No. 4 and Staff's First Data Request No. 93.

c. Not applicable. FPL intends to winterize all generating units.

QUESTION:
Please list and describe all winterization activities the Utility has completed or intends to complete for its natural gas infrastructure. If none, please explain why.

RESPONSE:
On the heels of the Texas Weather event of February 2021, FPL's power generation division formed a multi discipline team to evaluate the cold weather vulnerabilities across FPL's power generation fleet and gas infrastructure supplying our assets. As for FPL's natural gas infrastructure, the Company's approach was to:

1) Review and understand the cold weather design basis for FPL's gas pipelines and gas pressure regulating stations across the fleet.
2) Gather information from FPL's gas transmission providers Florida Gas Transmission (FGT), Gulfstream (GS), Florida Southeast Connection (FSC) on events, impacts they experienced, or countermeasures they deployed to address gas transmission issues this acute cold weather event required.
3) Apply lessons learned to FPL's natural gas infrastructure.

Cold Weather Design Basis
Review of engineering drawings, gas pressure regulating station components, and the physical fluid characteristics of natural gas.

- FPL identified that the various pipeline systems and critical pressure control components (*i.e.*, valves, pneumatic positioners, pressure control pilot assemblies) were designed to operate at -20 deg. F.
- Pipelines are installed below grade, with the gas commodity's operating temperature generally remaining at ~ 60 deg. F across the pipeline system.
- Pipeline Quality natural gas has a hydrocarbon dew point of ~ -41 deg. F, indicating that the fluid would not form hydrocarbon droplets with the pipeline or within the pressure regulating valves at the delivery to the plants.
- Each pressure regulating station in the FPL system, north of Broward County, Florida, was equipped with catalytic heaters which warm the natural gas used within the control valve actuators, positioners, and pilots to avoid freezing. Broward and Dade county installations were found to not have these catalytic heaters based on historical practice in the industry.
    - These catalytic heaters are a typical feature installed across the natural gas transmission industry in areas where freezing conditions can be expected.

Benchmarking with FPL's Gas Transmission Providers

FPL hosted discussions with FGT, GS, and FSC Pipeline to discuss the performance of their gas transmission systems and probe for any countermeasures these providers took as it related to the Texas event in 2021.

- All three gas transmission operators indicated that no operational anomalies or specific operational countermeasures were required to sustain transmission operations on their systems because of cold weather conditions. These operators did not convey any special circumstances arising from the cold weather conditions.
- All three operators indicated that the use of individual catalytic heaters to provide warming of their "power gas" used to operate their pressure and flow control valves, and no special efforts were required across their transmission delivery systems.
- FGT did offer that in Texas; they were aware of gas well related issues associated with freeze off of "wet gas from well fields" as well as gas production issues associated with well site's losing power, affecting the performance of wells to flow into gathering systems.
- FGT also offered that the icing of roads in Texas would have been a problem for them, if they indeed needed to direct field personnel to their facilities. Roads in Texas were shut down and personnel movement would have been problematic, had it been required.

Applying Lessons Learned

Based on our Design Basis Review, and Benchmarking discussions with gas Transmission Operators, FPL identified that a multiple day, freezing rain weather front leading to the icing-up of FPL's Pressure Regulating Valves and their pneumatic control devices is FPL's most probable cold weather event to defend against at its seventeen (17) natural gas pressure regulating facilities.

- Design and Construct Weather Enclosures
  FPL worked with Kimley-Horn to design individual cold weather enclosures within its 17 natural gas regulating stations to cover the pressure regulating valves.
  - These enclosures are intended to defend against freezing rain from forming/building up on the pneumatic positioners and pilots, which require continuous venting of gas to sense and control the valve position. If the vents freeze up, the function of the pressure control valves are compromised.
  - These enclosures are designed to American Society of Civil Engineers (ASCE) 7-16 and in accordance with Florida Building Code, 7th Edition.
  - All 17 enclosures were installed by February 2022.

- Ensure the Proper Function of Catalytic Heaters across the Fleet
  Field inspection team identified a total of 42 catalytic heaters across FPL's natural gas regulating stations, north of Broward County.
  - FPL identified 13 that needed adjustment, repair, or replacement. All 13 have been returned to service/proper function by March 2022.
  - New catalytic heaters for facilities in Dade and Broward counties have been purchased and are scheduled for installation by September 2022.

QUESTION:
Please identify any generating units that have experienced forced outages or derates due to cold weather conditions within the last ten-year period.

a. Please explain if these generating units have had corrective action plans developed for the identified equipment. If so, what has been done to evaluate whether the corrective action plan applies to similar equipment for other generating units in the Utility's generating fleet.

RESPONSE:
FPL has not experienced forced outages or derates due to cold weather conditions within the last ten-year period.

QUESTION:
Please identify each of the Utility's generating units that have dual fuel capabilities. As part of this response, please provide the following for each applicable generating unit.

a. Generating unit name and location.

b. Net capacity by seasonal peak (Summer/Winter).

c. Whether fuel switching derates/uprates the unit (and if so, by what amount).

d. Primary and secondary fuel type and sources.

e. Number of days the generating unit could operate at full load using the secondary fuel source.

f. Amount of time required to switch to secondary fuel.

RESPONSE:
Please see Attachment No. 1 to this response.

FLORIDA POWER & LIGHT COMPANY

2022 Dual Fuel Units

Unit	Primary Fuel	Secondary Fuel
CAPE CANAVERAL		
Unit 3	NG	FO2
DANIA BEACH		
Unit 7	NG	FO2
FORT MYERS		
Unit 3	NG	FO2
GULF CLEAN ENERGY CENTER		
Unit 8	NG	FO2
LAUDERDALE		
Unit 6	NG	FO2
MANATEE		
Unit 1	NG	FO6
Unit 2	NG	FO6
MARTIN		
Unit 8	NG	FO2
OKEECHOBEE		
Unit 1	NG	FO2
PORT EVERGLADES		
Unit 5	NG	FO2
RIVIERA BEACH		
Unit 5	NG	FO2
TURKEY POINT		
Unit 5	NG	FO2
WEST COUNTY		
Unit 1	NG	FO2
Unit 2	NG	FO2
Unit 3	NG	FO2

FLORIDA POWER & LIGHT COMPANY

2022 Dual Fuel Seasonal Peak Capabilities

	WINTER			SUMMER		
	Peak Gas Capability	Secondary Fuel De-rate?	De-rate (MW)	Peak Gas Capability	Secondary Fuel De-rate?	De-rate (MW)
CAPE CANAVERAL						
Unit 3	1393	Yes	246	1290	Yes	254
DANIA BEACH						
Unit 7	1176	Yes	126	1163	Yes	136
FORT MYERS						
Unit 3	852	No	N/A	852	No	N/A
GULF CLEAN ENERGY CENTER						
Unit 8	948	No	N/A	940	No	N/A
LAUDERDALE						
Unit 6	1125	No	N/A	1155	No	N/A
MANATEE						
Unit 1	819	No	N/A	0	N/A	N/A
Unit 2	819	No	N/A	0	N/A	N/A
MARTIN						
Unit 8	1271	Yes	147	1235	Yes	92
OKEECHOBEE						
Unit 1	1672	Yes	189	1720	Yes	239
PORT EVERGLADES						
Unit 5	1333	Yes	131	1237	Yes	131
RIVIERA BEACH						
Unit 5	1381	Yes	246	1290	Yes	254
TURKEY POINT						
Unit 5	1311	Yes	149	1270	Yes	95
WEST COUNTY						
Unit 1	1369	Yes	288	1259	Yes	342
Unit 2	1369	Yes	288	1259	Yes	342
Unit 3	1369	Yes	288	1259	Yes	332

Notes:
- Manatee Units 1 & 2 can achieve it's peak capability only with combined natural gas and number 6 fuel oil
- Maximum capability on 100% gas is only 545 MW for Manatee Units 1 & 2
- Manatee Units 1 & 2 are considered unavailable and in inactive reserve shutdown during the Summer

FLORIDA POWER & LIGHT COMPANY

2022 Dual Fuel Swapping Information

Unit	Time Required to Swap from Primary to Secondary Fuel (Minutes)
CAPE CANAVERAL	
Unit 3	90
DANIA BEACH	
Unit 7	60
FORT MYERS	
Unit 3	120
GULF CLEAN ENERGY CENTER	
Unit 8	120
LAUDERDALE	
Unit 6	150
MANATEE	
Unit 1	60
Unit 2	60
MARTIN	
Unit 8	120
OKEECHOBEE	
Unit 1	90
PORT EVERGLADES	
Unit 5	90
RIVIERA BEACH	
Unit 5	90
TURKEY POINT	
Unit 5	120
WEST COUNTY	
Unit 1	90
Unit 2	90
Unit 3	90

Notes:
- Fuel Swap from Natural Gas to Liquid Fuel is based on 30 minutes per CT Generator

FLORIDA POWER & LIGHT COMPANY

2022 Dual Fuel Sources and Constraints

Unit	Runtime on Secondary Fuel (Hours)	Secondary Fuel Source
CAPE CANAVERAL		
Unit 3	68	Tank
DANIA BEACH		
Unit 7	64	Tank
FORT MYERS		
Unit 3	122	Tank
GULF CLEAN ENERGY CENTER		
Unit 8	68	Tank
LAUDERDALE		
Unit 6	64	Tank
MANATEE		
Unit 1	351	Tank
Unit 2	351	Tank
MARTIN		
Unit 8	29	Tank
OKEECHOBEE		
Unit 1	58	Tank
PORT EVERGLADES		
Unit 5	68	Tank
RIVIERA BEACH		
Unit 5	68	Tank
TURKEY POINT		
Unit 5	58	Tank
WEST COUNTY		
Unit 1	48	Tank
Unit 2	48	Tank
Unit 3	48	Tank

Notes:
- Runtime based on both oil consumption and water injection consumption
- Tank capacities based on nominal capacity with 80% working volumes
- Consumption rates used from most recent test data or derived from orginal contract documents
- No additional demineralized water make-up trailers or oil deliveries included in analysis

QUESTION:
Please identify how many alerts and advisories, due to cold weather, have been issued within the last ten-year period, and describe each event that lead to the issuance of each alert/advisory.

a. As part of this response, please indicate whether interruptible/curtailable customers were interrupted during each event, and if so, the duration of the interruption.

RESPONSE:
No alerts and/or advisories, due to cold weather, have been issued within the last ten-year period. This is because FPL has not experienced a significant cold weather event during this time period that was comparable to the events experienced in prior years, such as 1989 and 2010. In advance of cold fronts such as these, FPL diligently prepares its service area to restore power to its customers in a timely manner.

As indicated in the response above, FPL did not experience a significant cold weather event during the last ten-year period. Consequently, interruption of non-firm customers, such as customers participating in FPL's load management and curtailable programs, was not needed due to no significant cold weather events.

QUESTION:
Please identify the number of times the Utility has had to perform rolling blackouts within the last ten-year period. As part of this response, please provide the reason for each rolling blackout, how many megawatts were impacted, and the duration of each rolling blackout.

RESPONSE:
FPL did not perform any rolling blackouts for any reason within the last ten-year period. With regard to winter, this is, in part, because FPL has not experienced a significant cold weather event during this time period that was comparable to the events that FPL and its customers experienced in prior years, such as in 1989 when rolling blackouts were implemented.

QUESTION:
Please identify the total number of megawatts that can be controlled during rolling blackouts. As part of this response, please describe how this amount was determined, the priorities for interrupting firm load, and provide the anticipated duration between rolling blackouts.

RESPONSE:
Approximately ~12,000 MW of load is available at peak for controlled or rotational load shedding, *i.e.*, rolling blackouts. The MW available for controlled load shedding was determined after excluding feeders needed to sustain a viable underfrequency load shedding program and feeders exempted from load shedding due to the presence of critical customers served by the feeder. The feeder exemption list is determined following a vetting process by FPL's emergency preparedness, system operations, and customer service teams. The anticipated duration of rotations would be 20 to 30 minutes. Duration between interruptions for specific customers would depend on various factors, including the particular emergency event expected duration, the quantity of expected demand shortfall, and the location of the emergency condition within the FPL system. FPL system operations coordinates all system actions during emergency conditions with the aim to minimize the impact on all customers.

QUESTION:
Please explain how the Utility coordinates with cogenerators, qualifying facilities, and other non-utility generators during cold weather events to maximize generating capacity. As part of this response, please explain how the Utility determines as-available energy prices if all available Utility assets are already dispatched.

RESPONSE:
FPL's COG-3 tariff (Sheet No. 10.150) is in place as an additional incentive adder of $2.71/MWh when a generation capacity event is announced, which would include cold weather events. If a capacity event is announced by FPL system operations, then FPL energy marketing & trading contacts all qualifying facility and cogeneration operators to confirm generation operating status and alert them of the capacity event and the available incentive adder for generation.

Normally, FPL's as-available energy price is set at the marginal cost of the next 35 MW block of power in FPL's generation stack. However, if all of FPL's available generating assets are already dispatched, then FPL's as-available price of energy is set at the FPL system lambda, which is the marginal cost of energy of the highest-cost resource currently dispatched.

QUESTION:
Please list each form of communication (such as phone calls, text, utility website, social media, etc.) the Utility uses to inform customers of anticipated cold weather events. As part of this response, please provide a sample of such communications.

RESPONSE:
FPL communicates with customers and stakeholders across a variety of channels to inform of anticipated cold weather. Communication channels may include news releases, video, social media posts, targeted email and web messaging. Please see below for samples of these communication channels. The goal of these communications is to inform customers that cold weather is coming and offer tips to stay warm and save energy.

General Cold Weather Messaging

Cold-weather extremes (*most likely between December and March*)

- We have been preparing for [record high/unseasonably high] electricity demand as a result of [describe cold weather condition] and are taking all appropriate actions to minimize any potential impact to our customers.
- This [morning/evening], we set a new all-time record peak load on the electrical system, with customers using more than XX,XXX megawatts of power. This breaks FPL's previous peak record, which occurred on [date] (XX,XXX MW), by more than X megawatts.
- As demand increased this morning, we saw a small increase in localized outages. During periods of unusually cold weather, high electrical demand from heating systems can overload power lines and transformers, causing a localized outage.
    - The outage is the result of a safety mechanism – similar to the tripping of a circuit breaker in the home – that may trip fuses to prevent damage to the system.
    - We understand how difficult it is for anyone to be without power in cold weather, and we have added extra crews to restore any outages that occur.
- We're closely monitoring weather conditions, power plant operations and fuel availability as electricity demand could continue breaking records [tonight and tomorrow].

Here's what we're doing:

- We are operating all available power plants at maximum output.
- We have initiated energy-saving measures at our facilities, including turning off unnecessary lighting and lowering thermostat settings.

- Additionally, we are activating our voluntary load management program with large commercial and industrial customers.
- We're implementing the voluntary residential On Call® program under which heating systems may be cycled on and off, and water heaters and pool pumps may be turned off to reduce overall demand for electricity.
    - Customers in the On Call® program receive credits on their electric bills by volunteering to allow FPL to turn off their appliances or equipment when a need exists.
- We're committed to keeping you informed, and will provide regular updates to the media, and through FPL.com, Facebook.com/FPLConnect and Twitter.com/InsideFPL.

Here's what you can do:

- We always encourage customers to use energy wisely to keep their bills as low as possible.
- To lower energy usage and save money in colder weather, heat your home at 68 degrees or cooler with the thermostat fan switch on "auto."
- Lower your thermostat to 65 degrees or cooler at bedtime or when you're away from home.
- Please stay safe. It is especially important to take safety precautions when using space heaters:
    - Use space heaters for only limited amounts of time and not as a primary heat source.
    - Direct the heater to warm people, not space.
    - Keep flammable materials such as bedding, clothing, draperies, rugs and furniture at least three feet away from the heater.
    - Keep children and pets away from the heater.
    - Keep space heaters away from water to avoid electric shock.
    - Turn off and unplug the heater when leaving the room for an extended period of time
    - Avoid using extension cords.
    - Only purchase a heater with an automatic turn-off feature to prevent fires if the unit tips over.

Example Communications

News Releases

FPL prepares for record cold weather and record demand for electricity
http://newsroom.fpl.com/news-releases?item=101549

Jan 9, 2010

JUNO BEACH, Fla. – Florida Power & Light Company said today that it is preparing for record demand for electricity in its service territory as a result of record-low forecasted temperatures.

"Extremely cold weather is very unusual for Florida. Until warmer weather returns, we're closely monitoring weather conditions. We understand how difficult it is for anyone to be without power in cold weather, and we are taking all appropriate actions to minimize any potential impact on our customers as a result of what are expected to be record-setting conditions," said FPL President and CEO Armando J. Olivera.

FPL monitoring conditions closely to ensure it continues to have sufficient generation capacity
The company is closely monitoring weather conditions, power plant operations and fuel availability to ensure it continues to have sufficient power generation capacity to meet what is expected to be record-high electricity demand.

In order to meet anticipated demand, FPL is operating all available power plants at maximum output. Where it has the ability to do so, the company is switching power plants to oil-based fuels to reduce consumption of natural gas because Florida's two natural gas pipelines are operating at maximum capacity.

In addition, the company is activating its voluntary load management program with large commercial and industrial customers.

If conditions were to change and require additional measures to ensure sufficient power generation capacity, FPL could implement the voluntary residential and small business On Call® program under which heating systems, water heaters and pool pumps may be cycled on and off to reduce overall demand for electricity. By volunteering to allow FPL to turn off their appliances or equipment when a need exists, customers in the On Call® program receive credits on their electric bills.

If conditions were to worsen, FPL could call for voluntary conservation from all customers.

"These additional steps involving the On Call® program and voluntary conservation are not required at this time, but we are carefully monitoring conditions and will respond quickly if conditions dictate," Olivera said. "In the meantime, FPL always encourages customers to use energy wisely to reduce their energy usage and keep bills as low as possible."

To lower energy usage and save money, heat your home at 68 degrees or cooler with the thermostat fan switch on "auto." Lower your thermostat to 65 degrees or cooler at bedtime or when you're away from home.

Additional crews on the job to deal with potential outages
While FPL does not expect widespread outages, the company has added crews to respond as quickly as possible to any localized outages that might occur. FPL has more than 1,200 restoration workers in place for the weekend.

During periods of unusually cold weather, high electrical demand from heating systems can overload power lines and transformers, causing a localized outage. The outage is the result of a safety mechanism – similar to the tripping of a circuit breaker in the home – that may trip fuses or transformers to prevent damage to the system.

These outages are largely driven by the use of portable heaters and strip heating systems, which require significantly more power than cooling. Also, gusty winds may blow vegetation and debris into power lines and cause localized outages.

FPL urges its customers to stay safe and be prepared
Safety is a cornerstone of FPL's commitment to customers and employees. As the cold weather approaches, FPL reminds its customers to take safety precautions when using space heaters:

- Use space heaters for only limited amounts of time and not as a primary heat source.
- Direct the heater to warm people, not space.
- Keep flammable materials such as bedding, clothing, draperies, rugs and furniture at least three feet away from the heater.
- Keep children and pets away from the heater.
- Keep space heaters away from water to avoid electric shock.
- Turn off and unplug the heater when leaving the room for an extended period of time.
- Avoid using extension cords.

In addition, never use your range or oven to help heat your home, and never use a charcoal grill, barbecue or camp stove in your home or garage. If these are your only options, head to a local Red Cross shelter to stay warm.

FPL also recommends that customers check back-up facilities if someone in their home is dependent on electric-powered, life-sustaining medical equipment.

FPL is committed to keeping its customers informed. The company will continue to monitor the situation and provide updates through the media and FPL.com. Customers can report outages online at FPL.com/outage or by calling 1-800-4OUTAGE (1-800-468-8243).

Florida Power & Light Company
Florida Power & Light Company (FPL) is the largest electric utility in Florida and one of the largest rate-regulated utilities in the United States. FPL serves 4.5 million customer accounts in Florida and is a leading employer in the state with nearly 11,000 employees. The company consistently outperforms national averages for service reliability while customer bills are well below the national average. A clean energy leader, FPL has one of the lowest emissions profiles and the No. 1 energy efficiency program among utilities nationwide. FPL is a subsidiary of Juno Beach, Fla.-based FPL Group, Inc. (NYSE: FPL). For more information, visit www.FPL.com.

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FPL continues to monitor and respond to unseasonably cold weather
http://newsroom.fpl.com/news-releases?item=125596

Company implements plan to meet additional power demand; reminds customers to stay safe

Jan 7, 2014

JUNO BEACH, Fla. – Florida Power & Light Company (FPL) today announced that it continues to monitor the first cold front of the new year to affect Florida and implement its plan for managing another night of unseasonably cold weather, especially in the northern and western parts of the state.

"Although the temperatures have been a bit warmer than expected, we continue to monitor the weather and respond as necessary to ensure our customers receive the reliable electric service that they expect from us," said Manny Miranda, FPL's vice president of Power Delivery. "While Florida experiences extreme weather conditions such as summer storms and tropical systems, we also are susceptible to unseasonably cold weather. Our commitment to our customers is to ensure

that our employees have a plan and are prepared to do their part to respond safely and quickly in any type of situation."

FPL carefully monitors its power supply each day and how it may be affected by severe weather conditions, and annually trains its employees to respond to these situations. The company has sufficient power generation to meet the increased electric needs of its customers.

"While the temperatures we are seeing here in Florida are not as extreme as in the rest of the country, we recognize the potential effect colder temperatures can have on our customers' lives," Miranda said.

Safety a priority for customers

Although the temperatures are predicted to be warmer than Tuesday morning, FPL encourages its customers to stay safe when heating their homes or businesses, especially when using space heaters:

- Use space heaters for only limited amounts of time and not as a primary heat source.
- Direct the heater to warm people, not space.
- Keep flammable materials such as bedding, clothing, draperies, rugs and furniture at least 3 feet away from the heater.
- Keep children and pets away from the heater.
- Keep space heaters away from water to avoid electric shock.
- Turn off and unplug the heater when leaving the room for an extended period of time.
- Avoid using extension cords.

The company also encourages customers to use their energy wisely to keep their bills as low as possible. To lower energy usage and save money in colder weather, heat your home at 68 degrees or cooler with the thermostat fan switch on "auto." Lower your thermostat to 65 degrees or cooler at bedtime or when you are away from home.

Customers can visit www.FPL.com/safety for additional safety tips. Should customers experience a power interruption, the easiest way to report it to the company is on a mobile device at www.FPL.com. The progress of their restoration can also be tracked at www.FPL.com using FPL's Power Tracker map. As a safety reminder, if customers see a downed power line they should call 9-1-1 or FPL at 1-800-4 OUTAGE (1-800-468-8243).

Florida Power & Light Company
Florida Power & Light Company is the largest rate-regulated electric utility in Florida and serves

the third-largest number of customers of any electric utility in the United States. FPL serves approximately 4.6 million customer accounts and is a leading Florida employer with approximately 10,000 employees as of year-end 2012. During the five-year period ended December 31, 2011, the company delivered the best service reliability among Florida investor-owned utilities, while its typical residential customer bills, based on data available in July 2012, are about 26 percent below the national average. A clean energy leader, FPL has one of the lowest emissions profiles and one of the leading energy efficiency programs among utilities nationwide. FPL is a subsidiary of Juno Beach, Fla.-based NextEra Energy, Inc. (NYSE: NEE). For more information, visit www.FPL.com.

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B-roll: FPL Cold Weather Tips
https://fpl.sharefile.com/share/view/s1cb093c03b79451b883282e0b75b6230

Stay Warm and Save Energy When the Temperatures Dip with these tips:
Make your home work smarter, not harder, to keep you warm

1. Set and keep your thermostat at 68 degrees. Every degree above 68 can add up to 10% in heating costs.
2. Avoid changing your thermostat by more than two degrees at a time. This helps prevent backup heating elements from coming into play.
3. Keep your water heater temperature at 115 degrees to still provide plenty of hot water.

Get creative with ways to stay warm

4. Use electric blankets or a heated mattress cover to your advantage as these are more cost effective than heating the entire home. Most importantly, use these safely and avoid running cords under your mattress.
5. Let the sun in during the day by keeping your south-facing windows open for natural heat.
6. Be mindful when using portable space heaters by only using them to heat small areas.
7. Reverse the setting on your ceiling fans to push warm air down.

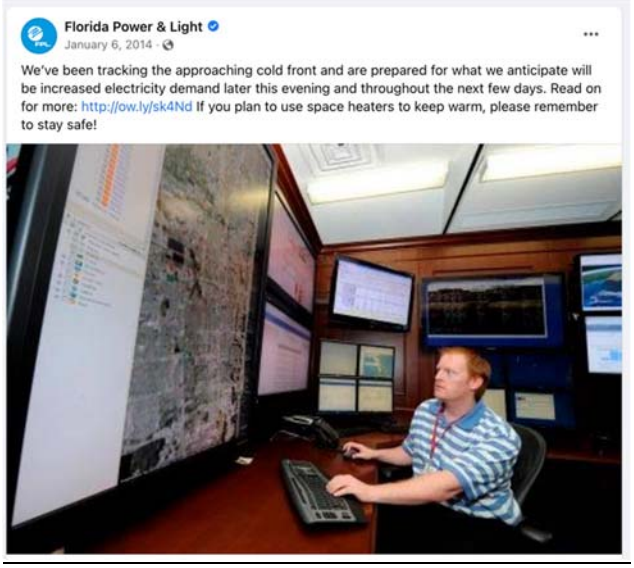
Time for a home check-up

8. If you have an older home, consider reviewing your insulation and crawl space. Proper floor and attic insulation, along with tightly sealed windows and doors, are critical to keeping warm.

9. Clean or replace your air conditioner's filter every month to trim your heating costs and help your unit run more efficiently.
10. Consider upgrading your heating systems with heat pumps to warm your home more efficiently.

Find more tips to lower your energy bill this winter at FPL.com/waystosave.

Social Media Posts



Targeted Email Examples

1. **Email to residential customers who participate in On Call®**

   Subject line: FPL: Important information regarding FPL On Call®

   Headline: FPL On Call® program update

   Thank you for being a valued member of our On Call® program.

   We are experiencing [extremely high/low temperatures/other] resulting in high customer demand for electricity.

   We are currently able to fully meet customers' energy needs, but are closely monitoring the situation and have a comprehensive plan in place should the demand for electricity exceed our supply. Rest assured we are taking all the steps necessary to lessen, as much as possible, any impact to our customers.

   At this time, we have no plans to activate residential load control. However, if [today/today or in the next few days] it becomes necessary, we are prepared to activate additional energy management programs, including our residential On Call® program.

   We greatly appreciate your participation in this voluntary program and are committed to making sure you are informed about your service and program enrollments.

   Thank you again. If you have any questions, you may call us at 800-232-2050.

Sincerely,

[Name] On Call® Program Manager
Florida Power & Light Company

2. Email to SMB customers who participate in Business On Call®

Subject line: FPL: Important information regarding FPL Business On Call®

Headline: FPL Business On Call® program update

Thank you for being a valued member of our Business On Call® program.

We are experiencing [extremely high/low temperatures/other] resulting in high customer demand for electricity.

We are currently able to fully meet customers' energy needs, but are closely monitoring the situation and have a comprehensive plan in place should the demand for electricity exceed our supply. Rest assured we are taking all the steps necessary to lessen, as much as possible, any impact to our customers.

At this time, we have no plans to activate business load control. However, if [today/today or in the next few days] it becomes necessary, we are prepared to activate additional energy management programs, including our Business On Call® program.

We greatly appreciate your participation in this voluntary program and are committed to making sure you are informed about your service and program enrollments.

Thank you again. If you have any questions, you may call us at 800-232-2050.

Sincerely,

[Name], On Call® Program Manager
Florida Power & Light Company

Web Messaging: Heating and Cooling Tips
https://www.fpl.com/save/lower-bill/heating-cooling.html

QUESTION:
Please refer to the Florida cold weather event from January 29-31, 2022, and provide the following for each day during the event.

a. Anticipated load forecast.

b. Anticipated operating reserve (with and without demand response).

c. Actual load, and if available, actual operating reserve.

d. Amount of customer outages due to cold weather that occurred, if any.

e. Amount of generating capacity derated or forced offline due to cold weather, if any. If forced outages occurred, identify each generating unit derated or forced offline, and the cause of the derating or forced outage, if known.

f. Whether demand response and/or interruptible/curtailable assets were activated. If so, please identify which programs, the number of customers interrupted, the amount of capacity interrupted, and the frequency of interruptions.

RESPONSE:
FPL notes that the temperatures and electric load conditions experienced in its service area during January 29 – 31, 2022, were not nearly as significant as those experienced by FPL and its customers during the Winters of 1989 and 2010. Consequently, these January 2022 days did not constitute an extreme Winter event as FPL referred to in its 2022 Ten Year Site Plan filing.

a. Friday forecast for Sat 01/29 16,700 MW; Sunday 01/30 20,300 MW; Monday 01/31 21,300 MW.

b. Operating Margin with load management: 01/29 7,623 MW; 01/30 7,067 MW; 01/31 5,567 MW;

   Operating Margin without load management: 01/29 6,553 MW; 01/30 5,797 MW; 01/31 4,297 MW.

c. Actual Load: 01/29 15,634 MW; 01/30 19,130 MW; 01/31 19,653 MW.

d. No disruption because of this cold weather event occurred.

e. None.

f. None.

QUESTION:
Please refer to the Florida cold weather event from January 29-31, 2022. Please explain if any winterization plans were enacted during this time. If so, please describe what activities were involved.

RESPONSE:
FPL held numerous conference calls across the company to ensure information was readily available to various teams, such as system operations, energy marketing and trading, field operations, demand side management, marketing and communications, and governmental affairs. Evaluations of available generation, purchases, and operating reserves were completed to ensure resources were available to meet demand. Also, in anticipation of cold weather, FPL system operations recalled short term transmission and generation outages such that all such facilities would be in service during the period of potential high loads.

FPL power generation division was one of the field operations supporting system operations as outlined above. Temperatures for the cold weather event on January 29-31, 2022 were not low enough to trigger specific cold weather preparations, procedures, or equipment use as defined in the winterization program.

The load-weighted system average temperature dropped below 40 degrees for only two hours during this winter weather event, and the actual minimum temperature was similar to the 20-year normal.

QUESTION:
Please refer to the NERC 2021-2022 Winter Reliability Assessment, issued November 2021, for the following questions. Please provide load forecast and generation availability data provided to your regional entity for use in NERC's winter reliability assessment. As part of your response, explain how the data was derived and what assumptions were used.

RESPONSE:
Load forecast and generation availability data were provided to the South Eastern Reliability Corporation (SERC) Regional Entity for use in NERC's winter reliability assessment as follows:

- The FPL 2021/2022 Winter peak forecasted load for FPL was 20,309 MW, which includes 1,886 MW of non-firm load from FPL's demand-side management (DSM) programs, particularly FPL's load management programs. This is a "P50" (50^{th} percentile) forecast developed primarily using econometric models which take into consideration the various factors such as weather, population, and employment.

- FPL's total 2021/2022 winter projected generation capacity was 27,422 MW and 1,886 MW of DSM capability. This projection was developed in consideration of planned additions of generating capacity, and it projected degradation or retirements of existing generating units.

The response to NERC was based on forecasts and assumptions that were available at the time of the response, which was after FPL's 2021 Ten-Year Site Plan (TYSP) had been developed and at an early stage in the development of FPL's 2022 TYSP. Therefore, due to the timing of the response to NERC, the values provided below may not match the values in either FPL's 2021 or 2022 TYSPs.

QUESTION:
[TECO & FPL Only] Please identify and describe any actions undertaken to encourage adoption of natural gas heating over electric resistance (strip) heating. If no actions have been taken, please explain why.

RESPONSE:
FPL energy advisors evaluate homes and businesses to identify opportunities for customers to save through conservation and energy efficiency in regard to electricity usage. For example, FPL energy advisors recommend high-efficiency electric heat pumps as the most efficient electric technology for space heating, particularly in those portions of FPL's service area that have a significant number of heating degree days. Although energy surveys do not include a comparison of gas alternatives for electric heating, energy advisors would assist a customer in evaluating whether gas would be an option if the customer requests such assistance.