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May 9, 2022

VIA: ELECTRONIC FILING

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

Re: Review of Tampa Electric Company's 2022 Ten-Year Site Plan
Staff's Second Data Request (Nos. 1-18)
Undocketed 20220000-OT

Dear Mr. Teitzman:

Pursuant to an email from Donald Phillips to Tampa Electric Company dated April 11, 2022, enclosed for filing on behalf of Tampa Electric Company is the company's responses to Staff's Second Data Request (Nos. 1-18) regarding the company's 2022 Ten-Year Site Plan.

Thank you for your assistance in connection with this matter.

Sincerely,

Malcolm N. Means

MNM/bmp
Attachments
cc: Donald Phillips (w/o enc.) dphillip@psc.state.fl.us
TECO Regulatory Department

TAMPA ELECTRIC COMPANY
UNDOCKETED: REVIEW OF TYSP'S
SECOND DATA REQUEST
REQUEST NO. 1
BATES PAGES: 1-3
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1. 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.

A. NERC's Level 2 Alert, issued August 18, 2021, titled Cold Weather Preparations for Extreme Weather Events, contains five recommendations for NERC-registered entities. Note that Tampa Electric Company (Tampa Electric or the company) serves as a Generator Owner, Balancing Authority, and Transmission Operator, but not as a Reliability Coordinator. In those functions, Tampa Electric plans to implement or has already implemented for Cold Weather Preparations the following in response to these five recommendations:

For **Recommendation #1**, Tampa Electric as a Balancing Authority and Transmission Operator follows its existing seasonal operating plans, which are the company's Response to Extreme Weather Plan, Tampa Electric Capacity and Energy Emergency Plan, FRCC Reliability Coordinator (RC) BA/TOP Emergency Operating Plan, Tampa Electric Firm Load Curtailment Plan, and Fuel Shortage Plan for the upcoming winter season. The Tampa Electric Response to Extreme Weather Plan includes a special emphasis on meeting extreme cold weather energy requirements, while also considering resource limitations such as extreme cold temperatures for a prolonged period. These plans address concerns that could arise with the effects that icing, and snow may have on the company's equipment. These plans are also communicated to Tampa Electric's Generator Operators and include:

a. Energy constraints for the upcoming winter season. Evaluate capacity impacts throughout extreme weather to consider overall energy needs, in addition to during peak periods.
b. Identification of resource startup time and variability concerns to improve response time related to ramping capability.
c. Import capability of the system and resource availability constraints on external systems during extreme winter weather events.
d. Load forecasting practices that consider extreme events.
e. Plans to utilize additional transmission capacity (by calculating transmission limits based on real-time system conditions).
f. Plans for weatherization of substations and equipment.
g. Plans to seek temporary relief from local, state, and federal environmental regulations.

h. Communications protocols and requirements with government, media, and the public (as appropriate).
i. Plans for communicating with natural gas providers (suppliers and pipelines) to assess natural gas availability, and to coordinate gas/electric interactions during emergencies.

Tampa Electric monitors real-time weather, especially during periods of extreme cold weather, activities that promote a high-level of situational awareness related to energy demand. This includes maintaining awareness of fuel inventories and replenishment plans at all its generating facilities, status of dual fuel and demand response resources, and maintaining communications with the FRCC and neighboring balancing-authority areas, regulators, generating resources, and fuel suppliers. In the event emergency actions are required, attempts are made to minimize the duration and unintended consequences of more extreme actions, such as following its Tampa Electric Firm Load Curtailment Shedding Plan.

For **Recommendation #2**, Tampa Electric as a Generator Owner, Balancing Authority and Transmission Operator reviews its and the Reliability Coordinator's seasonal operating plans and coordinates a weekday Morning Call within the company to ensure they contain the current generator availability, fuel supplies, and other related assumptions. Actions are taken as appropriate based on weather forecasts, resulting capacity, and energy analyses to facilitate readiness while allowing adjustments to be made so there is time for Tampa Electric to make the necessary arrangements to maximize the availability of the resources, including, but not limited to, the replenishment of fuel, supplies, labor, and equipment. Tampa Electric as a Generator Owner maintains communications with fuel suppliers and is prepared to manage its resources with fuel switching. Tampa Electric as a Generator Owner with solar resources communicates solar resource availability with the Reliability Coordinator.

For **Recommendation #3**, Tampa Electric communicates to its Reliability Coordinator and internally within the company, the forecasted and actual generating unit de-rates during extreme cold weather events and conditions considering the following factors: their unavailability due to weather, fuel constraints (gas restrictions), de-rates for alternate fuels, and potential concerns with increased outages or delayed starts based on unit ambient ratings and historical performance. These communications are a part of the seasonal, outage coordination, day-ahead, and real-time energy assessments. Tampa Electric incorporates the generation unit de-rate information into their generation capacity and energy analyses and operating plans.

For **Recommendation #4**, Tampa Electric uses manual and automatic load shedding capabilities as detailed in its Tampa Electric Firm Load Curtailment Shedding Plan. The load shedding plan includes:

a. A review of its critical interdependent sub-sector electrical loads (as defined by each entity) to avoid being included as part of automatic (i.e. under-frequency) or manual load shedding. This review is factored into the company's seasonal preparation plans.
b. Confirmations and tests of the company's manual load shedding processes and capability periodically. These processes and capabilities are updated with the most recent load forecasts. If these load shedding processes are called upon during real-time operations, they are monitored during execution as well as recovery.
c. Tracking demand response capability and verifying that critical interdependent sub-sector loads are excluded. Operating plans take into consideration any limitations on the duration and magnitude of the company's demand response capabilities.

For **Recommendation #5**, Tampa Electric conducts dual fuel assessments to ensure generating resources can switch to the alternate fuel and monitors how much alternate fuel is on site at each generating facility. Tampa Electric also assess its generating unit weatherization plans, the implementation of freeze protection measures and factors that could impact availability including minimum operating temperatures, and application of heat tracing equipment and wind breaks. Tampa Electric inspects and maintains their weatherization measures ahead of the winter season, before the onset of, and during extreme cold weather conditions. Tampa Electric owns no wind generating resources.

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2. 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.

A. In the FERC Order Approving Cold Weather Reliability Standards, issued August 24, 2021, Tampa Electric Company (Tampa Electric) will implement all NERC required changes to Reliability Standards EOP-011-2 (Emergency Preparedness and Operations), IRO-010-4 (Reliability Coordinator Data Specification and Collection), and TOP-003-5 (Operational Reliability Data), collectively known as the Cold Weather Reliability Standards. Tampa Electric is registered as a Generator Owner, Balancing Authority, and Transmission Operator but not as a Reliability Coordinator. Therefore, the proposed Reliability Standard IRO-010-4 that applies to the Reliability Coordinator does not apply to Tampa Electric. Tampa Electric plans to implement the following changes to address the revisions to the NERC Reliability Standards EOP-011-2 and TOP-003-5 that become effective April 2023:

1. The Reliability Standard EOP-011-2 (Emergency Preparedness and Operations), "requires generators to implement plans to prepare for cold weather and requires the exchange of certain generator cold weather operating parameters that would help enhance situational awareness in the operational planning and Real-time operations timeframes."
2. The Reliability Standard EOP-011-2 added two new requirements, Requirement R7 and Requirement R8, related to generator cold weather preparedness, including freeze protection and training.
3. The Reliability Standard EOP-011-2 revised two requirement parts, Requirements R1.2.6 and R2.2.9, related to the consideration of the reliability impacts of cold weather conditions in transmission operator and balancing authority emergency operating plans.
4. The Reliability Standard TOP-003-5 revised the data requirements in the currently effective version for balancing authorities and transmission operators to include cold weather data developed by the generator owner under Reliability Standard EOP-011-2, Requirement R7.

Tampa Electric has Operating Plans to mitigate operating emergencies related to cold weather conditions and station cold weather preparedness plans with associated training. However, the company recognizes that compliance with many of these new requirements is not documented clearly and concisely. The company is updating its Operating Plans to include specifics about Extreme Cold

Weather scenarios and will be compliant with the updated Reliability Standards before their respective enforcement dates.

3. 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.

A. Yes. Tampa Electric Company (Tampa Electric) is a participant in NERC's Project 2021-07: Extreme Cold Weather Grid Operations, Preparedness, and Coordination. Tampa Electric participates by monitoring and reviewing the Standard Drafting Team's (SDT's) ongoing progress to address the reliability-related findings from the Federal Energy Regulatory Commission (FERC), NERC, and Regional Entity Joint Staff Inquiry into the February 2021 Cold Weather Grid Operations. Once the SDT has completed the project's scope and proposes how to address the nine recommendations in this report regarding new and/or enhanced NERC Reliability Standards, Tampa Electric expects to review, comment, and vote on their revisions and/or approvals.

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4. 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.

A. In the report entitled: "The February 2021 Cold Weather Outages in Texas and the South Central United States" (2021 Cold Weather Report), issued in 2021, Tampa Electric Company (Tampa Electric) plans to implement all of the recommendations a.-f. in this report. The recommendations that Tampa Electric plans to implement for Cold Weather Outages are:

a. Tampa Electric expects to identify and protect its cold-weather critical components as described in the 2021 Cold Weather Report and NERC's Reliability Guideline, Generating Unit Winter Weather Readiness – Current Industry Practices – Version 3. An engineering analysis is on-going to verify that all critical components listed in these documents are included in the existing Station Freeze Protection Plans. If not, the critical components will be added to the plans and protected.

b. Tampa Electric works with engineering design firms to ensure that all of its new generating units will operate during extreme weather conditions, including the impacts of wind and precipitation. An engineering analysis is on-going to confirm that existing generating units will operate during such

extreme weather conditions, including the impacts of wind and precipitation. Existing Station Freeze Protection Plans will be updated with design and operating parameters that define each unit's lowest temperatures at which it can safely operate.

c. Prior to the report's issuance, Tampa Electric informally trained its new generation operators on the existing Station Freeze Protection Plans on an as-needed basis. After the report's issuance, Tampa Electric expects to update its existing Station Freeze Protection Plans to include a new section on annual formalized training. The stations will coordinate annual training in their annual winter-specific and plant-specific awareness and maintenance activities. This may include such items as the appropriate responses to freeze protection panel alarms, troubleshooting and repair of freeze protection circuitry, identification of plant areas most affected by winter conditions, review of special inspections or rounds implemented during severe weather events, fuel switching procedures, knowledge of the ambient temperature for which the freeze protection system is designed, and the lessons learned from previous experiences and/or the NERC Lessons Learned program.

d. Tampa Electric expects to develop Corrective Action Plans for any affected generating units that are derated or forced offline due to cold weather issues. There will be a new section incorporated into the existing Station Freeze Protection Plans to formalize this action.

e. Tampa Electric's Grid Operations Department, operating as the company's Balancing Authority has information concerning a one-time percentage of its generating capacity that can be relied upon during forecasted cold weather events. Every weekday there is a Morning Call to discuss the current day's operating plan and day-ahead forecasts including generating unit availability. The unit availability is provided in megawatts each hour, not as a percent of capacity, which is more relevant to Grid Operations' energy system operators.

f. Tampa Electric's Grid Operations Department has a current day operating plan and day-ahead forecasts including generating unit availability in megawatts that account for possible wind and precipitation along with temperature data to use for estimating the company's capacity availability amounts.

5. 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.

A. Tampa Electric Company will not need to update its current capacity shortage plan when these revisions are effective next year.

6. For your generating units, please 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.

A. a. Currently Tampa Electric has winterization plans for all its operating units. Winterization requires specific activities be performed at each generating unit that are identified in the winterization procedures for each facility. These procedures include activities such as: the installation of removable insulation, heat tracing, portable heaters, and protection of sensitive equipment with temporary enclosures.

b. Weatherization plans have been reviewed and minor modifications to equipment are currently being implemented for all of Tampa Electric's generating units as well as revisions to existing freeze plans to meet updated extreme weather conditions.

c. All potentially affected and operating units have a winterization plan.

7. 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.

A. Tampa Electric has completed or intends to complete the following winterization activities:

Polk Power Station – The Polk Power Station's natural gas system is assumed to be in service during any cold weather events with minimal impacts due to temperatures. The station will continue to monitor this equipment to ensure its fitness for service during a cold weather event and augment their plans as needed.

The station's natural gas supplier performs preventative maintenance to verify the continuing proper operations of their associated facilities. The installation of a catalyst bed heater for the gas pilot in the yard, and heat tracing with insulation for valves where throttling and pressure drops occur.

Bayside Power Station - The Bayside Power Station's natural gas system is assumed to be in service during any cold weather events with minimal impacts due to temperatures. The station will continue to monitor this equipment to ensure its fitness for service during a cold weather event and augment their plans as needed.

The station's natural gas supplier performs preventative maintenance to verify the continuing proper operations of their associated facilities. Pressure reductions are not large enough to cause significant issues with the operation of equipment.

Big Bend - The Big Bend Power Station's natural gas system is assumed to be in service during any cold weather events with minimal impacts due to temperatures. The station will continue to monitor this equipment to ensure its fitness for service during a cold weather event and augment their plans as needed. This augmentation may include the addition of heat supplement equipment where the natural gas systems experience their largest pressure drops.

The station's natural gas supplier maintains their equipment with mainline heaters that are in operation year-round and performs preventative maintenance to verify the continuing proper operations of their associated facilities. Pressure reductions are not large enough to cause significant issues with the operation of equipment.

8. 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.

A. a. Tampa Electric Company's generating assets did not experience any forced outages or derates due to cold weather conditions within the past ten years.

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9. 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

A. a. Tampa Electric Company (Tampa Electric) has dual-fuel capabilities on its Polk 1, Polk CT 2, Polk CT 3 units which are located at its Polk Power Station and on its Big Bend Unit 4 which is located at its Big Bend Power Station.

b. While Polk 1 is a dual-fuel unit capable of operating on either natural gas or solid fuel, it typically operates on natural gas due to lower fuel costs, lower operating costs, a much lower amount of station service in that mode, and greater operating flexibility.

Polk 1 has a summer and winter net capacity of 210 MW and 230 MW, respectively, when operating on natural gas as the fuel source, and a net capacity of 220 MW when fired by synthesis gas. Both the Polk CT 2 and Polk CT 3 have a summer net capacity of 150 MW and a winter net capacity of 180 MW, plus 240 MW of associated steam turbine capacity. The Big Bend Unit 4 summer net capacity is 437 MW, and it has a winter net capacity of 442 MW.

c. Switching to distillate oil provides an approximate 6% uprate (5 – 10 MW depending on the season and weather conditions) in the capacities for Polk CT 2 and Polk CT 3. For Big Bend Unit 4 there is no change in capacity expected when switching fuel types.

d. Primary fuel type and source for Polk CT 2 and Polk CT 3 is natural gas. The secondary fuel type and source for these units is distillate oil coming from an on-site tank. Big Bend Unit 4's primary fuel type is bituminous coal received via rail and/or water deliveries while the secondary fuel type is natural gas. The natural gas deliveries to both facilities are affected via deliveries from pipelines.

e. The two dual-fuel units that have distillate oil as a backup fuel at the Polk Power Station could operate for three to four days if they ran simultaneously, and seven days if each ran individually, with truck deliveries of distillate oil being the limiting factor. For Big Bend Unit 4, there is no limitation on the secondary fuel source for this unit.

f. For Polk CT 2 and CT3, it takes about thirty minutes to switch from natural gas to distillate oil. For Big Bend Unit 4, it takes approximately four hours to switch to the secondary fuel for full capacity.

10. 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 led 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.

A. NERC has issued only one Alert/Advisory over the last ten years, which has addressed cold-weather issues. That was the NERC Level 2 Alert, issued August 18, 2021, which was previously addressed in the responses provided to question numbers one and two above was triggered by the February 2021 event which occurred in the Midwestern portion of the country.

a. Tampa Electric Company interruptible/curtailable customers were not interrupted during the February 2021 event.

11. 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.

A. Tampa Electric Company has not had to perform rolling blackouts within the most-recent ten-year period.

12. 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.

A. For Winter 2023, Tampa Electric Company (Tampa Electric) modeled an extreme cold winter peak of 5,522 megawatts (MWs) and estimates that it can control a total of about 2,200 MW during any institution of rolling blackouts. Tampa Electric has identified about twenty percent of its distribution circuits as critical (Priority 1's and underfrequency reserve) that cannot be included in its Rotating Load Shed (RLS) program for rolling blackouts. The remaining eighty percent of its non-critical distribution circuits are prioritized based on the highest priority connected customer on the circuit. Tampa Electric works with its cities' and counties' Emergency Operations Centers (EOCs) to identify and prioritize the company's retail customers' circuits from Priority 1 (highest) to Priority 5 (lowest). Tampa Electric interrupts service based on the lowest to highest priority circuits. The remaining eighty percent non-critical distribution circuits amount to approximately 4,400 MW of load available to be controlled during a possible rotation. Tampa Electric can rotate up to half (fifty percent) of this load at any one time – 2,200 MW are on, while 2,200 MW are off. Given this, Tampa Electric can rotate a total of forty percent of its distribution circuits or about 2,200 MW. The anticipated duration between rolling blackouts is fifteen minutes.

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13. 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.

A. For assigned key accounts, including non-utility generators, Tampa Electric Company (Tampa Electric) provides a weekly probability page to its Interruptible Customers indicating the probability percentage of interruption and the probability percentage of Tampa Electric buying optional provision power on the customers' behalf. This communication is typically provided weekly on Monday mornings after the Tampa Electric internal capacity call. Many of the large cogeneration and qualifying facility customers are also interruptible customers.

Additionally, Key Account Managers proactively communicate changes in the probability by text, email, and phone calls to Tampa Electric's largest assigned key accounts, which are influenced by changes in capacity and weather.

The Commercial Energy Management team at Tampa Electric informs the vendors administering the company's Demand Response and Standby Generator Program via email of potential unstable weather conditions that could be experienced within the service area. The vendor forwards the information to the customers through a "high-alert" email.

The vendor ensures that the company's portfolio includes accurate contacts, and that customers are ready to respond during program hours on any program day, and that they are aware of the energy reduction plan by engaging with the customers throughout the year.

When there is an elevated likelihood for the need of resources, Tampa Electric communicates to the vendors via email, which then triggers the "high-alert" email communications to the applicable customers to prepare them for an expected event.

Tampa Electric determines as-available energy prices or its Hourly Avoided Cost by utilizing the company's in-house EA Online application and its ABB software that runs the Hourly Avoided Price (HAP) software program. The ABB software provides the most economical hourly avoided cost based on each dispatched unit's daily fuel cost which includes all of Tampa Electric's available units plus any cogenerators, qualifying facilities, and other non-utility generators. Tampa Electric's EA Online application allows Tampa Electric to ensure that all units,

including all of Tampa Electric's available units and any cogenerators, qualifying facilities, and other non-utility generators, have been properly dispatched.

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14. 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.

A. It's been more than a decade since the company experienced weather cold enough to warrant broad, strategic outreach across its communication channels. However, it is a topic the company usually covers at least once a year on at least one communication channel. A recent example is this article on cold weather tips, see attached.

If the company had a major cold weather event, the communications strategy would include:

- Web banner on the Tampa Electric home page
- Social posts on Facebook, Instagram and Twitter
- Blog post with tips on cold weather preparation/tips
- News release with tips for preparing a customer's home (and/or news release with "record energy use" as warranted)
- Outgoing message on the company's customer service line and talking points for customer service professionals to use in speaking with customers.

For the company's Standby Generator and Demand Response Program, when there is an elevated likelihood for the need of resources, Tampa Electric communicates to its vendors via email, which then triggers a follow-up communication to the company's retail customers to prepare them for an event. Here is an example of what each of the vendors might distribute for Tampa Electric if such a situation occurred.

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Demand Response Alert: TECO NDRT Audit

Today, 4/11/2022: **Normal**

Weekly Forecast: **High**

Mon	Tue	Wed	Thu	Fri
4/11	4/12	4/13	4/14	4/15

Outlook is subject to change; see future alerts for updates.

High – A demand response dispatch is probable.
Elevated – There is an increased likelihood of a demand response dispatch.
Normal – There is a normal likelihood of a demand response dispatch.
N/A – A demand response dispatch is not permitted.

If you are unprepared to respond to a dispatch or have concerns about your program participation, please email support.enelx@enel.com or call +1 888 363 7662 to speak with support staff.

What action should I take?

- **Be ready for a potential dispatch**
- Share this forecast with colleagues
- Review DR information in the Enel X application

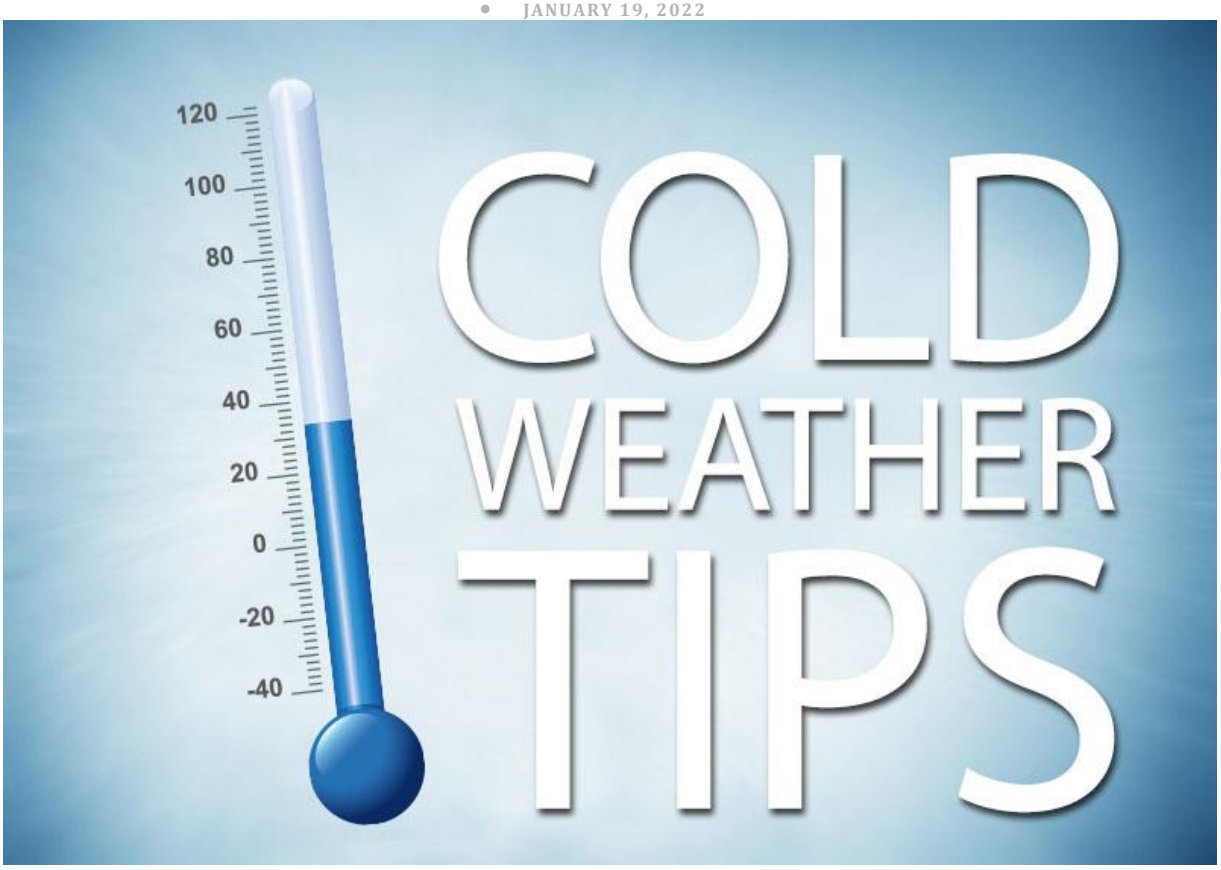
For More Information

- Visit our Demand Response Resource Library for success tips and tools.
- For all other questions, please contact Customer Support 24x7x365 at support.enelx@enel.com.

COMPANY FOR HOME SAVINGS FOR HOME

Cold weather tips can help you stay warm and save money too

- BY TECORBM
- JANUARY 19, 2022



When temperatures drop, home heating can have the biggest impact on your electric bill. Here are some simple tips that can help you stay warm and save money on your electric bill.

Staying safe and warm indoors

- Lower your thermostat to 68°F or the lowest comfortable setting, and keep the settings constant. With a heat pump, limit the activation of the supplemental heat strip by making minor, periodic adjustments to the thermostat.
- Set your central heating unit fan to "auto."
- Inspect air filters regularly (replace them monthly).

- Consider installing a smart thermostat that can cut heating costs up to 15 percent. Check out Tampa Electric's money back rebate on ENERGY STAR certified Smart Thermostats.
- Turn off unnecessary lighting. Consider replacing incandescent bulbs with energy-efficient light-emitting diode (LED) bulbs.
- Lower the thermostat on your electric water heater between 120°F to 140°F and limit hot water usage.
- Check that your attic access door/panel closes tightly and is insulated when located within conditioned space.
- Switch your ceiling fan's blade rotation. Hot air rises, so reverse your fan's blades to a clockwise rotation to help push that warmth right back down to you.
- Keep freezer and refrigerator doors closed. Make sure they are properly sealed. Set thermostats at proper temperatures to achieve best energy efficiency.
- Have a fireplace? Be sure to close the dampers when not in use.
- Avoid using your exhaust fans. Your bathroom fans and oven hoods are often-overlooked sources of heat loss. Use your exhaust fans sparingly, and turn them off when not in use.
- Get free heat the natural way! Let the sun heat your home by drawing the curtains of south-facing windows during the day.

Here are some helpful safety tips to keep in mind when using electric blankets and space heaters:

-
- Snuggle up in an electric blanket. If you already have one, inspect for cracks or breaks in the wiring, plugs or connectors and look for charred spots on both sides of the blanket surfaces. Any of these conditions indicates a potential fire hazard.
- To prevent excessive heat buildup, make sure nothing covers your electric blanket, such as quilts, blankets or pets. Never "tuck in" the sides or ends of your electric blanket. The heating coils may become damaged or bent and may cause a fire.
- Don't leave your space heater on all night. The fire hazard is too great. Use extra blankets instead.
- If you're using an extension cord, double check that it's rated to handle the power your space heater requires. Don't use light-duty extension cords with your space heater.

- Keep your space heater away from drapes, furniture and other flammable materials.
- Be certain your home wiring is designed to handle your space heater. If you have any doubts, contact a licensed electrician.
- Avoid using your space heater in the bathroom. If you must, keep it as far away as possible from the shower, tub and sink. And never touch the heater when you're wet!
- Check that your space heater has an automatic switch that turns off the electric current if the unit is tipped over.

Visit tampaelectric.com/save to complete our free Online Energy Audit and be sure to check out our Energy Calculators.

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15. 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.

A. a. On Friday (1/28/22), Tampa Electric Company's (Tampa Electric's) peak load forecasts were 3,293 MW for Saturday (1/29/22), 4,098 MW for Sunday (1/30/22) and 3,456 MW for Monday (1/31/22).

On Saturday (1/29/22), Tampa Electric's peak load forecasts were 3,293 MW for Saturday (1/29/22), 4,098 MW for Sunday (1/30/22) and 3,456 MW for Monday (1/31/22).

On Sunday (1/30/22), Tampa Electric's peak load forecasts were 4,098 MW for Sunday (1/30/22) and 3,456 MW for Monday (1/31/22).

On Monday (1/31/22), Tampa Electric's peak load forecast was 3,834 MW for Monday (1/31/22).

b. On Friday (1/28/22), Tampa Electric's anticipated operating reserves were 1,904 MW (with DSM) and 1,754 MW (without DSM) for Saturday (1/29/22), 1,099 MW (with DSM) and 949 MW (without DSM) for Sunday (1/30/22), and 1,741 MW (with DSM) and 1,591MW (without DSM) for Monday (1/31/22).

On Saturday (1/29/22), Tampa Electric's anticipated operating reserves were 1,904 MW (with DSM) and 1,754 MW (without DSM) for Saturday (1/29/22), 1,099 MW (with DSM) and 949 MW (without DSM) for Sunday (1/30/22), and 1,741 MW (with DSM) and 1,591MW (without DSM) for Monday (1/31/22).

On Sunday (1/30/22), Tampa Electric's anticipated operating reserves were 1,447 MW (with DSM) and 1,297 MW (without DSM) for Sunday (1/30/22), and 1,681 MW (with DSM) and 1,531 MW (without DSM) for Monday (1/31/22).

c. Tampa Electric's Peak load was 3,217 MW for Saturday (1/29/22), 3,747 MW for Sunday (1/30/22) and 3,893 MW for Monday (1/31/22). Tampa Electric's actual operating reserves were 1,980 MW (with DSM) and 1,830 MW (without DSM) on Saturday (1/29/22), 1,853 MW (with DSM) and 1,703 MW (without DSM) on Sunday (1/30/22), and 1,417 MW (with DSM) and 1,267 MW (without DSM) on Sunday (1/31/22).

d. Tampa Electric did not experience any customer outages due to capacity deficiencies during the cold weather event from January 29 - 31, 2022. Tampa Electric experienced one customer outage on Saturday (1/29/22), ten customer outages on Sunday (1/30/22), and two customer outages on Monday (1/31/22) that were attributed to the cold weather.

e. Tampa Electric did not experience any generating capacity derates or forced outages during the cold weather event from January 29 - 31, 2022.

f. Tampa Electric did not activate any demand response or interruptible/curtailable customers during the Florida cold weather event from January 29 - 31, 2022.

16. 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.

A. Only the Phase 1 winterization activities were enacted for Tampa Electric units as the temperature conditions were not expected to necessitate activation of the company's Phase 2 of winterization plans. Phase 1 involves Tampa Electric's annual preparation for winter weather for example: review and inspection of freeze protection systems and review of cold weather event procedures. Phase 2 is implemented when freezing conditions are expected in the Tampa Bay area.

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17. 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.

A. For the NERC 2021-2022 Winter Reliability Assessment, the Tampa Electric Company (Tampa Electric) load forecast provided to the SERC Reliability Corporation was the monthly 2021/2022 winter firm peak load of 4,256 MW. An additional 2,352 MW was added to all the SERC Florida–Peninsula's load to create the subregional extreme winter peak load. The Tampa Electric load forecast information provided was derived from the Schedule 3.2 for net firm demand. The assumptions and methodology are outlined in the TYSP Chapter 2.

The gross generation availability data is provided in the attachment included with this response. The generation availabilities are derived from the 2021-2030 and 2022-2031 TYSP Schedule 1 and 8.1 (for future units in service in 2021/2022 winter). The assumptions used are outlined within the TYSPs.

Existing Units	Winter	
	RATING (MW)	AVAILABLE ON PEAK (MW)
BALM SOLAR - PV1	74.4	0
BAYSIDE - 1A	183	183
BAYSIDE - 1B	183	183
BAYSIDE - 1C	183	183
BAYSIDE - 1ST	243	243
BAYSIDE - 2A	183	183
BAYSIDE - 2B	183	183
BAYSIDE - 2C	183	183
BAYSIDE - 2D	183	183
BAYSIDE - 2ST	315	315
BAYSIDE - 3	61	61
BAYSIDE - 4	61	61
BAYSIDE - 5	61	61
BAYSIDE - 6	61	61
BIG BEND - 1	395	395
BIG BEND - 1S	19.8	12.6
BIG BEND - 2	395	395
BIG BEND - 3	400	400
BIG BEND - 4	442	442
BIGBEND - CT4	61	61
BONNIE MINE SOLAR - 1	37.5	0
CITY OF TAMPA REF-TO-ENERGY - 1	20	20
DURRANCE - 1	60.1	0
GRANGE HALL SOLAR - 1	61.1	0
HILLSBOROUGH WATER TO ENERGY - 1	9.5	9.5
HILLSBOROUGH WATER TO ENERGY - 2	9.5	9.5
HILLSBOROUGH WATER TO ENERGY - 3	9.5	9.5
HILLSBOROUGH WATER TO ENERGY - 4	9.5	9.5
LAKE HANCOCK SOLAR - 1	49.5	0
LEGOLAND - 1	1.4	0
LITHIA SOALR - 1	74.5	0
LITTLE MANATEE RIVER SOLAR - 1	74.5	0
MILLPOINT - 1-3	8.4	0
NEW WALES - 1-2	2.2	0
OSPREY ENERGY CENTER - GT1	171	171
OSPREY ENERGY CENTER - GT2	189	189
OSPREY ENERGY CENTER - ST1	207	207
PAYNE CREEK SOLAR - 1	70.3	0
PEACE CREEK SOLAR - 1	55.4	0
POLK - 1CA	51	51
POLK - 1CT	169	169
POLK - 2	180	180
POLK - 2ST	480	480
POLK - 3	180	180
POLK - 4	180	180
POLK - 5	180	180
RIDGEWOOD - 1-2	4.5	0
SOUTH PIERCE - 1-2	18	0
TIA - 1	1.6	0
WIMAUMA SOLAR - 1	74.8	0
TOTAL GENERATION (MW)	**6,509**	**5,834**

FUTURE CAPACITY	Winter	
	RATING (MW)	AVAILABLE ON PEAK (MW)
BIG BEND - 2S	25	0
BIGBEND - CT5	350	350
BIGBEND - CT6	350	350
JAMISON SOLAR - PV1	74.5	0
MAGNOLIA SOLAR - PV1	74.5	0
MOUNTAIN VIEW SOLAR - GEN1	52.5	0
TOTAL GENERATION (MW)	**927**	**700**

Note*Big Bend 2 retired coincident with the commercial operation of Big Bend CTs 5 and 6

18. **[Tampa Electric & 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.

A. Tampa Electric encourages its retail customers use of natural gas heating over electric resistance (strip) heating during the performance of a Residential Walk-Through Energy Audit (Free), Residential Computer Assisted Energy Audit (RCS)(Paid), Commercial/Industrial Audit (Free) and Comprehensive Commercial/Industrial Audit (Paid). During the performance of each of these types of energy audits, the company's Energy Analyst would evaluate if the customer would benefit from switching from their current electric heating (home, office, or process) system to a natural gas heating system. While this encouragement is not tracked specifically, it is the expectation placed on Tampa Electric's Energy Analysts to recommend the energy system that would be most beneficial from an economics standpoint to the customer, regardless of fuel type.